ANATOMY TRAINS

TOUCH

EMAGAZINE

TENTH EDITION

INTRODUCTION

TENTH EDITION

Hi and welcome to our 10th E-magazine, six months since our last edition and what a six months it has been. We have all learnt a lot about ourselves and what's important to us during our time in lockdown. I realised how important the everyday things in life are when you can't do them and I also realised how much I enjoy my work and how vital Touch is, especially when you can't hug friends and family or do the job you love. It was because of the lack of Touch that I decided on the theme of this E-magazine **'Touch and Manual Therapy'.**

We have an interview with Liz Stewart on all things Structural Integration. It was only while writing this introduction that I realised all of our articles are written by the Anatomy Trains Team. We have articles by Tom Myers (the big boss), Melanie Burns our Chief Operations Officer, Meredith Stephens (senior teacher & very talented lady) and one of our Australian teachers, Chris Clayton.

I chose the front cover image because I have an infatuation with feet, in particular, babies feet. The theme of this E-magazine is Touch, and the beautiful feet on the front cover belong to a little angel that wasn't with us for long but touched everyone she came into contact with. Thank you to Kate Darrah for permitting me to use the photo.

In memory of Chloe Darrah
4th May 2017 - 17th September 2017

Julie

Director Anatomy Trains Australia & New Zealand
julie@anatomytrainsaustralia.com

01

THOMAS MYERS

TEACHING
'SPATIAL MEDICINE'
IN THE AGE OF
A PANDEMIC

02

JULIE HAMMOND

THE IMPORTANCE OF
TOUCH

03

MELANIE BURNS

LONGING
POLYVAGAL
PERSPECTIVE

04

MEREDITH STEPHENS

SCOLIOSIS:
COMBINING ATSI AND
SCHROTH METHOD TO
FACILITATE CHANGE

05

JULIE HAMMOND

A CONVERSATION WITH
LIZ STEWART

06

CHRIS CLAYTON

HUMAN GROWTH
THROUGH TOUCH

TOM MYERS

Teaching ‘spatial medicine’ in the age of a pandemic

Asked to give an account of teaching ‘spatial medicine’ in the age of a pandemic, I need to take you back a bit and behind the scenes in the evolution of the Anatomy Trains school.

Building a school is not an easy path. I have seen so many lured by its siren song, yet so few scale the heights. Many are called but few are chosen, as the Bible says. There are diverse reasons to fall by the wayside - money management, finding students, fights in the faculty, death by Board of Directors, and (guilty!) the odd whims of the originator.

Many times during the years of starting out, I heard critiques of what we were doing - ‘Your school accepts anyone who’s warm and has a checkbook’, ‘Your practitioners do not know how to touch,’ ‘You’re McDonalds-izing this sacred work’. (I got that one - for the umpteenth time - in a text just this morning.) If you cannot handle this level of response, I would suggest attempting something else, as these are ubiquitous and usually ill-informed opinions.

Steer by your own stars, and seek steady improvement.

More salient jabs came from my good friend and fellow educator Dr Leon Chaitow, who urged me not to burden myself with all the administrative headache and hangers-on, ‘stay lean and nimble’ (as he always was). His most deadly barb, delivered with a wicked grin, was, ‘It’s all about building your ego anyway, i’n’it?’

Fortunately I was blest with good teachers - some who came to stay, some who passed through - and they regularly sand-blast my shiny ego back to a matte finish.

In the 80’s, my classes were so small, I had to have a practice to support my teaching habit. By the mid-90’s, I was teaching anatomy where I could, and when the Anatomy Trains approach to Structural Integration took shape in my mind, I was hooked - school or bust! - though I stayed in practice until early in this century.

Our first big hurdle was 9/11 in America. Our usual autumn opening session came four days after the towers fell. This was the most difficult class I have ever overseen — everyone knew someone, the social disruption was profound, and the group never focused and gelled. The next few classes were small, but we stayed alive.

By the time of the GFC in 2009, we had teachers all over, and we realised how much our school floated in the cappuccino foam of life. When times were good, we did well. When times got hard, no one had money for bodywork, so bodyworkers had no money for continuing ed. Again, after a period of belt-tightening and small classes, we made it through.

As insurance, I made sure after that our school was established on four continents (which suited my penchant for immersing myself in other cultures), and being used by multiple professions (which suited my predilection for finding the value in all approaches). Surely, nothing would hit multiple professions on multiple continents?

And so we were taken completely by surprise when a novel corona virus did exactly that.

Like everyone, our income went to zero - all our teachers were not only out of classes, they were out of clients, too. As of this writing, most still cannot work, and I have been uncharacteristically ‘home alone’ for three months now.

Determined that Anatomy Trains survive, and with its institutional memory intact (i.e. not letting anyone lose their job), we jumped on the internet like everyone else. Fortunately, we had two assets. I had banked several video courses (to document what I practice before I am too old to remember) so we were not starting from scratch. And we had our team. Our COO Melanie Burns handled the technical end of setting up the apparatus (which would have flummoxed me) and we tore up and re-wrote our plans.

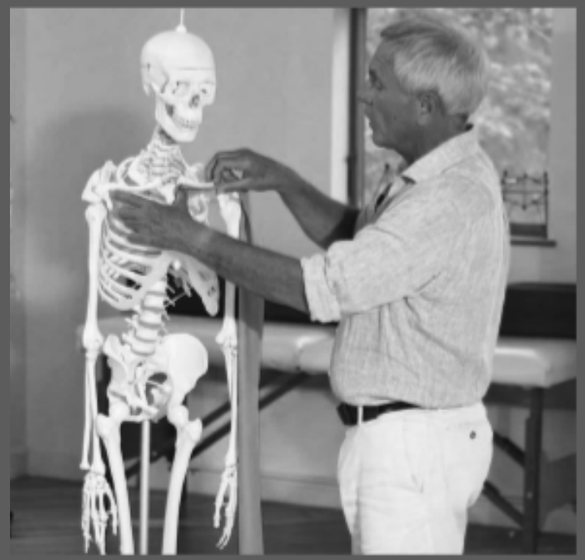
Thrust into this new world, I had to confront my own distaste for online education. First and foremost, we work in a kinaesthetic medium and so far the internet is strictly audio-visual. The kinaesthetic world is intimate; the internet world is distant and cold by comparison. The kinaesthetic world allows for immediate feedback - 1/30th of a second - whereas the turnaround for a visual signal to be put into action is around a second.

For this reason, we have declined to teach any manual therapy techniques online, though we do maintain videos of the techniques as an aide memoire for the students. Presence and touch are required to ensure that the correct feeling is conveyed.

Secondly, in online learning it is hard to get any sense of the immediate impact an idea is having on your audience. With smaller classes we can have breakout groups, but in the larger webinars, the participants are shadows to me. Even when teaching a large group, I play off faces and reactions in the audience, so an online lecture is a spew without the refinement in messaging that comes from reading facial expressions and responding to spontaneous questions.

What can, of course, be taught online are the lectures on biomechanics and anatomy, the parts of our classes where students are often seated and watching the ‘show’. As we look to the future, these talks will probably move online permanently, so that in-person class time is reserved for building manual skills.

The second skill that can be taught online is visual assessment or BodyReading as we call it. Because of the size of the person’s image on the computer, we cannot get into the detail we can see in person, but it is a useful online exercise nevertheless.



