Structure, Function, Integration.

Journal of the
Dr. Ida Rolf Institute®

March 2023

A Regional Study of the Pelvis

Dr. Rolf said the living pelvis is dynamic, where structural and functional balance is key to overall well-being. In this issue, articles consider the substantial individual difference between people's pelvises when taking their clients through the Rolfing® SI Ten Series. Plus, an illuminating conversation about the pelvic floor with anatomist Gil Hedley, PhD.

The Living 'Line'

Certified Advanced Rolfer®, Darrell Sanchez, PhD, takes the time to sense gravity on the unstable surface of The Original Tuning Board™. Read about vertical integration that can have an exquisite state of stillness in motion.

How Rolfing® SI Shaped my Life

When a young basketball athlete suffered a serious traumatic injury, she and her family had never heard of Rolfing SI; it became the solution that got her back to the court.

Also in this issue

Measuring Soft Tissue Mobilization

An interview with researcher Isabelle Gilbert about her study of the effects of fascial mobilization on the viscoelastic properties, pressure pain thresholds, and tactile pressure thresholds of the Cesarean section scar.

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Sofi Butusova

March Cover Art

When considering this issue's theme of the human pelvis, it became important to have many pelvises (or pelves if you prefer) within our cover art. Human pelvises come in all shapes and sizes, they hold vital biological material, and are a place of dynamic movement. So, we asked ourselves, in what situations would you find a gathering of humans and their dynamically unique pelvises?

Our Editor-in-Chief, Lina Amy Hack, recalled an arts community retreat she participated in and how the group discovered the phrase – "cuddle puddle." Initially, it was spoken in a group communication two-word sharing exercise where each person says two words to express how they are feeling or their main idea for their day. When "cuddle puddle" was said, everyone spontaneously dashed to the middle of the room, lay on the beautiful wood floor, met their neighbors, and platonically cuddled on the floor for many minutes. Mammals being mammals, breathing, resting, and occasionally giggling. Humans receiving touch, in fulfillment of a basic human need. Pelvises are a potent anatomical region of the human body, living within the context of a human life, who live in an ecosystem of people in a community.

To bring our cuddle-puddle idea to our cover page, we asked one-line artist and graphic designer Sofi Butusova to use her whimsical style to capture the pelvises of people platonically cuddling together in community. As well as being an artist, Sofi is vegan, a yogi, and from Ukraine.

Next Issue

● Space, Ground, and Gravity

In the July 2023 issue, we are taking a tangent into the physics of Rolfing® SI. Rolf Movement® faculty will share insight into the human gravity response system, first proposed by French Rolfer®, Hubert Godard. Additionally, we will explore defining gravity itself.

● Our Face, Our Words, and Our Voice

Rolfers care very much about language. Our face, head, neck, and throat anatomy that produces our words is key territory addressed during the Ten Series, yet our authors take their inquiry further to the mechanics, the development, the neuropsychology, and linguistic execution of that anatomy.

Contents

From the Editor-in-Chief

Lina Amy Hack

This journal is dedicated to sharing information about the profession of structural integration, Dr. Ida P. Rolf's (1896-1979) life work. Rolfing® Structural Integration is the brand of structural integration most featured on our pages, as we are the journal of the Dr. Ida Rolf Institute® (DIRI), Rolf's original school. Yet, also in our pages, past and present, you will find a broad interest in structural integration authors from beyond our school, as there are many throughout the world who share our passion for fascia, gravity, and the structural and functional well-being of people. I dedicate this Volume 51, Issue 1 of *Structure, Function, Integration* to you, all the practitioners doing structural integration as your work. It is unique to offer Rolf's brilliant system of manipulating fascia and movement integration to your community and committing yourself to making a difference one person at a time. May our articles support all of you, our Rolfers® and our colleagues beyond. I know our authors wish to inspire new ideas, educate about contemporary information and approaches, and give you a sense of community and shared purpose.

In this first issue of 2023, our theme is 'A Regional Study of the Pelvis'. Rolfing SI has a foundational principle of looking at the human form wholistically, yet we also need to look at body segments to deepen our understanding. For this group of articles, we start with an interview with Advanced Rolfing Instructor Tessy Brungardt by fellow faculty member Lu Mueller-Kaul about some of the pelvic relationships that we focus on during the Rolfing SI 'Ten Series'. We also have an interview with Rolfing Instructor Kevin McCoy about his thoughts regarding fascia, pain, and the pelvis. Articles from our DIRI faculty are the backbone of this

“This is the story of the living pelvis. It emphasizes not the static but the dynamic. The pelvis is the key to the well-being of the individual. But it is a dynamic key, a process key. Technically and anatomically, the pelvis is a bony basin. Vitally and physiologically, it is a relation of energies. Optimal performance of such a system occurs only at the narrow peak of balance. This is, of necessity, precise.”

– Ida P. Rolf, PhD in *Rolfing: Reestablishing the Natural Alignment and Structural Integration of the Human Body for Vitality and Well-Being*,1989, 172.

publication, and these two are quite a complementary pair. I’m very pleased to also be featuring a friend of Rolfers and structural integrators, an article with Gil Hedley, PhD, anatomist and educator about the wonders of the human form. I gave Hedley a very specific assignment, to talk with us about the anatomy of the pelvic floor.

You will notice that we have a few new columns in this issue. First up, we have our long-standing fascial research column, ‘Fascia Insights’, which features a conversation with the osteopath Isabelle Gilbert from Montréal, Quebec, regarding her recent peer-reviewed publication about the effects of fascial manipulation on Cesarean section scars. All of us with DIRI are pleased to be presenting the Lily Moore story, it was the parents of this Rolfing client that reached out to DIRI’s administration to communicate the healthful effects Rolfing SI had with their daughter as she recovered from a traumatic injury. We are grateful to this family for allowing us to share Lily’s story with our readership.

Also, we launch two ongoing columns for you, ‘Caution Column’ is about the nuance of contraindications in manual therapy. This issue, the Caution Column, is specifically about how we might think about working with pregnant women. ‘The Business of Rolfing SI’ is what all of us Rolfers and structural integrators deal with daily. Although we are healthcare providers, we exist in a marketplace where we deliver a service for a fee – we all are proprietors of our businesses. As we are three years into the COVID-19 global pandemic, this column invites a conversation about this shared experience and the adaptations we have had to make to keep our livelihood going.

Our ‘Perspectives’ section has two offerings for this issue. A chat with the authors of the new book *The Rolfing Skillful Touch Handbook* (2022), the new guidebook for DIRI’s Phase I training, which is used in the first course in the Rolfing SI certification program. Be sure to check out Darrell Sanchez’s, PhD, article about the living ‘Line’ that emerges when working with The Original Tuning Board™, Sanchez’s insights and suggestions come from over twenty-five years of being a Rolfer, counselor, and dance instructor. And the whole issue closes with a review of Leon Chaitow’s book, Fascial Dysfunction: Manual Therapy Approaches.

We invite you to contact us at – hello@sfijournal.org – for comments, questions, and article submissions. This is a living document of structural integration topics, a place of community for all who are dedicated to the work Rolf started. Thank you, and enjoy.

Lina Amy Hack

Editor-in-Chief of
Structure, Function, Integration

Fascia Insights

Measuring the Effects of Soft Tissue Mobilization of the Cesarean Section Scar

By Lina Amy Hack, Certified Advanced Rolfer®,
and Isabelle Gilbert, MSc, Ost. DO

Lina Amy Hack

Isabelle Gilbert

ABSTRACT *In this interview, osteopath Isabell Gilbert discusses her 2022 peer-reviewed article, "Exploring the Effects of Standardized Soft Tissue Mobilization on the Viscoelastic Properties, Pressure Pain Thresholds, and Tactile Pressure Thresholds of the Cesarean Section Scar" that she also presented at the Fascia Research Congress in Montréal, Canada in September 2022. Gilbert discusses her research design, measuring tools, and results.*

Editor's note: This interview was held over Zoom on December 16th, 2022. The conversation was conducted in French and translated into English for this article.

Featured Publication

2022

Exploring the Effects of Standardized Soft Tissue Mobilization on the Viscoelastic Properties, Pressure Pain Thresholds, and Tactile Pressure Thresholds of the Cesarean Section Scar.

By Isabelle Gilbert, MSc, Ost. DO, Nathaly Gaudreault, PT, PhD, and Isabelle Gaboury, PhD.

Journal of Integrative and Complementary Medicine

Volume 28, Number 4, pp. 355-362.

Our Conversation

Lina Amy Hack: Hello, Isabelle. Thank you for meeting with me to talk about your research. You presented at the Fascia Research Congress in Montréal, Quebec, in September 2022. When I heard your talk, there were many new elements to me, I knew I wanted to follow up with you. Once I read your paper, I had to feature your research here for my colleagues as I knew they would would also find your research interesting.

So, let's start at the beginning, you are an osteopath in Montréal, Quebec, how long have you been practicing, and how is it that you also do research like this?

Isabelle Gilbert: Nice to meet you. Thank you for inviting me to speak about my work. I'm not that familiar with Rolfers, but you have told me a little bit about your profession. Yes, I am an osteopath with a DO since 2011. I returned to Université de Sherbrooke again and finished my master's of science in 2021. Before that, I was in the biomedical field and I spent time in laboratories working in the healthcare system. I came across osteopathy quite by chance. I liked the human approach to wellness.

I have a general professional practice but over the past few years I have developed expertise in perinatal care, women's health, and sports medicine. These areas may seem paradoxical, but it is a valuable contrast for me as a practitioner. I have a structural osteopathy practice; I like to be in the material if you will. Within these populations, there are instructive comparisons between the tissues of a baby, an athlete, a pregnant woman, and a so-called normal adult. I am a person who loves to learn and apply this knowledge.

Since 2018, I also teach osteopathy, and I'm involved at the political level of Ostéopathie Québec by being on the Board of Directors. This association has the largest number of osteopaths in Québec. I am currently studying at the University of Montréal in the Department of Management and Evaluation of Health Policy and Health Organization under the School of Public Health to gain skills that will hopefully help my professional development. I collaborate with my various organizations and various colleagues to create university programs in osteopathy and with government institutions to accelerate our professional recognition.

LAH: That is interesting, that is another thing I learned at the Fascia Research Congress in Montréal, there are many osteopaths in Québec. What drew your interest to study Cesarean section (C-section) scars (see Figure 1)?

IG: From the start of my training, we talked about scars and adhesions but very little understanding about the composition of the scars themselves. That motivated me as a researcher. I saw that we need more studies to understand what a scar is and what implications it can have for someone.

Moreover, as I had a manual practice focused on women's health, it was logical that I was interested in researching this subject as well. In osteopathy, we are looking for several changes, especially regarding our ability to mobilize scar tissue and the changes induced by our therapeutic gestures. But according to the current literature, the data remains modest as to our influences on scar tissue and between what would seem to be normal and abnormal scar tissue. In general, practitioners who use manual therapy, of which osteopathy is a part, have an anecdotal appreciation of the changes they perceive in their clients due to their therapeutic gestures. I wanted to know if we could characterize these changes by objectively observable measures. That was one of my main motivations, to reduce the subjectivity of our tissue interventions, specifically with the mobilization of scar tissue.

Then the other question was, could I study this *in vivo*? We assume that scar tissue differs from normal skin, but at this time, we didn't have quantified *in vivo* data on that aspect, so we couldn't say if it were that different. There are *in vitro* studies in the literature where researchers tested tissues that had been biopsied. Yet, how scar tissues react and behave, and the behavior at the cellular level, will be changed once cut away from the person.

Why study the C-section scar? When I did my literature review on scar tissue and the implications of scar tissue, there were many surgeries to consider, like joint surgeries and mastectomies. Female subjects were investigated in fewer studies than men. And when I considered the C-section scar and the mastectomy scar, it was the C-section scar that had also been less studied in the literature. It has been studied, yes, for chronic pain for example. Immediately after the C-section, there are interventions, but those inquiries were on the medical level investigating the type of anesthesia affecting the implication of pain afterward, and what kind of suturing to do during the procedure. Whether it is better to suture the peritoneal fascia or leave it loose.

LAH: Your 2022 article mentioned that C-sections are one of the most performed incisional surgeries worldwide, and that scar adhesions and intra-peritoneal adhesions are among the most common complications. The adhesion rate could be as high as 32%. How common is it for women to have pain and discomfort?

IG: After surgery, it is normal to have pain, but the number tends to be reduced in medical studies. We realized during our study that it is a population that does not complain much even when they do have discomfort. And when they go to see their health professionals when they have pain, it takes time before they are: one, taken care of, and two, believed. Patients reported they were told, "It will pass. It's normal."

Up to three months after the C-section, it is quite normal to have some types of pain and discomfort. After six months, the pain should either be completely gone or minimal. About 15% of women will have serious pain and discomfort after a C-section and this will influence the quality of life of these women. Regarding influences other than at the incision site, it has been suggested that the C-section scar may have an influence on the lower back, but there is modest research on this yet. Recently, some authors have characterized differences in muscle function of the pelvic floor

Figure 1: Low transverse incision scar. Photo credit: Kellyanne Jordan Photography.

Isabelle Gilbert: Up to three months after the C-section, it is quite normal to have some types of pain and discomfort. After six months, the pain should either be completely gone or minimal. About 15% of women will have serious pain and discomfort after a C-section and this will influence the quality of life of these women.

and transversus abdominis muscles, but this is not sufficient to establish a causal link between the development of certain lumbar problems and a history of a C-section.

LAH: Your 2022 study was doing two things. It was characterizing the C-section scar tissue, as well as doing a pretest-posttest design about the intervention of manual therapy with women who had C-section scars. Had you already noticed a change in the stiffness and density of the scars of your patients when you were treating them as an osteopath?

IG: Clinically and academically, the terminology that we are taught about scar work is that they become more flexible and that we "break down the adhesions." When I started my research project, I asked myself the question, "But is it really true that the scar tissue becomes more elastic and that we 'remove' adhesions?" My first observation as a manual therapist, what we feel when we palpate and mobilize is a reduction in *stiffness* and not an increase in *elasticity*. Considering the parameter elasticity is defined as the *return of the tissue to its initial state*, it seems more difficult to determine this parameter by palpation. The second observation is that we do not 'remove' or 'break' adhesions, but rather we influence a local behavior that would favor the prevention of their development. This highlights our preventative role, which may not be emphasized enough. Therefore, what I knew going into my study was that manual therapists are able to qualify the presence or absence of stiffness and the quality of the shear but nothing more.

LAH: In your study you used a measurement tool that I had never heard of before, the MyotonPRO [www.myton.com]. What is the MyotonPRO and how does it work?

IG: The MyotonPRO is a tool that calculates biomechanical and viscoelastic parameters of skeletal muscles. Recently, other anatomical regions have been measured with the MyotonPRO since it is an easy-to-use tool for both research and clinical use. It seems to be a valid and reliable tool in many contexts. It uses an oscillatory wave sent by a small lever arm and then calculates the different parameters (see Figure 2).

The advantage of this device is that it is portable; I could carry it to my clinic. It is easy to use. It has been standardized and described in peer-reviewed publications; it is a valid tool that quantifies the tissue. It calculates five parameters: tone, stiffness, elasticity, mechanical stress relaxation time, and creep.

LAH: That is a strange parameter, creep.

IG: Yes, the creep is a ratio between the stiffness and the time it will take to relax.

LAH: Interesting, it is a measure of tissue letting go. The MyotonPRO sounds like a game-changer for manual therapy research. It has a whole world of possibilities.

IG: Yes, but it is a device that has limitations. One of these limitations is that it cannot be used in areas close to the bone, otherwise it will give measurement errors. We must be careful how we analyze the data from this device. Also, it is important to remember that it is a 'calculation' tool and that even though it measures those five parameters, only two might be relevant to the question at hand and that some research tends to have a misunderstanding of some parameters.

Of course, other devices exist to calculate these same anatomical components, either the elasticity or the stiffness. These other machines are much more expensive. Sonoelastography for example will give a rate of stiffness and a rate of elasticity, yet the device costs thousands of dollars. Other devices measure tissue quality through other mechanisms and sometimes only measures one parameter at a time. But we liked the idea of having the MyotonPRO because it does a compression action, which is within the same parameters that we were going to use during the intervention.

Figure 2: Picture of the handheld device called MyotonPRO in the process of measuring brachioradialis. Published with permission.

LAH: You used other measures as well, you had validated questionnaires for both the participants of the study and people in the observer role for the study, and you had these people independently report how the scar looked and how the scar felt.

Plus, when you were doing the scar manipulation intervention, reported as soft tissue mobilization, you had a device on your thumb that measured the exact amount of pressure in Newtons that you were applying to the tissue and the length of time you applied the force [FlexiForce sensor, Tekscan]. Can you tell me more about this tool?

IG: Yes, we chose a Newton average to apply to each participant's scar tissue. The mobilization consisted of a combination of compression and shear stress forces applied parallel and perpendicular to the C-section scar with the thumb.

We do have results related to applying a variety of different forces during the procedure that have not been published yet. We are looking at how much compressive force is needed to create a change in the scar tissue or even in the superficial fascia.

LAH: Your pretest-posttest design was focused on the short-term effects of the manual intervention. How soon after the manual intervention was the participants' scar tissue measured?

IG: We did a measurement with the MyotonPRO of the scar before the intervention, then we did the intervention for about ten minutes on the scar, and the post-measurement happened immediately afterward. That being said, each participant had two sessions of manual intervention one week apart. So, when the participant returned for the second treatment, that third measure of the scar was at a time interval of one week after the first intervention. This third set of measures had the objective to evaluate the effects of the first intervention and whether the change measured the week before lasted until then. We found that scar stiffness continuously decreased after each mobilization. It was very useful to know that the effects persist for at least a week after ten minutes of intervention, even if only partially.

IG: It was very useful to know that the effects persist for at least a week after ten minutes of intervention, even if only partially.

LAH: You described in your design that you were thinking about an optimal dosage of manual therapy. This is a stimulating idea for Rolfers, 'optimal dosage' is something we intuit. For this study, "The mobilization consisted of a combination of compression and tension forces (shear stress forces), which can be clinically translated as gliding strokes. These were applied parallel and perpendicular to the C-section scar with the thumb" (357). How did you decide on the manual therapy dosage?

IG: Unfortunately, in manual therapy studies, regardless of whether it is physiotherapy, massage therapy, or different complementary approaches, the interventions are very heterogeneous in how they are applied to the participants. How many times is the touch done? How long is the manual intervention? How does the clinician do it?

For my study, several aspects made me choose something really simple. Previous researchers had investigated whether it was better to do an intervention with light compression. They asked, is it best to do a superficial fascia treatment? Or would it be better to do superficial and deep treatment? At the end of their study, basically, there was no difference between the two. So, whether

IG: The advantage of this device is that it is portable; I could carry it to my clinic. It is easy to use. It has been standardized and described in peer-reviewed publications; it is a valid tool that quantifies the tissue. It calculates five parameters: tone, stiffness, elasticity, mechanical stress relaxation time, and creep.

IG: I was the 'experienced osteopath' who delivered the gliding strokes, and I was the one who was blind for the measurements with the device and questionnaires. I did the intervention, and I was absent for all measurements.

I did a deep intervention or not, there was no significant difference between the two interventions. So, from that, I decided I wouldn't have to go with a big compression force for something to happen. I am also interested in the minimum therapeutic gesture that has a real effect, so I kept this study design to the basic minimum.

As an osteopath, I apply my results by knowing that when I do more than this basic intervention, I assume that I will have combined effects. If I do more than just the intervention of compression, then shearing of the fascial fabric has an effect. The results are reassuring, giving us the way to say to ourselves, "Even if I don't do a lot, I'm still going to have something happen."

LAH: Your study had a blind component, to increase the validity and reliability of the measurements. How was your study blind?

IG: I was the 'experienced osteopath' who delivered the gliding strokes, and I was the one who was blind for the measurements with the device and questionnaires. I did the intervention, and I was absent for all measurements.

LAH: That makes sense, you did the intervention, and your team collected the results independently of you. Let's discuss your results further.

IG: We can start by giving the definitions of the characteristics, the tone of the tissue is the basic tension of the tissue, which is always present at the level of the tissues. It is regulated in large part by the nervous system. Elasticity is related to the capacity of the fabric of the tissue to be able to return to its initial state when stretched or compression is removed. Stiffness is characterized by the resistance of being able to impose a force on the tissue. The mechanical stress relaxation time is the time it takes after applying a compressive force or a stretching force for the tissue to be able to relax. And we talked about the creep, the ratio between that time and the stiffness that causes the tissue to stretch slowly.

Our study was the first to establish quantifiable measures of the viscoelastic properties of the C-section scar *in vivo*. Scar stiffness and pressure pain thresholds were the most significant variables to change, there was a decrease in stiffness after each mobilization and the scars were tolerant to more pressure before the participant reported pain after the two interventions. We saw a modulation in the tone of the scar, the tone had decreased, and elasticity increased, but to be honest, we saw much heterogeneity of tone from one person to another. So, it is difficult to conclude from this study alone, and more research needs to be done.

LAH: What is the main message for manual therapists about these findings?

IG: It is reassuring to know that our tissue mobilization training is concretely making a difference with slight compression and shear forces when working with C-section scars. The thing we look for as manual therapists are changes in the tissues. Personally, it reassured me to observe objectively that the interaction has a reliable and reproducible effect and I think we don't yet understand all the elements involved.

The other observation that I found interesting was that there was a concordance between the measures used. What I mean is that there was a triangulation between the decrease in stiffness measured by the MyotonPRO and the perception of decreased stiffness by both the participants and the observers that was reported in their questionnaires.

LAH: That is helpful, and this is exactly why your presentation stood out to me, the quantified information about scar tissue. What else is essential to know about C-section scars in general?

IG: Another aspect is the behavior of the tissues and what the analysis describes. Manual therapy training emphasizes awareness about adhesions between fascial layers that are common with scar tissue. Yet the literature shows that several factors contribute to adhesions, including the number of C-sections the woman has had. Some research reports that a C-section scar is not always adherent and if it is, manual therapy interventions will not change that component.

Manual therapy forces will not change the adhesions. We will not break them, but what are we doing? We modulate the environment to limit the fact that they form. The research has helped me have a better understanding of how C-section scar formation functions in women who seek help with their scars. The question that remains is what happens with the scar over time, two years after the manual intervention for example.

And we don't know precisely how to modulate tissue behavior, but we could investigate preventative manual therapy. We know that adhesions will form if the surgical incision is in an anatomical region where there are a lot of surrounding forces and an inflammatory system that does not subside following surgery. This should speak to you and your colleagues. You mentioned your focus is on gravitational forces as an integral part of your manual therapy. You could say to yourself, how is my client's scar being affected by the pull of gravity, and what adhesions would possibly form?

Each anatomical region has its own tone, its own rigidity, with its own

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Isabelle Gilbert

surrounding forces. As soon as we apply a physiological change in this normality, we could think that we are influencing the *cellular construction* of the scar. The idea is that the scar forms its own adhesions built with the surrounding stiffness, a relationship with the forces that were already there before. The more force there was initially, the more likely it is that there will be fascial adhesions between the layers. We could examine when it is best to intervene with manual interventions to prevent these adhesions. Note also that it has been shown that scar tissue is a tissue that has *lost function*. Scar tissue has 20% less 'stretch' than so-called normal skin. This brings us back to the notion of stiffness that we talked about earlier and the qualities that manual therapists perceive with they notice a change in function.

Our role could go beyond treating old scars. That work is going to help people, that's clear, but wouldn't our role be more efficient in the role of adhesion prevention? In the beginning when women first have a C-section, not in the first forty-eight hours of course, but perhaps there is an optimal window of time where our work can prevent these painful scars from taking hold so that the scar tissue is as healthy as possible.

If we catch the people who end up with major scarring problems, we could reduce the pain of the C-section scar, and modulate the tissue behavior before it becomes a problem. It is best to do the manual intervention repeatedly to have a lasting effect. But to do so, we need to have a better idea of when to do it since we could also create problems if the dosage is inadequate. Our approach is underutilized as preventative health care, we could be doing this work earlier, at the beginning of adhesion formation, but we lack evidence for that approach.

More work to do, and more studies need to be completed. It is an exciting moment to be doing manual therapy. There is a lot of science that is now possible for my profession of osteopathy, and our profession of manual therapy.

LAH: I agree, an exciting time to be doing manual therapy and studying the science of fascia.

IG: Studies in manual therapy clearly show that even if we apply something ultra-specific, we will have non-specific effects. It can be simple, what we do, if we have a good understanding of what it is that we are doing. We learn a wide variety of tools, but in the end, when we put our hand somewhere on an anatomical region, we are hoping to have an interaction. It doesn't matter if it's with the nervous system or at the tissue level, perhaps even a response with the bone.

IG: Each anatomical region has its own tone, its own rigidity, with its own surrounding forces. As soon as we apply a physiological change in this normality, we could think that we are influencing the *cellular construction* of the scar.

Sometimes we make our ideas too complex, even in research, and sometimes it's the simplest thing that we'll understand better and how we can apply our interventions better.

LAH: That's a great place to end our article, thank you so much for your insights and your time. Congratulations on your 2022 publication, it's an excellent contribution to the manual therapy peer-reviewed literature.

IG: It was a pleasure.

Isabelle Gilbert has a master's degree in health science research from the Université de Sherbrooke and is a clinician as a member of Ostéopathie Québec. Gilbert is interested in the effects of post-surgical mobilizations and women's health. She has been an instructor and clinical supervisor with ENOSI, a professional school of osteopathy, since 2018. She also works with a multidisciplinary sports medicine clinic and sits on the Board of Directors of Ostéopathie Québec. She is studying in the Department of Management and Evaluation of Health Policies and Organizations at the School of Public Health of the Université de Montréal.

Lina Amy Hack, BS, BA, SEP, became a Rolfer® in 2004 and is now a Certified Advanced Rolfer (2016) practicing in Canada. She has an honors biochemistry degree from Simon Fraser University (2000) and a high-honors psychology degree from the University of Saskatchewan (2013), as well as a Somatic Experiencing® Practitioner (2015) certification. Hack is the Editor-in-Chief of Structure, Function, Integration.

Keywords

Cesarean section; C-section; surgical scar; soft tissue mobilization; research; osteopathy; MyotonPRO; FlexiForce; compression forces; tension forces; tissue stiffness. ■

How Rolfing® SI Shaped my Life

The Lily Moore Story

By Dana Fabbro

Dana Fabbro

ABSTRACT *Now collegiate athlete Lily Moore was twelve years old and an aspiring basketball player when she suffered a life-threatening injury that had the potential of crushing her athletic dreams. After multiple surgeries, physical therapy, and other modalities of support over the course of several years, Lily continued to suffer from severe pain. A recommendation to a Rolfer® changed the course of her life. The following is a narrative about the experience in the voices of Lily, her mother Lori, and her father Steven, where they talk about their trauma, despair, and healing.*

My name is Lily Moore. Ever since I was a little girl, I've dreamed of being a basketball player. But when I was twelve years old, I cut my wrist washing dishes. After a bunch of surgeries, I had nerve damage, and could hardly use my hand, much less hold a basketball. We tried everything over the next six years, but I just couldn't get better. We were pretty much out of hope. And then somebody told us about a woman who did a technique called Rolfing® Structural Integration, a kind of massage that works really deep in your tissue. Honestly, we'd never heard of it, but we were out of options, and I didn't want any more surgeries. After just the first session of ninety minutes, my hand and wrist felt different. I've completely recovered now and don't have pain anymore. It was a long road, and pretty tough on everyone. But I never gave up. Neither did my family.

So, this is my story about the real-life miracle, that happened to me.

Lily Moore has recovered from her injuries and has been playing basketball as a forward for the Cedarville Yellow Jackets. Photo credit: Anne Marie Weakley, 2022.

Lily Moore: After a bunch of surgeries, I had nerve damage, and could hardly use my hand, much less hold a basketball.

Photo credit: Anne Marie Weakley, 2022.

My name is Lori. I'm Lily's mom. I'll do my best to share my memories, which of course, I don't think any mother could ever forget. Even though it happened over seven years ago, there are times that I just can't talk about it. When I hear a siren, it takes me back to that evening.

We were getting ready for dinner, and Lily was doing dishes when she dropped a glass. As she tried to catch it, it broke, and a piece of glass jammed into her wrist. I knew it was bad – the arteries were severed and blood was spraying up onto the walls. At first, I couldn't stop the bleeding. I ended up putting her wrist on the table, placing my hands on it, and then putting my entire body weight on it. That's when I screamed out to Steven, "Call 911!!"

This is Steven – Lily's dad, Lori's husband. I was in the next room playing with one of my younger boys and I heard the glass shatter. The first thing I thought, honestly, was like, "You serious, another glass?" We've got four kids and stuff was always breaking. Then I heard Lori screaming, telling me to call 911. I could hear in her voice that whatever was happening was bad. When I went into the kitchen, Lori had her hand on Lily's wrist and she was pressing down to keep it from bleeding. She didn't really tell me what was going on or how bad it was because she didn't want to scare Lily.

Lori: The ambulance got there really fast, which was a blessing for sure.

When the EMTs first got to us in the kitchen, I told them, "Are you ready?" They were putting their gloves on, and they didn't know what I meant. I was trying to say it without saying it because I didn't want Lily to know how severe it was. But then I took my hand away, and they saw the blood. Originally, they had said we would go to the General Hospital, but then when he saw it, he immediately said, "We're going to Children's Hospital." And that scared me because I realized they thought it was really bad.

I remember Steven got in his car, I was in the ambulance with Lily, and the EMTs told Steven, "Don't try and keep up with us." And I looked over one time and we were going 110 miles an hour.

Steven: Reflecting back, the timing was just so crazy, because basketball-wise, everything for Lily was great. She was only in seventh grade, and she had gone to the University of Louisville girls' basketball camp. And a couple of days into the camp, the U of L players and staff were joking around calling her "Shoni Schimmel" – a nickname after a player who had just graduated from U of L and is considered one of the all-time greatest female basketball players Louisville ever had. Lily even surprised me a little bit with how good she had gotten. And then it seems like the next thing you know she's in an ambulance and it is barreling down the highway out of sight.

So, then I was on my cell phone, I was trying to call my parents and tell them what was happening. Lori was trying to call me from the ambulance, I didn't find that out until later, and also, I didn't know how to get to the hospital. I was trying to get GPS to open on my phone for directions. And what we all didn't find out until later was at that same time, AT&T had a complete regional blackout, nobody could get service.

Lori: Even though it happened over seven years ago, there are times that I just can't talk about it. When I hear a siren, it takes me back to that evening.

Lori: Right – just crazy. And when we got to the hospital, I tried to prepare myself, "Okay, there's going to be a bunch of doctors there." Well, there were about thirty different medical people who swarmed Lily. That really got my attention, my heart was racing. Meanwhile, every time I called Steve, it went to voicemail and I was flipping out.

Steven: Finally, I found the hospital, went in, and found Lori. It was amazing how these things worked out. The surgeon/hand specialist who operated on Lily, of all things, it turned out she was a former basketball player as well! She was just a phenomenal doctor and the surgery she did was so intricate, but she was able to save so much functionality of Lily's hand – we can't ever thank her enough.

Lori: Dr. Burke was amazing. She was so patient with us and explained that the tendons and nerves are like little pieces of string, she literally had to go into the wrist and find all these tiny strings that had been cut and then reconnect them. I have a business degree, so medical stuff is a whole other world. I had no idea how severe this injury was, but what Dr. Burke was able to do was incredible. And the first few months afterward, Lily seemed pretty good. She had pain, but we all expected that, and it really felt like, "Okay the worst is behind us." Turns out it was just the beginning.

Steven: Sixteen or seventeen months after the accident, Lily had been doing physical therapy and everything, just to get her strength back. She even made it back to eighth grade to play in her first game in more than two years – she scored seventeen points. And then she came home one day and said she wasn't feeling good. It seemed like maybe she had a bad cold or something, she went to her room and crawled into bed. And she didn't get out of bed for five months. She had mono [infectious mononeucleosis]. But she couldn't shake it, so we took her to infectious disease specialists. Everyone was running tests, then finally they discovered she had severe celiac disease and it was exacerbating the mononucleosis.

Lori: That was another five months of her life and basketball, just missed, gone. By then we were about two years past the accident, the mono, and the celiac disease. Lily was fourteen and could do sports again, but the nerve pain in her hand was really intense. Over the next twelve months, she had a non-invasive procedure for the pain, which only made it worse. We decided to try a second surgery to get her some relief, and she didn't react well to it. The scar tissue had built up over the years and we just couldn't seem to get ahead of it. It just felt like so much. I think this was really the first time I was starting to lose hope. When would she ever catch a break? At this point I wasn't even thinking about basketball so much, I was thinking about the rest of her life.

Steven: Between the non-invasive procedure and the second surgery, Lily missed her entire freshman and sophomore years of high school. I agree with Lori, it just seemed like we were running out of options. The worst part was how much pain Lily was in all the time. Emotionally it was bad for her, but also, her quality of life was just a lot less.

Lily: After my sophomore year of high school things just went from bad to worse. I could barely use my right hand, even for normal stuff. I'd been through so much physical therapy and surgeries, and we kept meeting with different doctors. Basically, they said the only option they saw was another surgery. There was also a chance I would have to live with the pain. I started to really think I'd never play basketball again. I don't know what I would've done without my parents – they didn't give up.

So, then they started researching as much as they could about alternative therapies to alleviate the pain, everything from acupuncture, red light therapy, and pulsed electromagnetic field therapy. My dad remembered the doctors saying scar tissue was causing the pain, so he started reaching out to massage therapists in the Louisville metro area. He found the best therapist he could online and typed a very lengthy and desperate email asking her for help. Her name was Amy and she responded, asking him what therapies we'd tried so far. He told her we'd done massage, dry needling, Graston Technique®, Transcutaneous Electrical Nerve Stimulation (TENS), and a bunch of others. Amy said she couldn't do more than that, but she recommended we see a Rolfing SI colleague of hers.

Steven: The surgeon/hand specialist who operated on Lily, of all things, it turned out she was a former basketball player as well! She was just a phenomenal doctor and the surgery she did was so intricate, but she was able to save so much functionality of Lily's hand – we can't ever thank her enough.

Steven: We had already tried everything Amy knew to suggest, all but one idea – Rolfing SI. I'd never even heard of it before. But she had a colleague who did it, Rolfer® Catherine Slattery, so I checked her website. One thing that really got my attention was a testimonial on her website from some professional dancers who'd traveled to see Catherine. They all said she'd helped them so much, so I was curious. I read a bunch of stuff on Rolfing SI, and it basically said it's a very intense form of deep tissue massage designed to release and remold scar tissue so that it's more pliable and behaves like regular tissue. So that sounded good. And she was in Louisville, which we could get to. And we were pretty much out of ideas.

Steven: [The Rolfing session] was in this small office, there were four of us in there, and ninety minutes was a long time to sit there. I say this all now, and I get a good laugh out of it because if it wasn't for Catherine, I don't know where we would be. At the time, I was sitting there in that little office feeling skeptical.

Lori: We've always been very strong in our faith, but I have to say that sometimes I had just run out of hope. I suppose it's just human nature to feel like everything had been done and nothing had worked. Maybe that's why I didn't think this Rolfing thing sounded so crazy – we'd already tried tons of crazy stuff, so I thought, what have we got to lose? Plus, it was only a new kind of massage. It wasn't another surgery. She had been massaged before and it didn't help. We had decided no more surgery because they just stopped helping.

Steven: I was skeptical at first, but I always held a little bit of hope. And now we're just so thankful that we got to meet and work with Catherine. I don't know where we would be without her. I just hadn't ever heard of anything like Rolfing SI before and I kind of thought it was *woo-woo*, you know. And it was in this small office, there were four of us in there, and ninety minutes was a long time to sit there. I say this all now, and I get a good laugh out of it because if it wasn't for Catherine, I don't know where we would be. At the time, I was sitting there in that little office feeling skeptical.

Lori: Right away I could see that it was a very different kind of massage. It was more focused. I couldn't imagine how someone could spend ninety minutes on an area so small. But that's exactly how it went, I'm sure that's a big part of why it worked and healed Lily's wrist. I could really see the difference between Rolfing SI and physical therapy. Not only was there a huge difference in the amount of time spent working on that one area, but the intensity and method were totally different. Sometimes Catherine would put her elbow on Lily's wrist and press her body weight against her wrist and move it around. As her mother, it was difficult for me to watch at times, I could see how uncomfortable it was for Lily. But the reward was so great, it was definitely worth it. After four years of surgeries, nerve pain medication, platelet-rich injections, dry needling, and essential oils, not only were we all kind of shocked it worked – it worked fast.