Thirdly, we are working to spotlight those practitioners who have successfully translated their skills to working with clients on the internet. This involves a pre-interview/check-in, a BodyRead, and the practitioner guiding the client toward health using movement cues and SMR tools. For some - and I am one of them - this is a less-than-viable option, but others have taken to it and thrived through COVID time.

Finally, we have taken our dissection online, and this has made our unique layered fascial dissection - at least a version of it, and a good experience in its own right - available to many who could not travel to Boulder for the in-person experience. This is a bright spot in the frustration of being ‘grounded’ in our flight.

I sincerely hope that in-person classes with deep touch become possible again, and soon. While I have embraced online learning as an interesting challenge that I learn more about every week, I do not wish my swan song to be shouted down a computer link to faceless shadows at the other end. I long to build a strong teaching faculty and a cadre of confident practitioners - and building ‘presence’ is hard without being physically present.

Each of the crises our school has faced has taught us something valuable, and this ‘crisis/opportunity’ is no exception.

Maybe the internet will become more ‘haptic’, like the ‘feelies’ in Huxley’s Brave New World, and we will be able to assess touch through the web. I doubt it - eye and ear are easier to fool than the internal sense of touch and movement - but stranger things have happened. For my own part, within the limits of keeping everyone safe, including my ancient self, I hope touch and closeness has not passed from the earth. I want back in to in-person classes.

But in the interim, I have learned a bit. Closeted in my home alone for these months, my hands were desperate to touch someone. Touch is great for my clients, but touching them is also a necessity for me. I get such grounding orientation and solace from touching others. Deprived of that nutrient for the first time in nearly 50 years, my hands itched to touch and my mind scampered down unfamiliar corridors. I begged the shelter to open up and let me adopt a cat, and Ailoura was subject to more touch than she wanted (it’s ok, the scratches have healed).

In the gaping absence of touch, one feels the synaesthesia of ‘touch’ in other communication, even emails and phone calls.

I have been ’touched’ in speaking to friends and colleagues, and I have attempted to reach through the phone to ‘touch’ others. Being a world traveller, I am accustomed to long-distance relationships, and to conveying my feelings without physical contact. But I am totally unaccustomed to the lack of physical closeness in my daily life…

‘With every mistake, we must surely be learning,’ George Harrison wrote. I certainly hope that is true - and it is still in doubt. This is a time of upheaval - if not this particular crisis, another will follow as we manoeuvre to accommodate 9 billion people on this small and delicate planet. Our part in it - us Bodyworkers - is to keep people grounded in their human instinct and natural body intelligence while this transition takes place.

The pandemic is an early warning of the climate challenge to come, which will throw resource choices at us, initiate waves of immigration across the globe, and the restructuring of the economy into our electronic age will not be without hurdles. We are going to need all the Body-centred sober sanity we can find. Occupy your body, help others occupy theirs, and buckle up! It’s going to be a bumpy flight. We are equal to the challenge if we can stay embodied.

The Importance of Touch

JULIE HAMMOND

Director of Anatomy Trains Australia & Bodywork Education Australia

Julie has a passion for women’s health and anatomy and has been practising Bodywork for twenty years. She runs two Bodywork Clinics in Western Australia. She is the Director of Anatomy Trains Australia, which offers modular and intensive continued professional development. She also teaches the full curriculum including the comprehensive Structural Integration program.

I find it ironic that I had been wanting to write an article on touch for a long time and it is only because I had to self-quarantine after flying back from teaching in Hong Kong, and not able to touch anybody, that I found time to write. I arrived home from a week away and was unable to give my husband or family a hug. I had to self-quarantine in our bedroom for 14 days. Which in the grand scheme of things is not a hardship, but it was interesting, as an introvert and a person who needs their personal space, how difficult this was. I thought this would be perfect for me, however three days in I was craving human touch and interaction. This gave me a new understanding of why I love my work; it gives me the interaction and human touch and connection I need.

I work as a Bodyworker/Structural Integration practitioner and teacher; I work with helping people to have more informed and refined touch. In an industry that is constantly arguing about what we are touching or not touching, and which structure is more important. Is it the mind, nervous system, fascial system, skeletal system, muscular system? I feel we have divided and forgotten that what we are truly trying to do is to help and inform the client to get back in touch with their body by whatever lens we use. Most of all, we are working with and on a human being that is completely unique. At any given time we are working with all of their systems, as well as the emotional component that goes with their pain and dysfunction.

"Touch - to come into contact with, an act of touching someone to influence someone or something emotionally or cause feelings of sympathy in someone"

Think of the way we use it - ***I felt touched, that is so touching. we use it when feeling gratitude, sympathy, when we are moved.***

Touch is often more effective than words. How often have you had no words and just touched the person's arm or given them a hug? In that one act we can express warmth, support, affection and trust. When it feels good it can be calming, lowering the physiological response to stress; it shows understanding. Touching, hugging, hand shaking, kissing and other examples of tactile human contact, all express warmth, trust, affection and an endless variety of positive emotions. Touch is known to reduce stress and anxiety; it increases levels of dopamine and serotonin, two neurotransmitters that help regulate your mood as well as help your body relieve stress and anxiety. A study done on women with breast cancer found that massage therapy reduced anxiety, depression and anger, and the longer-term massage effects included reduced depression, increased dopamine and serotonin values as well as increased immune response.[1]

Touch is the earliest sensory modality to develop.[2] It is thought to be the first sense to become functional in utero.[3] Deprivation of touch, or skin hunger as it's sometimes known, is a condition that arises when we have little or no physical contact with others. It is a need for physical human contact. Touch has emerged as an important modality for the facilitation of growth and development in children. Research has shown the developmental importance of touch in infancy. A review of research, conducted by Tiffany Field, found that preterm newborns who received just three 15-minute sessions of touch therapy each day for 5-10 days gained 47 percent more weight than premature infants who'd received standard medical treatment.[4] What was interesting was when they reduced the study to 5 days it had the same effect. They also got the mums to do the massage instead of therapists and it had the same results and reduced the mum's depression and anxiety. Research on the benefits of touch in premature babies has led to the implementation of kangaroo care. In kangaroo care the baby, wearing just a nappy, is held upright against the bare chest of the mother or father. A study followed two groups of premature babies, one that received kangaroo care for 14 days after birth and the other received standard incubator care. Clear benefits of the kangaroo care could still be seen at age ten. These children grew up less stress reactive and had improved sleep patterns, cognitive control and mother child reciprocity.[5]

Touch and emotion

Through touch we can convey emotions such as compassion and empathy. A study was done to show how we can identify other people's basic emotions by how they touch us. Two people were separated by a curtain; one person was asked to communicate a variety of emotions by touching only the arm of the other one. The other participant then tried to identify the emotion. Many emotions were recognized by touch alone; compassion came out on top. Emotions that are communicated by touch can go on to shape our behavior. Social Touch helps bond people together and can create greater trust and cooperation between individuals. Research by Kraus, Huang and Keltner showed that team players who touch, such as high fives, hugs and chest bumps, perform better the more frequently they engage in this behavior. They collected data about the frequency and duration of touch among NBA team members and it showed early season touch predicted greater performance for individuals as well as teams later in the season.[6]

Analgesic touch and empathy

We have already mentioned how touch can help keep us calm and convey emotions including empathy and support. Research has also shown social touch can help diminish distress and pain. However the effects of touch are dependent on the identity of the toucher; holding a partner's hand but not a stranger's hand reduces anxiety and blood pressure reactivity to stress. Pavel Goldstein examined the analgesic effects of social touch, and to test the moderating role of the toucher's empathy in analgesia. Tonic heat stimuli were administered to women while their partners either watched or touched their hand, a stranger touched their hand, or no one interacted with them. The results weren't surprising; they revealed diminished levels of pain during partners' touch compared with all other conditions. Interestingly they also found a difference between the effect of touch from the partners depending on the partner's empathy level. Their findings suggest that the degree of empathy accompanied with touch has a crucial role in the pain-relieving effects of touch. Simply put, just holding your partner's hand whilst they are distressed or in pain can help, but doing it with real meaning and empathy will have better results.[8]

Discriminative and Affective Touch

Our sense of touch is controlled by a huge network of nerve endings and touch receptors in the skin, joints, ligaments, muscle and fascia known as the *somatosensory system.*[9] They have specialised endings that respond to mechanical stimulation. These sensory receptors transmit information regarding tactile stimuli to the central nervous system; different nerve fibres respond to different kinds of touch. The skin mediates our sense of touch. Mammalian skin comprises of hairy and non-hairy (glabrous) skin. Examples of glabrous skin in humans is lips, palms and soles of the feet.

The discriminative system responds quickly; the primary role is to detect, discriminate and identify external stimuli. The sense of touch is classically described as being solely mediated by low threshold mechanoreceptors, with rapidly conducting large myelinated Ab afferents. According to Francis McGlone "Discriminative touch subserves the perception of pressure, vibration, slip and texture, which are critical in providing haptic information about handled objects."[10]

It relies on four different low threshold mechanoreceptors in the skin; Meissner's corpuscles, Pacinian corpuscles, Merkle's disks and Ruffini endings. These four major types of mechanoreceptors provide information about touch, pressure, vibration and cutaneous tension.

Affective Touch: Not all touch is the same. We have specialized nerve fibres that mediate affective rather than discriminative properties of touch. They convey a special kind of tactile information, interpersonal touch. They are called C-Tactile (CT) afferent fibres and they have gained attention for their importance in social touch. They are found exclusively in hairy skin and not in glabrous skin and respond to slow moving gentle touch.[11] They are unmyelinated and thin and contribute to the affective components of touch. They are activated by touch that mimics human to human caressing, slow moving, light pressure and slow stroking. Affective touch has been defined as tactile processing with a hedonic or emotional component and the CT fibres are likely to convey this component. [12]

Body awareness/sensory motor amnesia

One of the important things we do with our touch is to bring body awareness to a client, increasing proprioception. Proprioception is the ability to sense the position, orientation and movement of the body and its parts. Sensory motor amnesia is a term that was coined by Thomas Hanna who developed clinical somatic education. It describes the loss of sensation and motor control that occurs as we learn muscular patterns. We lose the ability to relax certain muscles or to even perceive a certain body area. In clinical practice we all have clients who either don't feel an area or don't know how to move it efficiently. Why does this happen? Lack of movement is one answer; if you don't use it you lose it. We were meant to move in so many different ways, but modern life tends to keep us in similar movements over long periods of time. Pain or injury can also create sensory motor amnesia. A sprained ankle will change your movement pattern and prevent movement that will aggravate the ankle. You will develop compensation patterns in other joints to prevent any more injury to the ankle and over a period of time this becomes your normal. Generally, after a treatment clients say, "my hip feels normal" or "I feel my hip" "I didn't realise my hip should feel like this." They don't just lose the ability to relax or contract a muscle they lose a sense of themselves. Our job is to bring awareness to their own selves again and create space for them to move into.

Refining Our Touch

I often ask my students "what is your intention with the technique/strategy you are using?" This led to a great discussion with Michael Polon when he came to teach at our summer school. We realized that his interpretation of intention was different from mine. And we both had to look at the word from different perspectives. So, what do I mean by intention? What are you doing? Why are you doing it and what are you hoping to achieve? Is our touch the same with each client? No. Our touch has to be able to adapt to each client. How does their tissue feel, how does it feel today? How is their energy? How is their nervous system? I am glad to say we have moved away from the no pain, no gain era and more about softer, safer/ supported touch. The client knows their body far better than we do; our aim is to help them discover areas they haven't felt or moved in a while.

Ed Maupin talks about *"Touching to Know."* It involves shifting your attention from too much emphasis on what you are doing and more towards what you are sensing and feeling.[13] He says *"When you begin to push into anywhere in somebody's body you will encounter a barrier beyond which you cannot push without causing pain. If you wait there, the barrier begins to shift. Waiting and listening at the boundary is the beginning of communication with the client's body awareness".* The aim is not to do to the client, but to allow the client's tissue to respond to your touch and let you in. Our touch is two-way communication and the client needs to feel heard, safe and supported.

Touch in a therapy environment is so important and I hope we don't lose the importance of this simple act. Next time you gently touch someone, remember you are doing far more than just laying your hands on them.

"Too often we underestimate the power of a touch, a smile, a kind word, a listening ear, an honest compliment, or the smallest act of caring, all of which have the potential to turn a life around." - Leo F. Buscaglia

1. Maria Hernandez Reif et al., “ Breast cancer patients have improved immune and neuroendocrine functions following massage therapy,” journal of psychosomatic research volume 57, Issue 1 (July 2004): 45-52,10.1016/S0022-3999(03)00500-2

2. Carissa J. Cascio, David Moore, Francis McGlone, “ Social touch and human development”, Developmental Cognitive Neuroscience volume 35 (February 2019): 5 – 11,accessed June 27th, doi.org/10.1016/j.dcn.2018.04.009

3. David J Linden, Touch: The Science of Hand, Heart and Mind (New York: Penguin, 2016), 26.

4. Rebecca Boehme et al., “Distinction of self produced touch and social touch at cortical and spinal cord levels,” PNAS Volume 116, Issue 6 (February 2019): doi.org/10.1073/pnas.1816278116

5. R. Feldman, Z.Rosenthal, and A. Eidelman, “maternal-preterm skin to skin contact enhances child physiological organisation and cognitive control across the first ten years of life”, Biological Psychiatrity Volume 75, Issue 1 (January 2014): 56- 64, doi.org/10.1016/j.biopsych.2013.08.012

6. David J Linden, Touch: The Science of Hand, Heart and Mind (New York: Penguin, 2016), 14.

7. Pavel Goldstein et al., “Empathy Predicts an Experimental Pain Reduction During Touch”, The Journal of pain (October 2016): 1049 – 1057, 10.1016/j.jpain.2016.06.007

8. Pavel Goldstein et al., “Empathy Predicts an Experimental Pain Reduction During Touch”, The Journal of pain (October 2016): 1049 – 1057, 10.1016/j.jpain.2016.06.007

9. “Somatosensory System Anatomy,” Medscape, accessed June 27th, 2020, https://emedicine.medscape.com/article/1948621-overview#a2

10. Francis McGlone, “Discriminative touch and emotional touch,” Canadian journal of experimental psychology Volume 61, Issue 3 (October 2007): 173- 183, DOI: 10.1037/cjep2007019

11. Pitcher, Mark H, Claire E. Le Pichon and Alexander T. Chesler. “Chapter 2 Functional Properties of CLow Threshold Mechanoreceptors (C-LTMRs) in Nonhuman Mammals.” (2018).