Steven: I can't remember exactly, but I think it was a couple of days later that Lily said she wanted to try and dribble a basketball. She did, and she started shooting it too. This was the first time in four years that Lily could dribble and shoot without any pain. That was after one, ninety-minute Rolfing session.

Lori: Softball, too. She joined the team shortly after that first session. Hitting a hard ball with a metal bat, with the impact and vibrations that it caused, was impossible for Lily before Rolfing SI. But after just one session, she was able to do so again very successfully and with no pain. We kept going back to Catherine once a week, just out of an abundance of caution. But Catherine reassured us that the scar tissue that had been causing the nerve pain was now pliable and that it would be unlikely to go back to being tight and inflexible as it was before. She was absolutely right. Lily's pain was gone forever, and the range of motion Rolfing sessions have restored to her is here to stay.

Lily: Through all of this and, finally, getting healed, I hope my story will inspire others to try Rolfing SI who find themselves in a similar, seemingly hopeless situation. I plan to use my studies in business administration and physical therapy to help people dealing with an injury or who are in pain, to help them get better and get back to doing the things that they love. Outside of helping people overcome physical injury, I also want to use my story to motivate a broader audience to never give up, to believe help is possible, and to keep getting up when they get knocked down. I want to help people understand that lying down and playing the victim is not the path to their dreams. I feel like God had a plan for me when I sustained that life-altering accident seven years ago and that plan is starting to come into focus. I am truly blessed to have experienced these hardships in my life as they have made me the person I am today.

On August 13, 2022, Steve and Lori moved Lily into her dorm at Cedarville University, in Ohio, where she'll play basketball for the Yellow Jackets on an athletic scholarship. She remains pain-free, grateful to her faith, family, and friends, and is as determined, as ever.

Dana Fabbro is a full-time, freelance writer. He's worked in the advertising/ marketing sector for two decades, while also contributing work for various clients in the health and wellness fields. He tries not to give in to the demands of his two cats and is a big fan of the Oxford comma.

Lily's story has inspired the creation of a new series at the Dr Ida Rolf Institute titled "Healed Through Rolfing ~ Our Stories". Visit rolf.org/healed_through_rolfing.php and follow their social channels for more client stories to come. You can also find inspiring stories about the journey of Rolfers on their "Why I Became A Rolfer" page rolf.org/why_i_became_a_rolfer.php

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Keywords

basketball; injury; trauma; surgery; recovery; scar tissue; Rolfing SI. ■

Caution Column

Considerations When Working with Pregnant Women

By Lu Mueller-Kaul, Rolfing® SI Instructor

Lu Mueller-Kaul

ABSTRACT *In the first Caution Column, pregnancy is discussed as a condition that is commonly found on contraindication lists for manual therapy. Rolfing® SI Instructor, Lu Mueller-Kaul aims to dispel the myth that fascial manipulation during pregnancy is harmful, and proposes that perpetuating the narrative of harm has itself been a detriment. Current peer-reviewed research is discussed regarding the effectiveness of manual therapy during pregnancy and a thoughtful proposal of when caution needs to be applied.*

Editor's note: This particular discussion is for manual therapy professionals and the public; it is intended as a point of view on how to stay within the scope of practice of a practitioner's certification while helping pregnant clients. We recommend that clients follow their doctor's advice about what is safe for them in their specific circumstances.

Do Rolfers® work with women when they are pregnant?

The short answer is yes, but there *still* is controversy, and it is time for this fear-based thinking to be over. Caution when working with pregnant clients is warranted, of course, and we will get into those details. *First, do no harm;* we all learned that in our ethics classes. Consider this – much harm is done by sending people away when they come to us in pain, hoping for relief.

From my perspective as a German-trained naturopath and now a Rolfer practicing and teaching in the United States, I had not heard about the nonsensical fear of inducing a miscarriage until I lived and worked in the United States. Many pregnancy myths still circulate in our profession, uninformed opinions, and personal preferences disguised as advice (Fogarty et al. 2019). We know that manual therapy is effective for pregnant women, specifically to address swelling in the legs, depression, anxiety, leg pain, and back pain. Observations also include a lower rate of prematurity, less labor pain, and shorter labor overall with less need for medication overall (Corban and Sirin 2010; Field et al. 2009; Field 2010).

Manual therapists have been influenced by the idea that whatever the trimester, no matter what body parts are being treated, there is a risk of physical harm to the unborn child (Fogarty et al. 2019). This belief is unfounded and a potentially dangerous message to pregnant women and their families. It distracts

from reasonable concerns, and it keeps women from getting non-pharmaceutical treatments that have been proven to be helpful and are now recommended by mainstream medical sources (Tiran 2018; Osborne, Kolakowski, and Lobenstine 2021). Telling pregnant women that their manual therapy treatments are harming their unborn child increases maternal stress, which in itself leads to risks, including miscarriage (Qu et al. 2017).

As most of us know, in the first three months of pregnancy, miscarriages are common (Goldman 2018), and understandably massage school instructors are concerned about potential accusations. I've gone through public records about malpractice complaints, even the most ludicrous ones, and I did not find malpractice suits based on practitioner-induced miscarriages. (*If you make the same inquiry, tell me if you find any complaints about miscarriage related to hands-on work.*) I dug up forty years of court records, law enforcement arrest records, cases filed, and cases dismissed. Nobody got accused of rubbing an ankle and causing a miscarriage. Don't get me wrong, much of what I found was shocking. Massage therapists do get in legal trouble, ethics complaints are not uncommon, and even cases of sexual assault. Physical therapists and chiropractors have been accused of harming patients, and there are some wrongful deaths on record. But bodyworkers like us hardly ever get sued. This is why our liability insurance is so cheap in the United States.

I don't think we should ignore our concerns, especially since a scared practitioner cannot give good treatment. A compassionate apology while saying, "I'm not comfortable giving you the treatment I usually would, please let me refer you to a colleague," is appropriate. It is a choice you have to make. In my practice, I work with pretty much every pregnant client that seeks my services. I am on the side of, "I'll try, I'll work slowly, and you tell me if something feels wrong – not only if it hurts – but also if it's just uncomfortable for any reason. I'll watch you as well, and if your breathing gets faster, I will slow down even more."

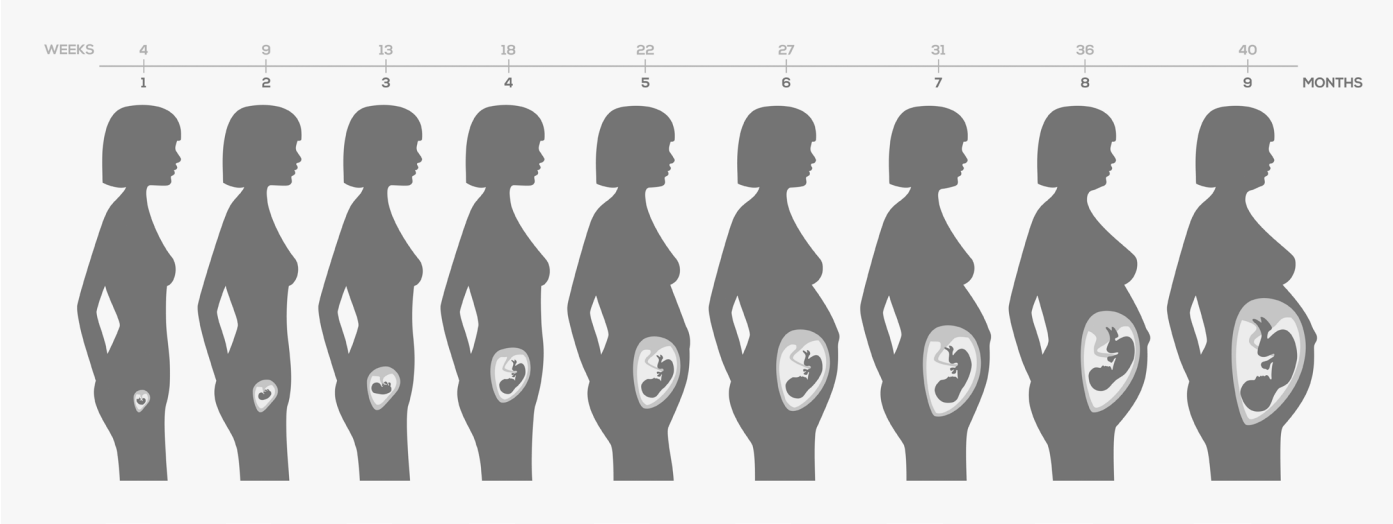
In early pregnancy, manual therapy works against nausea (Agren and Berg 2006), and in later stages, it can help reduce swelling, many kinds of pain, and even postpartum problems can be treated with very little risk (Lee and Ko 2015). Massage has been reported to decrease stress, decrease pain, increase range of motion, and improve sleep during pregnancy (Fogarty et al. 2019). Meta-analyses have found positive effects of manual therapy on the pain levels of pregnant women, yet more research is still needed (Hall et al. 2016). Manual therapy during pregnancy reduces cortisol levels, the stress hormone that indicates fight-and-flight arousal (Field 2010). It has been proposed that increased vagal activity is part of the mechanism involved with lower stress markers in pregnant women and fetal activity as well (Field 2010). A randomized controlled trial found that pain during pregnancy, leg cramps, and coccyx pain are common issues that women report early in their pregnancies and they may become persistent problems after birth if treatment does not start early in the pregnancy (Sarkar et al. 2021).

First, do no harm. Photo credit: Alla Serebrina.

Over the last thirty years, the medical establishment started prescribing massage and manual therapies as part of their clinical recommendations for stress management and pain relief. So, massage therapy educators started offering "Pregnancy Massage Certification" classes as continuing education with the best intentions to deliver qualified practitioners with the skills needed for this population. Suddenly women were warned to receive bodywork *only* from a practitioner who is "Pregnancy Certified." As a result, many pregnant clients don't get help from a highly effective manual therapist. And conversely, pregnant clients who know that manual therapy helps them are being turned away with comments like, "that's irresponsible, I'm not allowed to work on women during the first trimester, and later I could only do that legally with special education."

During my twelve years of practice in the United States, several of my massage therapist employees have refused to work with pregnant women. Since our clinic has a reputation for reliable pain relief, we often got requests from pregnant women to help with their back pain, and manual lymphatic drainage to treat swollen feet. One of our very best therapists continually refused to help our pregnant clients, and she influenced the whole team. I felt terrible, and my position is still that a lot more harm was done by refusing treatment, and in my opinion, the research agrees with my position. Of course, I couldn't and wouldn't force anyone to give a treatment they didn't want to give, but I also hated to let those clients go to receive some *light Swedish* elsewhere. So I gave in, paid for my employees to have the pregnancy massage certification classes, and eventually taught those myself.

As a Rolfer, a structural integration practitioner, or any kind of manual therapist, if you have concerns about



Silhouette of what the stages of pregnancy can look like for some women. Photo credit: Johndory

working with a pregnant client, look up the research listed here. Use that concern to fuel a deeper inquiry of your own, go look for peer-reviewed studies and a multidisciplinary literature review. This is an active area of research and we all benefit from updated information about manual therapy during pregnancy. Please let me know what you find so I can include the newest information in my classes and articles.

What caution should Rolfers keep in mind as they work with women who are pregnant?

1. Position during a manual therapy session.

The further along in a pregnancy, the more necessary the side-lying position becomes, and supine should be avoided. The client is often most comfortable on their side anyway, and lying supine might stress the fetus (Warland 2017). Starting when the baby 'bump' gets in the way, it's best to stick with modified prone positioning, side-lying, and seated. During the third trimester, avoid prone positions too (Oliveria et al. 2017). I often use an adapted seated position for clients who can't, shouldn't, or don't like to lie down. I'll have the client's chest lightly bent forward over a big pillow, resting the upper body on the treatment table, so there's easy access to the whole back, ensuring the client does not have to be active.

2. Be careful around joints, don't dig into the joint capsule, and test *slowly* for functional flexibility.

The ligaments get laxer to prepare the pelvis to widen during birth with the release of the hormone relaxin, and that affects *all* the ligaments of the body. That doesn't mean everything gets flexible, just as with hypermobility conditions, there can be a lot more muscular tension leading to "feeling tight." We can't tell clients to do specific strength training, but we can keep in mind that stronger muscles often get looser, and there is such a thing as "weak and tight."

3. Don't forbid stretching, but *please* don't encourage it much, either.

Yin yoga might not be ideal for an already flexible client. That's why you test the joints slowly, and carefully, just moving through a normal range of motion, and check for *end feel*. But if you get a clear pull from a muscle, you can work the attachments, get into the septa, and yes, the client can stretch afterward. We don't want to make our clients fearful of stretching, just make it clear that it's not

[M]assage therapy educators started offering "Pregnancy Massage Certification" classes as continuing education with the best intentions to deliver qualified practitioners with the skills needed for this population. Suddenly women were warned to receive bodywork *only* from a practitioner who is "Pregnancy Certified."

helpful to pull a foot behind her head just because she can.

Ligaments aren't perfectly elastic, they don't exactly go back to their original form after a stretch, and we can lengthen ourselves into asymmetries. We could educate our client by saying, "You might be pulling on the ligaments in a new way because you are pregnant, keep in mind that they're softer during pregnancy, just stay within a more average range of motion." I'll tell you why I find that so important, many of the pelvic imbalances we encounter as Rolfers, the typical sacroiliac joint instabilities, start during pregnancy. So don't try to lengthen everything, work on *support* and *adaptability*.

Another valuable resource can be found on the American Massage Therapy Association's website [https://www.amtamassage.org/publications/massage-therapy-journal/massage-and-pregnancy-a-powerful-combination/]. This resource has clear contraindications and possible modifications with no mention of miscarriages at all. That's the smart way to discuss the special population of pregnant women.

Are there any circumstances that exclude a Rolfer from working with a pregnant woman?

If the Rolfer feels discomfort or fear, I'd recommend that the practitioner listen to that feeling and "don't do it." We take on the role of gentle guidance while empowering the client to work with us, and we rely on the client to let us know what feels safe and what is uncomfortable. If we don't feel safe, it's hard to create a safe environment for the client, and we are more prone to mistakes.

We don't want to make our clients fearful of stretching, just make it clear that it's not helpful to pull a foot behind her head just because she can. Photo credit: AntonLozovoy.

Fearful clients benefit from slow work and gentle holds, but not all Rolfers like to work that way. I tell students, "You can't learn when you're afraid," and that goes for our clients too. So, if we adjust our touch and our presence, and most importantly our own embodiment, a fearful client will quickly feel better. Keep holding space for the session to unfold in its own time instead of trying to impose our own agenda. It is worth mentioning that I prefer the mildly anxious practitioner to the overly confident one who believes, "I know exactly what to do here."

I have come to understand that the hesitation some of my colleagues feel with pregnant clients comes from *being responsible for two people, not just one, without the training for the additional person*. That makes sense to me, more than the other arguments I've mentioned above. Medical doctors are not allowed to refuse a patient in need, but we can. And we should if we don't feel secure enough in our skills to deliver the work the client requests.

Rolfers can help pregnant women in the same way massage therapists can, and I believe that with our training we can do better. Even using the 'Recipe' during pregnancy has shown good results. In my own practice, I work with spinal and nerve mobilizations for my clients who are pregnant, I also use my lymphatic drainage techniques and gentle work around the joints with awareness of possibly lax ligaments.

All our work with pregnant women should be focused on ensuring their comfort and well-being. We can apply the Principles of Rolfing® Structural Integration (Sultan and Hack 2021), especially *adaptability* above and *support* below the pelvis. While almost everything keeps shifting, we can help a lot by centering the growing belly over the pelvis, allowing depth in the whole abdominal space, and coming back to the feet and legs, bringing awareness to the inner line of the legs and the corresponding support for the front of the spine. And yes, it does make sense to do another 'Ten Series' about two years after the child is born, to address the postpartum adaptations that may have taken hold in their structure.

[I]f we adjust our touch and our presence, and most importantly our own embodiment, a fearful client will quickly feel better. Keep holding space for the session to unfold in its own time instead of trying to impose our own agenda.

Lu Mueller-Kaul is a Rolfing SI Instructor with the Dr. Ida Rolf Institute since 2019 and coauthor of The Rolfing Skillful Touch Handbook *(2022) with Bethany Ward and Neal Anderson. She mostly teaches*

Phase I courses, bringing physiology, therapeutic relationships, and Skillful Touch together so students learn an adaptable spectrum of touch skills while staying aware of the space they hold for each client. Mueller-Kaul began her journey as a licensed naturopathic physician in Germany in the 1990s. Along the way, she's practiced acupuncture, chiropractic adjustments, and traditional Chinese medicine before coming to the United States to study Rolfing SI.

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All our work with pregnant women should be focused on ensuring their comfort and well-being. Photo credit: Pimonova.

Keywords

pregnancy; contraindication; leg swelling; depression; anxiety; pain; labor pain; nausea; postpartum; stress; sleep; position; joints; yoga; stretching; fear; Rolfing SI. ■

The Business of Rolfing® SI

A Call Out to Rolfers® to Talk Business Together

By Lu Mueller-Kaul, Rolfing® SI Instructor

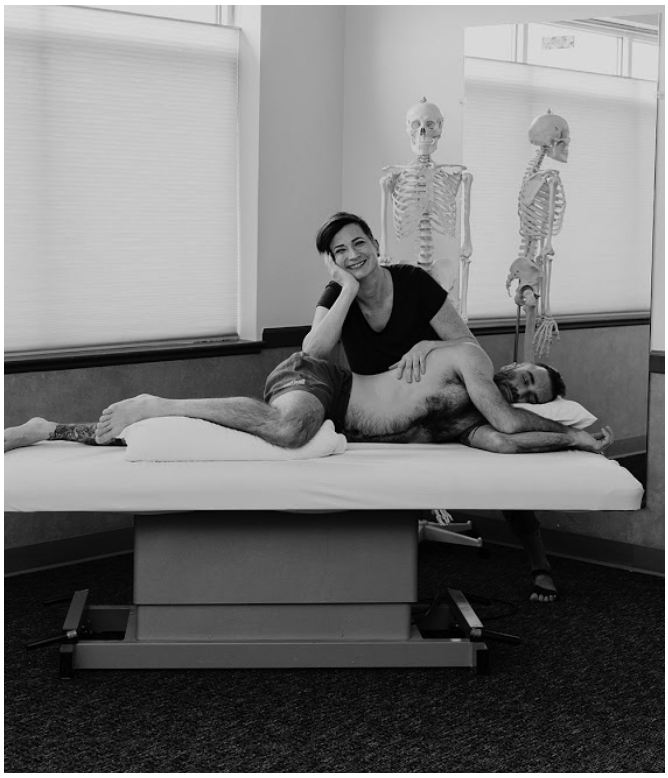
Lu Mueller-Kaul

ABSTRACT *In this first 'The Business of Rolfing SI' column, Lu Mueller-Kaul outlines the launch of a conversation about the business aspects that all structural integration (SI) practitioners face to deliver their manual therapy sessions. This article invites communication between readers and the author and the editorial team of* Structure, Function, Integration*, a place where we may share about the work of this modality and the marketplace where our business takes place.*

Welcome to our new business column, a topic I've written about before in this journal as 'Practice Building',[1] and is a foundational issue that all structural integration professionals face to deliver their skills to their communities. I write specifically about the work of being a Rolfer, within the broader market of manual therapy. I'm sharing lessons learned, applied, and taught as a practitioner, employer, instructor, and lately, as an employee.

Here we are, three years after the start of a global pandemic, where one of the viral transmission pathways fits the exact

Lu Mueller-Kaul: I write specifically about the work of being a Rolfer, within the broader market of manual therapy. Photo credit Lu Mueller-Kaul.



LMK: Let's talk openly about adapting and updating ourselves, to keep our schedule full and our stress levels low. Photo credit Lu Mueller-Kaul.

If you know anything about my approach to business, you know I want Rolfing SI to show up when people search for a 'good massage'. We want those clients who don't expect a mind-blowing experience or a miracle healing, they just want relief from an achy back.

conditions of a Rolfing session. Let's talk openly about adapting and updating ourselves, to keep our schedule full and our stress levels low. With this column, we plan to inspire you, our readers, with different approaches to the framework, pricing, marketing online and face-to-face, quality of life, and much more.

What do you need to know? Where do you struggle in your business? What changes would you need to make as a health professional to create your ideal workplace?

Some of us, especially the self-employed majority, might feel that we are, "always at work." Now that we have followed our hopes and dreams, some of us may also have a wholistically fulfilling life-work balance. Or we find ourselves less at work, and more hoping for work to find us. We invite feedback, we would like to know what plans and strategies have worked for you as a structural integration practitioner. What have you learned from other professions that applies to ours? How have you met the challenges of the Rolfing business, who gave you good ideas, and what else would you like to try? Please email the editorial team for *Structure, Function, Integration* at hello@sfijournal.org.

In my twenty-five years of working with patients and clients in Germany and the United States, I keep noticing how a profitable practice has little to do with the quality and expertise of our treatment techniques. How we make people feel is usually more important, starting with how others speak about us, or which search terms bring a prospective client to our websites. If the client who is ready to make an appointment search online and easily finds a welcoming practitioner website, with a clean and spacious treatment room, she is much more likely to prepay and schedule several appointments in advance. Compare that customer experience with a prospective client who asks around, collects business cards, waits for voicemails to be listened to, and eventually finds themselves on a waitlist.

Interestingly, frequent referrals by people who are Rolfing-believers (those who have had forty years of sessions) do bring in new clients, but not nearly as many as the one that says, "You should see Lu, she fixed my foot in two sessions, and it hasn't bothered me since." Actually, the more sessions a person boasts of having may lead skeptics to believe it didn't work, which could unfortunately support the notorious Wikipedia page.

If you know anything about my approach to business, you know I want Rolfing SI to show up when people search for a 'good massage'. We want those clients who don't expect a mind-blowing experience or a miracle healing, they just want relief from an achy back. Not only do we help by supporting short-term relief, but eventually, this work will change the whole situation that brought on the backaches. We will give that client the awareness and tools to get back to life without needing further treatments. This is a fulfilling plan, we are helping people in pain, which brought us into this profession, and we get space in our schedule for the next person in need. This is a fulfilling strategy for me and something to think about rather than a schedule full of 'regulars'.

The business I started in Orlando, Florida in 2008 makes it easy for clients in pain to see a skilled practitioner quickly. But our website also leads them to consider that they might need a 'Ten Series'. So before ever having spoken to a Rolfer, clients showed up eager to meet me and receive a short treatment to alleviate symptoms and book ten sessions in advance so the

LMK: Now that we have followed our hopes and dreams, some of us may also have a wholistically fulfilling life-work balance. Photo by Ian Schneider on Unsplash.

results will last. After selling the business, I moved to Boulder, Colorado, but I still see clients at "Balance Orlando" when I visit. My Florida clients still don't need to talk to me before they are willing to pay $310 for a session. This is the main reason I keep urging colleagues to consider better websites. With my current business structure, when I encounter a client in need who can't pay that much, I can do *pro bono* work.

To cultivate success, we need to look at the business of not only structural and functional health, but let's talk broadly and be curious about ideas outside of our silo. Photo by Shane Rounce on Unsplash.

And that's what many of our colleagues want to do, as I hear students also say, "I'd like to work with underserved communities." But the reality is they just can't afford to. Many practitioners can't make the space in their schedules for both the clients who are happy to pay a lot more and the ones who need help without the same financial resources. Their *success in business* led to being booked up for weeks or months in advance with the same types of clients they've always had.

This column launches the conversation about options beyond the idea of *success* being *booked solid*. We're looking at Rolfing SI in 2023 and what it can become in the future. This is a request to you, members of DIRI, colleagues who enjoy our journal, clients who read our publication, and the general public. This is a call out for us to come together. By submitting your thoughts, questions, and concerns, we can learn from your experience and share ideas from the world of client-centered businesses. To cultivate success, we need to look at the business of not only structural and functional health, but let's talk broadly and be curious about ideas outside of our silo.

You are further invited to become a part of a virtual practice-building group to discuss marketplace challenges we all face, and develop strategies to overcome them or use them to our advantage.[2] This is a volunteer effort I feel passionate about and have been engaging in since 2011, ever since I realized that I don't have to do it alone, and I don't even have to pay anybody, I can collaborate with others to build strong networks that create win-win situations.

Lina, our Editor-in-Chief here at *Structure, Function, Integration* is working with me to receive your emails and collaborate on the topics of this column in each issue (please email her at hello@sfijournal.org). We look forward to hearing from you. Next time, our 'Business of Rolfing SI' column will address pricing strategies, and maybe we can already include your feedback and your stories in that column.

Lu Mueller-Kaul is a Rolfing SI Instructor with the Dr. Ida Rolf Institute since 2019 and coauthor of The Rolfing Skillful Touch Handbook *(2022) with Bethany Ward and Neal Anderson. She mostly teaches Phase I courses, bringing physiology, therapeutic relationships, and Skillful Touch together so students learn an adaptable spectrum of touch skills while staying aware of the space they hold for each client. Mueller-Kaul began her journey as a licensed naturopathic physician in Germany in the 1990s. Along the way, she's practiced acupuncture, chiropractic adjustments, and traditional Chinese medicine before coming to the United States to study Rolfing SI.*

Endnotes

1. The December 2013 issue (Vol. 41, No. 2) of this journal, titled at the time, *Structural Integration: The Journal of the Rolf Institute®*, had a dedicated theme of 'Practice Building'. Nine articles including my own, "How to Be Found Online: What You Need to Know About Websites and SEO," pages 30 to 31.

2. To contact Lu Mueller-Kaul directly, email her at: Lu@QforLu.com.

Keywords

practice building; website development; structural integration community; Rolfing SI; Rolfing practice; Rolfing websites; Rolfing marketing; business. ■

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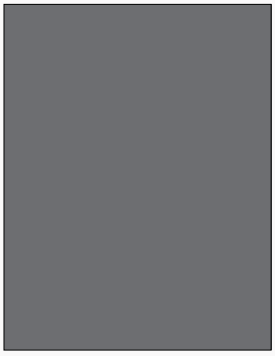

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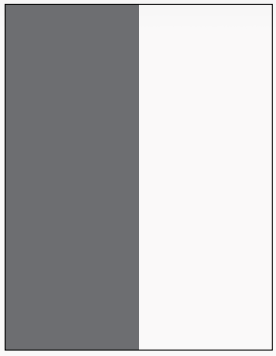

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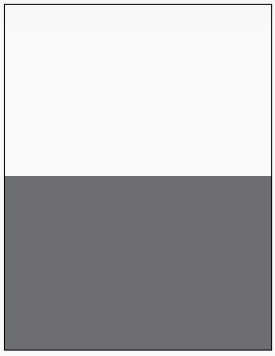

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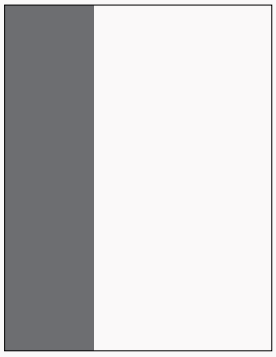

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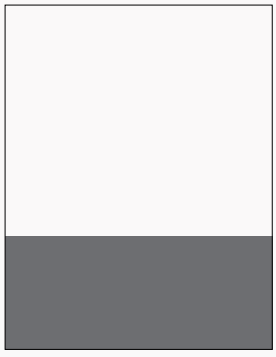

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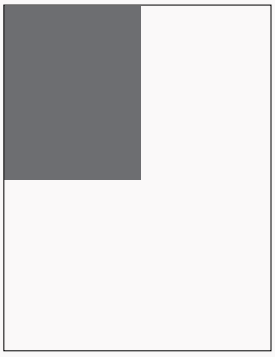

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Please contact Shellie Marsh at smarsh@rolf.org for pricing and submissions.

Pelvic Relationships and the 'Ten Series'

An Interview with Tessy Brungardt

By Lu Mueller-Kaul, Rolfing® SI Instructor, and Tessy Brungardt, Advanced Rolfing Instructor

Lu Mueller-Kaul

Tessy Brungardt

ABSTRACT *Rolfing Structural Integration instructor Lu Mueller-Kaul interviews colleague, Advanced Rolfing Instructor Tessy Brungardt, about how Rolfers® think about the pelvis throughout the 'Ten Series'. From wholism to specific session considerations, Brungardt reflects on challenges that students and Rolfers experience with various structures of the pelvis. The authors discuss the refinement of pelvis palpation and getting comfortable with the territory as a means to strengthen pelvic techniques at all stages of the structural integrator's career.*

Lu Mueller-Kaul: Hi Tessy, today we'll talk about Rolfing® Structural Integration's (SI) view of the pelvic girdle. I always recommend your continuing education courses and Advanced Training. There's a lot we will not cover in this interview, like pelvic shears and torsions. Getting the full picture of how to work with the pelvis takes days of discussion and years of study. And the way you teach how to address those topics is straightforward and makes it almost easy.

It Starts and Ends with Wholism

LMK: Let's look at the bigger context. How do you talk about one part of the body, like the pelvis, and keep the wholistic paradigm in mind?

Tessy Brungardt: Thank you for the plug! So true Lu, when we think about Rolfing SI, we think about interrelationships, not separate parts. We understand it's the whole thing. And yet, there may be a specific, very particular small thing that needs to be addressed, that is still part of the whole thing.

Our work affects a system, even when we address one particular area. We stay curious about how far those changes can reach through the whole. That's where the power of our work comes from, not by the specific techniques you learn in a continuing education class, even though that is important. We have to keep our focus global, while we have a local action.

Regarding the pelvic girdle, we might even start with the local action because leaving that undone would interfere with the systemic order. We work with specific anatomical regions within the whole context. When we stay with the relationships instead of fixating on one joint, we balance the whole organism in gravity.

Tessy Brungardt: Our work affects a system, even when we address one particular area. We stay curious about how far those changes can reach through the whole. That's where the power of our work comes from . . .

Photo by Martin Sanchez on Unsplash

LMK: So, in structural integration, we start with the whole human wanting to order itself, and with our interventions, we are only taking obstacles out of the way.

TB: Human bodies are self-regulating and self-organizing, that's what we focus on in our Rolfing SI framework. What we do is engage these drives. When we see our clients in pain, we observe their attempts at self-regulation in a disordered system. We all live somewhere on the continuum of order to disorder. We try to get our clients – and students – to spend more time self-organizing. Through our work, they start to understand how to feel these drives. So, we offer education. People become aware that they actually organize and align themselves.

We work with myofascial layers and structures, all the way down to the ligaments, to remove the restrictions and all the happenstances of life that keep them from being able to self-organize better.

Supporting the Pelvis from Below

LKM: Good, then how would you say the feet and knees relate to the pelvis if we consider obstacles to alignment in gravity?

TB: First, let's ask ourselves, what is 'the pelvis' in our work? Is it the innominate bones and the sacrum alone? Do the ilia form the pelvic bowl? From a Rolfing SI point of view, we think of the pelvic girdle to include the feet and legs, because they are not separate from the innominates, sacrum, and coccyx. If we look at a skeleton, we can see the ilium, ischium, and pubis come together with the sacrum and coccyx. We talk about the pelvis as if it was a distinct structure, but the myofascias of the pelvic structures are continuous with the legs and feet. As our clients learn in 'Second Hour', feet and legs profoundly affect the pelvis' order and how it translates movement into the upper body.

For example, high-fixed arches will create one system of organization in the pelvis, and low arches with flat feet will create another system of organization. Knee disorganization will show up in the pelvis. Pelvis disorganization will show up in the knee. We don't really need to know where the issue starts, but we know that you can't have anything going on in your knee or calcaneus that doesn't show up in your pelvis – it's directly connected.

There is a famous phrase from Rolf [Ida P. Rolf, PhD, (1896-1979)] that *the whole job is only as good as the legs and feet*. It's the foundation. If you have a client who has had an injury, for example, a break in her fibula, we can assume she had to limp around for a time. Then we can consider the other side may be tighter due to carrying more of the weight while it was healing, causing a higher hamstring on that side. A tight hamstring pulls on the sacrotuberous ligament, which pulls on the sacrum. A person can end up with trouble on the other side of the sacrum that came from their broken fibula in high school. Eventually, it ends up there, or higher in the spine. We may not know that the first time we work with somebody, but ultimately there it is. The whole system is affecting the pelvis.

On the other hand, the problem might be very specific. You slipped on the ice and fell on your butt, and poof, there goes the innominate bone. It's disorganized. So, part of what's interesting about Rolfing SI is figuring out what is the biggest obstacle to self-organization, that's part of what keeps it interesting, and then being able to do something about it.

LMK: To use medical terminology, we talk about the pelvis as the coxal bones (another term for innominate bones) and the sacrum. In Rolfing SI terms, we talk about the pelvic girdle, whose connective tissue starts at the tippy toes all the way

up and over what we call the pelvis. Where would you say that territory ends on the superior part? Does it go to the lumbodorsal hinge?[1]

TB: Ultimately it never ends. It depends on how we're thinking about it. We think about parts of the body from different points of view. Think of the sacrum, which is part of the pelvis and also part of the spine. Whatever the sacrum is doing will affect spinal patterns all the way to the head. But we can also think of iliocostalis, one of the erectors, coming from the ilium. Trouble from the pelvic disorder will often show up in the ribs where it attaches, influencing the costotransverse joints, and pulling on the ligaments to the front of the spine.

Now consider the anterior longitudinal ligament all the way back down to pelvic floor attachments on the anterior surface of the sacrum. From there, the obturator internus membrane fascia is again continuous back down into the leg. We can go back up via the iliopsoas and cross the front of the ilium this time, back to the spine. The psoas fibers interdigitate with the crus of the diaphragm, so we have a lot of influence on the whole visceral space when we think from a fascial perspective. Then the heart and lungs attach superiorly along these fibers above the pelvis. No matter where we focus on the fascia, we may name it a region like *a pelvis*, it is an arbitrary place because it is all connected as one. But we can't teach it all at one time, as one continuation. We have to break it down into parts within the whole system, and then we can learn specific things about these specific parts.

When we think about the pelvis, we have to consider all the organs supported from there, within the visceral tube. The jaw and the pelvic floor are the two ends of the visceral space, and so we often see changes in 'Fourth Hour' all the way up to the face, even the eyes. Just think about abdominal scars interrupting the whole thing!

LMK: Reductionistic thinking is probably necessary for beginners, but even there we see the pelvic girdle bringing support to the axial complex. If that's all we think, just along the bones, we lose the principles of palintonicity and adaptability. Bringing in the whole visceral tube gives us a sense of depth front to back, and also up and down in that anterior space. So, would you say that the pelvic girdle is supportive and carries the Rolfing SI Principles of Intervention throughout the whole body?[2]

TB: The shape of our bones is different from person to person and even from side to side in one person. The innominate bones in some people are longer on one side by as much as an inch compared to the other. This is going to change the shape of a person at the waistline and you'll never be able to get it to match the other side and yet the pelvis might be well balanced.

TB: Yes. There's no way to take the principles out of Rolfing SI, they are one way that we describe the work of Rolfing SI.

The thing that's brilliant about the 'Recipe' is that it tells you: start here; and go there next. Until you understand the relationships more, the Recipe is a good guide. The Rolfing Advanced Training goes to the next steps where you'll design a series for client-centered work. Years of experience give Advanced Rolfers a deeper understanding to the connections and relationships. Just by doing the Recipe over the years, we find out what an exceptional piece of work Rolf left us. It keeps the practitioner moving within a clear frame, so you're not overwhelmed by too many choices. Otherwise, you would think you have to do everything in every session; one session would be ten hours long.

Pelvic Considerations in the First Session and Second Session

LMK: When you start with a new client, what do you have in mind with regard to the pelvis and the relationships within the whole system?

TB: I start in session one thinking broadly – considering the whole body. The Rolfer is thinking, "How do I get the pelvis horizontal so that all systems can relate across the pelvis?"