12. Emma H. Jonnson et al., “Affective and non-affective touch evoke differential brain responses in 2-month-old infants,” NeuroImage Volume 169, Issue 1 (April 2108): 162-171, doi.org/10.1016/j.neuroimage.2017.12.024

13. “The Mirror of Awareness in Structural Integration,” The Mirror of Awareness, accessed July 25th, 2020, http://edmaupin.com/awareness

LONGING

POLYVAGAL PERSPECTIVE

MELANIE BURNS

Melanie Burns is the COO of Anatomy Trains and Director of Anatomy Trains Europe and UK, with a 20 year career in international business, working with Digital Equipment Corporation, IBM, Microsoft and Cisco.

She has a Bachelor's degree in Psychology from Clark University, is a Licensed Massage Therapist, and a graduate of Tom Myers' highly acclaimed ATSI program. She has assisted Tom internationally in manual therapy courses, trauma courses, and in several week long cadaver dissection programmes.

Melanie also owns and operates a 500 Hour Yoga School in Maine, teaches courses on the Polyvagal Theory, and is on the faculty of the Liberation Institute, providing yoga teacher training certification programs within the Maine State Prison. Combining her background in psychology, bodywork, and yoga, her passion is working with the survivors of trauma, as they heroically search for safety. Melanie is currently enrolled in the Leadership and Innovation program at MIT.

TO TOUCH CAN BE TO GIVE LIFE – MICHELANGELO

When my mother died, a heavy yellow afghan that she had crocheted for me was the only thing that quieted my jangling nervous system, wracked with the echoes of guilt and grief of all the things we never say to our parents. I thought it was the memory of her wise hands that gave me solace but, according to science, it was the pressure on my skin that created calming comfort. The gifted animal scientist and autism pioneer Temple Grandin PhD understood this felt sense, in creating her squeeze machine for humans, after seeing it work on cattle. Temple explains the feeling of wanting to be held, but as an austistic child, it was too overwhelming, and the squeeze machine in her words "helps you have nice thoughts". In the uncertain time of COVID-19, where the human hugging squeeze machine and bonding oxytocin is often a distant memory, many describe a longing for touch, sometimes called "skin hunger".

It's a strange, contact-free world we live in right now.

Safe and social touch

According to Dr. Tiffany Fields, founder and director of the **Touch Research Institute at the University of Miami Medical School** and a pioneer in the field of therapeutic touch, Americans have been heading in this direction for a while. "One of our teams has been doing an airport gate study, monitoring and coding social contact at airport gates, and we're not seeing any touch. Ninety-eight percent of the time people are on cell phones. They're scrolling and texting and gaming, but they're not talking. So, I'm not sure people really are feeling that touch deprived." Fields quotes a study of couples in cafes, to see how often they touched each other. In the U.S., it was about once every 30 minutes. In Paris, it was more like 20 times every 30 minutes. Quite a contrast.

Fields states that the benefits of touch are more about what she calls "moving the skin." According to Fields "The positive effects — the healthy effects of touch — come from moving the skin. That stimulates the pressure receptors under the skin, which send messages to the brain — mainly to the vagus nerve, which has branches in virtually every part of the body — that slow the nervous system down. So you get decreases in heart rate, blood pressure and stress hormones. You get changes in the brain waves to theta activity, or relaxation waves. You also increase the natural killer cells, which ward off viral cells, bacterial cells, and cancer cells." Moving the skin can happen in a yoga class, hand washing, lying on the floor doing sit ups, and even walking. It does not have to be with skin that touches you back. So what exactly happens when you move the skin? Receptors in your skin and fascia respond.

Mechanoreceptors in the skin and fascia:

• Stimulation of spindle receptors can be facilitated by quick compressional impulses to the muscle bellies

• Golgi receptors can be stimulated by techniques that require any temporary resistance

• Ruffini receptors respond to attempts to apply slow shear sensations while finding the respective optimal vectorial direction

• Pacini corpuscles require constantly changing novel sensations

• Free nerve endings respond to temperature, touch, pressure, stretch.

And what about the vagus nerve?

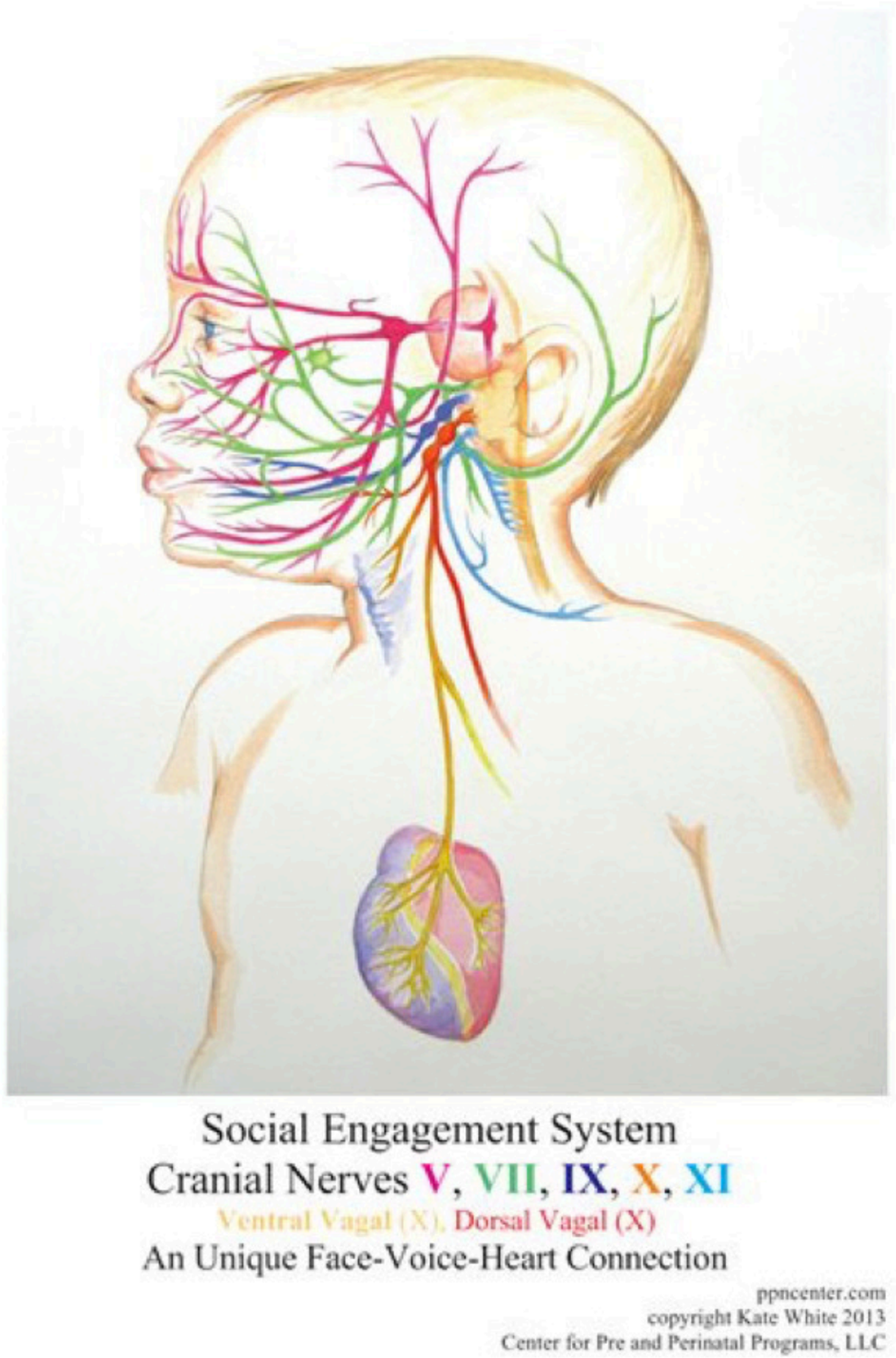
The autonomic nervous system is an internal surveillance system, always looking and listening for cues of safety, and cues of danger, below the level of our conscious awareness. That system of "neuroception" includes the parasympathetic vagus nerve, or cranial nerve 10 (out of 12), the longest nerve in the body, and is bidirectional, with 80% of its fibers going from the body to the brain (afferent fibers) and 20% from the brain to the body (efferent). Although made famous by Dr. Stephen Porges's poylvagal theory, the "vagabond" or wandering nerve traveling from the brainstem down the sides of the neck through heart and lungs and into the viscera, was cited by Darwin's "The Expression of Emotions in Man and Animals" in 1872 as the pneumogastric nerve, responsible for heartache and gut wrench. According to Porges, the nervous system has been oversimplified by the fight or flight and rest and digest schism, and is more of a complex system whose evolved role helps to manage social engagement. Further, a more primitive, unmyelinated branch of the vagus nerve that resides below the diaphragm, gives clues to the body's ancient innate intelligence to immobilize, or disassociate in times of life threat. This biological phenomenon explains why some trauma survivors are unable to move, scream or report feeling "frozen". It is the body's natural, biological and neuroceptive response to life threat. When trauma survivors understand that this is an automatic biological response, they often replace feelings of guilt or shame with feelings of empowerment. Some may argue that during COVID-19, many are residing primarily in a dorsal vagal state, unable to rest easy in the harness without a map of the future, or a soft place to land in their lives.

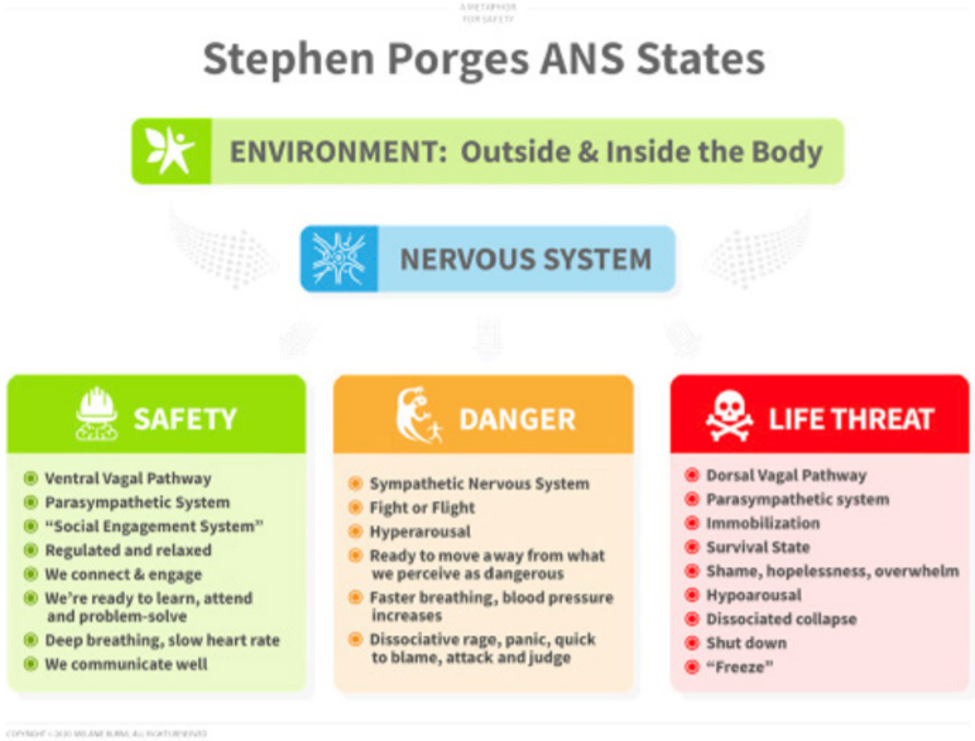
The three overarching principles of Porges's polyvagal theory as summarized by Deb Dana are:

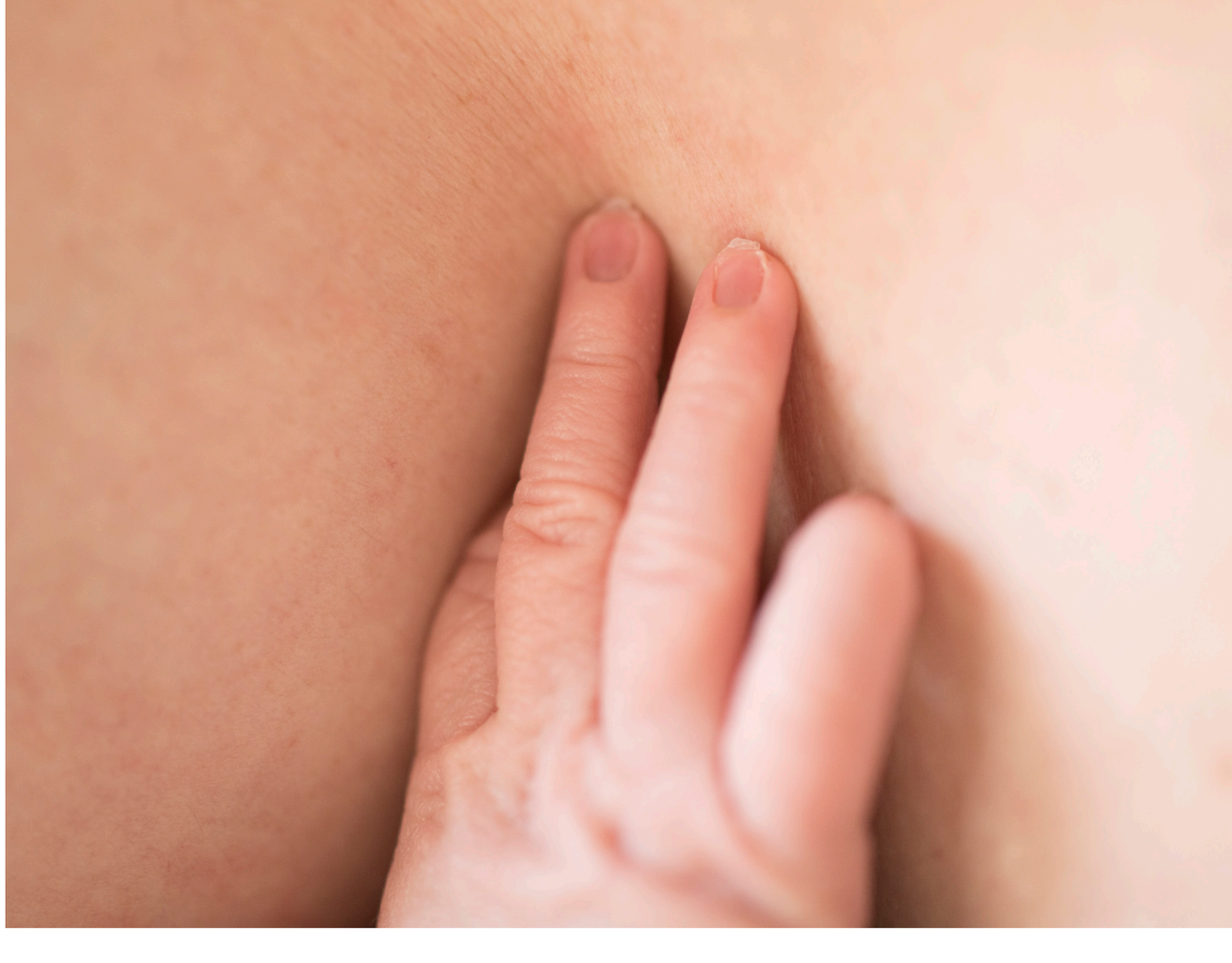
• **Hierarchy:** The autonomic nervous system responds to sensations in the body and signals from the environment through three pathways of response. These pathways work in a specified order and respond to challenges in predictable ways. The three pathways (and their patterns of response), in evolutionary order from oldest to newest, are the dorsal vagus (immobilization), the sympathetic nervous system (mobilization), and the ventral vagus (social engagement and connection).