LMK: Talk a little bit more about the idea of getting the pelvis horizontal, I've noticed how it confuses students as a structural goal for 'First Hour', as if they fail when there's still a pelvic tilt.[3]

TB: Ah, then we need to talk about symmetry for a moment. We have the 'geometric taxon' that is part of our Rolfing SI theory. I often observe our colleagues collapsing that idea together with the 'structural taxon', but they are not the same. They are distinct from each other. The structural view has to do with tissue manipulation, mobilization, and with movement. The geometric taxon on the other hand is how we look at the abstract gravitational 'Line' as an idea around which people organize themselves. Then we can imagine horizontal lines perpendicular to it.

Some think there is an actual vertical line, but that's not how I learned it. My instructors taught me that *Rolf's Line* is an abstract idea that she used to measure order in the body, and then we can look for symmetry of the body. The geometric

TB: The horizontal pelvis is better understood as a relationship. It's not a literal thing. Don't measure from anterior superior iliac spine to the PSIS and say, "That's a horizontal pelvis," because it's not going to be functional for different people . . . When that relationship from front to back emerges, so the pelvic bowl balances easily over the head of the femur, it tends to work better and people feel better.

taxon helps us see this in body reading: the vertical line is the y-axis, the horizontal lines are the x-axis, and the z-axis of depth spans the front and back body. It turns out that the more organized you are in space, the better everything feels.

Within these 'models of seeing' that we use in body reading, with the Line model and the grid model, we can infer the horizontal lines, but there is no actual symmetry. It's a dichotomy in our thinking that we have to hold. We're seeking symmetry knowing that we're not going to attain perfect symmetry, yet we're still looking for it. Human beings are not symmetrical at the deepest level. The shape of our bones is different from person to person and even from side to side in one person. The innominate bones in some people are longer on one side by as much as an inch compared to the other. This is going to change the shape of a person at the waistline and you'll never be able to get it to match the other side and yet the pelvis might be well balanced. Each coxal bone just has a different shape.

There's a huge variety in the shape of the sacrum, whose profile can appear to be almost vertical in some people, while it appears horizontal in others. This changes the shape of the spinal curves. For the person who has a vertically straight sacrum, they are not going to attain the same shape when sitting on their ischial tuberosities as someone who has a curvy sacrum. Those two people's pelvises are going to look different.

The horizontal pelvis is better understood as a relationship. It's not a literal thing. Don't measure from anterior superior iliac spine (ASIS) to the posterior superior iliac spine (PSIS) and say, "That's a horizontal pelvis," because it's not going to be functional for different people. We're looking for a sense of balance between front and back of the pelvis, more functional than structural, and more relationship than measurement.

When that relationship from front to back emerges, so the pelvic bowl balances easily over the head of the femur, it tends to work better and people feel better. We are always working in that geometrical realm knowing that we can never attain literal symmetry, just like there are no straight lines in nature. The perfectly straight line only exists in the mind of a human. Once you get it down to its smallest parts, there are always wiggles. So, there's no real three-dimensional symmetry, yet we can use it as an idea to help us do our work better.

LMK: That makes me think that the idea of the horizontal pelvis in session one refers more to a pelvic tilt than a pelvic shift.[4]

TB: In session one, if you can get some loosening around the trochanter and a little bit more balance in the hamstrings, that is sufficient for the First Hour because all of our work is proceeding through layers and layers.

What kind of work you do will depend on how much time you have to do it, and what's available in the structure. Suppose you have ten sessions with the person and almost every session deals with getting the pelvis horizontal. In that case, it may not happen in session one, session eight, or session twenty-eight – it depends on how engaged the person is in changing. We consider questions like: how old are they? How healthy are their tissues? How much dysfunction have they had in their life? What's their belief system about their pelvis? All of those things go into it.

The first three sessions are just the setup so you can go to a deeper layer later. To the new Rolfers, do your best job and then relax about it. This is a foundational part of the body, and the relationships go up and down through the whole system. It's going to take a long time. The fact that we can get functional alignment in the pelvis in a 'Ten Series' is nearly miraculous to my mind.

But still, it doesn't matter how many great techniques we try, a shift or tilt in the pelvis will get better, but it doesn't go away. Part of that is because the client would have to change a lot – not only structurally, but functionally, biopsychosocially, and energetically. Tilt and shift are postural and functional patterns; they are unconscious, automated habits, deeply ingrained, in most cases from early childhood on. Sometimes 'functional enough' means 'good enough to function well'. Still, there are cases when less tilt and more shift toward the imagined Line makes a big difference. That takes action from the client's side and education from ours.

TB: We work on the lumbar fascia in sessions one and three, but the QL spans from the iliac crest to the twelfth rib. It is all about the relationship of the pelvis to the thorax. Photo by Emiliano Vittoriosi on Unsplash.

So first, in session one, we work through surface layers to get enough differentiation that things can move, and then in the Second Hour we start to help them to change it. We educate people in the second session about sitting. Many people don't have sufficient structural differentiation to even sit on their sits bones [ischial tuberosities], and it's not a lack of awareness. They just don't have the structural capacity to do it. Differentiation and education often come in this order, since freeing up structural limitations, we are enlisted to teach a new behavior so that they can keep the change.

Addressing tilt and shift within the Recipe, layer after layer, we differentiate a bit more, then educate more. We work and work sessions one through six, or even much longer, towards more options in the client's behavioral and perceptual patterns.

The same thing applies to a pelvic shift. You have to have enough differentiation and adaptability in the structure, so you work and work and work. Then you start to do the educational pieces as you get more differentiation. Shift and tilt require an educational component because they're postural. They're intersegmental and behavioral pieces as compared to intrapelvic mechanics. Those are intrasegmental, and have to do with the relationship of the bones, one to another. A person has no control over that. Intersegmental considerations in the pelvis require education to go with them to really change them. It's really important to remember that if you're a new Rolfer and you didn't change the shift of the person in ten sessions. First, that's okay. And secondly, try some education.

LMK: In regards to a pelvic shift, I like to use a mirror, and if they can sit or stand sideways to it and are able to turn their head far enough they can see the shift between one segment and the next, and they can learn to shift closer to their Line.

TB: Yes, a mirror is an essential tool for Rolfing education so that people can really see. The internal perception, our map of where we are in space, we think that's what we should have, but we don't really know until we also see it. At the end of one of my first Rolf Movement® sessions, I thought, "Okay, this feels good, but I'm leaning forward." Then, I looked in the mirror and saw, "No. That's straight." And that's when I realized what I was doing before was leaning back. Visual cues really help us learn gravity orientation. And our clients need it. I have a full-length mirror in my office and I use it every single day.

LMK: I found that useful for my own body mechanics too, to just check what I am doing.

Focusing on the Recipe and the pelvis, how much do you want to work around the knees in the Second Hour?

TB: It depends on the person that you have as a client. If I have a person whose feet are very disorganized, I may not have time for the knees. If the person has a lot of knee trouble, or if they have sacral trouble, you might have to be at the knee.

Here's one way I think about it: the hamstrings will have had work done at the superior end in session one, and maybe all the way down to the inferior attachments below the knee, trying to balance them side to side. In the Second Hour, we consider the hamstrings at the knee even more, particularly where the gastrocnemius tendons attach to the distal femur, crossing the hamstring tendons that go down to the proximal tibia and fibula. When you're at the fibular head, you're in the hamstring. So, the work around the knee, it's the continuation of your hamstring work from the First Hour, and it has direct effects on the pelvis.

If I already know from the First Hour that the client has sacroiliac joint trouble and I found one hamstring much tighter than the other, then I was already planning time around those attachments and the relationship with the gastrocnemius and the popliteus, and all the way down. I'm also preparing the lateral line for the 'Third Hour' to come.

Third-Hour Pelvis

LMK: Speaking of the lateral line, how do we avoid doing the same work around the greater trochanter in the third session that we already did in the first session?

TB: In an ideal world, you've loosened up the area in the First Hour superficially, so in the Third Hour you can go to a deeper layer, and that gives you new territory. In session three you can begin to differentiate lateral gluteal muscles and the deep rotators. By the third session, you know something about the person. You know the femur rotation, whether or not you work with Jan Sultan's internal-external rotation patterns (Sultan and Hack 2022). If the femur is laterally rotated, then I focus on the lateral rotators. If it's medially rotated, my focus is on the medial rotators. Don't get hung up by the feeling that the lateral rotators are tight. Think about the structure in front of you. In medial rotation the lateral rotators can be tight and still stretched long, trying to compensate for that medial rotation. The best way to address that is to get the tensor fascia latae and gluteus minimus to relax so that the femur can start to move more easily in its long axis. That'll provide ease for the lateral rotators. The reverse is true for laterally rotated legs in relation to the pelvis. So, the short answer to your question is: In the third session you can start to be very specific with the trochanter.

We are thinking deeper about the relationship of the whole leg to the pelvis, and we can address the pull on the iliotibial band from the tensor fascia latae and the gluteal muscles attached to it. The pattern in the deep fascia of the leg and the prominent femur rotation of the client is going to be all the way down the leg.

The other thing that's important for the pelvis in the Third Hour is the work on the quadratus lumborum (QL). We work

TB: The quadratus lumborum is a big, strong, deep muscle that requires a lot of attention if we want to get the pelvis organized.

on the lumbar fascia in sessions one and three, but the QL spans from the iliac crest to the twelfth rib. It is all about the relationship of the pelvis to the thorax. It has the functions of bracing and stabilization for that continuity. Fixations in the QL will inhibit the person's ability to organize how the pelvis relates to both femurs. And in general, people use the QL a lot, so we have to take our time with it.

Some practitioners are timid in that area. They're afraid of hurting the twelfth rib. To get to it, a Rolfer needs to be relaxed and comfortable within themselves and with the client. Then, just take the time necessary for the fascial manipulation in the whole twelfth rib, QL, and iliac crest area. We have here the first access to the deeper core layers. The QL is a big, strong, deep muscle that requires a lot of attention if we want to get the pelvis organized.

LMK: So are you saying we might see session three a little less as 'the last sleeve session' and more as the beginning of the core sessions?

TB: Addressing the QL and twelfth rib complex is core. And it can be very sensitive in people. Sometimes, you just start to address the area, and you notice something that needs to change, but that may be as far as you get in the third session. When I teach continuing education and advanced classes, every person I encounter needs work in some part of their own QL. Usually, it's up at the upper fibers, right by that floating rib.

LMK: The next time I teach Phase I, I'll definitely help students get comfortable with palpating that twelfth rib.[5]

TB: If you know where it is, then you won't work *on* it but at the inferior border of it, and then you don't have to be worried. Even if you're still not entirely sure whether you are *feeling* QL, you know you're on it because that's where it is. Just go ahead and work there as if you did, until you do know.

It's so important to practice because it can be challenging even for Advanced Rolfers, to find the floating ribs. They can be buried under a lot of tissue and they have wildly different angles and lengths between individuals. Sometimes it's right on the iliac crest.

LMK: Remember that Phase III we did together, where there was one client with the iliac crest not only touching the twelfth rib but actually superficial to it? The tip of the twelfth rib *on both sides* was going inside the pelvic bowl.

TB: It does happen in my practice, but it's uncommon. But nobody has a wide gap between the iliac crest and twelfth rib like the skeletons we have! It's often just a finger's width gap.

Pelvic Floor Palpations

LMK: Since we're talking about difficult palpations – what other structures in the pelvic area are difficult for Advanced Training participants?

TB: Oftentimes there is discomfort around working with the pelvic floor, genitals, and sometimes contradictory ideas about appropriate behavior and techniques when working around the pelvis in general. I find that the most inhibitory factor is a lack of understanding of what you want to accomplish there.

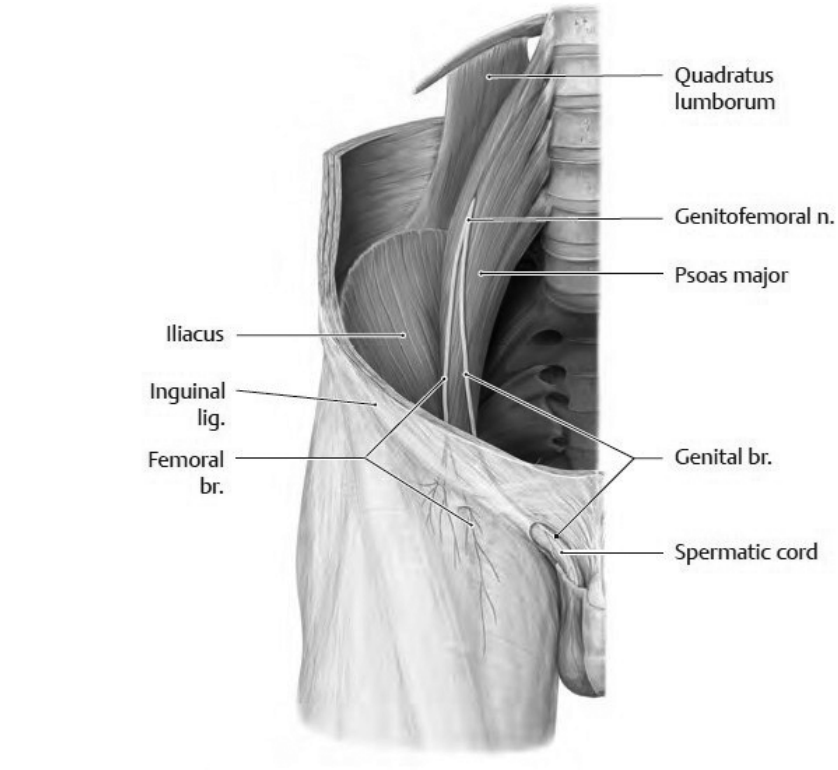
Some things are crucial about working around the ischiopubic ramus in terms of organizing the pelvis and the whole person in gravity. If you leave it out, it's a disservice to the client because they're not going to get something they need. They will get other good things from the other work, but people need pelvic floor work in particular because this is part of how you get differentiation of the leg to the pelvis.

What I see, across the board with Rolfers, is that if they find the obturator internus membrane a challenging area to touch, for all the cultural reasons, without a clear understanding of the purpose, they just stop doing it.

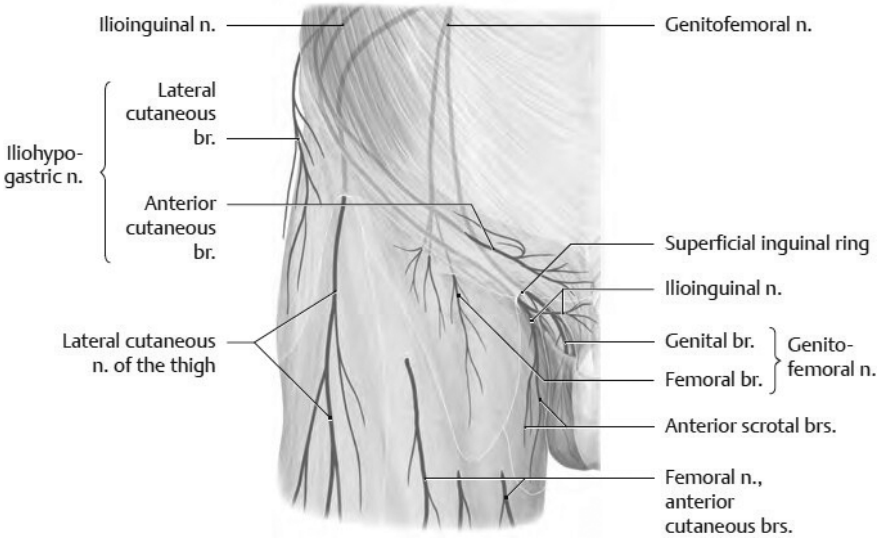
My advice to our readers is to understand why you're doing these interventions in particular, which is to get differentiation from the pull of tension from below so that the pelvis can be more mobilized. Then you can get freedom around tilt and shift instead of staying stuck in one pattern. Also, it brings more ease to walking. To accomplish that goal you have to differentiate the pelvis from the legs, all those adductors that attach to the ramus are part of it. If you can't get clearly between those tendon attachments, sometimes you can get it from farther down. But ultimately you have to help people have an awareness of that.

LMK: Yes. I found it important to say to students, "Okay, we want the support from the feet we've established in

Plastic skeletons often have an exaggerated gap between the twelfth rib and the iliac crest. Photo by Ekaterina Kuznetsova on Unsplash.



C Genitofemoral nerve.



Pathway of the genitofemoral nerve and the femoral branch at the inguinal canal. Copyright Thieme Medical Publishers Incorporated 2023.

session two to connect up the inner line, through the pelvic floor and to the front of the spine, then the whole upper body is supported by the core from the feet. And opening space between adductor attachments inferior to the ramus helps with a natural gait."

TB: The obturator internus connects the pelvic floor to the femur, from the anterior sacrum, the pelvic floor hangs and attaches to the *tendinous arch*, a part of the fascia of the obturator internus. So, if your femur is not differentiated from your pelvis, that pulls on the pelvic floor. You are right to bring that up specifically because it takes it from the outside all the way to the inside, and this is going to profoundly affect everything that's happening above.

What the femurs are doing relative to the innominate bones is going to affect the pelvic floor, then that's going to pull on everything, it's going to pull on the sphincters, it's going to affect the iliopsoas. The pattern goes all the way up that way, any tension from the legs can affect the organs.

Anterior Pelvis

LMK: Now we're already getting to session five. And if we've skipped those pelvic floor aspects of session four, we can't connect the legs to the front of the spine in session five.

TB: Right, from the head of the femur going all the way through to the anterior lumbodorsal hinge. Session four and session five could be just one session, but you can't do it all at one time. So, you do the bottom in session four and then the top part in session five. They're both about getting the pelvis horizontal. In four, you're differentiating the thighs from the pelvis, and in five you're differentiating the thorax from the pelvis. We ask ourselves, how do you get that differentiation from below and above, so that the pelvis can become more horizontal through the whole?

That's one of the beautiful things about the fascia – access at a distance. You may or may not be able to touch everything, I can very rarely get to the inferior iliopsoas attachment on the lesser trochanter, but I *can address everything* because the fascia is everywhere and connected through to everything. If you can't put your hand on a structure of interest, you put it in the next place over, pull on it and push on it,

reach into it, and through rotation. Then ask people to do movements, you can get them to move it themselves and address the attachment that way. By working on the psoas higher or lower, then having them move their leg, they'll do the work for you.

LMK: Let me see if you agree with this next idea. In 'Fifth Hour' there is so much focus on the iliopsoas, and people are addressing psoas attachments on the lumbar vertebrae, and they work on the iliacus fascia. Sometimes they miss the layers around and under the inguinal ligament.

TB: Yes, this is another place where people are timid to work, the femoral triangle and the inguinal ligaments, they're worried about the nerves and blood vessels. Nonetheless, that huge iliopsoas tendon is right there, and it's important. And underneath is the iliopectineal bursa, which is right over the head of the femur and the acetabulum. Imbalances in the use of the leg and overuse can cause bursitis there, which often shows up as groin pain when it's not mobilized.

LMK: Exactly. And sometimes clients say, "I have tight hip flexors." When I ask how it shows up, it's when they pull the knee toward their chest. Thinking of introductory kinesiology, which should give the hip flexor muscle some slack. So why would that tension show up? I think it is because of the structures under the ligament, there's not enough glide, and that bursa is affected, you have pretty much this buildup under the inguinal ligament.

TB: It's important to work on the iliopsoas tendon below the inguinal ligament. Again, it's being certain in your palpation. The inguinal ligament goes straight from the ASIS to the pubic symphysis. You know where the ASIS is, then go medial and inferior, that's when you're on the iliopsoas tendon. It's more lateral than the femoral triangle. The femoral branch of the genitofemoral nerve goes across there, so if somebody says, "I feel a tingling," just move off it by moving over a little bit. Go a little more lateral.

There are many people, for various reasons, maybe for tight muscles, sensitivity, or visceral fat deposits, you cannot get on their psoas from the visceral compartment. Even scar tissue can make that difficult. You may never get to that layer when attempting to work the psoas in session five. So, how do you address that? Become comfortable working at the tendon and the inferior part of the iliopsoas. You can have the effect upward from that access point onto the front of the back. You can address it through the fascia, even if you can't put your hand right on the psoas that's higher up.

LMK: Right. You can usually work the iliopsoas tendon, a little medial of the ASIS, then address diaphragm attachments from the costal arch, and you get an effect into the visceral space indirectly.

Palpation really is not easy sometimes, with all the different shapes of bones and ligaments. Finding where the PSIS is and knowing which side of the sacroiliac joint our pressure is on can be challenging in some people. Mostly, it is deeper than you think.

Rolfers often don't take the time necessary to do the differentiation that's going to be ultimately helpful to people. They get in a hurry to get things done and don't allow the time necessary for the ligaments. And really, you can start in that area in sessions one, three, four, five, and six.

TB: If people have back problems, which many of our clients do, you're going to have to organize the sacrum relative to the pelvis – those sacroiliac ligaments are really important for this.

The Back Line of Sixth Hour

LMK: Next, let's talk about session six. What can be challenging for our colleagues in the 'Sixth Hour'?

TB: People are nervous about the sacrum, and the coccyx too. Sometimes they're also worried about doing something wrong around the sciatic nerve or the sacroiliac joints when they don't have palpatory certainty. The sacrum is basically hanging between the iliacus bones being supported by ligaments, that's the whole upper body weight going through there. Imagine how tough those ligaments are.

LMK: Yes, you're not going to mess them up.

TB: I teach students how to become comfortable, to imagine the thick layer of ligaments on the sacrum. They can't even touch the bone, even if they can feel what it is doing. The sacrotuberous ligament is also really thick to the touch, and can take some effort to start to address it.

If people have back problems, which many of our clients do, you're going to have to organize the sacrum relative to the pelvis – those sacroiliac ligaments are really important for this. I encourage our colleagues to get comfortable working on those ligaments so that they get any kind of adaptive capacity starting to emerge. It's imperative to become comfortable with that.

LMK: Now that we have a textbook for our Skillful Touch Training [Phase I] that shows many of the basic touch techniques (see page 60 for the article about *The Rolfing® Skillful Touch Handbook*), we can dedicate more time to palpation practices as students prepare to learn the Ten Series in Phase II and Phase III.

TB: The better your palpation is, the more efficient and easier your work will be. You are going to have a better understanding of what it is you're trying to do and how to do it. You'll become able to actually do the thing, instead of something close to the thing. Close is good, but precision is better.

People also have a hard time finding the sacral base, L5, L4, and PSIS. Practitioners will find it, then lose it, or they will find it easily with one person, but with a different body type not at all. In order to do effective back work for all the clients that walk through our doors, we need to adapt to the different sacrums. Practitioners often will end up on L5 and think they are on the sacral base, or on the PSIS instead of the sacral base. To be highly effective you have to have palpatory certainty. You have to practice it over and over, and this takes time. Try to attempt what you can and then build on that. Don't wait until you're good at feeling everything every time before you try to do something. Do what you can and then build on that.

LMK: There are so many variants to sacral base, L5, and PSIS, we must learn from working with many clients. I often ask Phase I students to keep going around to different tables, feeling different structures, so eventually it doesn't feel so weird anymore. It's often surprising when PSIS is somewhere else than where I expected it, off by not just a little, but a whole hand width.

TB: The thing that's great about bones in this regard is that they're hard. Ligaments might be somewhat bonelike, but the hardness of bone is distinct. That's the place to start in your palpatory certainty and move from there because you know what attaches to those bones.

LMK: For sure. I find it fascinating every time I palpate the sacrotuberous ligament in different people that it can go from almost vertical to almost horizontal.

TB: Yes, and that depends on how wide the tuberosities are and what is the angle of the pelvis. If the tuberosities are narrow, it's going to be more vertical. If they are wide, it will be more lateral. It can be thick or not as thick, but as far as I can tell, it's always tough.

If you are clear about what you want to do, your touch will communicate that to your client. Then you'll be able to say, "Yes, part of your back problem is coming from a restriction of motion in your sacrum and this ligament here is very tight." When practitioners have this level of confidence, their clients will be comfortable and, even better, they will understand.

LMK: If people are okay with finding the coccyx, what do you say about practitioners working to correct deviations?

TB: The coccyx has a synovial joint with the sacrum, which implies motion is not only possible but should be available. But mostly what you find is that it's stuck down and held in place in some kind of odd way. Theoretically, it can move thirty degrees anterior, posterior, and side to side, but I've only encountered a few of those.

By the time someone becomes older, many ligaments are really tight, and many people have likely fallen on their butt and disorganized the sacrum. Or they have a baby, and their sacrum gets disorganized, or the joint with the coccyx gets sprained and even broken. Coccyx injuries are incredibly painful. People can't sit comfortably, or at all, and they can't walk easily. It pulls through the whole spinal system. They might end up with headaches. It is better to move those coccyxes if possible, loosen them up and ease them someplace more normal. If there is no systemic issue leading to the coccyx, it's not at the top of the list.

LMK: I often tell clients all their joints should move, even just a wiggle, because the cartilage in the joint is only getting nutrition and hydration from the synovial fluid when it moves, most cartilage has no blood supply at all, it's all from the movement of the fluid inside the joint. If that doesn't move, the cartilage gets dehydrated and degenerates.

TB: It can fuse or become arthritic. The body does not make synovial joints for no reason. If there's a synovial joint, it's supposed to move. When we are talking about the highest level of function, the coccyx won't be on the top of the list. But if you have an intransigent sacral issue and haven't looked at the coccyx, you'd better do it. Remember that the sacrospinous ligament goes right onto it and is probably involved.

Intra-segmental Relationships of the Pelvis

TB: So far in our interview, we have talked about intersegmental relationships, myofascial relationships, and how to address them within the Ten Series. In our work we typically describe them as pelvic tilt, shift, and rotation. Also, I've talked about topics that come up in first-aid sessions and advanced classes because it all has to do with relationships.

In addition to all of those topics, the pelvis also has intra-segmental relationships. These are the relationships of one innominate bone to the other one across the sacrum and at the pubic symphysis. These are called torsion, flare, and shear. The innominate bones are supposed to move relative to each other and the sacrum in walking. Torsion and flare are normal in walking if everything is moving correctly. We don't have control over those mechanics – it's built-in. Just like the rotation of our femur as we bend and extend our knee, it's built into the mechanics of the joint. That's how it is with these intra-segmental relationships within the pelvis. Maintaining these movement relationships across the sacroiliac joint are really important for the basic mechanics of walking.

So, whereas the myofascial relationships have a behavioral component, these intra-segmental ones don't. It's just part of how the joint works in itself, in the relationship between the sacrum and the innominates.

Nutation, counternutation, and rotation are normal motions of the sacrum, and they're built into the mechanics of normal motion. These come together as alternating diagonal axes called transitory diagonal axes, which happens with each step as we bear weight and this creates a torsion. With chronic use or with some kind of trauma (like slipping and falling), or sometimes one hamstring becomes tighter than the other, those intra-segmental relationships at the joint become disrupted. So there can be sacrum to innominate problems, or innominate to sacrum problems, or both. It can be complicated.

If the sacrum or the innominate bone or both of them are not in their correct place, not in their happy home, it interferes with the proper motion. Usually, this is painful for people, and it will disrupt the normal motion of walking. Unless you can address these intra-segmental misalignments and issues, you can't get the gait proper. The transitory diagonal axis won't be able to move back and forth, so they have to walk around that joint instead of through it, which will have implications all the way up and down the lines of the myofascial. If the sacroiliac joint itself is disorganized, all our myofascial organization work will have limited results.

There's a whole series of techniques for assessing intra-segmental misalignments and then techniques for addressing them so that you can reestablish normal motion. Then all of our excellent myofascial and

movement work can be effective because those joints can then move. Even if you do really good work, but you see that the client then still can't extend her leg, probably there's an issue in the sacroiliac joint, a fixation of nutation or torsion in the sacrum, or torsion and flare fixation in the innominate bone. There could be a shear as another possibility in either the sacrum or innominate. A shear is never normal and almost always painful, and you just can't get around that. It needs to find its way back to its happy home in order for the joint to function. Ligamentous and joint mechanics is the next level to solve these issues toward normal function.

LMK: If the sacroiliac joint is not moving, you cannot have a natural gait and walk naturally. The support from the legs into the front of the spine will always get stuck in that compromised sacroiliac joint.

TB: Right. And it'll hurt to move through it, so people move around it. Even if it's not that painful, it eventually becomes like a gristle. And, it may not be sore all the time. For example, if an innominate is stuck in posterior torsion and can't move into anterior torsion, that leg can't extend fully behind them. So, they have to swing their hip around in order to walk and it can cause increased wear and tear elsewhere along the fascial line. Plus, it's not very efficient.

LMK: In session four when we say to differentiate the adductor compartment from the quadriceps or respectively from the hamstrings, we're really working out that septum. But if the actual fixation is in the sacroiliac joint, that's still not going to help.

TB: It will set it up to be helped, and it will get some relief because usually, people are holding more than necessary anyway. If the whole pelvic region is really tight, that tightness will interfere with your ability to organize the joint. You will have to work through the layers. You have to do the myofascial preparation so that you can access the ligaments, so that you can address the joint mechanics.

After session four, you'll see improvements, and you'll get a real sense of how it is stuck. Then you have to start thinking, this is probably deeper at the joint level, and then that will have to be addressed. In session six, we are working on the sacroiliac joints, which are also tight in the position of disorder. By session eight, you might be able to address it. If that pelvic disorganization has been there for a long time, it'll take a long time to work through the layers. The goal is to improve circulation in there and get the tissue juicier. Then, finally, you can address the deeper issues.

If someone just fell on their butt last week and you see this thing, you can clearly see and palpate the pelvic intra-segmental dysfunction, you can just put it back where it goes. It's easy and it seems like a miracle. But if it's been there for forty years, they've adapted around it. All the myofascial work is completely necessary in order to even access the problem. You might only be able to get it partly and then get the rest of it later.

People often ask when can you address these issues in the Ten Series? I would say, as soon as you can. But if it's old, you probably won't really be able to impact it until session eight. Maybe you can do it sooner, but you must work through the layers to get to it.

Pelvis and the Closure Principle

LMK: We covered a lot of ground about the pelvic girdle and from the point of view of the Rolfing SI paradigm for our *Structure, Function, Integration* journal readers. What closing remarks would you like to make to ensure the pelvic girdle is properly addressed?

TB: Closure always has some aspect of integration. We talk about the last three sessions being about integration, but the fact is, we are doing differentiation and integration all the time. With everything we're doing, we should be doing it every time we touch a person. There will be an end to the actual thing we're touching and that's a closure moment. It's the place where something happened and some settling happens where we go, okay, that is integrated. It feels better, more 'right'.

As we are thinking about working on the pelvis, there are always more layers that we haven't gotten to at any particular moment, there's always more to do and you can't accomplish the whole task at once. So, how do you know where to stop, when is time up? The answer has to do with working through the system on the places that are not congruent. Instead of working on everything, I suggest working on the parts that are not congruent with the other parts in the systemic view, and getting them to match better.

Once you get a few places to become more congruent, you will likely see something happen across the whole pelvis. You can manipulate the leg and see something has happened because that movement goes through, settles, feels better, and that's the time to close that intervention. Time to hop off the ride.

Closure is not making the body patterns match perfectly, it is more the sense that all the parts are connected and match better in their tension, in the tonus, in the tissues, in the ability to move. We look for congruence in the whole body, signs of integration, and that's the closure point.

LMK: Nice. Is there a specific way you address the pelvic girdle in the tenth session that might be different from other practitioners?

TB: It depends on what kind of session ten you're doing. If you're doing the classic work for that superficial layer of the deep fascia, organizing all the superficial fascia, putting the horizontals in, I include the pelvis in the whole-body stocking and just do that through the whole thing.

LMK: So when you're considering the superficial layers in session ten and establishing horizontals, it's not that you are doing deeper pelvic manipulations?

TB: Right, not for that type of session ten, which is the classic basic session ten, and is immensely powerful and wonderful. But there are other ways to look at the 'Tenth Hour'. So, Rolfers may be doing something different and useful. For instance, you might work on the calcaneus, the sacrum, and the palette as your session ten, for a particular client as those three things may integrate the whole system for that person. But that's a higher skill set to determine those things. You have to understand the connections and how they relate to go there, but that would be a more advanced way of thinking.

LMK: Thanks for allowing me to interview you for the journal's Regional Study of the Pelvis theme. We have covered a lot of ground, I'll give you the last word.

TB: You are welcome. My advice to our colleagues is to consider – just have fun.

Endnotes

1. *Lumbodorsal hinge* is a term we don't hear much outside of bodywork schools, and medically it is referred to as 'lumbodorsal junction' or 'thoracolumbar

junction' when speaking of the joints between T12 and L1. Rolfers abbreviate the term as LDH, the lumbodorsal, or even *thoracolumbar hinge*, which also gets used in yoga practices and other movement schools. 'Hinge' is deliberate rather than junction because we use the term more functionally than structurally. Or even energetically! So in some of our clients, the functional LDH may be between T11 and T12, or L1 and L2, we describe it as the transition from kyphosis to lordosis, or where we see more rotation in the thoracic vertebrae and a lot less in the lumbar vertebrae. Note that a less-used term, the mid-dorsal hinge (MDH), which is the functional peek of the thoracic kyphosis where most of the thoracic flexion happens.

2. Rolfing SI Principles of Intervention are adaptability, support, palintonicity, closure, and wholism, they are the foundational theory of the Rolfing SI and Rolf Movement Integration (Sultan and Hack 2021). Adaptability refers to the preparedness of the client's body to receive order in the gravitational field. Support is Rolf's principle that you can't organize the upper body in gravity unless the legs are organized from below, to receive the body's weight above. Palintonicity is about the human body's nature to reach in two directions at the same time, specifically the head's ability to reach upward and elongate the whole body from above while the feet, legs, and pelvis, hopefully, have ease and balance while relating with the planet. Palintonicity can be between any two places of the body, like how each arm can reach in opposite directions, opening up the spaces in between. Closure is the principle of giving space to the client that eases the end of touch and movement interventions, the end of sessions, and the end of a Ten Series. And wholism is the idea that every place you touch the body gives the practitioner access to the whole body, through the fascial network and the interconnection of all the tissues, a Rolfer is constantly working with the whole person.
3. *Pelvic tilt* is defined by comparing the levels of the anterior superior iliac spine (ASIS) and the posterior superior iliac spine (PSIS). Still, we know that this can be misleading due to anatomical variances. An anterior tilt means the ASIS is more than ten degrees lower than the PSIS. Neutral is zero degrees to ten degrees ASIS lower than PSIS. Posterior tilt is when ASIS and PSIS are even or ASIS is higher than PSIS. Anterior tilt is actually not as easy to see as most people think, but posterior tilt is obvious – it's people who even when standing look as if they want to sit on their sacrum. Within the internal-external model of seeing, we expect anterior tilt in 'internals' and neutral or posterior tilt in 'externals' (Sultan and Hack 2022).
4. *Pelvic shift* is when the whole pelvic bowl, seen from the side, is shifted anterior or posterior when compared to their knees and shoulders. There may or may not be a pelvic tilt with the shift, and an anterior tilt can show up with a posterior shift, or an anterior shift, all combinations are possible.
5. (LMK) I did teach a Phase I after this interview and we did a lot more palpation of areas that often intimidate students, including the tips of the floating ribs. Tessy will be teaching that group of students, I'll be curious whether she notices a change in the palpation comfort of this group of future Rolfers.

Tessy Brungardt received her BA in environmental biology in 1976 from the New College in Sarasota, Florida. In her studies and following career she enjoyed exploring the interface of observing the natural world and the science of how things worked. Once she was introduced to Rolfing SI in 1979, she was inspired to take this exploration into the human realm. She became a Certified Rolfer in 1985 and a Certified Advanced Rolfer in 1988. Brungardt completed her Rolf Movement Certification in 1994. She also became certified to teach for the Dr. Ida Rolf Institute® in 1994 and became an Advanced Instructor in 2002.

Lu Mueller-Kaul is a Rolfing SI Instructor with the Dr. Ida Rolf Institute since 2019 and coauthor of The Rolfing Skillful Touch Handbook *(2022) with Bethany Ward and Neal Anderson. She mostly teaches Phase I courses, bringing physiology, therapeutic relationships, and Skillful Touch together so students learn an adaptable spectrum of touch skills while staying aware of the space they hold for each client. Mueller-Kaul began her journey as a licensed naturopathic physician in Germany in the 1990s. Along the way, she's practiced acupuncture, chiropractic adjustments, and traditional Chinese medicine before coming to the United States to study Rolfing SI.*

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Keywords

Ten Series; pelvis; pelvic girdle; Rolfing SI; wholism; self-regulation; self-organization; sacrum; innominate bones; coccyx; myofascial; Ida P. Rolf; First Hour; spine; viscera; lumbodorsal hinge; geometric taxon; pelvic tilt; pelvic shift; gait; Second Hour; adaptability; palintonicity; Recipe; Third Hour; Line; gravity; pelvic floor; Fourth Hour; iliopsoas; Fifth Hour; Sixth Hour; Tenth Hour; Principles of Intervention; intersegmental; intrasegmental; closure. ■

Pars Intima as Gift and Treasure

An Interview with Gil Hedley

By Lina Amy Hack, Certified Advanced Rolfer®, and Gil Hedley, PhD

Lina Amy Hack

Gil Hedley

ABSTRACT *Lina Amy Hack interviews anatomist Gil Hedley, PhD, about the pelvic floor. Hedley proposes a new and inclusive term for the intimate structures of the pelvic floor – the* pars intima*. They also talk about the ethics of manual therapy in the neighboring tissue of those intimate structures. Hedley discusses the shapes of the pelvic floor more as a sling and a funnel. The path of the pudendal nerve is also discussed.*

Editor's note: This article has mature subject matter, including a candid discussion about the anatomy of intersex, detailed images of the male and female structures of the pelvic floor, and part of the conversation references birth trauma.

Lina Amy Hack: Hi, Gil. Thank you for talking with me on our theme, 'A Regional Study of the Pelvis'. I want to focus on the topic of the pelvic floor specifically. Your anatomy expertise is vast, especially your contribution to fascial anatomy, and your pelvic floor lectures stand out as ushering in a fresh view. You used to be a Rolfer, so you understand what our readers do and what kind of territory we deal with in structural integration.

What is the new term you have coined for the genitalia of the human body? And can you tell us about that idea?

Gil Hedley: Sure, that would be '*pars intima*', another neologism to add to the pile!

I was raised Catholic, as are about a billion people on the planet, so not a small niche to be a part of. I wrote my PhD dissertation on Catholic marriage teachings, and I was an ethicist before I was an anatomist. The Church's emphasis with respect to marriage is the procreation and the education of children, which is the purpose of one's pelvic floor, as it were, from that perspective.

Genitalia and genitals are words describing the generative aspect of this region of the body. And hats off, those words have power. A person is in the generative aspect of their lives, that is to say, they tend to make their future generations, if they so choose, from ages eighteen to forty, generally speaking. The generative aspect is an essential reality of the pelvic floor.

The intimate aspect is another essential reality. Ever since we've been able to selectively not generate ourselves, we haven't given cause to shut down our bodies because of that. We remain intimate, and that's an essential aspect of our social nature as human beings.

And so for me, I thought, "I've made my way out of the umbrella or fold of the Catholic Church." For my own sake, I want to stop referring to this aspect of my body as my genitals. I'm done generating. I've had my children, and now, for the remainder of my life, this part of me is the intimate dimension of my life. *Pars intima*, intimate parts, or the intimate aspect. I also like it for its generic aspect as opposed to its generative emphasis.

LAH: Yes, it's non-binary.

GH: Exactly. It's non-binary and it's not preferential to procreation.

LAH: When I think about the anatomy of the pelvic floor, I think about water. The

Gil Hedley: For my own sake, I want to stop referring to this aspect of my body as my genitals. I'm done generating. I've had my children, and now, for the remainder of my life, this part of me is the intimate dimension of my life. *Pars intima*, intimate parts, or the intimate aspect.

bowl imagery that is often used for the pelvis resonates with me – how my spine orients my pelvic bowl has an impact on my visceral contents. There is a spilling out and there is holding, but overall, the pelvic floor is just so deeply personal. It's hard for me to talk about it with my clients because my empathy for what we might encounter is so huge. You bring much compassion to this part of the human body with your words, and I'd like to deepen my understanding.

GH: There's a lot to encounter there. We store a lot of energy there and we block a lot of energy there. There is a whole lot going on. And it's a two-way street, right? In terms of energy, it's not just going in one direction.

LAH: Right, exactly. And as I think about this, with my children, I am very direct and clear about our *pars intima*. I speak clearly with them about their bodies, celebrate what they have, and joyfully educate them. It's a value of mine to be very open.

GH: I appreciate that value. And I've also enjoyed speaking openly with my children about something that was in my life just an unknown, a mystery, a sideways comment.

LAH: Let's start with talking about the pelvic floor embryologically. The human embryo starts out as a sphere of cells that cavitates inward to make tubes that connect. The undergraduate level biology teaches that the 'mouth tube' and the 'anus tube' form at the same time, and they find each other making the gut tube through the organism. But that is for sea urchins. For human embryos, our tubes don't quite form like that.

GH: Not quite. You're describing the gut tube of sea urchins. For the human *pars intima* development, we have our Wolffian and Müllerian ducts that kick in due to the presence of certain hormones at certain times in development. Although we have many tissue homologues between the female and male versions that can express, basically there is also the dissolution of certain proto-structures in development. Which, if they don't dissolve, you can get interesting combinations that create hermaphroditism and variations on that theme.

I'm not personally offended by the word hermaphrodite. People often use the word intersex now rather than hermaphrodite, just because hermaphrodite is kind of an old word, but if you look at the story of the hermaphrodite, it's a love story. In Greek mythology, Hermaphroditus was the son of Hermes and Aphrodite. The water-nymph Salmacis fell in love with him and prayed they would always be together (Seymour 2011). Their love was so profound that they merged bodies into one. This is how hermaphrodite became the name for male and female in one body, a love story of a union.

Sadly, our culture doesn't embrace it as a love story of a union. For people who are born intersex, our system tries to return them to a binary version of humanity. That pressure is very real, yet people are born with both every day and they are present all over the planet. And I find the unceremonious and unwilling surgical corrections imposed early in life to be an insult to the individual's integrity, as much as is infant circumcision, because both represent procedures for which there can be no genuine informed consent (Jorge et al. 2021).

LAH: It's very serious, I agree. I learned a lot from your intersex video in your *Live with Gil* series.[1] In that video where you dissected a donor who had an intersex presentation of their *pars intima*, you said this is as common as one in two thousand births.[2] Ambigendered people, that was

GH: I do like creating new words! There are a lot of versions of being ambigendered as well. And if you included all the potentialities inherent in non-binary versions of humans that are born daily, the percentages of occurrences would probably increase.

the term you used, ambigendered, like ambidextrous. I thought that was smart. You are good at making new words.

GH: I do like creating new words! There are a lot of versions of being *ambigendered* as well. And if you included all the potentialities inherent in non-binary versions of humans that are born daily, the percentages of occurrences would probably increase.

LAH: Makes sense.

GH: And if you talk with advocates in this area, they'd say it's as common as being a redhead. That might be from a perspective of advocacy, maybe a slightly broad count. It would possibly include many presentations pathologized by our medical community or not fitting exactly into the social framework.

LAH: This is valuable information. We don't work directly with the *pars intima* of our clients, yet as Rolfers, we consider ourselves experts in human anatomy. We need to be aware and educated about all the forms people have, this anatomy in particular is part of a person's sense of themselves and their identity in the world. We need to have this knowledge to support a client that may trust us enough with this information about themselves, that we may support their integration and embodiment in the gravitational field.

When I think about the collection of structures that we call the pelvic floor, it's a place where we let go. I wonder if we guard this space so securely because letting go is just so personal, whether we're letting go of our waters, our food bolus, or letting our babies go, it's all very profound.

GH: Yes, there's a lot of letting go there and a lot of holding on too.

LAH: That's true.

GH: We may fear other people's judgment about our letting go, but we probably fear our own judgment of letting go even more. And, we judge others for letting go. We've got to own that.

LAH: This is the charge that can be in the anatomy of the pelvic floor, it can be a lot to hold space for, is that your experience?

GH: Our North American culture has *holding on* built into it. In our history, we are not very skilled at letting go. Add to that the religious commitments and shaping of our culture over the last hundreds of years – as a people, we hold on to a lot.

GH: There's a concept in the ethics of the Jewish religious tradition called fences around the law . . . There is the law in therapy, don't have sexual intercourse with your client . . . And then we install fences around the law, I see it in the delivery of whole-body massages, where they literally don't touch your entire inner thigh or anything between your anterior superior iliac spine (ASIS) and south of the naval.

I spent time in Haiti as a volunteer in Port-au-Prince for about three months when I was in my early twenties. The culture shock hit me hardest on the way home rather than on the way there. While I was there, the learning was, "Wow, not everybody has what I grew up with." But the Haitian culture had more letting go than I was used to. The emotional cycle was not neurotic. I didn't understand that. In that culture, when you're angry and you express your anger, you express it loudly and in the moment. And then it's gone, you're laughing, and it's passed, the emotion cycled very quickly.

This was when I realized, "Wow, when I get angry, I just stew about it, I internalize it, I hold on to it, I don't express it, and I get madder." That became the definition of neurosis for me, and I didn't even know what it was at the time, but it was like a cockroach – when you see it, you know what it is. I saw my own neurosis when I was in a culture that was so much less neurotic than the one I had been raised in. We are in a holding culture, and we do it with every cell of our bodies, including our pelvic floor.

LAH: What a profound direct learning. I was raised by two atheists, which still has these tendencies you're talking about – silence, holding, and staying in our own silos.

In the *Live with Gil* video about the anatomy of the clitoris, you talked about how practitioners put up these kinds of imaginary fences on our client's bodies when we're working with them. Fences that we never cross out of an abundance of caution.

Rolfers do not directly work with the pars intima *structures*. But if we build a fence too far away from the intimate parts of our clients, we are going to be avoiding important and relevant anatomy. This is a balance between the ethics of respecting 'no-go zones', tissues that we never touch, and also creating a compassionate therapeutic relationship with the client so we can work near these structures without confusion as to our intention. To complete a Rolfing 'Ten Series', specifically during the 'Fourth Hour', we need to work with the fascias attached to the ischial tuberosity, the pubic rami, the sacrotuberous ligament, and the coccyx, to name just a few. We are talking about tissues that are very close to the *pars intima*. If the imaginary fence is too big, we miss important structural and functional spaces.

Could you talk about that idea a little bit, how when it comes to the pelvic floor, practitioners can have some pretty big fences?

GH: Right. There's a concept in the ethics of the Jewish religious tradition called fences around the law. You have the Mosaic Law and you really don't want to break those laws. And so, you put a fence around the law so that the fence appears as the law itself, for social construct purposes. You don't want to boil a kid goat in its mother's milk. That's the law. So, you build a fence. You actually go so far as to put the meat and the milk in different fridges. And then the likelihood of boiling a kid in its mother's milk is extremely remote, and yet that fence remains on the chance that you might accidentally have some milk in the fridge that you're boiling your goat in. Right?

LAH: This idea is new to me and rings so true when I think about my fences that I have placed on behalf of my clients and me. Rules I have made in my own head about where to touch and where not to touch.

GH: Exactly, it gets to be so similar in practice. There is the law in therapy, don't have sexual intercourse with your client. Something really basic, right? Or, don't put your hands inside your client's pelvis. There's the law.

LAH: Yup, that's the law.

GH: And then we install fences around the law. I see it in the delivery of whole-body massages, where they literally don't touch your entire inner thigh or anything between your anterior superior iliac spine (ASIS) and south of the naval. You have this no-go zone between your knee, your pubic bone, your ASIS, and your navel, that's just this dead zone in practice. It's like, "Well, I don't really have to work there because there's a fence there. And no one will mistake my massage for a sexual massage if I avoid that zone." That's a fence around the law that might be excessive.

LAH: We could miss big structural pieces if we build the fence there. I relate to what you are saying. Being one-on-one with a person and doing the job of touch is a very personal interaction. Doing a Rolfing SI Ten Series, we have to go well past those particular fences, and I feel them when I do. So, I proceed with awareness, compassion, and open dialogue.

Would you agree that even though there is a law around the *pars intima* of manual therapy clients, there are also good neighborly fences to be agreed upon, and that territory is essential to be considered?

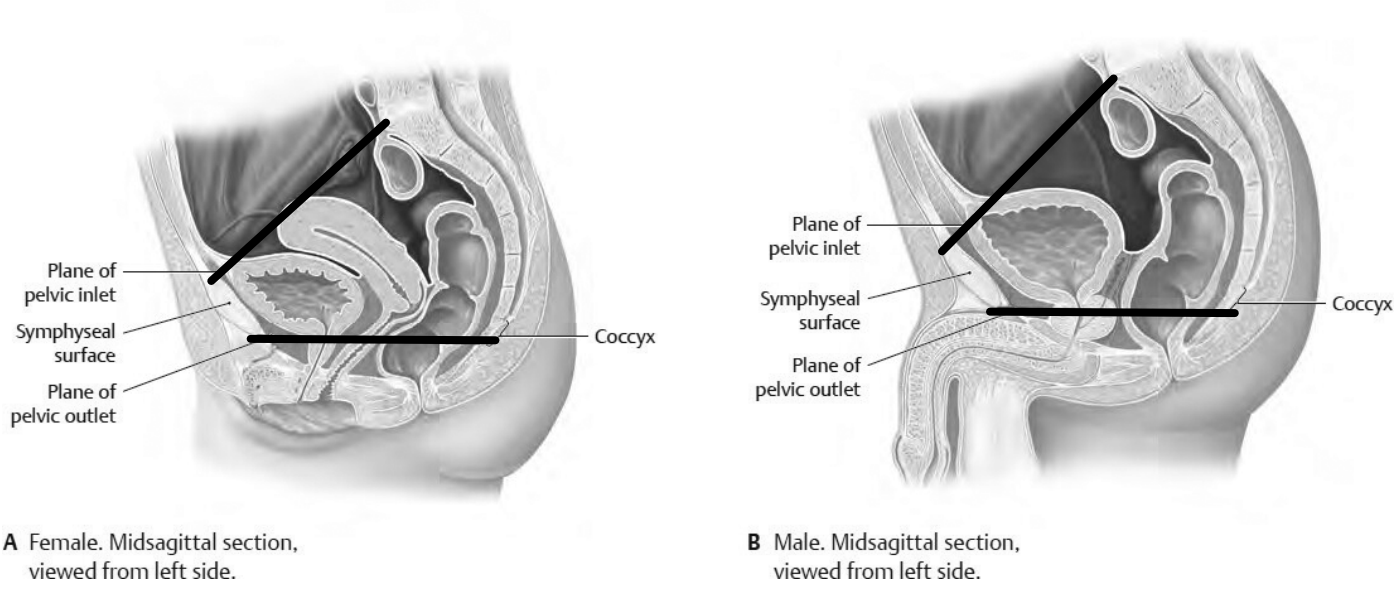
GH: Oh my gosh, it's so important.

LAH: As you know, in Rolfing SI we are looking for our clients to experience their highest expression of self, organized in gravity, and that includes a person's pelvic floor being able to move. People will tuck their pelvic floor under. People will joyfully show it, that's the whole twerking move. We're laughing in our pelvic floors. We're breathing there.

GH: It's immensely essential in speaking to the whole person and the movement of energy through them, the movement of movement through them, the movement of breath through them, and if you leave that out – you've left out a lot.

LAH: In my practice, people tell me they need help with this zone of their body. They will point to their upper thigh, the medial aspect of their hip, and they will say, "My groin has pain when I'm running." They know I have the skills to address this territory through fascial manipulation. We know that the fascia of the pelvic floor has a lot to do with the comfort and movement of the spine. People come to their practitioners with high expectations and profound hope for help.

GH: In the town where I used to live in Florida, I would go to this wonderful Chinese massage place. It was not a massage parlor. It was an excellent therapist who was the main person for her busy practice. But there was a cultural difference there that I treasured because their fences weren't drawn so widely. I got a whole-body massage without it being a sexual massage. They weren't afraid of



A Female. Midsagittal section, viewed from left side.

B Male. Midsagittal section, viewed from left side.

Figure 1: The ***false pelvis,*** indicated by the upper diagonal line, is immediately inferior to the abdominal cavity, between the ilium. The ***true pelvis,*** indicated by the lower horizontal line, is the space enclosed between the pelvic inlet and the pelvic outlet and contains the urinary bladder, parts of the colon, and the internal reproductive organs. Copyright Thieme Medical Publishers Incorporated, 2023.

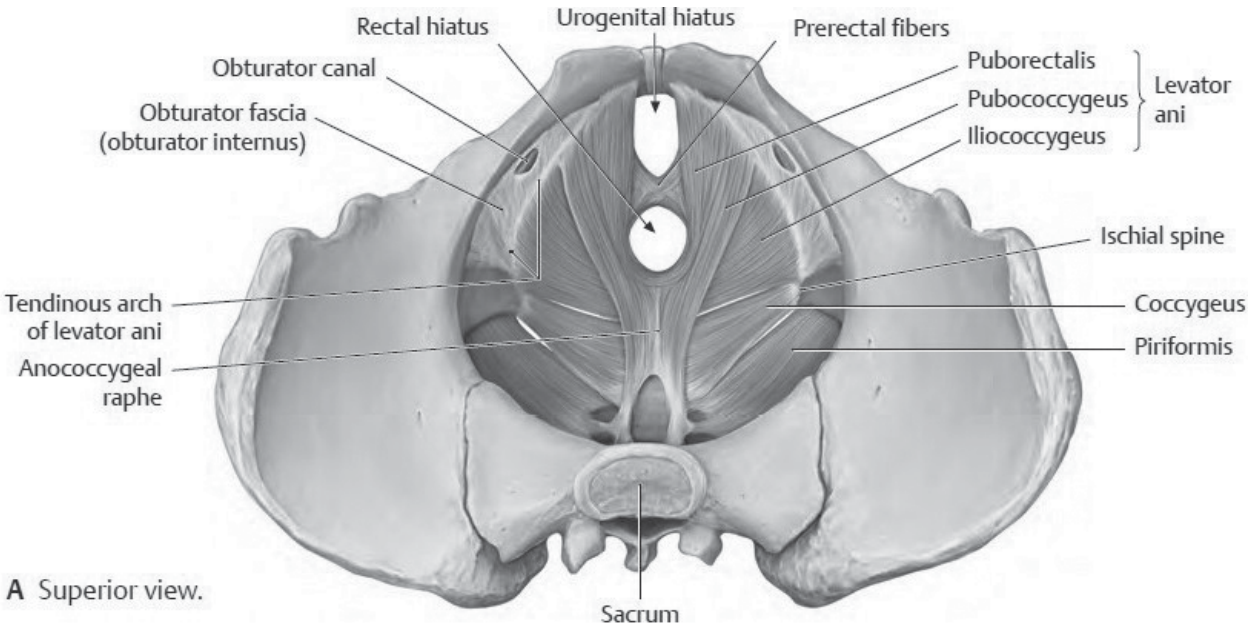


Figure 2: Muscles of the pelvic floor, superior view. Copyright Thieme Medical Publishers Incorporated, 2023.

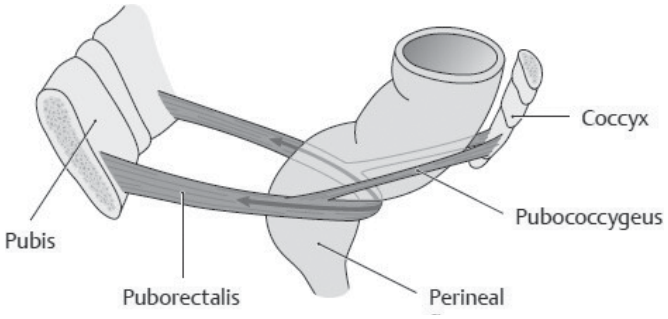


Figure 3: The puborectalis acts as a muscular sling that kinks the anorectal junction. It functions in the maintenance of fecal continence. Copyright Thieme Medical Publishers Incorporated, 2023.

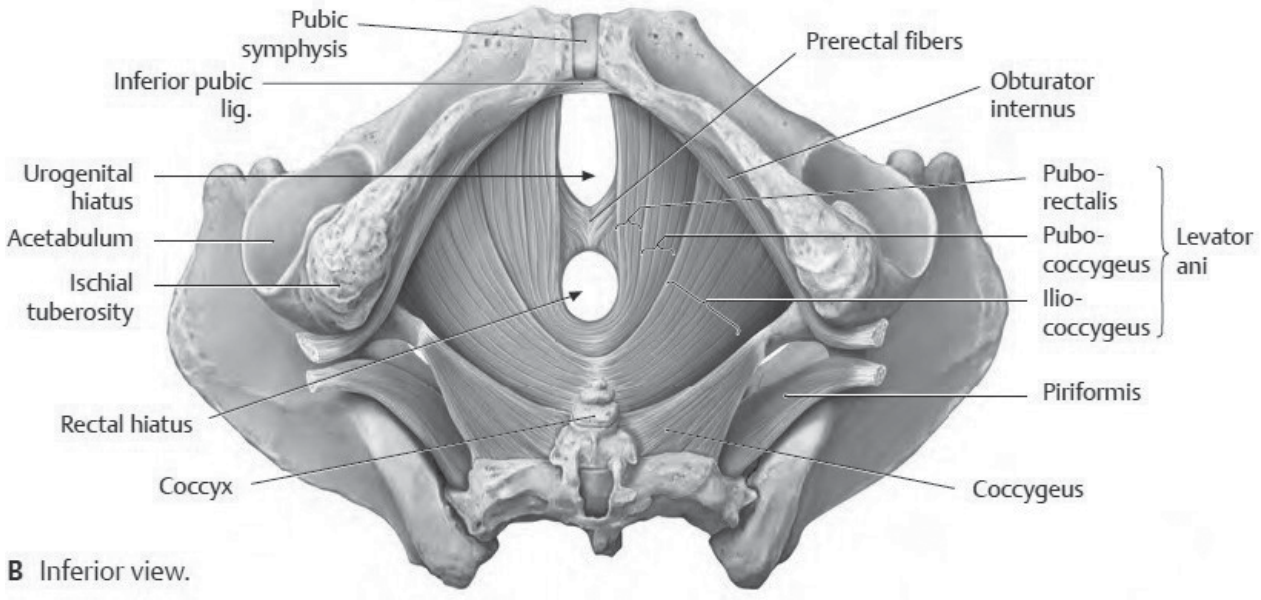


Figure 4: Muscles of the pelvic floor, inferior view. Copyright Thieme Medical Publishers Incorporated, 2023.

GH: The metaphor of a 'floor' doesn't really work that well for me. It's kind of like the respiratory diaphragm, people tend to have a mental image of a transverse plane cutting across the body . . . I like to speak about a pelvic sling and a pelvic funnel as two distinct moments in a pelvic floor story.

your thighs and butt cheeks, and it was awesome. I felt like, "Oh my gosh, this is the first time I've ever gotten a real massage." This was a seventy-year-old woman with her elbow coming right up on my gluteal muscles. This is the way it should be taught, but we have our fences.

LAH: For me, as a woman, as a practitioner, and as a person raised in North American culture, I've had to challenge myself so that I can do that great work. It's a detail I have to be continuously mindful of, and after nineteen years of being a Rolfer, I've become comfortable with being communicative. My clients may notice that I have a shy personality and that I'm using compassionate words to overcome that nature to deliver quality pelvic floor work.

GH: And it does require that kind of awareness. We're not in China, so it requires a different conversation with ourselves and with the client to do that work here. Rolfing SI, as I learned it, crossed the fences that were set up in the Swedish massage world. It can be a matter for an important open conversation to say, "Hey, in this practice, we're going to go past your knee, up your thigh."

LAH: Right. In my experience having those conversations and then doing that work, people are relieved, similar to what you described in your experience with your Florida practitioner.

Part of doing this interview with you is my interest in challenging my own fences, offering our readers a contemporary view of the anatomy of the pelvic floor. To supplement our conversation, I have some Thieme anatomy images for us to refer to. Looking at Figure 1, when I was first learning Rolfing SI, this image took me a while to figure out – the difference between the 'false pelvis' and the 'true pelvis'.

GH: This classic image gives an interesting look that reveals certain things and hides others. When people talk about the *pelvic floor*, to have a meaningful conversation, I ask them, "What do you think that is?"

LAH: Exactly, there can be different interpretations.

GH: I ask people, "What tissues are you including?" The metaphor of a 'floor' doesn't really work that well for me. It's kind of like the respiratory diaphragm, people tend to have a mental image of a transverse plane cutting across the body. 'Pelvic floor' seems also to conjure this sense of a transverse plane. It doesn't really look like that when you dissect out the muscles that people will name when they're trying to account for the pelvic floor. In dissection, you will produce completely different images depending on the direction in which you cut into those structures.

I like to speak about a pelvic sling and a pelvic funnel as two distinct moments in a pelvic floor story. They each require a different kind of attention, they accomplish different things, and they respond differently to the breath.

LAH: Let's explore these ideas further. The sagittal view of Figure 1 with the pelvis cut along the midline is a common view to learn about the pelvis. My question for you is, how can I understand the fascial layers of the pelvic floor from this point of view?

GH: I think that our love of fascia sometimes tends to have us preferentially think about it and demand that it be specific ways so that we can get a grip on it because it's our favorite thing.

LAH: Yes, I can own that bias for sure.

GH: You have to remember that part of the story of the pelvic floor is about the viscera and another part is about the musculature. Person to person, the shapes of these structures are highly variable. Also, the relationships between the structures are extremely variable in such a way as to render generalizations about the fascia, in particular, a little suspect.

Something as simple as this Figure 1, just looking at these two images, I'm looking at the relationship of the anus to the coccyx. In the right-side version, we see they are closer together. And on the left, the space between is slightly further. This is something to notice because, as artistic renderings, we can wonder if they needed room in the drawing for a uterus. I've seen anococcygeal ligaments four inches long. In other words, the distance between the anus and coccyx can be very far or much closer. That's just one point of extreme variability.

LAH: This is an important detail to note the individual difference, anatomy images depict one person, and clients will appear as a variation of that image.

GH: Another thing about Figure 1 that stands out is the absence of the fatty distribution described here, these two pictures would be of a person who starved to death. It's hugely inaccurate in terms of the fatty deposition around the anus and the colon. If you were working on an actual human being, it would be more accurate to find a fistful on either side of those structures of fatty tissue. On any human that would be true, not just on a person with a fleshy morphology, it is this way in any person.

LAH: Well, as a fleshy morphology person, it piques my interest that the drawing has an anti-fatty tissue bias embedded in its teaching. I'm glad to know that.

GH: Last note about this image, you don't quite get a sense of the funnel-like aspect of the rectum and pelvic floor from this image. It's a perspective thing and when you're looking from the outside in, the pelvic floor appears to be a funnel. And when you're looking from the inside out, it appears to be a floor because of the puborectalis muscle coming off the pubic ramus.

LAH: Let's look at this next drawing (see Figure 2), it's the superior view of the muscles of the pelvic floor.

GH: Yes, from above, that's not a bad picture. It's not an easy one to get in terms of dissection. That's not an image that you'll stumble across in any dissection manual. It's kind of a creative and beautiful rendering of a scene that would be nearly impossible to create with a knife. Although, don't put it past me. I'll keep trying.

LAH: It's a common angle to study as a manual therapist, but hard to translate to the client lying on the table.

GH: Let's look and find puborectalis, coming off of the pubic bone, and then it basically creates a sling underneath the rectum. Now, there's no rectum in the picture, so you wouldn't know that it had that essential function from this drawing. Right?

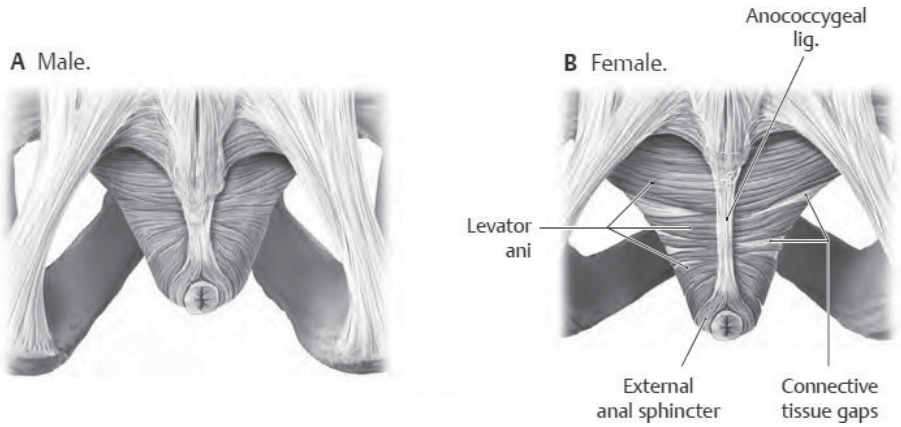


Figure 5: Funnel shape of the posterior aspect of the pelvic floor. This image also shows the gender-related differences in the structure of the levator ani. Copyright Thieme Medical Publishers Incorporated, 2023.

LAH: Totally. I did find a more three-dimensional view of puborectalis for our readers (see Figure 3).

GH: Let's look to the other view, the inferior view of the same stuff (see Figure 4). Here we can see the prerectal fibers by the urogenital hiatus and the bottom of the levator ani group. Now, the way that they have drawn the levator ani group in this picture, and the only way that you could imagine the levator ani group by looking at this picture, is that it's a match for what you saw in the other one.

LAH: Right, and this is the dominant picture I have in mind when I think about the pelvic floor.

GH: Well I have to tell you, what I see one hundred percent of the time, and I've dissected cadavers that were twenty-eight years old, forty-two years old, thirty-eight years old, fifty years old, seventy-five years old, and one hundred and four years old, and they all have a Snuffleupagus sticking out their butt. It's more like a cone than what is drawn here.

LAH: I thought you might say that, and to my delight, I found this next image in the pelvic floor packet (see Figure 5).

GH: Oh, there you go. Now we're talking. That's great. This is an excellent rendering. That's the best I've ever seen. The way they did the shadows conveys what I call the Snuffleupagus-look from Sesame Street.

GH: One of those branches has my least favorite name, *the pudendal nerve*, referencing 'the parts of shame'. This is another structure that I've changed the name of in the story. I've renamed it *the delectatal nerve*, meaning the delightful nerve, probably to the chagrin of anyone who studies anatomy, except for folks who are of our ilk who don't mind renaming structures for the sake of kindness toward the self.

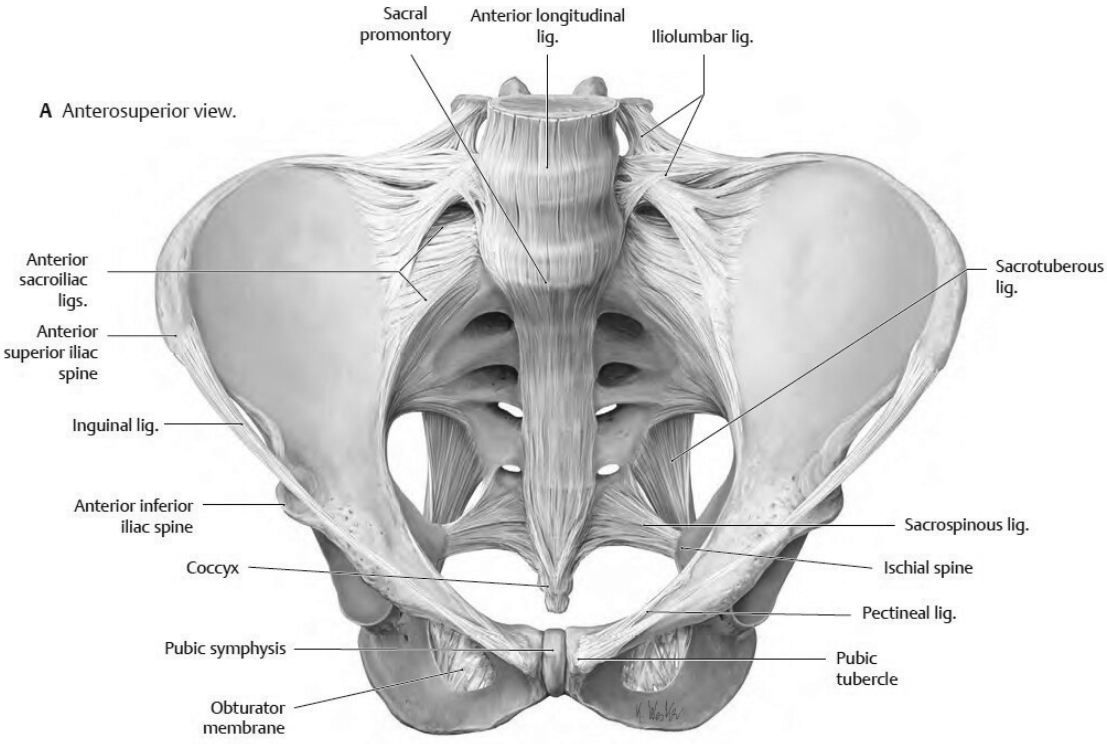


Figure 6: Anteriosuperior view of the ligaments of the pelvis. Copyright Thieme Medical Publishers Incorporated, 2023.

LAH: That analogy works for me; I remember that character.

GH: Right? It was some sort of prehistoric mammoth with a big trunk as its face. The first time I dissected the anal area of the pelvic floor, I was like, "Oh my gosh, we have a Snuffleupagus." What I also like about this picture is the distinct lengths of the anococcygeal ligament that I was just referencing. It would be very hard from that other image, which is extremely prevalent, to conjure this in your mind.

LAH: And this is what you mean when you say the pelvic floor is, in part, like a funnel?

GH: You got it. The one on the left also does a nice job of conveying depth, the dropping down and distance are accurate, and a formation of a cone. So, the puborectalis, to me, is the pelvic floor sling, and the levator ani group is the funnel. The two have different tissue angles and different relationships, and you can see clearly in Figure 5 that the levator ani makes a funnel.

The sling that the puborectalis makes is the closest thing we have to a floor, but still, it is more that it has depth as a deep bowl accounting for the bottom of the pelvis. It's not like it's ever going to be flat, and I don't think anyone mistakes it for flat, I hope. So even the aspect we often refer to as the pelvic 'floor' is more like a bowl than a flat plane.

LAH: Very helpful to have your take on this content. As you know, in structural integration, we also spend a lot of time learning the ligamentous structures of the pelvis, so I wonder your thoughts about this next anatomy image – what is the dissection insight you have for Figure 6?

GH: That inguinal ligament may be my favorite illusion of all in this type of drawing. I've also seen this in laboratories where I go into the laboratory and they have a pelvis somewhere on a shelf. And that bony specimen has its inguinal ligament intact. This ligament is where the external obliques find anchor points in its tendinous aponeurosis at the pubic bone and the ASIS, where it kind of curls up on itself like a cresting wave. If you cut away the aponeurosis and leave the remnant curling wave, that's your inguinal ligament.

LAH: Interesting, this drawing leaves the observer to think it's like a string of connective tissue linking ASIS to the pubic tubercle of the pubic bone.

GH: The difference with this ligament from other ligaments in the body system is that there's no joint between the bony origin and insertion. The idea of any ligament is that they're relating one bone to another bone. Well, here you have a ligament that's relating a bone to itself basically, which doesn't make a whole lot of sense. But really, it's a rolling bit of fascia. If you flatten it out, you will have the remainder of the sheet that's curled up on itself. I've flattened it out many times just to show this to people.

I'm not saying that there's not a band of tissue there that you can work with, that's not what I'm saying at all. I'm just saying what it is, it is the inferior border of the aponeurosis of the external oblique curling up on itself and when it's demonstrated in this way in images like Figure 6, it's kind of falsified a little bit. Although I get why they do it this way, but I like to put it in context. And I don't think it's a bad thing to know this stuff. It's more of an academic point.

LAH: Point welcomed; this is the kind of detail I appreciate learning.

Speaking of fascial continuities, I stumbled across your dissection of the cadaver named Gypsy Rose while looking at your website videos, which had a great presentation of the continuity of

the adductor compartment with the pelvic floor structures.

GH: Oh yes, Gypsy Rose is a champion demonstrating the pelvic floor. And I look forward to sharing more of that content, there's more to be edited before being published on my website.

She was a perfect model for demonstrating the puborectalis, which I backlit, and you could see that bowl/sling relationship from one side and then from the other side, the funnel. And to see the puborectalis from both sides and how it could be mistaken in these drawings.