• **Neuroception:** This is the term coined by Dr. Porges to describe the ways our autonomic nervous system responds to cues of safety, danger, and life-threat from within our bodies; in the world around us, and in our connections to others. Different from perception, this is "detection without awareness," a subcortical experience happening far below the realm of conscious thought.

• **Co-regulation:** Polyvagal Theory identifies co-regulation as a biological imperative - a need that must be met to sustain life. It is through reciprocal regulation of our autonomic states that we feel safe to move into connection and create trusting relationships. We can think of the autonomic nervous system as the foundation upon which our lived experience is built. This biological resource is the neural platform that is beneath every experience. How we move through the world — turning toward, backing away, sometimes connecting and other times isolating — is guided by the autonomic nervous system. Supported by co-regulating relationships, we become resilient. In relationships awash in experiences of misattunement, we become masters of survival. In each of our relationships, the autonomic nervous system is "learning" about the world and being toned toward habits of connection or protection.







According to Porges, the need for self regulation/ soothing and co-regulation is unique to mammals. In a controversial experiment of the 1950s, the psychologist Harry Harlow offered maternally deprived infant Rhesus macaques a choice of two inanimate surrogate mothers made of wire and wood: one bare, and the other covered in cloth. The monkeys preferred the cloth-covered surrogate to the bare one, even when the latter was holding a bottle of food, seeming to reinforce Dr. Tiffany Fields' premise of the self soothing pressure in "moving the skin."

In 1994, the neurobiologist Mary Carlson, one of Harlow's former students, traveled to Romania with the psychiatrist Felton Earls to study the effects of severe deprivation on the decretei children who had been abandoned to understaffed orphanages. Typical findings included muteness, blank facial expressions, social withdrawal, and bizarre stereotypic movements; behaviours very similar to those of socially deprived macaques and chimpanzees. These are sympoms of the inability to engage safely or co-regulate with another mammalian nervous system, often seen in cases of severe trauma, abuse, or neglect.

The social engagement system's primary cues of safety come from the ability to read facial expression. All twelve cranial nerves share the same nucleus in the brain, and the linkage from the vagus nerve to the other cranial nerves provides a "face to heart" connection as illustrated beautifully to the right.

In a time of mask wearing and zoom calls, the social engagement system is working overtime to identify facial expression cues. One of the reasons people feel exhausted after video meetings is that it is difficult to look at the camera and also try to read facial expression of the tiles of faces appearing on screen at the same time. Auditory cues are altered as human voices may sound "tinny" or underwater. Although we are wired for connection, connecting through wires often disrupts the ability to co-regulate and tune into a safe and social ventral vagal state naturally.

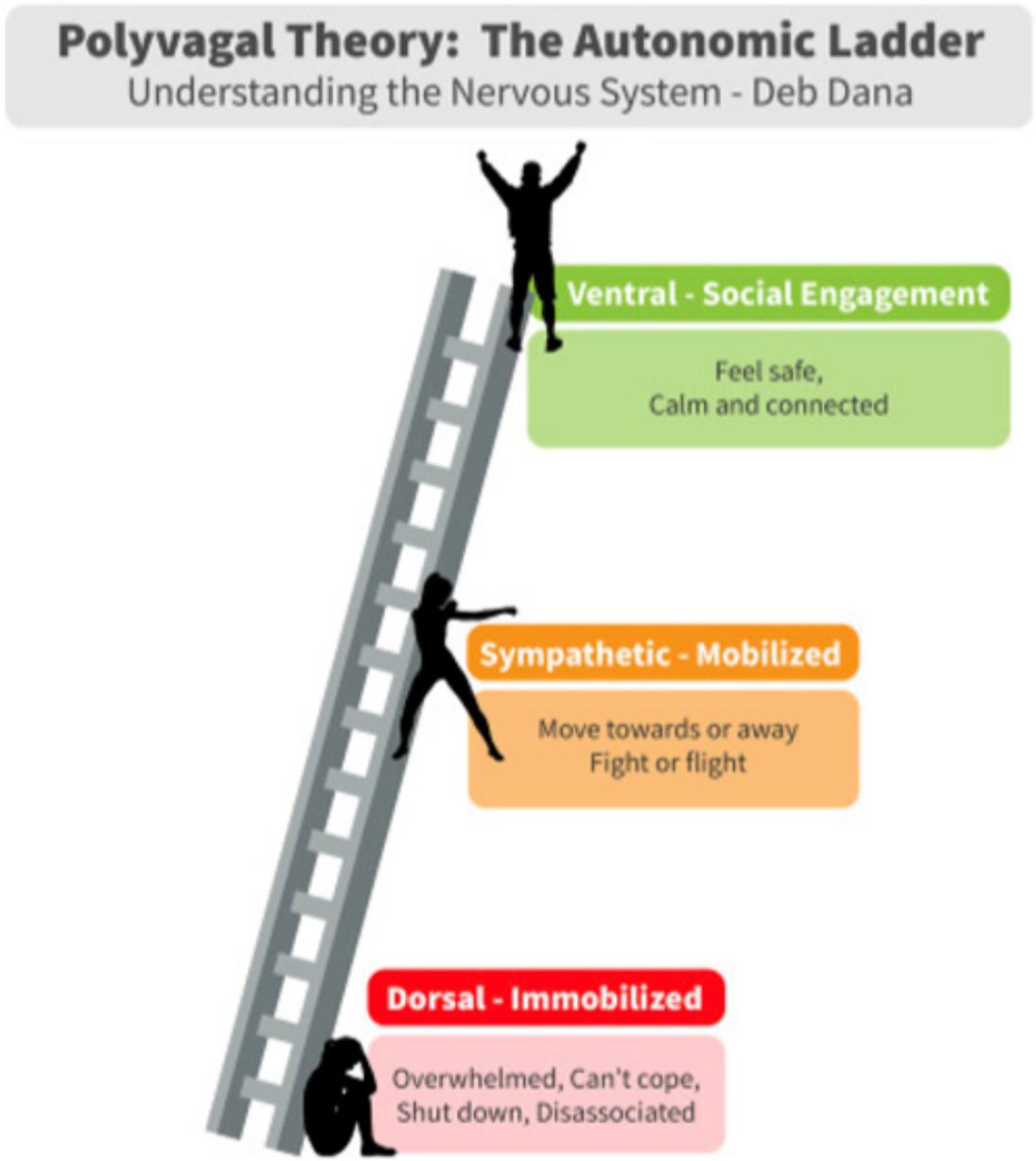
Safe touch and self soothing in the time of corona

So, given all of the additional taxes on our physiology during this pandemic, what are ways that we can return to a ventral vagal state? It may be helpful to trace the pathway of the vagus nerve.