LAH: Exactly, I was also captivated by all the structures above and below the pubic rami that you were demonstrating with the cadavers, those fascial tissue fibers are continuous with each other. Adductor magnus is continuous with investing fascia of the pelvic floor. Yet anatomy books don't place these pictures side by side, these next images were fifteen chapters away from each other (see Figure 7). In the body, the upper medial leg is continuous with the pelvic floor, your dissection of Gypsy Rose demonstrated that continuity.

My question is, as manual therapists working with the adductor compartment of the upper leg, how much influence do you think we have over the pelvic floor?

GH: Oh, significantly. A friend of mine, Bonnie Thompson, LMT, CNMT, CFT, upon being exposed to the fascial relationships in that dissection in the lab, took it upon herself to develop wonderful techniques for non-orgasmic women doing neuromuscular massage therapy type of work on the fascia of this region. She realized she could access *pars intima* from gracilis. She's helped many non-orgasmic women get over that issue.

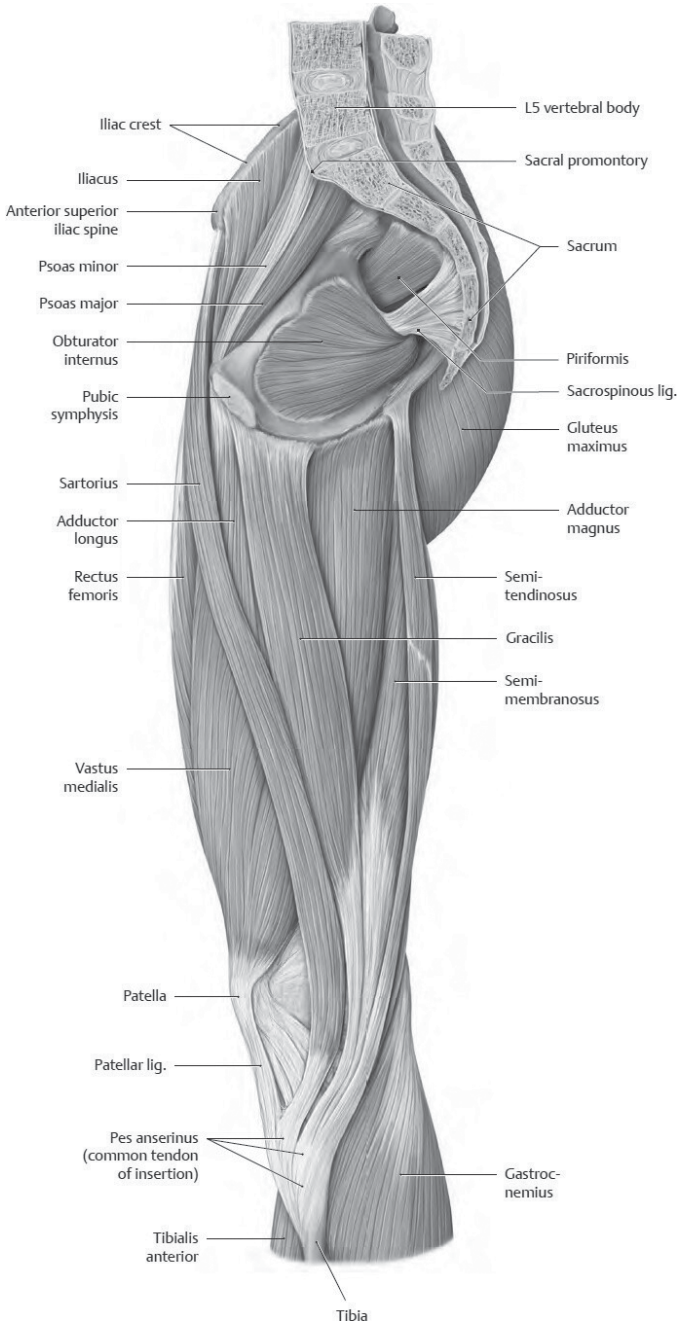
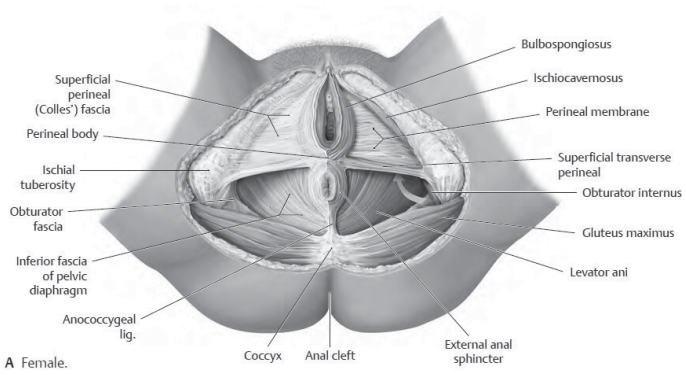
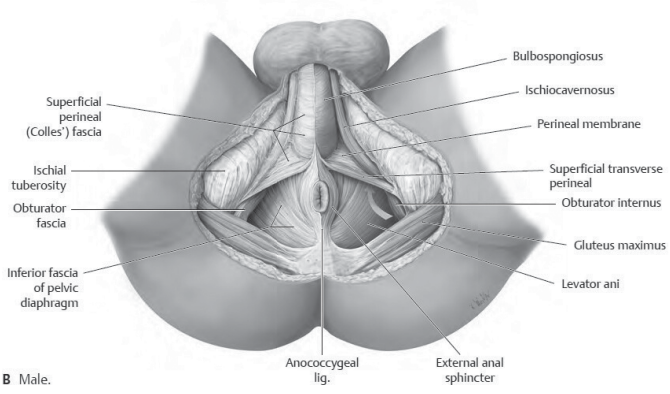


Figure 7: Above, medial muscles of the upper leg and deep muscles of the pelvis. Below, the muscles and fasciae of the pelvic floor and perineum. Copyright Thieme Medical Publishers Incorporated, 2023.





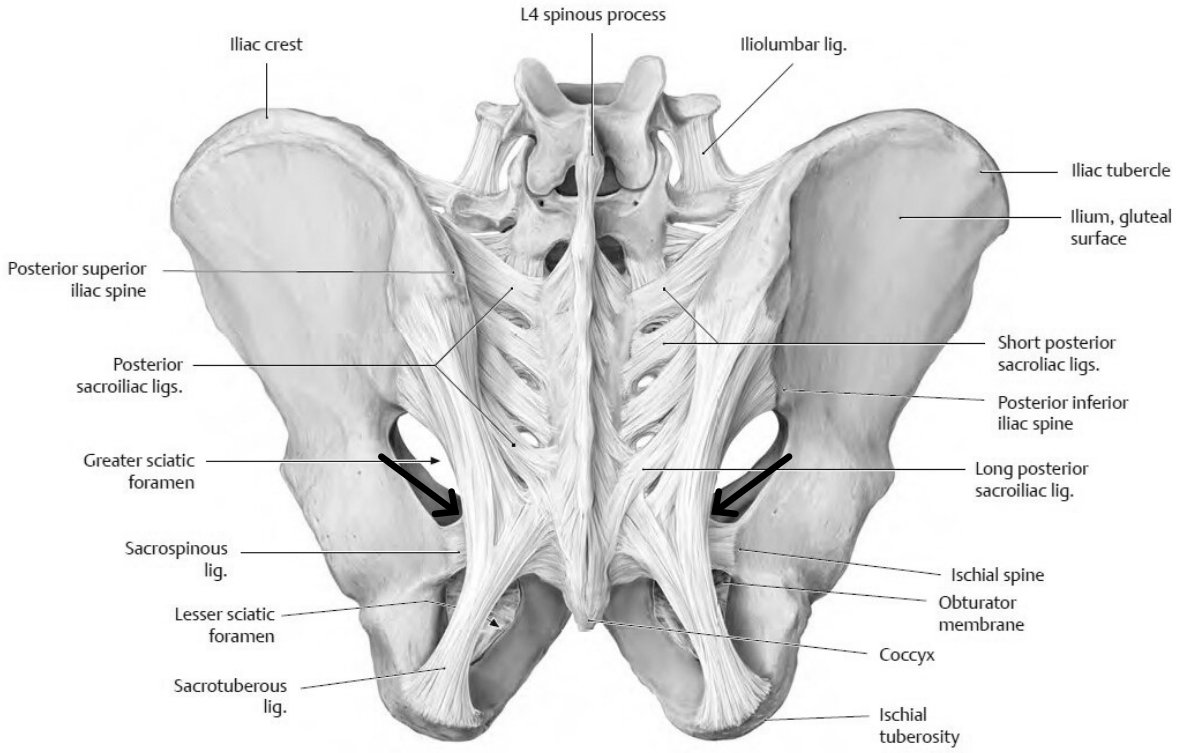


Figure 8: Posterior view of the ligaments of the pelvis. Copyright Thieme Medical Publishers Incorporated, 2023.

Another friend of ours here in Colorado Springs, Kandi Marquardt, CMT, has done incredible work with men along these similar lines. That's a whole other story, but accessing from the sacrotuberous ligament. Do you have an image of the sacrotuberous ligament?

LAH: Yup, see Figure 8.

GH: You see the sacrospinous ligament, below is the lesser sciatic foramen, and above is the greater sciatic foramen. The sciatic nerve is going to pass through the greater sciatic foramen and branches can be found up underneath those ligaments, there is some branching happening as the sciatic nerve comes out of the sacrum. One of those branches has my least favorite name, *the pudendal nerve*, referencing 'the parts of shame'.

This is another structure that I've changed the name of in the story. I've renamed it *the delectatal nerve*, meaning the delightful nerve, probably to the chagrin of anyone who studies anatomy, except for folks who are of our ilk who don't mind renaming structures for the sake of kindness toward the self. If your great-grandfather decided his great-great-grandson must be named "Shameful," would you use that name for your kid or pick another? We change names for anatomical structures regularly, it is what nomenclature committees exist to do. The time has come to change the name of the "pudendal nerve."

Now, where does this nerve come from? If we go to that greater sciatic foramen and look at the most inferior and most medial corner of the circle, if you can have a corner of a circle, right there is where your delectatal nerve is going to part company with the sciatic nerve.

LAH: We will add an arrow to Figure 8 to indicate where you are describing.

GH: Great. Now lower to that point, there's something called Alcock's canal running deep to the sacrotuberous ligament, formed through the fascia overlying the obturator internus muscle tissue. That's a pathway of this sex nerve, let's call it, just in case people can't follow either of these big fancy Latin words [delectatal nerve; pudendal nerve].

LAH: I appreciate that note, I hadn't thought of us having a 'sex nerve'.

GH: Yup, well, we do, this delectatal nerve emerges from the same sacral spinal nerves as the lower contributions to the sciatic nerve, and has to pass through Alcock's canal as described, and it's going to supply this whole area quite thoroughly.

LAH: I had no idea.

GH: Hardly anybody knows this, I have to thank my friend and long-time colleague, Sallie Thurman, a massage therapist in the Palm Springs area, who put me onto a careful exploration of it.

LAH: That is quite a gem of information.

GH: The more I've studied it, and the more I've looked at it in the lab, it's very variable, the nerve doesn't just pass under it, there's a canal, there's a tunnel in the thing.

LAH: Wow.

GH: Now, it's not always a completely circumferential tunnel. It is, let's say, embedded, at the very least, deep to the sacrotuberous ligament, whose tensions are very variable, right? And whose vectors of force are variable.

LAH: Absolutely. I have images of the inferior view of the delectatal/pudendal nerve in the female and male pelvis (see Figure 9).

GH: Right, look at the bottom edge of gluteus maximus, there it is. Its path has a potentially huge impact, if distorted, upon that sex nerve.

We were doing a dissection, maybe two or three years ago, where I was going

off on this topic. And Kandi Marquardt, that local therapist and colleague here in Colorado Springs that I already mentioned, she was thinking about her client who was impotent, suffering disappointment that, for ten years, he was not able to get an erection. Seeing this nerve path information, a light bulb went on for her. She went back, worked around his sacrotuberous ligament, and he had sex with his wife for the first time in ten years, as he and his spouse had hoped. Don't rule out these possibilities in your understanding of pelvic floor function.

Looking at Figure 9, in that aspect of the sex nerve pathway, we can see how the area is thoroughly innervated. But in this drawing, as noted earlier, it gives you more of a 'floor' sense than a funnel sense, though they do try a little bit of depth with the shadowing.

Back to looking at those nerves, where we see the pudendal nerve labeled, it traverses the territory between the ischial tuberosities and branches over to the anus and to the clitoris – all through this area, branching, branching, branching. What they don't show is the fat, it's as if they think adding it would obscure the other stuff they are trying to show. But it's there.

LAH: Sure, that makes sense, *in vivo* there would be fat tissue.

GH: Right? I'm telling you, on either side of the anus, filling in like a wedge, there's a huge wedge of fat. All those nerves are running through and alongside that fatty tissue, and they're super accessible. Now, they're not just like wires running through the fat. They're following planes of tissue in that fat, and in those drawings, they didn't show the branches that are going into the fat. Our fat is very happy fat down there. It has love and life in it. It's not just some dispensable blob.

LAH: That's lovely, that's what I appreciate about your point of view, you remind us about love and life in the fat.

I want to show you one more image as we finish our chat, take a look at Figure 10. My births were both Cesarean sections, so I have no personal experience with vaginal birth, and these images are from a surgical textbook. I've only known anecdotally what an episiotomy is, I didn't know where they cut for an episiotomy. I wanted to ask your insight about where episiotomies take place to help the practitioners reading this article understand what clients mean when they

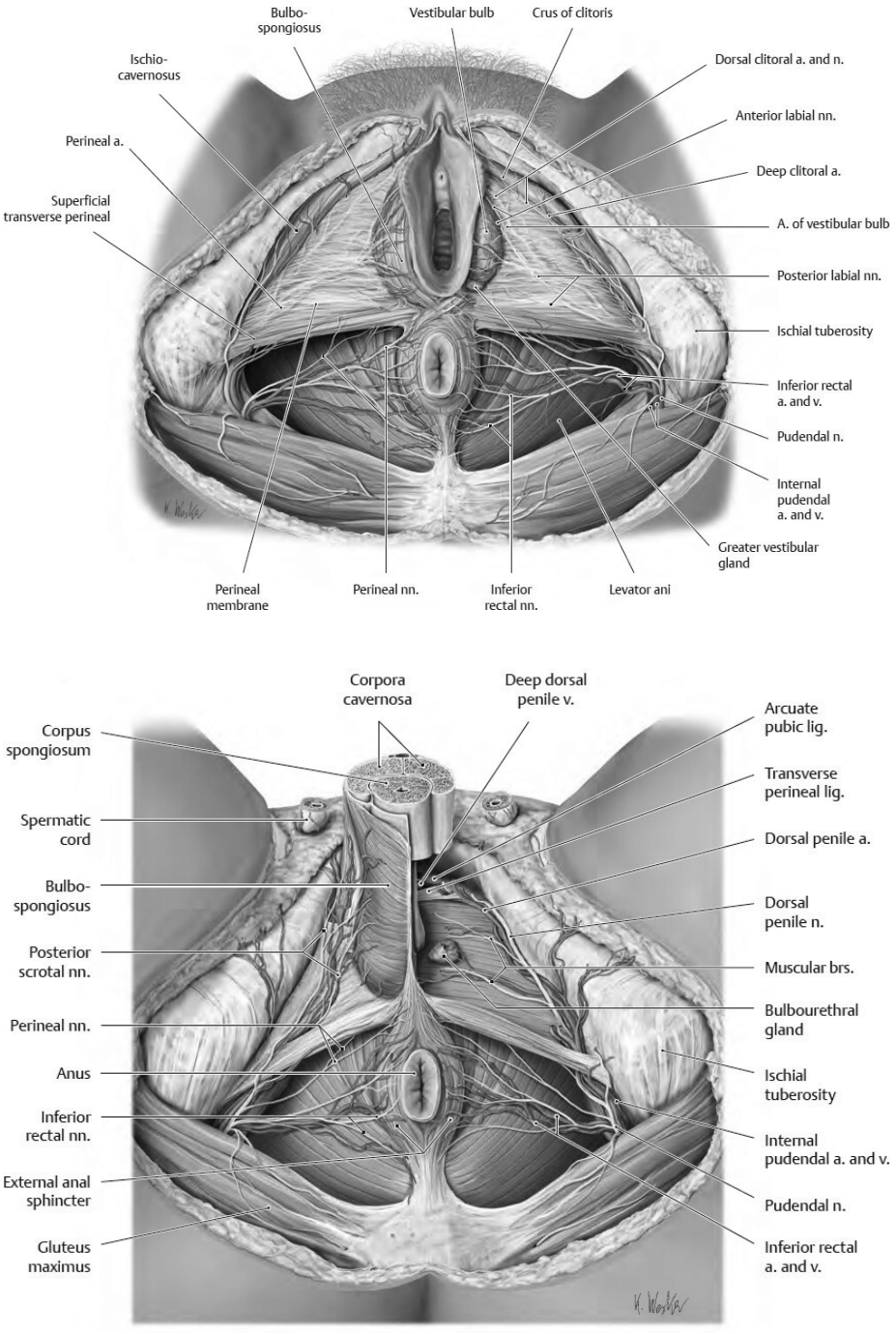


Figure 9: (A) Neurovasculature of the female. Removed from the left side of the female image: the bulbospongiosus and ischiocavernosus. (B) Neurovasculature of the male. Removed from the left side of the male image: perineal membrane, bulbospongiosus, and root of penis. Copyright Thieme Medical Publishers Incorporated, 2023.

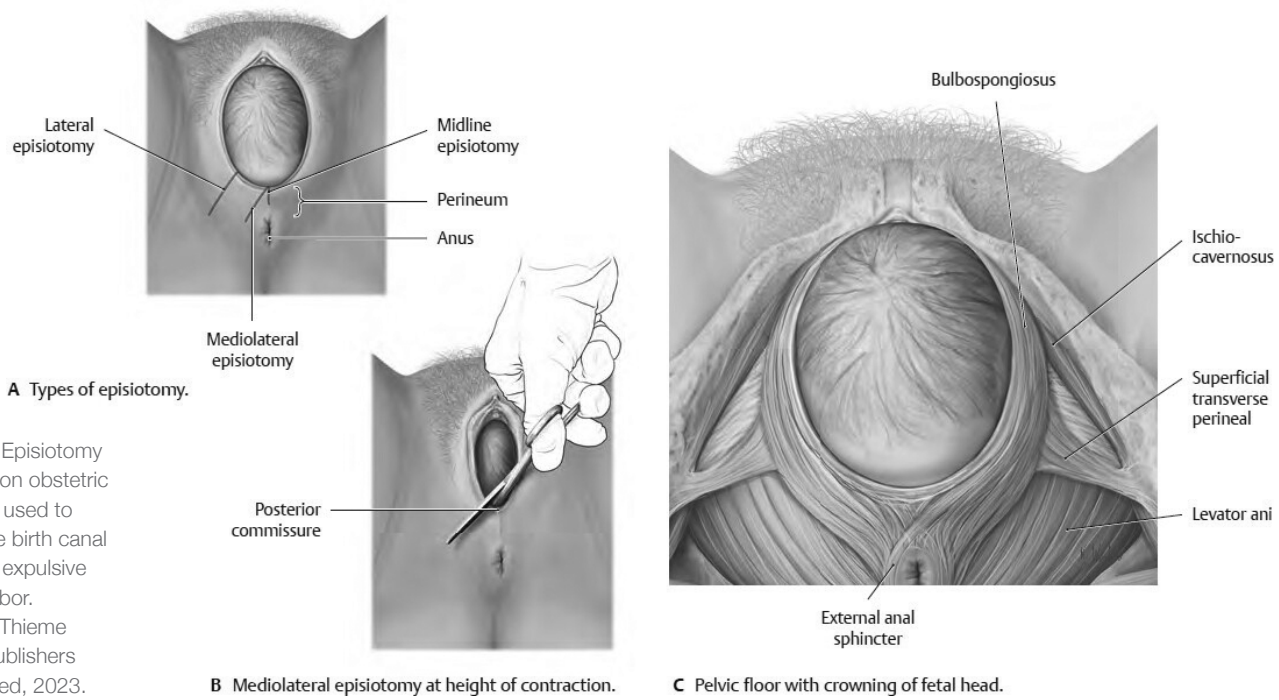


Figure 10: Episiotomy is a common obstetric procedure used to enlarge the birth canal during the expulsive stage of labor. Copyright Thieme Medical Publishers Incorporated, 2023.

tell us they have experienced this kind of birth intervention.

Looking at the top left image of Figure 10, which shows the possible locations of episiotomies, is that typically where they are in actuality?

GH: That's an important image. They understate the midline episiotomy here. My sister, who is a home birth midwife with decades of experience, would testify to the repetitive witnessing of clear midline incisions from the vagina to the anus.

LAH: I've heard women describe this trauma.

GH: Just draw a red line through the entire perineum there, along that midline. And she said those sorts of things are done unceremoniously and sometimes despite being asked not to. It's a terrible travesty in our medical system. The thing is, some episiotomies can be quite large, and there can be natural tears that are also quite large. But the difference between a natural tear and an episiotomy is a scalpel and tissue grains.

I know from tearing tissues apart for decades with my hands, that they come apart very differently when they're torn along their grains. Tissues have grains. The grains are a function of perifascia following nerves, blood vessels, and muscle tissues in such a way that if you did tear them, it wouldn't offend every natural contour of the tissue that the knife does. The knife has no respect for the perifascial membranes surrounding a nerve. A tear could be creating an ugly and tortuous wound but it is one that follows the fractal forms of the vasculature and nerves. As opposed to the Euclidean form of the blade and its sharpness, the blade does damage that's not as easily repaired by the body as the natural tears. It's disruptive, very disruptive.

But someone's got to sew that up. My sister is willing to sew up a natural tear and has practiced that. But that repair takes a long time, longer than you may want to devote to your four births that afternoon. The cut is to expedite the movement of that head through the space. I could go on and on with this particular pelvic floor topic; it is important. We are never more a mammal than at the point of birth. We drop into a very special space as a species when birthing. It's a very powerful space.

LAH: I feel you and everything you are saying. I could also talk for a long time about the tangent of birth and medical care choices made in North America. Interestingly, my sister is a doctor who works in the hospital, supporting women during their low-risk deliveries. There is a lot of deserved controversy involved in the medical control of birth.

And, as manual and movement therapists, these are the topics our clients have lived through when they say, "I had natural tears during that delivery," or "the doctor had to do a deep episiotomy." But you are right, some women have the story that they asked to be allowed to tear and the doctor intervenes with the scalpel. This is what I meant at the start of our conversation, the thing that gives me pause about this territory of the pelvic floor, these high-voltage stories embedded in the anatomy.

GH: What remains are these scars and the stitchery that surrounds them. If you have these scars, then you need to treat them, and because of the aforementioned fences and law, it can be difficult to get that help.[3]

I bet Sharon Wheeler [LMP, Certified Advanced Rolfer, and founder of ScarWork] would have something to say on this topic, she's very good with scar work. As is Alastair McLoughlin [founder of McLoughlin Scar Tissue Release®], who basically teaches people how to self-treat perineal scars with his techniques.

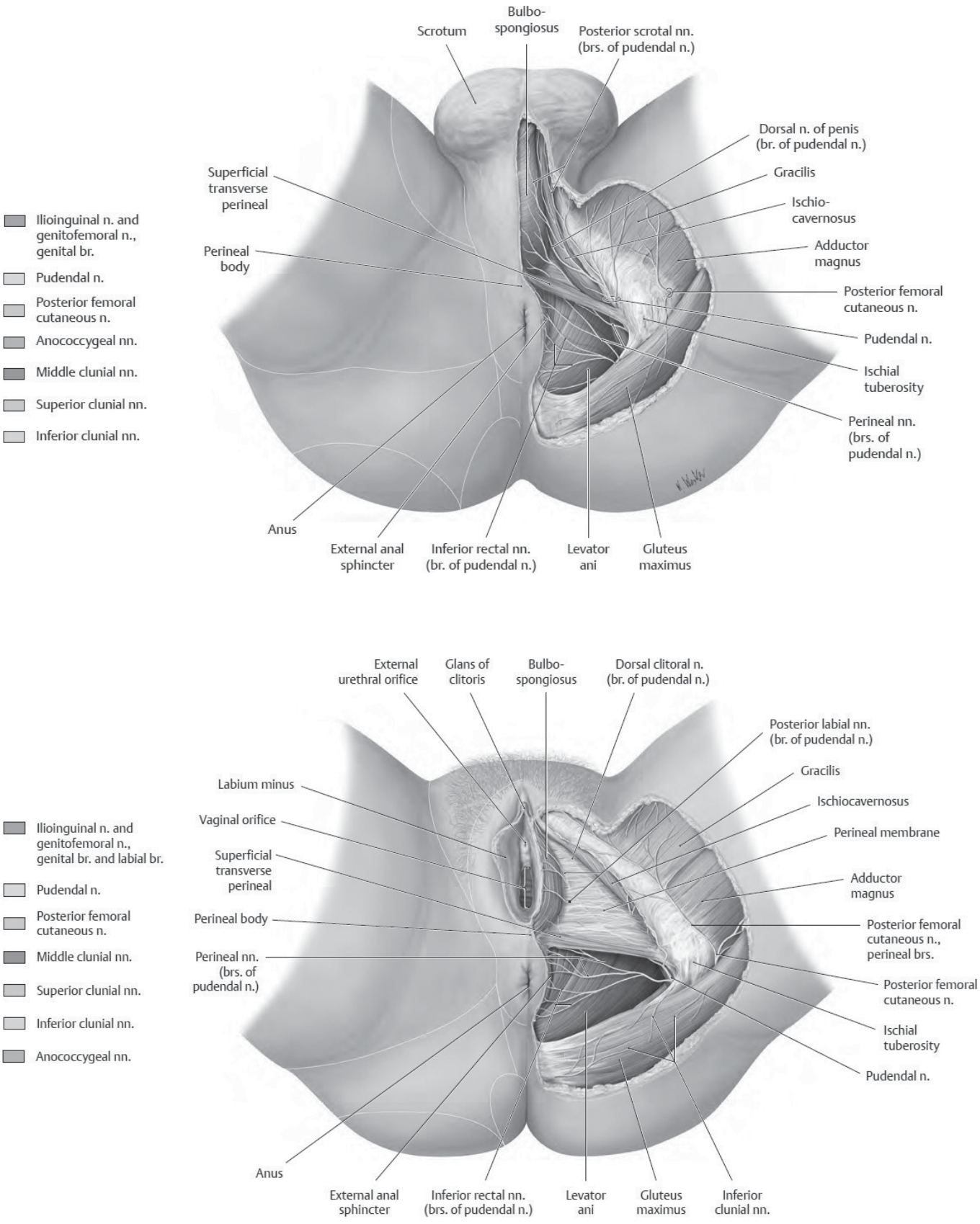


Figure 11: Nerves and surface musculature of the male and female perineum. Copyright Thieme Medical Publishers Incorporated, 2023.

Still looking at Figure 9, I think they've overdrawn ischiocavernosus quite a bit here. I love ischiocavernosus, it's a very cool muscle. I don't see it going up that high on the crura of the clitoris. I tend to think of it like a handshake from below. Yes, I would call that depiction overdrawn.

LAH: Let's look at another set of drawings to discuss that (see Figure 11). What do you love about the ischiocavernosus?

GH: It is either the legs of the penis or the legs of the clitoris, and I just love the idea about those legs and what that means. We have skeletal muscle that can either be actively contractile or involuntarily contractile in an orgasm. As part of our *pars intima*, we have legs, that's fun.

LAH: That is fun to think about. Thank you for talking with me about the story of the human pelvic floor, your integrated anatomy point of view is extremely valuable to our readers as well as your compassion for this special territory. Any final thoughts for our readers?

GH: There's nothing and nowhere in our body that isn't accessible one way or another, and beautiful also, it's all a gift and a treasure. We sometimes have alienated ourselves from this area in particular and it has so much to offer us. There are so many presents here to unwrap for our lives in terms of our movement, our energy, our intimacy, our social relations, our way of being in the world, our way of standing in a grocery line, that invites us to learn more about the pelvic floor.

And we didn't even get into talking about the esoteric stuff, where this area is a bottomless cauldron of energy that can go up your spine and squirt out your head in an insanely delicious way that will transcend your human experience and bring you to a different level. That's another thing this area is a resource for, so keep an open mind. I appreciate chatting with you, it's been fun.

Endnotes

1. *Live with Gil* sessions are an educational video series offered at www.gilhedley.com.
2. Intersex population figures are complex; a good summary can be found at https://ihra.org.au/16601/intersex-numbers/. The United States Government commemorates October 26th as Intersex Awareness Day, see https://www.state.gov/on-intersex-awareness-day/ for more information. Another resource would be by Juan Carlos Jorge and colleagues (2021) who tracked the growing international agreement to prohibit non-consensual medical intervention to intersex persons and compared those standards with the current medical protocols for intersex care in the United States in their peer-reviewed article, "Intersex care in the United States and international standards of human rights."
3. As already mentioned, Rolfers do not work directly with *pars intima* anatomy. Yet, some physical therapists in the United States do have specialized training for internal pelvic floor work as part of their scope of practice. For more information, see https://www.physio-pedia.com/An_Overview_of_Physiotherapy_Assessment_and_Treatment_of_the_Pelvic_Floor?utm_source=physiopedia&utm_medium=search&utm_campaign=ongoing_internal. [Click 'Read Article.] Correct evaluation and treatment of pelvic floor structures must include a comprehensive conversation about risks, benefits, and informed consent in advance of any contact by the practitioner.

Gil Hedley, PhD, has been teaching integral anatomy in the lab, lecture hall, and online at www.gilhedley.com since 1995 to professionals from a whole range of healing and fitness modalities. He is the producer of 'The Integral Anatomy Series', the author of several books of poetry and prose, and has now created the "Anatomy from A to Z" project, more than two hundred hours of a comprehensive on-camera tour of human anatomy based on his integral, whole-body approach. Hedley is based in Colorado Springs, Colorado, where he presides over the Board of Directors of the Institute for Anatomical Research, a 501(C)(3) non-profit corporation focused on expanding the study of integral anatomy through cadaver studies.

Lina Amy Hack, BS, BA, SEP, became a Rolfer® in 2004 and is now a Certified Advanced Rolfer (2016) practicing in Canada. She has an honors biochemistry degree from Simon Fraser University (2000) and a high-honors psychology degree from the University of Saskatchewan (2013), as well as a Somatic Experiencing® Practitioner (2015) certification. Hack is the Editor-in-Chief of Structure, Function, Integration.

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pelvic floor; genitals; pars intima; embryology; intersex; consent; boundaries; pelvic sling; pelvic funnel; inguinal ligament; adductor compartment; pudendal nerve; delectatal nerve; sciatic nerve; root chakra; birth; viscera; Fourth Hour; episiotomy; perineum scar; ischiocavernosus. ■

Fascia, Pain, and the Pelvis

An Interview with Kevin McCoy

By Jeffrey Kinnunen, Certified Rolfer®, and Kevin McCoy, PT, Rolfing® SI Instructor

Jeffrey Kinnunen

Kevin McCoy

ABSTRACT *In this interview with Dr. Ida Rolf Institute® (DIRI) faculty member Kevin McCoy, the elements of fascia, persistent pain, and pelvic architecture are explored. Starting with a personal story about his own injury in childhood that impacted his own pelvic alignment, McCoy gives a useful analogy of people who develop chronic pain. Drawing from his studies with Dr. Carla Stecco and Dr. Antonio Stecco, McCoy discusses the fascial layers of the pelvis, and how he thinks about fascial organization and tissue relationships, while he works with people who have pelvic pain.*

Jeffrey Kinnunen: Hi Kevin, thank you so much for agreeing to speak with me about our theme this issue, A Regional Study of the Pelvis. You have been a Rolfer for thirty-seven years now, is this right? How long have you been teaching Rolfing® Structural Integration (SI) with the Dr. Ida Rolf Institute® (DIRI)?

Kevin McCoy: Yes, that is correct. Also, I've been a physical therapist (PT) for twenty-five years and have been an instructor with DIRI's Basic Training for the last seventeen years.

JK: Before we talk about the pelvis specifically, could you describe how your professional interests evolved over time? What is currently inspiring your curiosity in your practice?

KM: As a practitioner of Rolfing SI I'm interested in the total experience of the human being. As Ida Rolf [PhD, (1896-1979)] said, what we can get our hands on *is the flesh*, it's the human body. Several different things have informed my way of furthering my own inquiry, and they have been with me from the beginning. The first is fascia; what is fascia? This is one ever-present inquiry.

Another would be the nervous system. In training as a PT, I dove further into appreciating the nervous system and pathophysiology. And the latter is my third interest, body functions that become different for individuals, the causes and consequences of chronic discomfort. Many people come into my practice, and I assume it is true for your practice, Jeffrey, people are seeking a change in how they experience their bodies. Very often, the change that they're looking to experience is less pain.

These three elements inform a lot of the way that I continue to look at this work. I ask myself, what is it that I'm touching? I'm touching the fascia. How is that touch informing their nervous system? And how is that stimulating some change around someone's experience of pain? This issue's topic of the pelvis is a huge part of that, in that many people will come to see a Rolfer because they have pain in their pelvis. Many people will come because they have sciatic nerve pain. Many people see their Rolfer because they want to inhabit their bodies more fully. The pelvis is a means by which we, as a species, continue to learn how to inhabit that part of our being comfortably and fully.

JK: I think of the pelvis as this intricate cross-section between the axial skeleton and the lower extremities. Manifestations of pain could show up in a number of places, let's start there – what would you consider to be some of the common complaints that would point you toward an issue that involves the client's pelvic architecture?

KM: As you articulated, the pelvic girdle is a region of the human body that has this interrelationship between the axial and appendicular, specifically the lower extremities (see Figure 1). How we live in our pelvis will be a reflection of the remainder of our body, so, if I've got some long-standing injury in my foot, that may translate all the way up into my pelvis. It could become a holding in my pelvis that was initially meant to protect that sprained ankle. Or my experience in my pelvis is there because I was engaged in overuse while running marathons and developed some plantar fasciitis.

People learn to hold their pelvis in a way to protect themselves from experiencing pain. For example, a history of having a badly sprained ankle or plantar fasciitis will affect the pelvis. Foot and leg injuries may very well lead to some immobility in the pelvis. It may be years later, long after they are no longer experiencing that sprained ankle or plantar fasciitis. The learned habit of how a person holds their pelvis and how they allow movement to prevent pain somewhere else in their body, will show up in the nature of their walking and running. As Rolfers, this is what we are looking for when we observe our client's pelves, we ask ourselves, how is that movement translating through their pelvis?

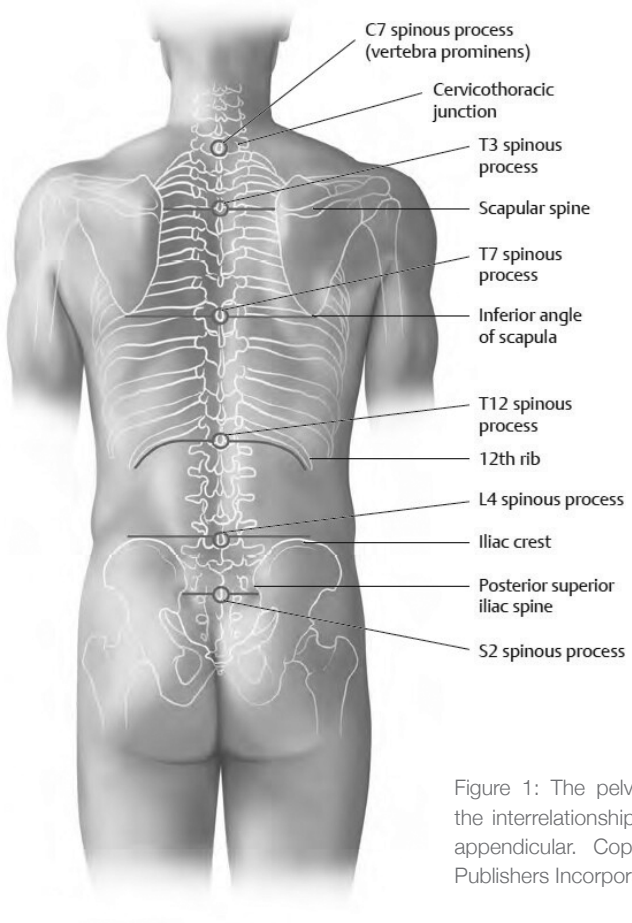


Figure 1: The pelvic girdle is a region of the interrelationship between the axial and appendicular. Copyright Thieme Medical Publishers Incorporated, 2023.

JK: Those are some great points. If I remember correctly, were you a competitive gymnast when you were younger? I know from my own experience, athletes who are involved with that kind of jumping and tumbling, those activities can take a toll on the body. In particular, it does seem to take a toll on the pelvis. Has that been your experience throughout your career?

KM: You are reminding me of a lifetime ago when I was a gymnast. It was gymnastics that brought me to Rolfing SI in a way. I had a significant shoulder injury that eventually led me to seek out Rolfing sessions, and after that, the pain in my shoulder was completely gone.

I'll talk about my own body for a little bit as an example of what we are talking about here today. I had that left shoulder injury, which was one of the rare things in my body that was left-sided. I usually suffered a lot of right-sided pain. In general, I usually feel pretty good in my body, but when I don't, it's often my right ankle, right knee, right sacroiliac joint, or my right twelfth rib. My body lets me know when I need to do something to take care of myself. It's like I could skip a stone – bop, bop, bop, boom – right up the areas on my right side that tell me there is something I'm needing to attend to.

One of the loudest areas in my body that will squawk the most frequently and is often the loudest is my right sacroiliac joint area. I do think that there's something about the history in my left shoulder that has crisscrossed over to the right side of my pelvis. Similarly, I have a memory of being a young child, loving to run, and I had to coax my siblings into racing me because they were younger and I had an advantage over them. One day I encouraged my sister to run a race with me, and I was barefoot. I gave her a head start and ran backward until I ran into a metal rake with my right foot.

JK: Oh no!

KM: I suspect that some of the issues that I experience in my right sacroiliac area come from that history of my body with my right foot having that injury, that I learned how to navigate around that pain as it healed. My pelvis needed to negotiate that.

JK: It's fascinating to hear what you say about your own injury recovery and self-

care. Clients have pain affecting many areas of their bodies, and I'm always curious about the 'area of origin' for their symptoms. There are so many ways that pain travels to other areas, back pain can become an incontinence issue. Clients walk into our office and may have something they wouldn't realize originated in the pelvis or involved the pelvis. How do you explain that interrelationship to a client? How do you explain this to your students?

KM: One way that I might start is to give a metaphor. I ask them to imagine a person walking and encountering a river. How do they get across this river? They could make a raft. They make a raft and get across to the other side, and they say, "Wow! I'm so glad I've got that raft." They put it on their back and continue walking all their days with it. It has helped them get from point A to point B, but did they notice that they don't necessarily need it anymore?

That sometimes can happen in our bodies, just like my story about the rake, I get an injury in one place in my body. I have pain as that injury is healing. But now my body needs to respond to that, and one of the responses may be to hold. I have no doubt that after I stepped on that rake, for many months, perhaps years, my gait pattern was altered because of that pain. It was acute pain that needed time to heal.

This is a good case study for our topic. As time went on, every day I would have continued to take step after step, day after day, month after month, and my gait pattern would have changed. Injuries years ago set up different movement patterns, different ways that we are holding our bodies (see Figure 2).

Figure 2: Gait patterns change how the pelvis moves and is held. Photo by Ernest Tarasov and Unsplash.

Healing and holding in a new way during the acute phase of pain and injury is very useful because, guess what, I needed to do that to be able to take those steps. But ten years later, I don't need to step that way, I have no choice but to step that way. It's the raft that I've built and used to get across the river. It's now been tied to me, and I have no idea it's there other than, "Gosh, I feel like I've gained weight."

Back to your question of how I might help a student or a client to recognize what I'm feeling in their pelvis. Again, I use another one of Rolf's notions, one of the main goals of Rolfing SI is to horizontalize and mobilize the pelvis. That is one of my jobs as a Rolfer, to help facilitate a transformation in the way my client's pelvis is balanced in the field of gravity and capable of moving. The holdings that are observable in a person's pelvis may very well be a part of a longstanding issue. It could come from below or could come from above. Either way, that pattern needs to be spoken to at the level of the organism so it's able to find a new way of relating to, and with, itself.

Kevin McCoy: Several different things have informed my way of furthering my own inquiry, and they have been with me from the beginning. The first is fascia; what is fascia? This is one ever-present inquiry . . . Another would be the nervous system . . . my third interest, body functions that become different for individuals, the causes and consequences of chronic discomfort.

KM: Many people come into my practice . . . seeking a change in how they experience their bodies. Very often, the change that they're looking to experience is less pain . . . This issue's topic of the pelvis is a huge part of that, in that many people will come to see a Rolfer because they have pain in their pelvis. Many people will come because they have sciatic nerve pain.

JK: You mentioned your interest in the nervous system and fascia as well, what are your thoughts about some of those touchstones regarding the pelvis?

KM: In the last few years, I have been studying the material that Luigi Stecco, Italian physiotherapist and author, and his two children, Antonio Stecco, MD, PhD, and Carla Stecco, MD have continued. They have done a lot of research on their methodology, which is called Fascial Manipulation®. I've had the opportunity to do a dissection class led by Dr. Carla Stecco that was focused on fascia, and I'm currently enrolled in a three-year training with the Steccos. First and foremost, I feel like I'm beginning to deepen my appreciation of fascia, which I've been studying for a long time. There are new doors that are opening with fascia research.

Before we talk about nerves, Rolfers will appreciate that we first discuss superficial, deep, and visceral fascia. And then there is fascia that surrounds nerves. What I'm beginning to appreciate is how each of those is *uniquely different*. Even when we talk about deep fascia, depending on where we are in the body, the deep fascia is quite variable from one area of the body to another.

Let's talk about superficial fascia, and we could invite the readers to think of the pelvis in particular, but this applies throughout the body. Underneath the skin we have a superficial adipose tissue layer, then a superficial fascia layer, then a deep adipose tissue layer, and then the deep fascia (see Figure 3). Superficial fascia has these three layers, and it is quite a project to palpate them and differentiate those layers with our fingertips. Then the interesting thing is that the superficial fascia is also the highway for all the cutaneous nerves that will ultimately innervate the skin. Here is a question I like to think about: If I have any sensation of pain in my skin or sensation of tingling or numbness, could the cutaneous layer possibly be the reason for that experience? Could it be related to the tri-layer connective tissue matrix's ability to slide and glide?

As manual therapists, we want to allow cutaneous nerves to reach their end place of giving innervation to the skin. We want the nerve to deliver the message, "Oh, I'm being touched." Or "Oh, it's warm." Or "Oh, it's so hot that I need to perspire." All those messages are carried within those cutaneous nerves through the superficial fascia. I have more and more appreciation for the work that we do in that surface layer, working there is addressing the superficial fascia organization.

Then conversely, the deep fascia is the connective tissue that gets a name, like the lumbodorsal fascia or thoracolumbar fascia, the deltoid fascia, or the fascia of the pelvic floor. When we say the fascia lata, we are talking about the deep fascia layer. However, the deep fascias in certain areas are called the appendicular fascia and in other areas, the deep fascia is called the epimysial fascia. And the distinction between the two is critical for us as Rolfers.

For example, the thoracolumbar fascia is an appendicular fascia. The fascia lata is also an appendicular fascia. The pectoral fascia is not, it's an epimysial fascia. The fascias of the neck, the investing layer of fascia of the neck, is an epimysial layer

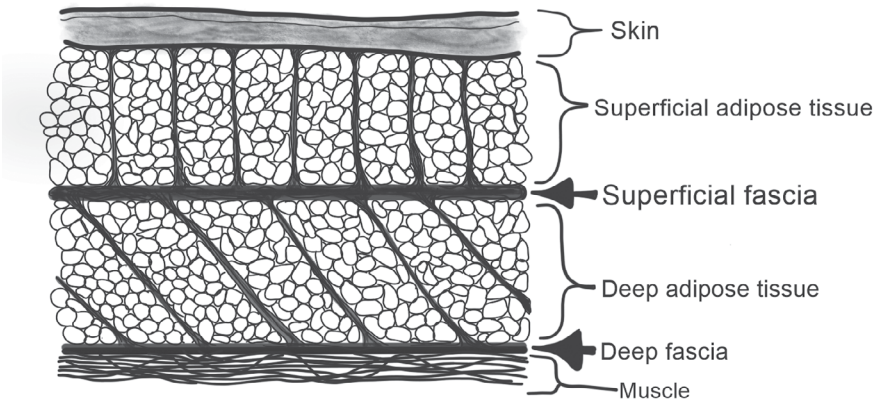


Figure 3: The subcutaneous tissue has three distinct layers: superficial adipose tissue, superficial fascia, and deep adipose tissue (Stecco 2015).

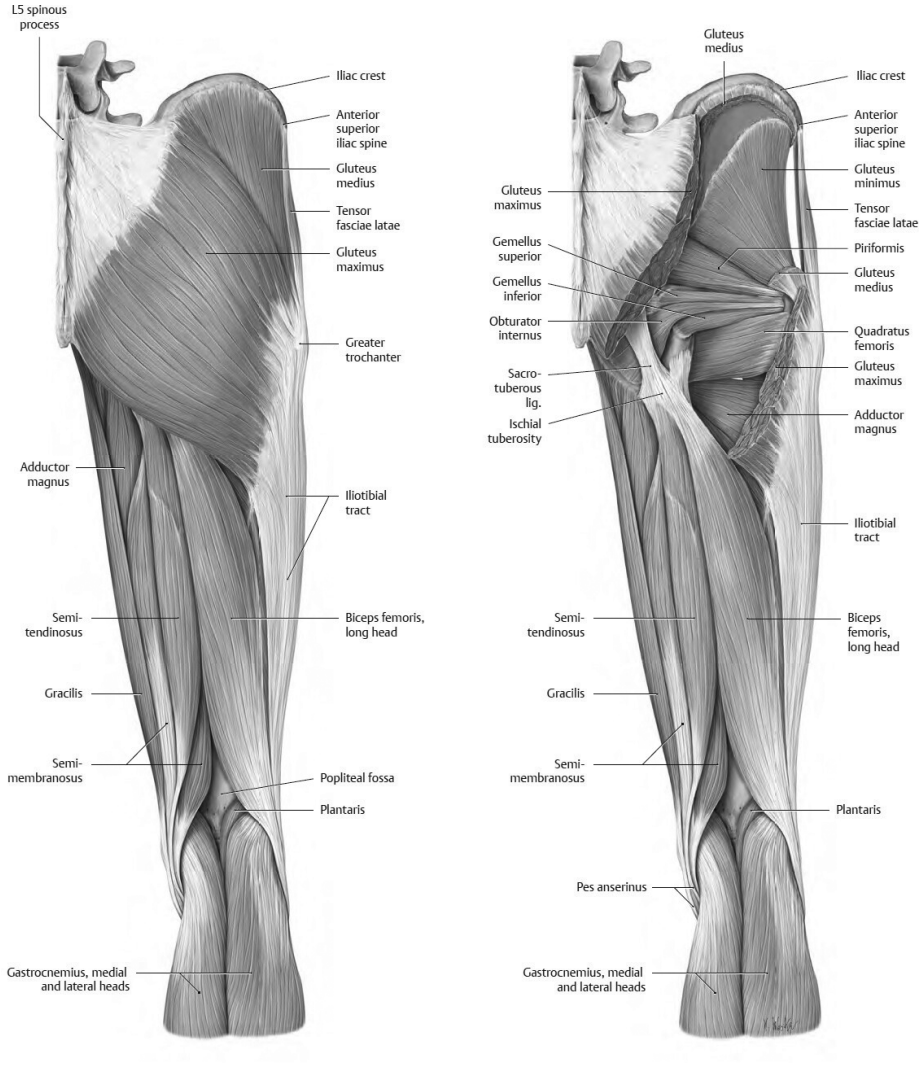
Before we talk about nerves, Rolfers will appreciate that we first discuss superficial, deep, and visceral fascia. And then there is fascia that surrounds nerves. What I'm beginning to appreciate is how each of those is *uniquely different*.

Kevin McCoy

of fascia. One difference between the two is, the appendicular fascia has a very low percentage of elastic fibers. So, we should not be working the iliotibial band thinking, "Oh, I'm going to make that longer." It can't get longer, it's part of what it's meant to do is to keep its length relatively stable.

The appendicular fascias are comprised of three layers. Each layer with a different orientation of fibers contained within its unique layer. So, rather than wanting to lengthen the iliotibial band (the thickening of the fascia lata, our appendicular fascia as I already mentioned). Our goal is to facilitate the appropriate hydration and sliding/gliding of these three layers of the fascia lata of the iliotibial band with respect to one another.

Epimysial fascias are the outermost layer of fascia that covers a specific muscle. Each muscle is invested with three layers of fascia: endomysium (deepest), perimysium (middle), and epimysium (outermost, which covers or invests the muscle as a whole). Sliding and gliding are also important with epimysial fascia. As manual therapists, we feel for that glide superficial to the epimysial fascia, the surface with the deep adipose tissue. Sliding and gliding also occurs between epimysial fascias of neighboring muscles.



A *Removed:* Fascia lata (to iliotibial tract).

B *Partially removed:* Gluteus maximus and medius.

Figure 4: Gluteus maximus relates with the superficial layers of the deep adipose and superficial fascia (not pictured) and the deeper epimysial layers of the gluteus minimus, gluteus medius, and piriformis.

For example, the epimysial fascia covering the gluteus maximus must allow for the sliding and gliding of the superficial layers, the deep adipose tissues and the superficial fascia. It also must allow the epimysial fascias covering the gluteus medius, gluteus minimus, and piriformis to slide and glide at their contacting surface. Densification can occur at these interfaces of various epimysial fascias, like between gluteus maximus and piriformis (see Figure 4). Such densification could then exert an altered perception of strain and sensation via the piriformis whose origins come from the anterior surface of the sacrum to the pelvic floor and pelvic viscera.

The relationship of epimysial fascia to the appendicular fascia is where we get that mobility that we are wanting to feel in the tissue, where the nerves that are innervating all of these structures that we're talking about need their ability to slide and glide within the fascia-bound space. Deep fascia is like a long stocking that is the legs, and that connective tissue structure of the leg becomes the pelvis. The nerves that travel through these spaces need nourishment from their vascular blood supply so that they're healthy. To be able to feel these structures in the pelvic girdle is our job, we ask ourselves – is there some densification? And is there some tissue that needs to release?

JK: What occurs to me as you describe the qualities of fascia and nerves is the importance of arteries, veins, and lymphatic tissues in that territory. These details give us an appreciation of everything we're touching as Rolfers. How has your touch evolved and expanded with learning about fascia and nerves? How do you apply that knowledge to techniques working within that fascial matrix?

KM: I tend to spend more time working on the surface structures than I did some years ago. I have a greater curiosity and a growing appreciation for the depth of contact. I'm meeting the depth of that surface layer, and my hands and fingers are picking up greater details in the layers of skin, to the superficial adipose layer, to the superficial fascia, to the deep adipose tissue, and then the beginning of the deep fascia. With my hands, I place a greater emphasis on being able to feel the details held within and feeling the quality of those tissues and their ability to slide and glide. I pay attention to the subcutaneous layer's mobility and motility.

JK: Your years of experience as a practitioner have given you an inventory of how these structures feel. How has your learning from fascia research fine-tuned your understanding in general and with the pelvis in particular?

KM: I'll share with you a concept that I appreciate. Our readers may or may not be aware of the terms dermatome, myotome, and sclerotome. I first encountered those concepts when I was in PT school. A dermatome is a region of skin that is innervated by a spinal nerve. When we work along the posterior aspect of the iliac crest, for example, that skin is innervated by the superior cluneal nerve, a set of spinal nerves that emerge from the posterior rami of L1 to L3 (see Figure 5). Myotomes are regions of muscle that are innervated by a specific spinal nerve, like the innervation of gluteus medius and minimus being the superior gluteal spinal nerve arising from the dorsal aspect of L4, L5, and S1 nerve roots of the sacral plexus. And sclerotome is a joint that is innervated by a spinal nerve. To extend our example, the sacroiliac joint is innervated by the ventral rami of L4 and L5, the superior gluteal nerve, and the dorsal rami of L5 to S2 spinal nerves, with innervation variation between individuals.

The Steccos have introduced yet another new term called a fasciatome and they use that term to describe a region of fascia that is distinct from the myotome and different from the dermatome, yet there is some overlap, as is the nature of nerves, if that makes sense. The way this has become interesting to me is when a client says they have sciatica, pain that travels along the path of the sciatic nerve. That prominent nerve originates from the ventral rami of spinal nerves L4, L5, S1, S2, and S3. The prevalent explanation for pain is based on the idea that there's some impingement upon that nerve at some point in its course that then will lead to specific experiences of pain or discomfort. The person may say, "Oh, I have sciatica." Carla Stecco and Antonio Stecco postulate that a lot of sciatic-like experiences are probably more due to the fasciatome restrictions that impact the nerve, not in the nerve itself, but in the fascia that is invested within the nerve (Stecco, Pirri, and Stecco 2019).

This idea is in alignment with my experience as a practitioner. When clients have pain patterns consistent with the sciatic nerve distribution, I find that I'm very often effective with my Rolfing work at alleviating that discomfort. The most likely presentation people have is pain in their buttocks, pain in the back of their leg, and/or deep pain in the calf. When I read this beautiful article by the Steccos (Stecco et al. 2019), it made me think back to all these people whom I've helped. It makes me wonder to what extent sciatica is actually a restriction in the fascia rather than a problem with the nerve itself. Perhaps the work I'm doing as a Rolfer, which is, of course, working with the fascia all over the region, is related to the distribution of the fascia to the sciatic nerve, and that's why I've been effective there.

JK: Has it been your experience looking at those dermatomes, myotomes,

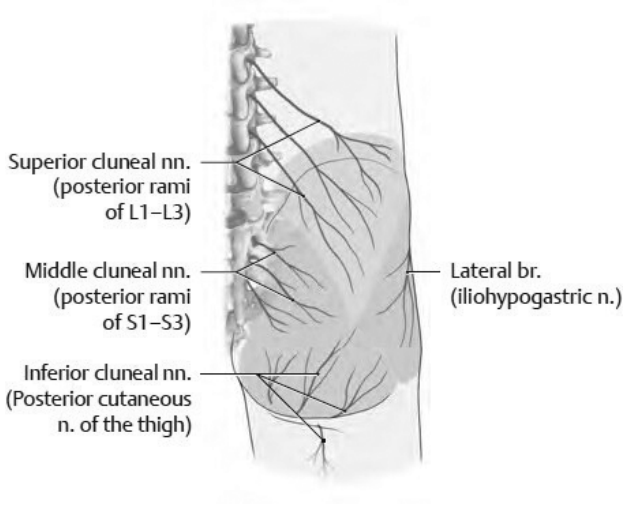


Figure 5: The superior cluneal nerve emerges from L1 to L3 spinal nerves. Copyright Thieme Medical Publishers Incorporated, 2023.

KM: [I]magine a person walking and encountering a river. How do they get across this river? They could make a raft. They make a raft and get across to the other side, and they say, "Wow! I'm so glad I've got that raft." They put it on their back and continue walking all their days with it. It has helped them get from point A to point B, but did they notice that they don't necessarily need it anymore?

KM: Deep fascia is like a long stocking that is the legs, and that connective tissue structure of the leg becomes the pelvis. The nerves that travel through these spaces need nourishment from their vascular blood supply so that they're healthy. To be able to feel these structures in the pelvic girdle is our job, we ask ourselves – is there some densification?

sclerotomes, and fasciatomes that the pain distribution doesn't often match a previous diagnosis that they had or a diagnosis that they've maybe self-diagnosed?

KM: I will say this, there was a four-year period in my practice when I worked in a hospital setting, which was a long time ago. At that time, I had a lot of people that were coming to me with medical diagnoses. That was unique. These days many of my clients come to me with a 'self-diagnosis' courtesy of the internet. It's an interesting trap that we all need to be mindful of when it comes to our clients and the diagnosis they're telling us about. I focus on understanding what they experience. And in my mind, I'm skeptical about self-diagnosis. I want to know my client's reasoning if they say they have sciatica and there may be some education piece to contribute.

JK: Sure, that's a good reminder, and it leans into that idea of chronic pain in general. There's no objective way that we can measure chronic pain as a practitioner or as a physician. Sometimes clients that come to me feel like their pain hasn't been believed to be real. This is a bit tangential to our pelvis topic, but I'd like to know what your experiences are with the idea of exploring pain with your clients.

KM: You said a lot there that has many topics I could dive into. In my practice, I have a lot of individuals that are in chronic pain. I think the medical model is at a great loss for those individuals. I don't mean that they don't care, but their usual way of supporting people through either medication or surgery is not necessarily going to take their pain away. In many cases, these options – medication or surgery – are not what our clients want. Many years ago, I think it was common for the medical world to be dismissive when they could not help. This has changed in recent years, but still, people in pain can feel dismissed.

This is one of the things that Rolfers can do, I'm not going to dismiss somebody's pain. Never once have I thought, "This person's pain is not real." But when I went to PT school, they were teaching all these tests for malingerers. It blew my mind. So, I think about that, people have been told that their pain is not real. For our work, we believe people when they say they are in pain, and part of our job is to figure out if and how we can support our clients in dealing with and potentially resolving their pain.

JK: Can you speak to the approach that you might take with a person that is experiencing pelvic pain, how do you give them a safe space to feel heard?

KM: I have been strongly influenced by the work of David S. Butler, who wrote an amazing book called *The Sensitive Nervous System* (2000). He was one of the first people to really start to talk cogently about neuroplasticity, which has now become a fairly well-understood phenomenon.

An important idea when we talk about pain is that it can be generated by a subcategory of somatosensation called nociception. Nociception involves specialized sensory receptors in the peripheral nervous system called nociceptors and when activation of the nociceptors is due to a pain signal, this is called nociceptive pain (Loeser and Treeded 2008). Nociceptive pain is due to a tissue that has been injured. If I cut myself, I will have damaged and disrupted tissues with nerve fibers that send signals to my brain. My brain then signals, "Ow, it hurts." If I put my hand in a fire, the nociceptors send that signal to my central nervous system, and my central nervous system will respond with the experience of pain and I will move the hand quickly away from the harm. We could ask the question, when the client's pelvis is in pain due to nociceptive origin, what movements would be made or could be made to prevent further harm? Once the tissue has healed over time, in theory, the experience of pain is no longer required.

Another type of pain is called neuropathic pain. It is not tissue damage causing the pain signal, the nervous system itself is generating the pain signal. Neuroplasticity is sometimes involved with pain where the nervous system has adapted in a way that creates its own pain experience. With neuropathic pain, the nervous system is creating this experience, which is not so good. An important approach that I have with a client that is in pain is to help educate them about how pain is

generated and that there is nothing wrong with them, to let them know that pain is part of what does happen from time to time.

JK: The most common type of pelvic pain that clients tell me about has to do with their traumatic experiences, their stories have this potential for neuropathic pain setting up a strong pattern embedded within them. In particular, women report experiencing pelvic pain after childbirth. What have been your experiences as a practitioner, how do you address women who report pelvic pain after they've had children?

KM: Yes, it's interesting that you bring this up, I have worked with a number of women who come for Rolfing sessions years or even decades after childbirth, and they are quite aware that the pelvic pain they are experiencing is very much related to their childbearing and childbirth experience. I keep in mind that during the process of being pregnant, ligamentous laxity occurs as the body prepares for birth, and that can bring so much change to the pelvis even before birth. The pelvis needs to adapt to this growing fetus and prepare to allow the delivery to take place. And then the birth itself can leave women with discomfort and pain.

Women are often looking for help with feeling their body come back to what it felt like previously, before their pregnancy. They're looking to get back to the comfortable situation they had with their body before. This is where the 'Ten Series' can really shine, we're giving them a bigger experience besides, "Ow, I'm in pain." And often, that bigger experience correlates with a lasting transformation inclusive of their pelvis.

Our work can be valuable to women at any point after pregnancy. The work, by its nature, helps our clients to feel their body in the here and now, at this moment. Touch at a distance is a keystone of what we do. For example, working with the foot and ankle, you may be sensing up to the pelvic floor, and you may sense a holding or a lack of tone at that distance. Can you help your client feel their pelvic floor as you are working with their foot and ankle?

Guiding that client in whom you feel a holding in their pelvic floor toward a sense of ease, a sense of softening perhaps, through simple awareness or breathing. For the client that needs more tone, ask them to imagine that very gentle activation of their pelvic floor while allowing you to move their ankle passively, gently and slowly, through various positions.

Conversely, working directly with the pelvis can also be profoundly helpful. In many clients, I work to free densification or restrictions. Additionally, working with tissues related to the deep hip rotators can also be helpful. These structures are anatomically adjacent to structures of the pelvic floor. Therefore, working with these structures with the intent of enhancing appropriate balance, span, and tone, while asking for Kegel exercises, allows you as the practitioner to help the client isolate their pelvic floor from deep hip rotators and gluteal structures. If you feel deep hip rotators or gluteal region contract, you know your client needs further support and guidance in the form of perceptual or coordinative support to isolate their pelvic floor musculature.

Feeling our bodies in the here and now is one of the great gifts that our work brings forward to our clients. These are a few ideas regarding the potency of working with women experiencing pelvic pain following childbirth.

JK: Yes, the pelvis has an integral role as part of the territory of most sessions within the Ten Series.

KM: The territory of any given session is likely going to involve the pelvis to some degree.

JK: Another topic involving pelvic pain that I see is post-operative types of discomfort – hip replacements, for example. Thinking about the layers of fascia brings this to mind because, in surgery, all those layers are being sliced through. Surgeons are very precise, but

KM: This is one of the things that Rolfers can do, I'm not going to dismiss somebody's pain. Never once have I thought, "This person's pain is not real." But when I went to PT school, they were teaching all these tests for malingerers . . . For our work, we believe people when they say they are in pain, and part of our job is to figure out if and how we can support our clients in dealing with and potentially resolving their pain.

KM: If you have a client with a total hip replacement on their right side as an example, you can know that the right side of their body has been in pain for a while. Keep that in mind. It is likely their body as a whole has been adapting to years of pain before they finally decided to choose the route of having that hip replaced.

clients will show up as being disorganized around their surgical scars.

KM: Total hip replacements are very relevant to our conversation, people chose to have those procedures because they've been dealing with often years of pain, right?

JK: Right.

KM: If you have a client with a total hip replacement on their right side as an example, you can know that the right side of their body has been in pain for a while. Keep that in mind. It is likely their body as a whole has been adapting to years of pain before they finally decided to choose the route of having that hip replaced. In this case, we're dealing with the surgical scar and the years that led up to the surgery as well. And yes, that scar will be from the surface right on down to the bone.

Our job is not to take away the scar, that scar is there and it will continue to be there. The organism needed that scar to heal itself from the surgery that was deemed necessary in the first place. What we want to do is to have that scar be mobile through each of those layers, through the skin, superficial adipose tissue layer, superficial fascia, deep adipose tissue layer, deep fascia, muscle, and deeper fascia within deep muscle. All of that needs to be able to relate to the other structures and needs to be able to move as the other structures move. The gift we have as practitioners is to address these areas.

Traumatic events with people's pelves can be quite varied. Planned surgeries tend to have organized scars. But in a traumatic event, there may be more scar tissue and unexpected scar tissue. People experience radical car accidents involving their pelvis.

JK: What kinds of emotional events impact the pelvis?

KM: Great question. It's quite a wide spectrum and as practitioners, we need to be alert to that range of experiences. It's possible that even though the traumatic event was years ago, we keep in mind that the nociception the tissue experienced was painful. And there was pain they felt at the time because there was tissue damage. When the client is in front of us, telling us about their active pain, there is likely no damage disrupting the tissue anymore when it has been years since the car accident. But the pain the person experiences is more the by-product of how their body reacted to that traumatic event. In some cases, people are very reticent to allow you to touch that area of their body. And we need to be respectful of that. We need to find how we can support them; we can ask them to help us in helping them. If I take care in that way, I know I'm not going to do harm.

As practitioners, we need to respect the emotional aspect of the pelvis, this is a sensitive area in a person's body. The more I can tune into my need to be respectful, the more likely that they're going to able to tolerate my contact in the field where their trauma occurred. The more likely they're going to allow me to put my hand on the skin, lightly contacting the area, and the more likely they will allow me to eventually put more and more pressure into that area. This process can be a part of the client beginning to reclaim that part of their body. As the practitioner working with them, our sensitivity and empathy can positively impact how they experience their body in a new way.

On the other end of the spectrum, there are plenty of people that have undergone pelvic trauma and have made it through life by being tough around it. Those folks will say, "No, it's fine, I don't have any problem there." But we still need to be mindful that we're moving into an area of the body that has had serious events happen and that the whole organism has adapted around all those years. We should come in slow, read the cues of the autonomic nervous system, and respond appropriately.

JK: Sounds like you're talking about engaging with their perceptual understanding of their body.

KM: In our school, we talk about five domains of learning, and one of them is therapeutic relationships. Right now, we are talking very specifically about pelvic trauma and clients who are either very sensitive around their trauma or, on the other end of that spectrum, a client who has toughed it out. To a large extent, their perception in those

moments in our sessions will be guided by the practitioner being embodied and centered in themselves. When I can feel my own center, then I can recognize the center in my client and meet my client in that moment, my center meeting their center, this is an opportunity for a new perception to emerge.

To create the possibility for the client to experience a new sensation, I focus on doing my best to read their nervous system from moment to moment. I think, "Oh, maybe I am coming in a little too fast," even if they tell me to go deeper. I know I'm coming in at an appropriate pace when I feel their body releasing into that contact. When I see and sense a calming happening. If I sense that there's some tension on their part, it doesn't mean I jump in the other direction, it may simply mean, go slow, hang out there, and take a breath myself. It's very much about the dynamic that I'm engaged in with my client at that moment. That is where it's at.

And the last piece I would want to end our chat with fits in with therapeutic relations, and about the practitioner specifically. I suggest that each of us needs our own practice that has to do with mindfulness, meditation, tai chi, and getting to know our own body in whatever way resonates with us personally. This is visceral, this is not intellectual. As Rolfers, as practitioners, when we are working with our clients, we are having an experience in ourselves. You feel that in yourself when we can feel what little things are changing in your own body as you are working, this can be a huge resource also.

JK: Thank you for taking us on an arc of information in and around Rolfing SI and the region of the pelvis specifically, this has been insightful.

KM: You're welcome, it was a delight.

Kevin McCoy is a faculty member of the Dr. Ida Rolf Institute® (DIRI). He trained under all six of Dr. Rolf's originally appointed faculty: Peter Melchior (1931-2005), Emmett Hutchins (1949-2016), Jan H. Sultan, Michael Salveson, Jim Asher, and Tom Wing. He has enjoyed being a practitioner of the art and science known as Rolfing SI for over thirty years. McCoy is a licensed physical therapist and was employed by the Kessler Institute for Rehabilitation, where he provided Rolfing SI to individuals in a chronic pain program. He previously served on the DIRI Board of Directors as the Board Chair for five years. McCoy is passionate about Rolfing SI as a traditional and evolving healing art form.

Jeffrey Kinnunen is a Certified Rolfer, American College of Sports Medicine Certified Clinical Exercise Physiologist, and American Counsel on Exercise Certified Health Coach. Kinnunen strives to facilitate positive outcomes with his clients by raising awareness of the possibilities for living.

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Keywords

pelvis; pelvic girdle; Rolfing SI; fascia; pain; nervous system; injury; chronic pain; patterns of holding; superficial fascia; deep fascia; appendicular fascia; epimysial fascia; dermatome; fasciatome; nociceptive pain; pelvic floor; surgical scar; hip replacement; therapeutic relationship. ■

Publishing The Rolfing® Skillful Touch Handbook

An Interview with the Authors

By Lina Amy Hack, Certified Advanced Rolfer®; Neal Anderson, Rolfing SI Instructor; Bethany Ward, MBA, Rolfing SI and Rolf Movement® Instructor; and Lu Mueller-Kaul, Rolfing SI Instructor.

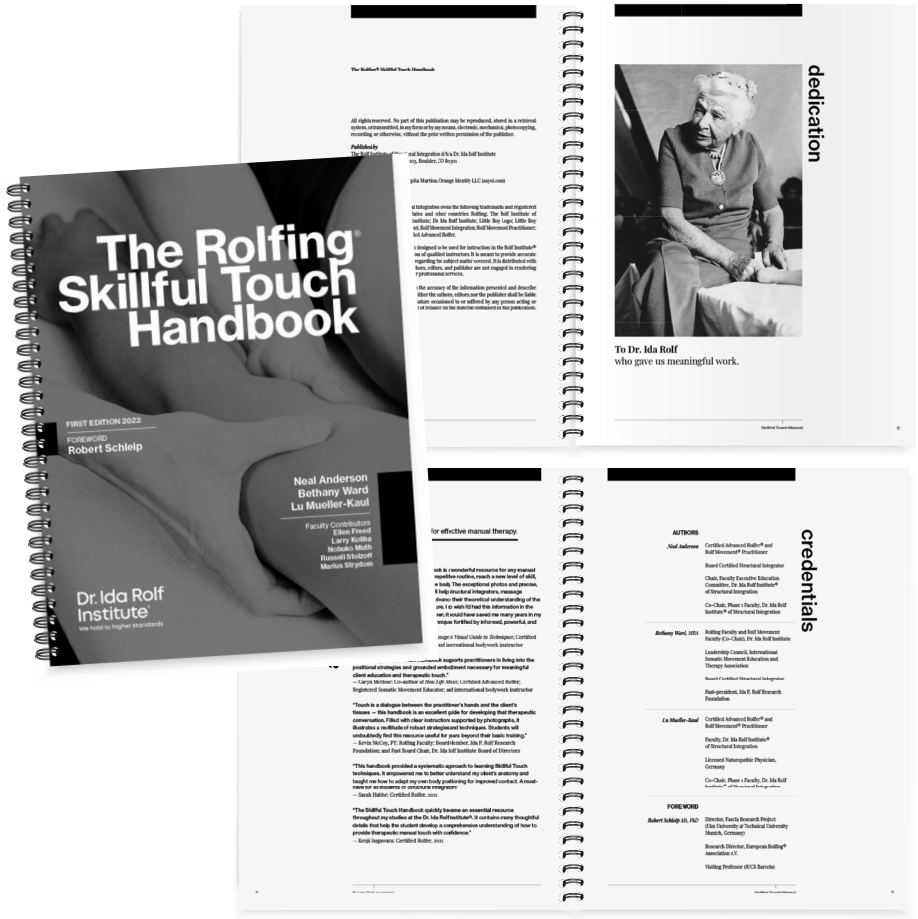
Lina Amy Hack

Neal Anderson

Bethany Ward

Lu Mueller-Kaul

ABSTRACT *Three faculty members of the Dr. Ida Rolf Institute® (DIRI) discuss their new book,* The Rolfing Skillful Touch Handbook *(2022), which they wrote and completed during the COVID-19 pandemic shutdown. They discuss the genesis of the handbook, how it supports student learning during the DIRI Phase I of the Rolfing® Structural Integration (SI) training, and the range of applications beyond that course.*



Cover and dedication of *The Rolfing® Skillful Touch Handbook* (2022).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Beginning of *The Rolfing® Skillful Touch Handbook* (2022) table of contents.

Neal Anderson: We had a broad spectrum of faculty members editing and creating content. We had representatives from every department. We would share our historical understanding and practical experience teaching the work.

Lina Amy Hack: Thanks for meeting with me. Our structural integration school, the Dr. Ida Rolf Institute® (DIRI), has published a book that the three of you wrote together. I'm looking forward to hearing about it, let's dive right into the questions - what inspired *The Rolfing® Skillful Touch Handbook* (2022)?

Neal Anderson: It came about in a couple of different ways and each of us coauthors will have our own point of view about your question. For me, several things were happening at once when I joined the DIRI Phase I faculty in 2015.[1] My job as the assistant instructor was for me to write down on the whiteboard what the lead instructor was saying and doing as a demonstration. Over time, as different things were being demonstrated, similar things were being written down for the students. There were slight deviations, yet we were repeating this information over and over with each new classroom of students.