1. Place one hand on the base of your skull
2. Place your other hand over your heart (ventral)
3. Keep your hand on your heart and move the hand from your skull to your belly (dorsal)

Proprioceptive and Interoceptive cues

You can do this exercise lying down with your knees bent and feet flat on the floor (constructive rest pose) or seated comfortably in a chair. Place one hand on your heart and one on your belly. Breathe naturally in and out through your nose. Feel the sensation of the warmth and weight of your hands (proprioception). Notice what it feels like to hold yourself. Continue to notice where your hands meet your body. After five full breaths, shift your awareness to the felt sense of being held. You can also say to yourself "I am held." Stay with this interoceptive awareness for five full breaths.



Moving out of Dorsal

As the dorsal vagal state promotes immobility and shut down, many suffering from depression and severe trauma are often held in dorsal, and unable to "move forward." The key to moving out of dorsal is not meditation, or sitting still, it is safe physical movement that moves the skin, fascia and signals mobility to the nervous system. Walking, tai chi, qigong, yoga, swimming, any type of safe and healthy movement, including moving the skin through ball rolling or self massage, a little, a lot. Because of the hierarchy of the polyvagal theory, it is difficult to leapfrog from dorsal to the safe and social ventral state – the progression is through the mobilized, sympathetic nervous system. Bodyworkers may see shaking or trembling from clients somatically relieving symptoms of trauma, or what Peter Levine terms the "unfinished action" that has kept them locked in a frozen state.

Getting to Ventral

I have been teaching the following practices to clients and students, including inmates in a state prison facility, to help move from a sympathetically tuned nervous system into a ventral vagal state. Many reported sharing them with loved ones during particularly stressful times or events, some in hospitals.

1. 4-7-8 Breath: Inhale through your nose for a count of 4, hold your breath for a count of 7, and exhale through your mouth like you are blowing through a straw for a count of 8. Longer exhales cue safety to the parasympathetic system. Peter Levine recommends making the sound voo on the exhale.

2. Alternate nostril breathing (nadi shodona): Inhale through your nose, gently press your right nostril closed with the thumb of your right hand, and exhale through your left nostril. Then inhale through your left nostril, gently press your left nostril closed with your right ring finger, and exhale through your right nostril. This is one round. Complete ten rounds and then breathe normally in and out through your nose. Notice whether you feel spaciousness in your skull or between your ears, or behind your eyes.

3. Parts of the vagus nerve are connected to your vocal cords and the muscles at the back of your throat. Singing, humming, chanting and gargling can activate these muscles and stimulate your vagus nerve. This has been shown to increase heart-rate variability and vagal tone.

4. Deep sigh: Longer exhale with vocalization is another cue for down regulation.

5. Humming: Can be practiced lying supine with your head to one side. Inhale through your nose and hum while exhaling through your nose. Turn your head to the opposite side and hum while exhaling through your nose. Notice the residual echo in chest and abdomen.

6. Singing: Wonder why it feels so good to sing in the shower? The prosidy, and tone of your unique human voice, combined with the mechanical stimulation of the vagus nerve help to tone and activate towards the ventral vagal state.

7. Tapping or emotional freedom technique with silent verbal cues for two breaths in and out through the nose: Begin above eyebrows tapping lightly, then temples, then cheekbones, then above lips, above chin, under collarbone, under armpits and finally on the crown of head. Can be combined with a personal mantra or "even though I feel stressed, I deeply and completely love and accept myself."

8. Place one hand on the side of your face and one on your heart, reminding your system of the power of the face/heart connection.

9. Rub your hands together until you begin to feel heat, and then gently "cup" your eyes, with your fingers on your forehead and palms over your eyes, but not touching them. Feel the warmth and relief of the hypervigilance sometimes carried around your eyes.

10. Hold one hand on your heart and the other on top of that, gently drawing the skin on your chest downward toward your abdomen. Look up and to the right, over your right shoulder. Pause and take a long slow inhale through your nose, and a long slow exhale through your nose. Return to center and pause. Repeat on the left side.

11. Self Myofascial Release: With a soft fist of your right hand, gently press against your sternocleidomastoid drawing the tissue back, and slowly rotating your head to look over your left shoulder. Repeat on the opposite side. You can also do this using a soft inflatable ball in place of your soft fist.

Mapping your state

Deb Dana has created wonderful tools to help identify when you are in dorsal, sympathetic, or ventral states, and my favorite when teaching with Deb is the circle map. On a large piece of paper, create three concentric circles, and label the outside dorsal, the next circle sympathetic, and the middle ventral. Select colors, images, and words to best describe how you feel when you are in a dorsal state, or sympathetic, or ventral. We move in and out of these states daily.

Alternatively you could list what Deb calls triggers for dorsal (ie. constant demands, being ignored, feeling powerless to make a difference, watching the news, pain, illness, losing a friend, being left out of a conversation) and sympathetic (raised voices, deadlines, arguing with partner, unpaid bills, morning commute, noisy co-workers, long lines) and also glimmers (a smile, emails with friends, feeling the sun on your face, song you like on the radio, favorite tv show, getting a massage, early morning quiet time, time with dog or cat) that move you into a ventral state.

Touch Hunger

One of the strongest examples of touch hunger is from convicted murderer Peter Collins, who died of cancer after 32 years in a Canadian prison. In that time, Collins became a champion of prison rights, and made a short film called Fly in the Ointment about a prolonged period that he spent in solitary confinement:

“Somehow, I felt [my wife’s] fingers on my leg. Shocked and excited, I opened my eyes only to realize it was a fly walking on me. I was greedy for human touch so I closed my eyes and pretended it was her fingers. I tried to stay perfectly still because I didn’t want to frighten the fly off and be left alone.”

After that, Collins would bite his cheek and apply a mixture of his own blood and saliva onto his skin to attract the flies that had become his only source of living touch. Having received letters from inmates I have worked with who have been in solitary confinement, stories are gruesomely similar, one even slicing his face to receive some human contact.

As a female volunteering in a maximum security prison, I am not allowed to touch, and have used a protocol with soft rubber balls, some inflatable, to provide some sense of safe touch through self myofascial release for nervous system down regulation. One inmate reported **“I never thought I could feel so good while being in here.” In a time of COVID and self isolation with limited human contact and touch, this longing for connection to self and others is very present.** Perhaps Tiffany Fields’ adage of “moving the skin,” whether we do it ourselves through self massage or breath or movement practices, through tools, or eventually when massage is again available, will allow enough self regulation and ventral vagal tone to provide a soft place to land during a time of uncertainty.

References:

Dana, Deb. (2018). The Polyvagal Theory in Therapy. New York: W.W. Norton & Company

Grandin, Temple. (2014). The Austistic Brain: Helping Different Kinds of Minds Succeed. Boston: Mariner Books

Kelnter, Dachen. (2010). “Hands on Research: The Science of Touch” UC Berkeley Greater Good Magazine, September 29, 2010

Porges Stephen. (2017). The Pocket Guide to the Polyvagal Theory: The transformative power of feeling Safe. New York: W.W. Norton & Company

Scoliosis: Combining ATSI and Schroth Method to Facilitate Change

MEREDITH STEPHENS

Meredith Stephens, MS, PT, DPT, LMT, BCSI is a certified Anatomy Trains instructor, Pilates instructor and certified Schroth Barcelona Institute physical therapist. She currently practices with her mask in New Hampshire, USA. email: bodyworks12ds@gmail.com

As Bodyworkers, we learn how to address the twists and turns in the spine. Through years of working with clients, we learn that a truly straight spine is rare. But those twists and turns we so diligently work to unwind in our clients, that we often call ‘scoliosis’, really don’t meet the diagnostic criteria for scoliosis. While it may seem picky, it is important that we do not label clients with something they do not have!