When Lu was assisting me and I was the lead instructor teaching Phase I – Skillful Touch – I suggested to her that we needed to capture these repeating ideas. I wanted to make handouts so that people had a consistent thing to look at. It wasn't a book originally, it was just going to be handouts. Then that snowballed into a published manual during the pandemic.

Back in 2020, a Phase I course completed at the beginning of March, and then we all dispersed. Lu had been working in a few classes assisting me and she had taken pictures of all these things she had written up, and she started to put them into a document.

Lu Mueller-Kaul: Let me jump in here to my piece of the story. Before we had this manual, in the United States, Skillful Touch training depended on the instructor and their interpretation of how to teach the Skillful Touch curriculum. Topics like the spectrum of touch, body mechanics, the layer of availability, direct/indirect touch, vectors, and tools, among many others.

I started assisting Phase I in 2019 and appreciated how Neal taught the Skillful Touch course in a consistent manner. He was clear about which techniques to teach and the content order for the anatomy and kinesiology instruction. He gave students a haptic and kinesthetic experience of the content.

As Neal mentioned, to support him during class, I wrote simplified descriptions of his instructions on the whiteboard for students. I took photos of my notes and typed them up at night – that was the very first draft of the handbook.

NA: Right, and by mid-April 2020, we had a pretty big chunk of the content written, about seventy pages. Then in September 2020, I asked Bethany to be a part of this project. I put it out to the faculty in general, inviting others to participate. Bethany and I were joined by seasoned DIRI faculty: Russell Stolzoff, Ellen Freed, Marius Strydom, Nobuko Muth, and Larry Koliha.

Bethany Ward: Yes, and over about eight months, we met regularly.

NA: We met often and since I already had these techniques written out, the bulk of what became chapters 3, 4, and 5 were in place. At first, I asked everybody to look at the technique portion and come back with edits. It quickly became obvious that this was going to be unwieldy. Instead, we started writing what was missing, which were fundamentals. What is Skillful Touch? How do you do body readying and analysis? What is integration?

LMK: Bethany and Neal worked hard to bring our initial draft together with the ideas and experiences shared in the meetings. I am very grateful for their hard work, which turned a bunch of classroom notes into a textbook.

NA: We had a broad spectrum of faculty members editing and creating content. We had representatives from every department. We would share our historical understanding and practical experience teaching the work. Then, organically, Bethany and I found ourselves meeting to refine copy from the group meetings.

BW: At first, Neal and I would meet between our group meetings to edit the manuscript for consistency. Soon we realized that our meetings were providing more comprehensive and creative ideas, but at the cost of a consistent voice. Once the meetings wrapped up, Neal and I realized that the only way to get the voice right was to edit the entire manuscript together, rather than in parts.

NA: The decision to work through all of the material together on Zoom meant a lot of extra time but it allowed us to create a consistent voice. We spent hours reworking the text and refining the content. As we worked, we identified missing topics and transitions, then wrote additional copy.

LAH: I noticed that voice, the authors' point of view was clear and succinct.

NA: Thank you, I appreciate that. Before we go any further, we need to give credit to Christina Howe [Executive Director and Chief Academic Officer of DIRI], because when I told her what we were creating, she said, "Instead of making it a series of handouts, let's make it a book. And let's get some photographs in it." She put the resources behind hiring a photographer, paying us writers and editors, then hiring Studio Oi (Oi) to do the layout.

LMK: I love how Oi turned this work into a beautiful book that fits right into our brand identity. And before we go any further, I want to make sure we thank everyone who was involved in that photoshoot. The practitioner models were Larry Koliha, Nobuko Muth, and Bethany Ward; the client models were Tanya Coyote, Nipun Fantoni, Mary Ashleigh Hardiman, Kenji Sugawara, and Lindsey Watson; and kudos to the photographer Nic Daughtry and his assistant Zach Joing.

LAH: The design of the book is beautiful, and I know I'm biased, as the same design team does our layout for *Structure, Function, Integration*. I like how there is a lot of room for students to take notes. It's a practical book.

NA: We wanted to make this more than a manual. I forget at what point we came up with the title, including the word 'Handbook', it's a play on words because we use our hands to do this work. We all got tickled when we rolled it out.

The faculty members before me have had their imprint and impact on the school and the teaching of Skillful Touch since it started in the 1990s. Before DIRI had Phase I and the Skillful Touch portion, students were required to show up at Phase II with some massage knowledge or knowledge of how to touch bodies. It became clear that what Rolfing students were learning in massage school didn't necessarily translate into what we wanted and needed them to know as Rolfers.

There is a history that the book stands on. For all the times that Phase I has been taught, the content has added the point of view of the lead instructor. In particular, Phase I has been strongly influenced by Jonathan Martine [former DIRI faculty], Suzanne Picard [DIRI faculty], and Juan David Vélez [DIRI faculty]. There was a manual in the mid-2000s, about fifty pages, though it was less detailed in terms of techniques.

LAH: What is the difference between Skillful Touch and what Rolfers do?

BW: The Skillful Touch program allows students to learn foundational touch and body reading skills before they learn about the Rolfing 'Ten Series'. Students start learning how to contact clients and how to be embodied when they do it. Our kind of touch and embodiment are essential skills that are often given short shift in other bodywork programs. It's one of the things that makes DIRI training unique.

LMK: Yes, Skillful Touch is the type of myofascial mobilization we teach in Phase I of the Rolfing training. We want our students to start to gain a tactile and kinesthetic understanding of the dermal, subdermal, adipose, fascial, myofascial, muscular, ligamentous, tendinous, cartilaginous, osseous, nervous, vascular, lymphatic, and other structures we touch and move in the Rolfing SI treatments that they will learn to deliver in Phase II and Phase III.

We want students to learn to feel, to give and receive feedback from each other. This whole first training is to help them understand theoretically, practically, passively, and actively working with touch. By starting to use indirect and direct interventions, students start to get a sense of the 'layer of availability', which is the tissue that is available for treatment. These are the basics.

LAH: I fondly remember these basics from my Phase I, which was way back in 2001. I grew as a person due to the focus on embodiment. Once I was done, I worked in a wellness center in my small town, charging money for my Skillful Touch Massage sessions, it was a strong start to my career. These days, what is the Phase I curriculum, generally speaking, that the handbook supports?

LMK: Our Phase I students are taught to practice effective, efficient, and easy use of their bodies. It's important that they start out with embodiment in the application of myofascial mobilization techniques and use their 'tools' (their knuckles, forearms, and others) in a way that's easy on their own body. We teach how to work in a way that permits a smooth transmission

Lu Mueller-Kaul: People with their Skillful Touch Certification have been taught to work while staying aware of their own 'Line', their relationship to ground and sky, their own backspace, and their constant shift of sensations, thoughts, and feelings . . . [They] begin combining the Skillful Touch techniques with Rolf Movement experiences, anatomy, physiology, kinesiology, therapeutic relationships, and professional ethics, both in general and in particular to Rolfing SI.

Bethany Ward: The techniques we've put in *The Rolfing Skillful Touch Handbook* support this focus by providing specific things to practice (2022). Students can stop worrying about *what* they're doing and actually have some time to think about *how* they're doing it.

of the practitioner's weight through their stacked bones, to use their own mass as the source of the force behind the touch intervention, whether light or deep. It's about using the least amount of isometric strength to stabilize our upright structure as practitioners. People with their Skillful Touch Certification have been taught to work while staying aware of their own 'Line', their relationship to ground and sky, their own backspace, and their constant shift of sensations, thoughts, and feelings.

LAH: Yes, and that alone is very different from other touch professions, in my opinion. The student isn't learning 'Rolfing SI' yet at that point, and at the same time, it is the beginning of the innovative way Rolfers approach doing manual therapy.

LMK: That's right, it is the sophisticated content that is taught right away in Phase I. New practitioners learn to track their clients' structure, function, biopsychosocial, and energetic presence, and then we're asking them to do the same for themselves at the same time. Also, Skillful Touch students begin combining the Skillful Touch techniques with Rolf Movement experiences, anatomy, physiology, kinesiology, therapeutic relationships, and professional ethics, both in general and in particular to Rolfing SI.

Skillful Touch techniques are used in Rolfing sessions, but learning these techniques is not Rolfing SI. A Rolfer is a professional who understands which technique to use for which person and in which session. Rolfing SI is a method, a way of seeing, a way of using tools, an educational approach, and a holistic way of helping clients let their bodies heal and align themselves by removing functional and structural obstacles.

Skillful touch techniques often come from Dr. Rolf's work [Ida P. Rolf, PhD, (1896-1979)], but also from osteopathic manual therapy applications and from different types of bodywork from different cultures. These techniques are taught internationally in classes for physiotherapists, occupational therapists, manual therapists, chiropractors, and other hands-on professionals. These days, they are hardly special anymore. I believe it's thanks to Rolfing SI and our early Rolfers that they are so widely accepted, have influenced manual therapy, and the understanding of fascia in general. DIRI students know they can only become Rolfers through our education and completing Phases I, II, and III. Skillful Touch Certification of Phase I is the start.

In my opinion, DIRI is particularly good at utilizing the faculty members who have different strengths and experiences in applying the work so that each new generation of students has the potential to become much better practitioners of the art, the craft, and the science of Rolfing SI than the previous one.

BW: It's been amazing to me to watch how Phase I has developed over time. I was very grateful for my Phase I, but seeing our faculty take this introductory class to a higher level has been gratifying. Over the years I've been teaching, I've been pleasantly surprised to find students coming into Phase II with solid beginner-level body reading and qualitative touch skills.

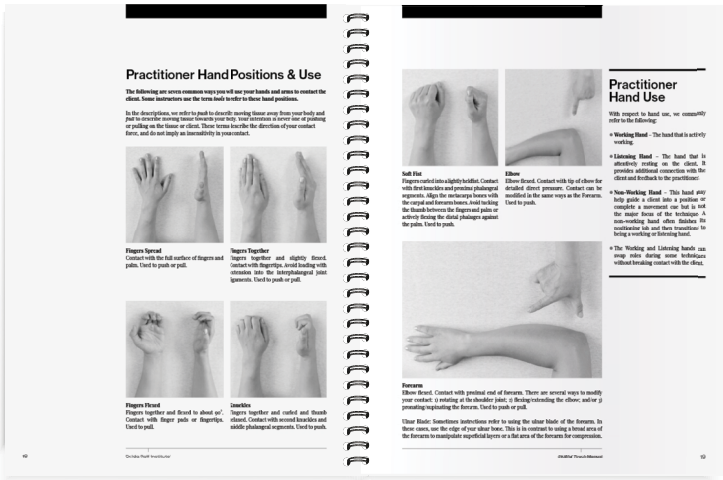
The techniques we've put in *The Rolfing Skillful Touch Handbook* support this focus by providing specific things to practice (2022). Students can stop worrying about *what* they're doing and actually have some time to think about *how* they're doing it.

LAH: That gives me flashbacks to my learning process. This is the book I wish I had back then. As I look through it now, it contains the knowledge I was given at the time. As an Advanced Rolfer now, reading through the handbook is a trip down memory lane, it's a refresher. To see it all together like this, I want to write my own notes in those open spaces and review the content with my nineteen years of experience. It's so nicely organized; my brain likes how easy it is to just flip through it.

NA: Another thread of inspiration came from being in faculty meetings. I asked some of our Advanced Training faculty members – Tessy Brungardt, Michael Salveson, and Jan H. Sultan – what their students seem to be missing. I wanted us to think about the whole arc of the training, from the beginners we see in Phase I to the Advanced Rolfers.

They told me the student's touch skills could be more developed. So, this was on my mind as we created the handbook. At the Phase I level, we have massage therapists and a significant group of people who have never touched therapeutically before. So our job as Phase I instructors is to answer the question: How do you teach touch to somebody? And, how do you teach it in a way that will be more useful to them throughout their development of becoming Rolfers? Students might not understand everything about it, but at least it's written down and they can return to it.

LAH: Yes, something to study as a DIRI student. It seems to me that the handbook isn't just for Phase I students. Who else would benefit from having this book in their library?



Practitioner hand positions in *The Rolfing Skillful Touch Handbook* (2022).

BW: Asking students to get comfortable with new tools happens to be exactly the same as what we're asking our clients to do. We're not just pushing tissue, we're asking clients to do something unfamiliar, to stay with their experience, and ultimately refine their perception.

BW: Neal wrote in the introduction that the handbook is for Rolfing students, but while we were writing it, we were thinking that it would be useful to anyone who does myofascial work. We all get in a rut sometimes and being able to leaf through a book like this provides possibilities. People might realize, "I used to do that, but I don't do it anymore." Or, "I haven't done that." So then, the book expands their practice either way.

If there were other teaching environments, even schools, that wanted to use the handbook, we would welcome it. That was another thing that was interesting about this writing project. When we presented it at a faculty meeting, it was lovely to see how our culture is changing – from trying to keep our work hidden, to strong support for sharing the book with the public.

NA: For me, it was always an instructional aid for the DIRI classroom, and using this lens helped us while putting it together. The reason I came up with the idea for the book was to have something useful in the classroom because that's what was really missing.

LMK: Any manual therapy professional would benefit from the handbook. Colleagues who are Rolfers and other SI practitioners are already using the book in their practices and have told me how much they enjoy it.

LAH: There is a lot of content in the book, yet it is not dense at the same time. I can see how smooth it would be to teach each section with how you've organized the order of the information.

In the introductory pages, it talks about 'gamma touch', the idea of dividing your attention between yourself as the practitioner and the client. Could you tell our readers more about this idea of gamma touch?

BW: One of the biggest things we talk about is helping people learn to be embodied and be aware of their embodiment while working. It comes back to presence. And we have quick ways of helping people with this when we say, "Check in with your backspace." It's about helping people be with the client, with themselves, and with the environment. That's a hard thing to talk about let alone teach.

So gamma touch originally came from Hubert Godard, a European Rolfer who is also a movement expert. His suggestion was that Rolfers should have 50% awareness of self and 50% awareness of the client. It's a useful concept for understanding presence when you're working with a client.

NA: Yes. And how to deliver a touch that's not too focused. Sometimes we need to be focused on what's under our hands, but that's not always helpful in terms of the interplay between client and practitioner. When I know my tool is right, my depth is right, and my vectors are right, then the quality of touch is influenced by my presence, as Bethany was saying, allowing a change in the client to happen.

LAH: I really enjoyed seeing the pages in the book when people are first learning how to develop their working surfaces with their hands and forearm. What do you tell them to help them become comfortable with their touch tools?

BW: Asking students to get comfortable with new tools happens to be exactly the same as what we're asking our clients to do. We're not just pushing tissue, we're asking clients to do something unfamiliar, to stay with their experience, and ultimately refine their perception. And that's creating a lot of change. For students, it's the same. We have to be patient enough with ourselves, with the unfamiliar, to play with sensing through our elbow, for example. If we can get rid of the judgment of ourselves, we know that comfort using new touch tools will come. It's essential to be working with all the manual therapy tools right from the beginning.

NA: We developed the seven fundamental tools early on in the process. It was useful to outline how to use each of the tools. It is so much more than, "we use our hands." Creating specific terms and descriptions for each touch tool improved our communication about the different hand positions. That refinement allowed us to identify broad-use tools and others for a specific focus.

Photographs throughout the handbook show a variety of ways to contact tissue and still be effective. We wanted the pictures to help people get comfortable with the discomfort of using tools they don't usually use. We want students to challenge themselves.

LAH: How did you distill down the essential interventions to show in the photographs?

NA: Obviously, we couldn't photograph every possible technique, and you'll notice some areas of the body we address as Rolfers are missing, like how to work in the abdomen and the deeper core

NA: For us, it was essential that the pictures demonstrated how a practitioner stands or sits in terms of having the best body positioning.

Bethany Ward demonstrates the 'talar glide' technique on page 158 of *The Rolfing Skillful Touch Handbook* (2022).

structures. Basically, the book's content follows what we do in sessions one, two, and three. There are some prone positions that are relevant to session six. Mostly it is techniques to work with the appendicular skeleton and its attachment to the axial complex.

The handbook also matches how we present anatomy, which is taught regionally. We start class with the shoulder girdle, so it makes sense from a sequencing point of view to have the book start there. We wanted to link the knowledge-based delivery of anatomy, which by its nature is reductive, to the experiential component of Phase I touch training. The goal is to support people in learning a broader, holistic view of how the human structure works and exists.

LAH: The photographs look quite fresh. How did you decide on the camera angles for the images? It looks like there was a governing vision for the pictures, even an artistic view planned in advance.

NA: That's funny because none of us had done a book like this. The governing vision was that it was going to be used in the DIRI classroom, so all the establishing shots are meant to represent what a student would be looking at when their instructor is doing a demonstration. For us, it was essential that the pictures demonstrated how a practitioner stands or sits in terms of having the best body positioning. We wanted it to be clear on each page – this is how you are supposed to be positioned while you are doing this with the client.

Students often focus on the body part of the practitioner contacting the client, but as instructors, we also focus on what the rest of the practitioner's body is doing. When you look at the pictures, the practitioners' alignment and connection to the ground are very intentional.

Bethany and I were laughing about this before, during layout, Oi often suggested editing the images so that the feet of the practitioner were no longer visible. And we said collectively, "No! You have to have ground, it's so important." We had to show the feet.

LAH: Oh, I agree, this is a huge part of our work culture as Rolfers. I really like all the pictures; they are very strong. Here, I'll pick a random page to look at, page 158. There is Bethany and her whole body position is a complete communication of how to do this skill. She's grounded and reaching with her feet, her back looks so well-balanced. This is how to not have a backache at the end of a day in the Rolfing studio.

NA: Absolutely. It's great that you see it so clearly. We were very engaged with each shot the photographer made.

BW: Nobuko was instrumental in the design and look of the pictures. Larry and I had done photoshoots before and had a sense that we were going to need an extra set of hands and eyes. Nobuko was willing to help and she has an artistic eye for detail, which was exactly what we needed. Somebody had to look at each and every detail to produce the clean images we have in the book. All of us at the photo shoot had taught DIRI courses so much that we knew the points we were trying to get across with each image.

NA: We want our Phase I students to notice how the practitioners are extending through their toe hinge. We wanted each image to show how Rolfers are dynamic when working and we're always thinking about our connection to the ground, connection to the sky, and the vector of our touch. Body mechanics are really important to start teaching in Phase I.

BW: I often thought about what it's like for me when I watch a demo. I like to move around a lot, I often get behind the instructor to help me get a better sense of what they're feeling and seeing. So, I wanted those pictures to be the best angle we could get, and I focused on what image I would want to have if I were a student. We were always asking, "What needs to be seen?"

LAH: What I hear you saying is that you infused our Rolfing culture into the images. Students get the Rolfing SI content when they do Phases II and III. These pictures foreshadow the education that is to come.

NA: Hats off to the photographer, Nic has a good eye. The more photos we took, the more he understood what we needed from him and his assistant. We actually ran out of time at the first photo shoot, I asked Christina and she agreed to have Nic come back.

BW: Right, in the second shoot, Nobuko demonstrated the integration shots and the body reading images.

NA: Then going through and selecting the final images took Bethany and me hours.

BW: We even spent time with how we wanted each image cropped to show what needed to be seen from the Rolfing standpoint.

NA: By the time we got to working with Pepita Martins, the designer for Oi, we knew what we wanted. We were thinking about the layout and design all along, Bethany and I had clear ideas about how the book would look. We came up with this format because we wanted consistent insets and squares of information. Pepita really helped to make it into the product you see.

LAH: I like how you included the section "How to put your therapeutic space together" on page 26. What pieces of equipment do you have in your Rolfing offices that are your favorite things? What equipment do you have in your office that you couldn't do without?

NA: Well, mostly our clients are on tables. So, it's important that the table be adjustable to preserve your longevity as a practitioner. Adjusting the height of the table makes a huge difference to your comfort and, therefore, the effectiveness of your contact. That's a big one for me.

A second thing for me is having a moveable, adjustable seat on wheels. Quite often, when I'm seated, I contact the client and then move my base of support to change the vector that I need to deliver effective contact.

LMK: I can do without anything but a client. I like having a big mirror. When I was a beginning practitioner, I really needed to see what I was doing with my own alignment because I had not yet developed sufficient proprioception in my core. Now I use the mirrors to show clients their own form. For example, I like to show people they aren't slouching when they let their shoulders fall. Or when they can see that their shoulders are over their hips, they will remember how that felt later on. Some clients need to see that their 'proper' posture is exhausting for no good reason. Seeing is believing for lots of us, and mirrors help.

BW: Yes, I agree with those comments. You've got to have an electric table. Get one as soon as you can.

When I think about this question, I think about my bones. Bone models are the thing I often reach for when working with clients. I will give them a flexible foot bone model to have in their hands when we talk about the foot education of the 'Second Hour' for example. Or when I'm doing seated work, talking about the 'sit bones' and what that means, it helps me to get that idea across when I have my pelvis model available. I want them to have a tactile experience with the educational pieces of my work.

LAH: That's a good one – bones – I'm fond of my articulating skull.

Near the end of the book, there is a minute-by-minute breakdown of a sample Skillful Touch session. Managing my time as a practitioner was a tough element for me to learn, and that breakdown on page 206 is a guide I would have liked to have back then. I had that information in my own handwriting, I'm sure, but there is something about seeing it organized in clear print like that.

NA: It is important to keep up with the pace of the session, and to use a clock in planning and sequencing. We work in a temporal world and a temporal reality; we have time commitments.

When I was teaching with Juan David Vélez during a Phase II, he said, "Okay, now I'm going to show you the most important move that a Rolfer makes."

Lina Amy Hack: I like how you included the section "How to put your therapeutic space together" on page 26. What equipment do you have in your office that you couldn't do without?
NA: [It's] important that the table be adjustable to preserve your longevity as a practitioner. Adjusting the height of the table makes a huge difference to your comfort and, therefore, the effectiveness of your contact . . . A second thing for me is having a moveable, adjustable seat on wheels.
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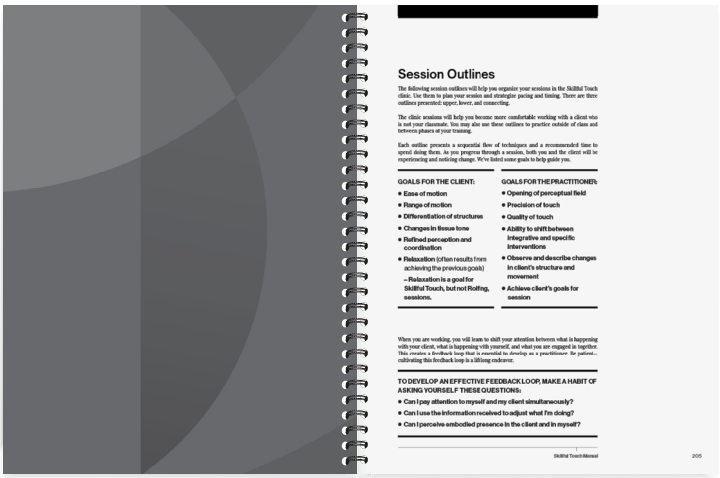


Session Outlines

The following session outlines will help you organize your sessions in the Skillful Touch clinic. Use them to plan your session and strategize pacing and timing. There are three outlines presented: upper, lower, and connecting.

The clinic sessions will help you become more comfortable working with a client who is not your classmate. You may also use these outlines to practice outside of class and between phases of your training.

Each outline presents a sequential flow of techniques and a recommended time to spend doing them. As you progress through a session, both you and the client will be experiencing and noticing change. We've listed some goals to help guide you.

GOALS FOR THE CLIENT:

- Ease of motion
- Range of motion
- Differentiation of structures
- Changes in tissue tone
- Refined perception and coordination
- Relaxation (often results from achieving the previous goals)

– Relaxation is a goal for Skillful Touch, but not Rolfing, sessions.

GOALS FOR THE PRACTITIONER:

- Opening of perceptual field
- Precision of touch
- Quality of touch
- Ability to shift between integrative and specific interventions
- Observe and describe changes in client's structure and movement
- Achieve client's goals for session

When you are working, you will learn to shift your attention between what is happening with your client, what is happening with yourself, and what you are engaged in together. This creates a feedback loop that is essential to develop as a practitioner. Be patient... cultivating this feedback loop is a lifelong endeavor.

TO DEVELOP AN EFFECTIVE FEEDBACK LOOP, MAKE A HABIT OF ASKING YOURSELF THESE QUESTIONS:

- Can I pay attention to myself and my client simultaneously?
- Can I use the information received to adjust what I'm doing?
- Can I perceive embodied presence in the client and in myself?

Skillful Touch Manual 205

Key concepts of Rolfing Skillful Touch Sessions.

NA: I want to point out that the faculty committee spent a lot of time on page 205, "Session Outlines." This page is the syllabus for the Skillful Touch module in Phase I. We want students to know and be able to do these things before they move on.

Everyone hushed and focused in, and then he looked over his shoulder at the clock. I always laugh at that, it's so true. Keeping track of time is very important and he was relaying that this is how to keep yourself honest with what you have to do. You can't do everything; you have to choose.

I want to point out that the faculty committee spent a lot of time on page 205, "Session Outlines." This page is the syllabus for the Skillful Touch module in Phase I. We want students to know and be able to do these things before they move on. And they need to have a way to evaluate how their session went.

When I teach Skillful Touch, I go to that page on the first day of class and say, "These are the things that in six short weeks we want you to be able to do so that you are ready to move on to Phase II."

LAH: When I look at this list of ideas on page 205, it's the things that make a great session, they are the broad elements necessary to deliver good and unique work. It's stuff I'm still working on, there is always room for refinement and elevation of style.

I wish I had had this book when I was learning Skillful Touch, it does match my memory of what I learned, and it's a beautiful coiled handbook that has it all. And now I'm feeling our principle of closure coming into our conversation, what is left to be said before we part ways?

BW: Not much more to tell except that we've been thrilled with the response from our colleagues. Both Robert Schleip [PhD, DIRI faculty] and Art Riggs [Certified Advanced Rolfer] endorsed the book saying they wished they'd had this information early in their careers. It's a repeating sentiment that we hear a lot. It's a book that has been a long time in the making.

NA: Yes, and current students can't believe we ever taught without the handbook. Thank you for asking us to talk about it.

LAH: Congratulations to you three and your DIRI faculty support team on creating this handbook, your pandemic time was well spent.

Endnote

1. Phase I is the Foundations of Rolfing® Structural Integration (SI) course that begins the three-phase training to becoming a Rolfer®. Successful graduates of Phase I receive certification in Skillful Touch Massage.

Neal Anderson is a Certified Advanced Rolfer® and Rolf Movement® Practitioner in practice since 2003. His Rolfing work has been deeply informed by ongoing study with the Dr. Ida Rolf Institute (DIRI) Advanced Training faculty, his teaching, visceral studies, and craniosacral studies. He currently practices in Loveland, Colorado.

Bethany Ward, MBA, is dual faculty in Rolfing® SI and Rolf Movement Integration departments. She is the past president of Dr. Ida P. Rolf Research Foundation and was involved in the early stages of the International Fascia Research Congress and Fascia Research Society. Ward currently serves on the DIRI Faculty Development and Review Board and as a member of the International Somatic Movement Education and Therapy Association's Leadership Council. Ward teaches internationally and has a full-time private practice based in Durham, North Carolina.

Lu Mueller-Kaul has been a Rolfing SI Instructor with the Dr. Ida Rolf Institute since 2019. She mostly teaches Phase I courses, bringing physiology, therapeutic relationships, and Skillful Touch together so students learn an adaptable spectrum of touch skills while staying aware of the space they hold for each client. Mueller-Kaul began her journey as a licensed naturopathic physician in Germany in the 1990s. Along the way, she practiced acupuncture, chiropractic adjustments, and traditional Chinese medicine before coming to the United States to study Rolfing SI.

Lina Amy Hack, BS, BA, SEP, became a Rolfer in 2004 and is now a Certified Advanced Rolfer (2016) practicing in Canada. She has an honors biochemistry degree from Simon Fraser University (2000) and a high-honors psychology degree from the University of Saskatchewan (2013), as well as a Somatic Experiencing® Practitioner (2015) certification. Hack is the Editor-in-Chief of Structure, Function, Integration*.*

Reference

Anderson, Neal, Bethany Ward, and Lu Mueller-Kaul. 2022. *The Rolfing® Skillful Touch Handbook.* Boulder, Colorado: Dr. Ida Rolf Institute.

Keywords

Rolfing Skillful Touch; Phase I; handbook; touch tools; treatment room; embodiment; myofascial mobilization; the Line; hand positions; Dr. Ida Rolf; techniques; gamma touch; history of DIRI ■

Structural Integration and the Living 'Line'

By Darrell Sanchez, PhD, LPC, Certified Advanced Rolfer®, Rolf Movement® Practitioner

Darrell Sanchez

ABSTRACT *In the structural integration paradigm, a good standing posture is one that is organized in the gravitational field. Said another way, a person is free to breathe, feel, and allow continuous muscular adjustments for an unceasing interplay of movement. This fluid verticality is evoked when standing and working with The Original Tuning Board™. In this article, Darrell Sanchez describes the tuning board paradox of dynamic balance, where humans both stand with stability and motion. He explains the refined foot position, the neutral experience, and the folding exercise using the tuning board, all of which enhance the client's experience of their own living 'Line'.*

Editor's note: This article is a reprint, it was originally published in the IASI 2022 Yearbook of Structural Integration*. We have made some modifications here to allow for our journal's style.*

Sensing Gravity

Take a moment to simply stand quietly in a peaceful setting with your eyes open. Become aware of your breath, its rhythm, its depth, its presence in your ribs, and your diaphragm, however it is being expressed. There is no need to adjust or 'fix' it – just notice. As you do, take note of your experience of how your body is relating to the gravitational field surrounding you, supporting you. Can you feel the subtle fine adjustments as your body innately ebbs and flows with the constant movement throughout and around you? Take time to sense if there is a flowing feeling or notice if there might be some holding. Is there a sense of familiarity with what is happening in and around you and your body? Does something feel off-kilter? Is your balance

skewed? Observe what your relationship is to 'grounding'. Do you feel neutral, centered, and at peace with a silent sway as your body gently joins the earth's gravitational rotation and pull?

Now imagine a client walking through your door, maybe someone new, perhaps someone whose rigidity or structural alignment issues are so deeply ingrained in the fabric of their being that even after ten sessions of structural integration work, they still have a difficult time realizing the goals of the work you both have done. You resonate with their feelings, with the bracing, the myofascial holding, and the tension throughout their mind and body. You know these structural inhibitions have evolved over time, whether the result of trauma not fully integrated or habitual physical holding patterns in response to personal experiences. Regardless of how or why these responses compromise their body's ability to orient successfully to their environment. Their 'stuckness' impacts the transmission of connected micromovements that are the hallmarks of healthy vertical integration. You've tried what you know. There's been some movement and change, but more is needed. What's next?

A gull standing on a floating buoy is not stationary, it will need to have continual movements and adjustments to remain upright. Photo by Shutterstock.

Gravity as the Therapist

From the very beginning of my interest and explorations with creative movement, body awareness, and psychological well-being, I see that my journey to structural integration was a predetermined conclusion. The breadth of this work helps people integrate and access the creative flow of movement through their bodies and minds. The process of *gravity as the therapist* introduces clients to the continual movement deep within their nervous system and teaches them how to negotiate their experiences and find resources within themselves. It guides them to let go of holding patterns, of restrictions lodged within the deepest part of their being, and find peace in the dynamic never-ending movements and micro-adjustments creating the polarities in their lives: stability and motion, rigidity and flexibility, consciousness or not.

As a structural integration practitioner, one of the most fundamental questions I continue to reexamine is the concept of structural integration. What exactly is it?

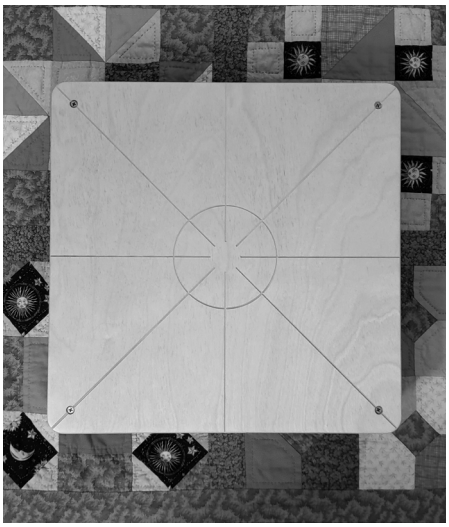
I repeatedly reaffirm in my own experience that Ida P. Rolf, PhD (1896-1979) had it right from the start: structural integration is synonymous with vertical integration of the whole body within the field of gravity. And that vertical integration is the anatomical, functional, and experiential connection and coordination of differentiated parts of the body in the experience of verticality. Our relationship with gravity is fundamental to our human condition, and structural integration, with its expression of true verticality within the gravitational field, is essential for psychological health and well-being.

According to Rolf (1977), structural integration was more than a tissue manipulation technique, it was a way of thinking and living. Her goal for structural integration was *true verticality*, the experientially real and functional phenomenon of a line around which the body's energy force fields balance and prepare for the use of gravity.

Rolf noted that movement was key to all life experiences. She was not the first to make such an observation, obviously, but it is interesting that she found it essential in the alignment of the human structure and its relationship to gravity. In her book, *Rolfing: Reestablishing the Natural Alignment and Structural Integration of the Human Body for Vitality and Well-Being* (1977), she showed a picture of a seagull standing on a buoy in the ocean. The caption below that image reads:

"*We think of the gull on a buoy as still, but his need for continual adjustment to the moving water keeps his muscles in an unceasing interplay of movement. In humans, no matter how still a man may be, he is always adjusting to his respiratory needs, his circulatory needs, his perceptual needs . . . In an organic world, there is no such thing as complete lack of movement*" (Rolf 1977, 152).

We know from our practice that the vertical human posture is not intended to be rigidly static no matter how 'perfectly' it may be expressing alignment and the vertically of Rolf's 'Line'. From Rolf's statement *(gravity is the therapist)*, to kinesiology tests, to the reality of being in the gravitational field and the energy field of a living planet, there is always some movement happening, even if the movement is motility and the



The Original Tuning Board™ is a professional quality balance board, pictured from the side and the spatial orienting design can be seen on the top surface. Photos courtesy of Darrell Sanchez.

micromovements of refined adjustments of being in gravity.

Fundamentally, structural integration is about a lived relationship as a human with *gravity*, *core*, *Line*, and *movement*. From a clinical sense then, how can I implement practical actions and strategies to support my clients' transition from the instability of chaotic disorganization or the rigidity of fixated patterns to organized fluidity? How can I support the integration of all the sundry parts, systems, functions, and elements that make up the structure of the human body so that they connect and function as a whole, so there is coherence and flow?

The Unstable Surface

In a moment of inspiration, my desire to bring together my experiences from dance, Rolfing® Structural Integration, and Somatic Experiencing® resulted in the creation of the Original Tuning Board™. The tuning board is a professional quality balance board that provides an unstable surface upon which to place our vertical posture. The name comes from attuning the movement of our verticality in the field of gravity. It allows a gentle movement in every plane and, as such, permits all the fine adjustments of posture in gravity. The tuning board gives us a chance to experience those adjustments in a polarity play of stability and motion. The board will never be perfectly still but, as we progress in our attuning, we are able to know a stable motion that is grounded and centered without becoming rigid. Clients learn how to accept the reality of continual movement, partial control, and relative stability on the board and in life itself.

I repeatedly reaffirm in my own experience that Ida P. Rolf, PhD (1896-1979) had it right from the start: structural integration is synonymous with vertical integration of the whole body within the field of gravity . . . Our relationship with gravity is fundamental to our human condition, and structural integration, with its expression of true verticality within the gravitational field, is essential for psychological health and well-being.

The practitioner stands near the client on the board and supports them with subtle balancing tasks and suggestions while monitoring the process. Standing on the board for a few minutes daily improves grounding, balance, and somatic awareness of connection.

The experience of standing on the tuning board offers a safe and constant flow of movement through the body that gently touches the deepest parts of the nervous system. The movement on the tuning board accelerates and amplifies the natural motions of continual reorienting to *fluid verticality*. There is play between state changes, from stability to motion, and motion to stability, this also has important implications for the resiliency of the vagus nerve (Porges 2011).

The moderate physical challenge presented by the tuning board is a hallmark of the creative process. It feeds fluid sensory experiences from the feet and up through the body. It simulates polarities of order and chaos, tension and release, and discomfort and flow. Because the tuning board will never be perfectly still, the person standing on it is challenged at many levels to surrender rigidity, fragmentation, and habituated holding patterns. One is gently challenged to find and quietly attune to the reality of relative stability, a *relative*. One's deepest beliefs and emotions are challenged to trust this mysterious and paradoxical coexistence of stability in the midst of motion.

On the tuning board, one gets an immediate sense of a deep inner truth about oneself and the world. Because we are never truly still, any given posture is a referent moment for those immediately preceding and following it. When our perceptions are attuned to this, any given posture implies continuous movement. This awareness opens a door to a new way of working with postural patterns that reflects the tension and ambiguity of constantly both *being* and *becoming*.

The practitioner stands near the client on the board and supports them with subtle balancing tasks and suggestions while monitoring the process. Standing on the board for a few minutes daily improves grounding, balance, and somatic awareness of connection. Clients learn kinesthetically to feel and know balance as a continual fine adjustment. Any large imbalance will tilt the tuning board and stop the refined process, and it will need to be supervised for safety. This way, subtle imbalances are addressed as body motility coaxes the release of restrictions that keep the body off-center.

Benefits from working with unstable surfaces, also referred to as *instability resistance training*, include (Zemková 2017):

- Increased activity of the co-contractile muscular, flexor/extensor balance.
- Refined spinal stability and coordinated activation of core musculatures.
- Healthy and efficient functioning of the stress feed-forward and feedback systems.
- Increased muscular recruitment.
- Increased core activation to maintain postural equilibrium.
- Improved dynamic balance.
- Improved postural stability.

Neutral vertical standing posture that is in motion on the tuning board. Photo of person courtesy of Darrell Sanchez.

The plumb line is a true vertical gravitational line where a weight on a string indicates the vertical line, often used in masonry to ensure brick walls are straight up and down in gravity. Photo by Ognianm on iStock.

Neutral is an exquisite state of stillness in motion. It is a vital experience for our somatic and psychological well-being. It represents centering and grounding as well as spaciousness and resiliency.

Benefits from working directly with the tuning board include:

- Liberating the viscera and the diaphragm from excess tension to support healthy vagal tone.
- Supporting neural flow to and from the lower body to the brainstem, cerebellum, subcortical structures, and neocortex.
- Reducing stress and supporting homeostasis.
- Opening perceptual pathways and sensory organs for responsive interactions with the environment.
- Encouraging dynamic movements of joints throughout the body.
- Supporting a reduction in chronic pain.
- Informing us of our interoceptive state.

I designed exercises using the tuning board to work with the living Line, our fluid verticality. It offers attunement with the whole body, neutral verticality, three-dimensional breath, and balance to support our response to gravity. I talk with my clients about the basic vocabulary and questions to stimulate self-reflection, to nudge their awareness toward what is happening in their body while on the tuning board. We talk about:

- *Grounding*: Fundamental safety.
- *Balance*: The natural function of *homeostasis* and *dynamic equilibrium*.
- *Orienting*: Where am I? What's happening around me?
- *Centering*: The core of fluid verticality.
- *Spaciousness*: What movement possibilities are available or necessary? How do I relate to space? Can there be flow?
- *Tone/Resiliency*: Am I able to respond? How do I respond?
- *Connection*: Is it safe to join? What is the nature of joining?
- *Movement, Curiosity, Imagination*.

The following discussion highlights how I work with clients on the tuning board and simple exercises that bring them into their flow.

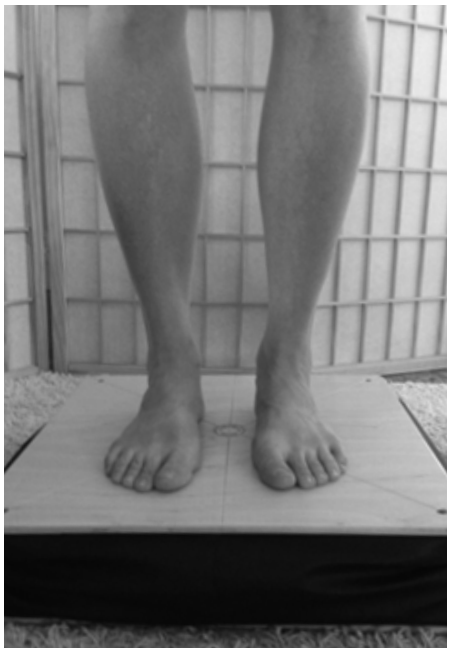
"*Our nervous system is vertically distributed, ascending from the body proper through the brainstem and limbic areas and finally arriving at the cortex. From head to toe and back again, vertical integration links these differentiated areas into a functional whole"* (Siegel 2010, 72).

Attunement

The tuning board got its name from the word *attunement*, meaning in this context, to bring into harmony, to make aware or be responsive to what is happening in our body. When we position our head over our pelvis and then over the base of support of our feet, we are engaged with reconciling the body's flowing movements and the firm geometry of the plumb line.

Take Tim as an example, he is an energetic guy in his mid-fifties who loves to ski, cycle, travel, and logs many overtime hours at work. He is more on the sympathetically oriented end of the activity spectrum. When I introduced him to the tuning board, he immediately took it as a challenge to either make it stop moving or to see how much movement he could do on it.

He used a balancing strategy that alternated between total body tensing to make the board be still and then doing excessive movements to force stability. When I explained that no matter how much he tried, he would never be able to make the board stop moving completely, he began swinging his hips in a circle to convince himself he was 'balancing' and that the tuning board would not conquer him. He was in a semi-crouched posture while his head made little movement. Even though he wasn't falling off and could athletically move on the unstable surface, I would not refer to his actions as finding the deep integration of fluid verticality. It took repetitions of getting on and off the tuning board and educating Tim about another way of relating to balance to slowly drop into a different experience of his nervous system and what balance could be.



The refined foot position on the tuning board should depress the board evenly under the body. Photo courtesy of Darrell Sanchez

Without the knowledgeable assistance of the practitioner, the user's typical interaction with the tuning board is quite random. The person will most likely place their feet arbitrarily on the surface and have an initial response to the moving surface, which is usually surprising to them. They will then engage in some habitual efforts in order to make the board stop moving.

There will likely be a *tilt bias* where the tuning board predominantly tilts off-center, either more back, more forward, from one side, or to the other. The random orientation of the center of gravity relative to the center of the tuning board, along with the random placement of the feet, is what I call the *random foot position*. We need to neutralize these two factors to fully benefit from the movement the tuning board offers. To get the full advantage of the flow of movement, it is essential to negotiate our way to what I refer to as the *refined foot position* and the *neutral experience*.

What is Neutral?

> *Stand like a mountain,*
> *move like a river.*
>
> Ancient Taoist saying.

Neutral is an exquisite state of stillness in motion. It is a vital experience for our somatic and psychological well-being. It represents centering and grounding as well as spaciousness and resiliency. Neutral is a mindful, calm, and centering state while orienting our nervous system vertically in the gravitational field. It's a dynamic balance, a fluid verticality. Typically, it takes us a moment to reconcile this paradox in our embodiment. We all know that mountains are not really immovable, but they change all the time, and rivers have a constancy of flow path that lasts a long time. I often play with this as a felt change in my body and perception by reversing the saying, *move like a mountain and stand like a river*. The feeling of resolving those two ideas is a neutral experience, stable but in motion, as when standing calmly on the tuning board.

Neutral represents home for the balance and flow of our nervous systems, the presence of our mindfulness, and the living balance of being vertical in gravity. The centered neutral space brings a feeling of psychological and neurological calming. On the tuning board, neutral standing represents a movement-oriented mindfulness experience where we can refer to and receive information from the polarity of left and right, front and back, and up and down. This posture exercise aims to engage with embodiment resources (balance, grounding, orienting, centering, spaciousness, tone, resiliency, connection) to increase refined mobility of the spine and encourage the stable flow of movement with connection throughout the body, stimulating verticality reflexes.

The experience of the neutral space is when we feel the reconciliation of the unbending geometric vertical Line used in constructing skyscrapers, the intersections of the cardinal planes, and the living, responsive, and uprightness of trees and humans. Watching someone on the tuning board shows this dance in a touching way. Starting with the position of the feet on the board is important in setting a more optimal likelihood of seeing the dance emerge quickly and deeply.

Refined Foot Position

With the feet oriented forward, the heels line up under the sit bones (ischial tuberosities), and about two-thirds of the foot is forward of the frontal plane line on the tuning board. The board should depress evenly under the vertical centering of the body so that the tuning board is free to move in all planes and is not stuck in any one plane. Little adjustments should be made so that the center of gravity is making the board depress evenly to eliminate any tilt bias. In this way, no extra effort is exerted to counter the bias. This will allow for a cleaner flow of a vertical wave of motion moving through the body. This, in turn, stimulates more practice for the postural reflexes of the spinal cord, brainstem, cerebellum, and vestibular system (Rolf 1977). This is the *refined foot position*.

The tuning board can transmit soft waves of motion through the body and nervous system. Photo by Alma Snortum on Unsplash.

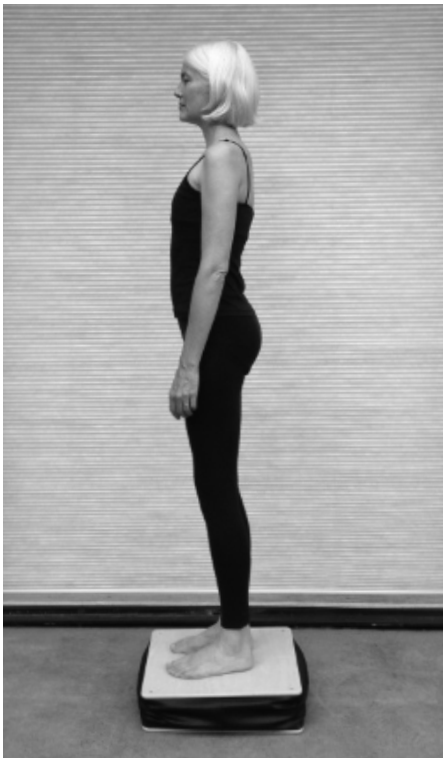
Once the position is established, then I encourage the person to simply stand and allow the movement of the tuning board under their feet to have its effect on being vertical. This is the beginning of the *neutral experience*, a mindful movement meditation of fluid verticality.

Finding Neutral Verticality

In the neutral balancing posture, like the bird on the buoy, our feet and ankles initiate the work of making fine adjustments in gravity. This involves subtle combinations of flexion and extension, inversion and eversion, which initiate and have the potential to transmit soft waves of motion through the body and nervous system. For this to happen, the knees must *hover* relatively straight, neither locked in hyperextension nor fixed bent, even slightly forward in flexion. Hovering is not a static experience. There is a subtle awareness of actual and potential motions, as adjustments in the feet and ankles reflexively transmit motion upward.

Finding neutral verticality becomes tracking the movement that proceeds up into the hips and pelvis, sacral joints, into the lower lumbar, and nerve plexuses, and from there, up into the spinal cord. Experimenting with micromovements of the hips and pelvis is an important station for allowing the breath and movement to continue further and carry up through the whole body, which is where we are going with this.

When working with clients in this stance, I ask them to follow their movement into the spine. I invite them to look for places in their spine where they feel the movement and places where they don't. Next, I encourage them to allow their head to float with gentle micromovements of the upper spine and occiput by *micro-sensing* the smallest gesture. These head-spine movements mirror the subtle movement in their feet and ankles. If their upper girdles respond to the movement coming up through their lower extremities and spine, then I ask them to feel that response transmitting through to their fingers. Whenever their mind drifts, I suggest they simply allow it to return to the presence and experience of the body knowing how to be vertical.



Standing on the tuning board can elicit kelp-like movement – rooted to the seafloor, reaching upward toward the sun, and fluidly moving with the currents and tides. Photo of kelp by Marco A. Mazza. Photo of person courtesy of Darrell Sanchez.

Once the position is established, then I encourage the person to simply stand and allow the movement of the tuning board under their feet to have its effect on being vertical. This is the beginning of the *neutral experience*, a mindful movement meditation of fluid verticality. The feet and ankles respond to weight shifts and the proprioceptors are stimulated. The short reflex arcs do much to counter the tilts responding to gravity and maintaining the upright position. As the movement starts to include the hips and pelvis, the stimulation proceeds upward into the spinal cord and spinal reflexes begin sending information to the brain stem and cortex.

The vestibular system is also involved in finding neutral verticality as it registers the sways of the foot responses, the movements of the eyes, and the motor stimulation of the feet and the body. Taken together, there is a continual flow of information about balance and equilibrium in motion through sensorimotor stimulation the entire time.

Another example is Sally, a healthy woman in her forties who loves yoga. When I placed her on the tuning board for the first time, she had the typical initial reaction when changing from the stable floor to the moving surface – one of surprise – followed by a moment of disorientation, random foot placement, and bracing.

One of the more common balance strategies people use in this kind of task is to use minimal foot and ankle movements, elevate their center of gravity, and use larger circling movements of the head and upper body. At first, there can seem to be little awareness of the relationship between the movements of the feet and ankles, their responses to the shifts in gravity, and the feeling of grounding therein.

After guiding Sally into the refined foot position, she found herself managing the moving surface task in a different way. Her feet and ankles started to be more responsive to the moving surface and her head circling became smaller. Her whole-body movement became quieter and more settled. Her functional center of gravity was dropping lower in her abdomen, toward grounding through her feet, while her upper body was extending upward as she became taller and more upright within the movement.

I invited her to stay with this postural change for a few minutes. Then I asked her to step forward off the tuning board and stand quietly in front of it, curious about what she noticed. She said she could not believe how grounded her feet felt and could feel the 'tide' still moving through her. We lingered with that experience to give her nervous system and her awareness a little time to 'learn' and integrate. This is the coming together of grounding and fluid verticality offered by the tuning board.

Breath

In this neutral sojourn, the breath is quiet and somewhat shallow. As neutral progresses, there is a breath that happens like a sigh. It is spontaneous and involuntary. When it arises in this neutral state, it means that the mind and the body are calm but active, present with the moment of safe verticality in the field of gravity. It means the diaphragm is free, the ribs are responsive, and the core is elastic. It feels like all the horizontal structures move with the breath, and no extra effort is needed.

Immediately following the relaxed exhale, there is a reflexive extension of the standing Line and an increase in the vertical thrust – generous movement, arcs, and spaciousness – and pushing down through the feet as they continue their adjustments. There is a feeling of slight settling of the extension before the next impulse for reaching up through the Line, as the breathing and waves of motion augmented by the tuning board continue uninterrupted. This represents a deep practice of coordination and awareness along with finer attunement with the autonomic nervous system. It is a starting place from which expressive movements arise and return.

Kelp: A Metaphor

The tuning board provides us with deeply intimate attention to the paradox of opposites – stability and motion. It is a moving resolution as to how we can know not only either/or, but both/and, in the lived moment. To do so requires the activation of motor mobilizations and allowing receptivity of sensory information to also flow. The accelerated and amplified movement under the feet poses a challenge to our relationship with effort and ease, the tuning board teaches us to accept and include an accompanying relationship with *allowing* movement.

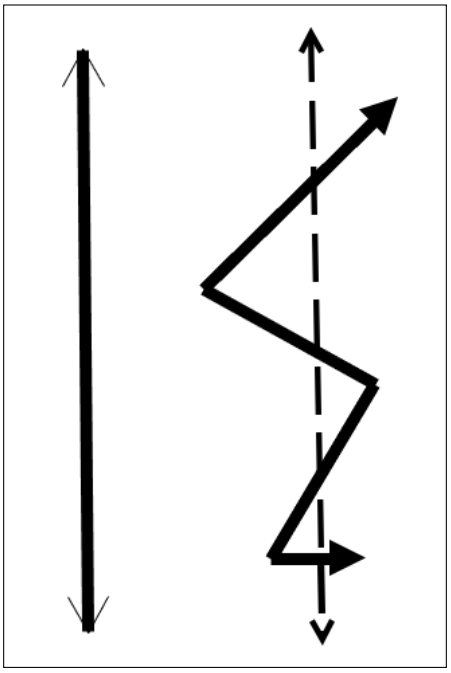
A good beginning exercise to acquire the full neutral posture is what I call *ankles to occiput*. Keeping the eyes open, I invite clients to begin with a bottom-up awareness of the feet and ankle movements to manage the tilting of the tuning board. Then they add their attention to the occiput and allow themselves to feel that corresponding mirroring movement at the atlanto-occipital joint and upper cervical vertebrae. Then, we track any restrictions to the sensorimotor flow up and down their body, continuing to allow their awareness and the nervous system to practice and learn how to habituate themselves to this new way of balancing – for them to come to prefer it.

The next level of this exercise is to perform it with their eyes closed. Though this exercise may seem simple, it is very revealing about the integration of their mind and body. Being in fluid and continuous motion in the gravitational field reveals our embodiment of the Line. Continued practice of these exercises will open the door to neutral and beyond.

The Line extends beyond the confines of our bodies. Kelp is a good metaphor to show how verticality can be alive and in constant motion. Kelp is securely rooted to the seafloor. Its upper part reaches toward the sun far above its own top. It is vertically aligned and moves fluidly with the currents and tides. The seabed, the sun, the kelp, and the sea are all in a relationship together – and they are constantly moving. In that dance, the kelp does not lose its verticality, nor does it become unbending or unyielding with the sea. Its verticality moves with the motions of the sea, like our vertical Line moves with our breathing core and our motions in gravity.

Relative Balance

The neutral experience I am describing here is an exercise in the mindful movement of the structural integration Line, this is *dynamic balance*. Balance is not a fixed state. It is relative to the interplay of stability and motion. It is support created through continuous small muscle adjustments. Dynamic balance, seen from a Taoist perspective, is one of the essential principles of the creative life. The synthesis of two opposing forces of action (yang) and rest (yin) links us to a universal pattern of growth, renewal, and harmony (Dreheler 1990). Jung (1969) also talks about equalizing the energy between opposites



Folding of the Line with all segments extending bidirectionally may seem like a simple squat movement, yet profound coordinative gains can be made transitioning between verticality and folding. Photos courtesy of Darrell Sanchez.

in order to develop new psychological attitudes.

Working with polarities can lead to potentially transformational turning points. As already mentioned, the primary polarity of the tuning board is the range between stability and motion. In the neutral exercise, I use stability and motion to support the client on the board to arrive at stable motion wherein they can have a lived experience of fluid verticality. The goal is to be in a calm but active state, riding the wave of the reflexive extension of the body along with a vertical intention. Good posture is a continuous subtle fluctuation between stability and mobility, maintaining balance, and it involves the need for "centering as the source of support" (Bartenieff 1980, 21). The dance is continuous. "Stability and mobility alternate endlessly," Bartenieff wrote quoting Laban (1980, 101). Centering for support or grounding is done *in motion*. Relative balance, a dynamic equilibrium, is a good way of describing this subtle experience of two polarities.

Basic Folding Exercise

This exercise has different names, and various versions exist in many different health and fitness domains. It is most commonly called by its obvious appearance, the squat. In yoga, it is known as *utkatasana* or the chair pose. In the domain of structural integration, it is known as folding. It is essentially folding the vertical Line. This is an exercise in moving and perceiving movement while extending in all directions at once. It may seem like a simple squat movement, but some aspects have profound implications that inform every session of a basic structural integration series.

Begin by orienting your feet in the refined foot position and stand for a few moments to stabilize with the movement on the tuning board. Start to visualize your vertical center Line extending up through your head and down through your feet, two directions of awareness at the same time. Next, bend the knees straight forward over the center of each foot. Feel the front and back of the feet on the tuning board, making sure that the heels do not come off the tuning board.

Next, decrease the angle of the torso at the hips and fold the body forward. The pelvic floor and buttocks should open, and while reaching back as if sitting down, the spine feels like it gets longer. The crown of the head should open upward as it reaches to the sky, in the opposite direction as the pelvic floor. Bring a toned awareness to the anterior abdominal muscles so that the abdomen is not spilling toward the floor, rather there is containment so that there is a feeling that the anterior spine is complimenting the extension of the whole spine.

The arms can hang or reach down from the torso directly toward the floor or overhead in line with the spine. The latter position of the arms reaching upward is the most challenging. Draw your attention to the feet, making sure that the whole foot is interacting with the surface of the tuning board. This exercise is an excellent one for increasing the client's awareness of weight transmission through the legs, ankles, and feet into the ground – grounding. Keep bringing the client's attention back to the lines their body are making and the movement of the board, in the basic folding exercise, the tuning board continues to stimulate proprioception and balance mechanisms.

In this exercise, the body expresses fluid verticality as four continuous lines. Although the angles of the anterior ankles, behind the knees, and the anterior pelvis have decreased, the experience we go for is that each line in the sequence is extending bidirectionally. It brings together several important elements of awareness in integrating body and mind, including enlivening and coordinating core muscles and nerves, visualizing energy moving in all directions simultaneously, and organizing and toning the spine. It is

also excellent for preparing the mind and body for the exercise of neutral standing and the living line.

In Summary

The plumb line of gravity itself is not a thing we can touch. It is a tool of our imagination so that we may orient ourselves in gravity. *The Line is a vector of gravitational response*, Peter Melchior is known for saying when he taught structural integration [(1931-2005), trained with Rolf]. He was implying that the Line is a living, moving relationship between our bodies and the gravitational field. Imagining the living Line as a stiff geometric plumb rod does not lend itself to movement. How do we reconcile continual fine adjustments, a breathing body, circulation, visceral motions, and the fluid verticality of the bird on the buoy with an inflexible pole? The structural integration Line represents exquisite and refined centering from which movement in all directions is possible. Accelerating and amplifying the movements of dynamic equilibrium on a tool such as the tuning board reveals, and offers the possibility of improving, the individual's experience of their own living vertical Line.

Dynamic equilibrium is where there is a "continuous subtle fluctuation between stability and mobility" (Bartenieff 1980, 21), where everything in the body expresses a sense of balance, but it is a dynamic balance. Nothing reveals this more clearly than standing on a tuning board.

Darrell Sanchez, PhD, is a Certified Advanced Rolfer, psychotherapist, teacher, Rolf Movement practitioner, craniosacral therapist, and professional dance instructor and performer. Sanchez has been studying, practicing, teaching, and performing in the movement and healing arts since 1974. The common thread woven through all of his work is the facilitation of creative transformation in the experience of the whole person. Over forty-four years of knowledge and experience in dance, psychology, functional movement, body-centered work, and the creative process contribute to the rich array of skills that he brings to his work as a holistically-based Rolfer, therapist, and instructor. For more information about The Original Tuning Board™ go to: https://www.rolfingboulderdenver.com/store/tuning-board.

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Keywords

tuning board; embodiment; structural integration; movement; core; gravity; letting go; restrictions; integration; Dr. Ida Rolf; vertical posture; the Line; unstable surface; fluid verticality; balance; grounding; orienting; centering; spaciousness; tone; resiliency; connection. ■

Fascial Dysfunction: Manual Therapy Approaches (First Edition)

Edited by Leon Chaitow (2014, Handspring Publishing)

Reviewed by Christina Fenendael, Certified Rolfer®, Licensed Massage Therapist

This collaborative, research-driven handbook is an invaluable reference tool for manual therapists from many disciplines, as well as a fascinating read for anyone interested in learning more about how the human body works and the science behind fascial function. It highlights a few weaknesses in the world of hands-on fascial therapy as well as presents a wealth of encouraging findings for the future development of our work as structural integrators.

The first edition, published in 2014, was given to me for review in early 2020, and until extremely recently, it did not come to my attention that there is, indeed, a second edition (published in 2018). I wanted to see if any information presented in the first edition had been updated (specifically, that dealing with thixotropy and gel/sol theory) or disproven. I have vague memories from my studies at the Dr. Ida Rolf Institute® (DIRI) and the instructors mentioning that research may change these concepts over time. But upon briefly checking the newer edition, that doesn't seem to be the case. This review focuses on the first edition for simplicity, though some differences will be pointed out for the purpose of comparison.

The book has two parts, the first focuses on "Fascial Foundations." More precisely, it begins with two chapters by Leon Chaitow, ND, DO, with a wealth of research about fascia and how it responds to various stimuli. Thomas Myers, author and founder of Anatomy Trains® Structural Integration, has a chapter on global assessment techniques. Section one concludes with some peer-reviewed techniques for various therapeutic modalities used to improve the healing process and overall function of fascial tissues (including instrument-assisted soft tissue mobilization [IASTM], and prolotherapy and others).

The second part of the book is devoted to a selection of descriptive writings by practitioners of many disciplines, from Bowen therapy, to Fascial Manipulation® method, unwinding technique, Myofascial Induction Therapy®, neuromuscular technique, and positional release techniques to name a few. These chapters included hands-on assessment and treatment techniques except the one about Rolfing® Structural Integration written by Jonathan Martine, former DIRI faculty. I found the lack of specific techniques in "our" section to be unsurprising, and understandable, considering the tradition of hands-on learning passed down directly from master to student, a value which DIRI is built upon. And the fact that our training is worthy of protection.

Yet, I must mention some frustration as a relatively "new" Rolfer with a challenging career start due to the pandemic. It was only extremely recently that *The Rolfing® Skillful Touch Handbook* (2022, see page 60 for more information) was published with practical techniques. For most of us Rolfers, we've learned this work with no handbook. There is a reason for the emphasis on our oral tradition for the practical techniques, and the Rolfing SI chapter in *Fascial Dysfunctions* is a comprehensive roadmap for the potential student or client, nonetheless. It accomplishes its goal of description while maintaining an air of mystery that would be intriguing for many.

While a thorough reading of the new edition is certainly in order, the main differences I noted upon a quick review of the second edition are the following: the organization of the book has changed in the sense that while it's still split into two parts, the table of contents for each part is now split as well (the second table is now located at the beginning of the second part of the book rather than at the front of the book, directly following the table of contents for the first section as it is in the original edition). I immediately found this change clunky and inconvenient, as it's more difficult to find sections quickly in the second edition.

Secondly, there are more illustrations overall in the second edition, the first half is far more robust, thus it is considerably longer. There have been changes in the modalities described in the second half of the book, IASTM was removed, Gua Sha was added in, for instance, which absolutely makes it worth further reading.

Interestingly enough, the chapter entitled "Selected Fascial Pathologies and Conditions" was greatly truncated in the second edition, and absorbed into another chapter. The first edition offers various therapeutic options for treating such issues as hypermobility, plantar fasciitis, and frozen shoulder, including dietary influences and other modalities such as heat and cold. While it was an engrossing read, I occasionally pondered whether the information presented was out-of-scope (or perhaps just not as practically relevant) for certain practitioners. My particular licensure allows me to prescribe heat, cold, and exercises to clients, for instance, but of course to defer to doctor's recommendations and diagnoses.

However, the main elements of the first edition I found worth remarking on remain intact in the second edition, and I'm sure the additional research findings included in the second edition will be a highly worthwhile read.

I have a few critiques about the first edition, the first chapter was extremely dense and difficult to synthesize into practice. I've studied biochemistry, anatomy, and physiology, yet I found myself wishing there was a professor handy so that I could raise my hand and ask, "So what does this mean on a macroscopic level for manual therapists?" The answer I told myself is that we're still figuring these things out, but we're probably headed in the right direction.

Another element that struck me was that there is no fully agreed-upon definition of *fascia*. This is not a critique of the book, but rather an observation of our manual therapy corner of the world of science. This seems like a huge limiting force when it comes to therapeutics as a whole, not to mention the absence of acceptance of fascia research by the wider world of medicine. Yet functionally, we are making meaningful changes in the lives of actual humans, and manual therapy focusing on fascial tissue continues to gain legitimacy and approval, especially as more and more research is done.

In the section on pathology, I was excited to learn of the correlations between global hypermobility, chest breathing, hyperventilation, fibromyalgia, and anxiety. I'm very interested to see what future research reveals on all of the above issues.

The assessment methods by Myers and Chaitow are very helpful, the former being an in-depth introduction to the Anatomy Trains method, including many photos of people used as case studies for postural evaluation. One caveat I'd give is that Myers occasionally uses subjective descriptors of his human participants, such as saying a person has an "I am strong" attitude in their posture. That gives me pause to vocalize, because not every client appreciates those sorts of assumptions being made of their personalities based on their outward appearance, insightful or not.

Chaitow also gives a helpful reminder that hands-on tissue assessment methods are not objective, and the importance of gathering other information when needed (such as ultrasound imaging). I appreciate the reminder to practitioners not to get "too big for their britches," when it comes to evaluations.

Finally, as I mentioned before, some of the information presented in the book may not be relevant or appropriate to all practitioners, and the inconclusive nature of some of the research findings presented may be too confounding for practical application at this point. The newer edition may clarify some of this.

Overall, this book is a stellar collection of an impressive range of hard science that lends both credibility and a deeper understanding of the current use of fascial therapeutic disciplines and excitement for the discoveries to come.

Reference

Anderson, Neal, Bethany Ward, and Lu Mueller-Kaul. 2022. *The Rolfing® Skillful Touch Handbook.* Boulder, Colorado: Dr. Ida Rolf Institute. ■

Institute News

Upcoming USA Classes 2023

2023 Rolfing® SI Training*

BOULDER, CO CAMPUS

Program	Start Date
UFA 1.23 Rolfing SI Training	April 24, 2023 (For bodywork professionals)
UA 3.23 Rolfing SI Training	July 10, 2023
UA 4.23 Rolfing SI Training	October 2, 2023

2023 Rolf Movement® Integration Certification (Intensive)**

BOULDER, CO CAMPUS

Course	Start Date	Instructors
RMI 2.23	April 29, 2023	Kevin Frank and Caryn McHose
RMI 3.23	May 14, 2023 (Soquel, CA)	Per Haaland
RMI 4.23	July 10, 2023 (Helena, MT)	Lisa Fairman
RMI 6.23	November 27, 2023	Juan David Velez

2023 Advanced Training

BOULDER, CO CAMPUS

Program	Start Date	Instructors
AT 2.23	Part 1 / June 5, 2023 Part 2 / September 11, 2023	Juan David Velez and Rebecca Carli-Mills
AT1.23	Part 1 / October 19, 2023 Part 2 / February 15, 2024	Tessy Brungardt and Valerie Berg (Albuquerque, NM)

* All classes including continuing education can be found at https://rolf.org/courses

** The RMI classes listed here count towards our 30-Day Intensive Program

Upcoming USA Continuing Education Courses

The Dr. Ida Rolf Institute® is committed to cultivating academic growth and therapeutic skills in all of its graduates. Continuing education studies can cover a broad range of relevant subjects. Certified Rolfers® may take workshops in specific manipulative techniques or explore other subjects such as craniosacral therapy or visceral manipulation. Classes are continually being added – please visit https://rolf.org/courses for the most recent updates to the calendar or to register.

Upcoming Europe Classes 2023

Rolfing® SI Training

MUNICH, GERMANY

Program	Start Date	Instructors
Phase 2	October 16, 2023	Rita Geirola
Phase 3	February 19, 2023	Kathrin Grobelnik
Level 1/1	March 24, 2023	Nicola Carofiglio, Gerhard Hesse, Rita Geirola
Level 1/2	July 31, 2023	Nicola Carofiglio, Gerhard Hesse, Kathrin Groblenik
Level 3	October 16, 2023	Konrad Obermeier, Pierpaola Volpones, France Hatt-Arnold
Phase 3	February 19, 2024	Kathrin Grobelnik

Rolfing SI Training

AMSTERDAM, NETHERLANDS

Program	Start Date
Level 1	September 15, 2023

Rolf Movement Integration, Modular

MUNICH, GERMANY

Program	Start Date	Instructors
Part 2	May 11, 2023	Nicola Carofiglio, Rita Geirola
Part 3	October 26, 2023	Nicola Carofiglio, France Hatt-Arnold

Rolf Movement® Integration, Intensive

MUNICH, GERMANY, AND SPAIN

Program	Start Date	Instructors
Part 1	May 20, 2024	France Hatt-Arnold, Fuensanta Munoz del la Cruz
Part 2	July 22, 2024	Nicola Carofiglio, Fuensanta Munoz del la Cruz
Part 3	December 9, 2024	Rita Geirola, Fuensanta Munoz del la Cruz

Advanced Rolfing Training

MUNICH, GERMANY

Program	Start Date	Instructors
Part 1	November 22, 2023	Pierpaola Volpones with Christoph Sommer
Part 2	February 5, 2024	Pierpaola Volpones with Christoph Sommer
Part 3	May 8, 2024	Pierpaola Volpones with Christoph Sommer

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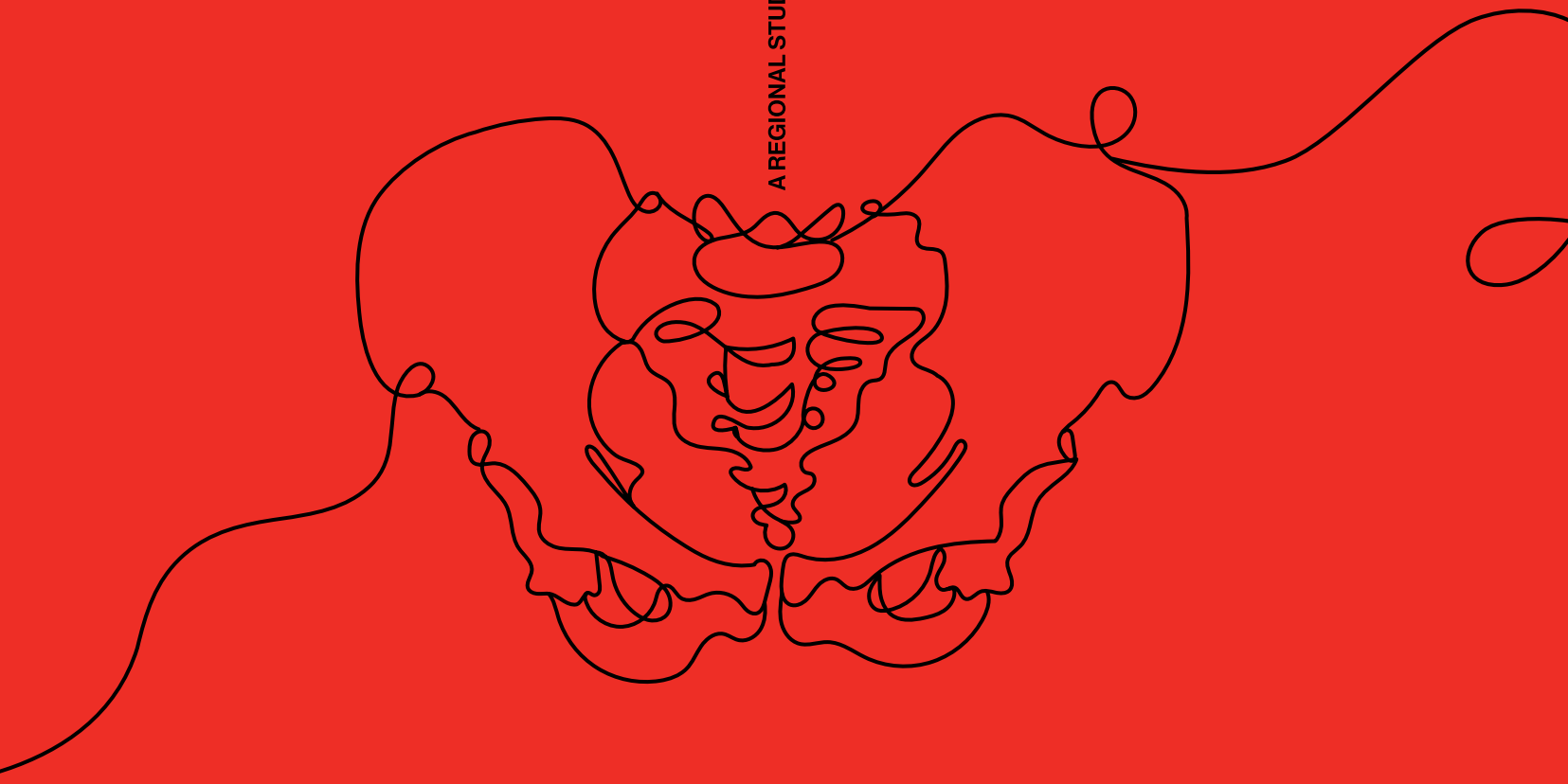
A REGIONAL STUDY OF THE PELVIS



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