I have combined my treatment approach as an Anatomy Trains Structural Integrator (ATSI) with my training as a Schroth Barcelona Institute physical therapist to develop programs that promote more balance in soft tissue, improve sensory and postural awareness, help unwind scoliosis patterns and reduce pain. This article seeks to deepen our understanding of scoliosis and how the application of tensegrity principles, exercise and our skilled touch may facilitate change in our clients.

The word scoliosis comes from the Greek word skolios, meaning ’bent’. It is a three-dimensional deformity of the spine that changes the shape of the bones and their alignment.

Individual vertebra become wedged and rotated. The vertebrae also are shifted and rotated in the spinal column changing the geometry of the entire spine. Hallmarks of scoliosis in the spine include lateral bends in the frontal plane, rotations in the transverse plane and a flattening of the sagittal thoracic curve. The change in spinal alignment causes the ribs to become compressed and deformed, creating a rib prominence (a.k.a a hump). Often the pelvis will be shifted, rotated and tilted and there may be a virtual or true short leg. Other common features include an asymmetric waist, uneven shoulders and an uncentered head.

The Scoliosis Research Society describes many different types of scoliosis. Several of these are idiopathic, meaning we do not know the cause. Idiopathic scoliosis may be of infantile, juvenile, adolescent or adult onset. Less frequently, scoliosis may also be the result of a neuromuscular condition such as cerebral palsy or Arnold Chiari malformation. Syndromic scoliosis is when scoliosis results from another condition including connective tissue disorders such as Ehlers-Danlos or Marfans or from sequelae of muscular diseases such as polio or muscular dystrophy, or from certain genetic conditions such as neurofibromatosis. If you work with older adults, you may also encounter age related degenerative lumbar scoliosis in clients who did not have a history of scoliosis.[1]

Adolescent Idiopathic Scoliosis

As the name implies, adolescent idiopathic scoliosis (AIS) has no known cause. Over 80% of people with scoliosis have adolescent idiopathic scoliosis (AIS), making it the most common type of scoliosis.[2] Yet, only ~2.5% of the general population has AIS.[3] Girls tend to have scoliosis more often than boys and they are more likely to have more severe scoliosis. The primary structural curve is most often thoracic or thoracolumbar and less often in the lumbars. In addition to the major structural curves, compensatory functional curves may also develop.

While the cause is unknown, one prevalent theory is that vertebrae are already wedged or deformed at birth and that it is not until the growth spurt during puberty that the curve begins to take off. (Because of the risk of rapid progression at this age, anyone working with teenagers should be part of a team including the physician and scoliosis trained physical therapist. Once diagnosed, growing adolescents require frequent monitoring to assess curve progression and the need for therapy, bracing or both.) Progression in the teenage years comes primarily from soft tissues, including the discs and endplates.

Most of us are familiar with thoracic kyphosis where the vertebrae are wedged and wider posteriorly. The wedging causes the vertebrae to shift posteriorly creating an increased thoracic kyphosis. In scoliosis, the vertebrae are wedged and wider both anteriorly and laterally. The wedging promotes both forward, lateral and rotary movement of the vertebra on the one below it. If we think of our spine as a tensegrity structure, the abnormal shape of the compression members, the vertebrae, change the tensional forces in the surrounding myofascia. According to Heuter-Volkmann’s Law (think Wolff’s Law for the spine), the asymmetric tensile and compressive forces on the bones create further wedging. Rapid growth, habitual movements, poor posture etc. compound the interaction causing the bones to continue to shift anteriorly and laterally and to rotate. The lateral shift creates a bend. The coupled motion of bending and rotation create the rib prominence we see in scoliosis. (Fig 1) The antero-lateral movement also flattens the normal thoracic kyphosis. As the curve progresses and the kyphosis flattens, the spine may become inherently unstable, creating pain. This is why extension, rotation and lateral bending exercises are not a good treatment strategy for those with scoliosis.

Adults and scoliosis

Some adults are not diagnosed with idiopathic scoliosis (IS) until adulthood. People with a diagnosis of adult IS tend to be younger and may have had a longstanding undiagnosed AIS. Others were diagnosed with AIS as teens and may or may not have had treatment. Progression occurs much more slowly in adults than in adolescents. Progression also comes from further deformation of the bones. One study estimated progression at about .5 degrees annually.[4] These small changes add up over years, and can lead to degeneration, nerve impingement and pain. Additionally, functional lumbar curves may become structural over time. When working with adults, we want to slow or even halt the progression of the curve by teaching our clients how to realign their body and strengthen it in a less compressed, bent and rotated position. While we may not be able to change the bones, we can address the abnormal forces that surround them.

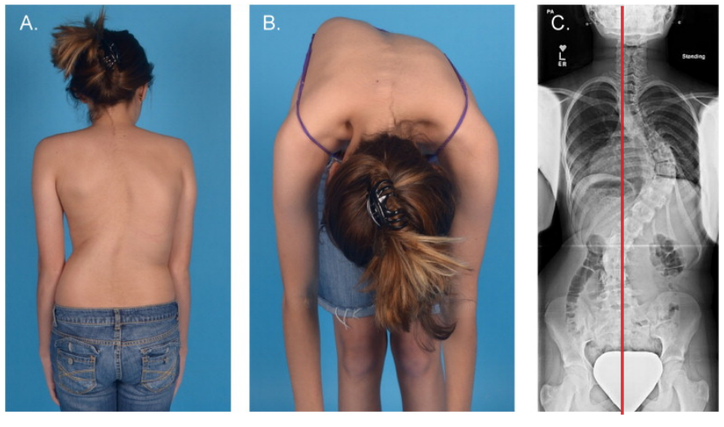


Fig 1 3 curve AIS. Note the change in the shape and spacing of the ribs. Vertebral wedging is also evident. The pelvis is shifted to the left, but the majority of weight is on the right side of the central sacral line (red).

Degenerative Lumbar Scoliosis

If you work with older adults, you may commonly see an adult onset scoliosis known as degenerative lumbar scoliosis (DLS). Unlike adult IS, it is diagnosed later in life. The majority of people with DLS are in their sixties and older. The older you get, the more likely you are to have DLS. It begins in the lumbar spine as a result of age-related asymmetric degeneration of the vertebrae, facet joints or discs. This can be due to injury, fusion surgery, osteoporosis, poor posture, pelvic obliquity or a prolonged leg length discrepancy. In addition to the primary lumbar curve, there may be a compensatory curve in the thoracic spine.

Curves may progress at ~1-6 degrees a year. Degeneration may result in ligamentous laxity, creating spinal instability. People with DLS are more likely to have facet joint deterioration, central or foraminal stenosis, weakness and radiating nerve pain. To help ease the nerve impingement, they may adopt a flexed knee, posteriorly tilted pelvis and flattened (flexed) lumbar/low thoracic curve and forward head posture. Because of the stenosis, nerve impingement and potential for osteoporotic fracture, caution should be exercised when working with this population. It is a good idea to work with a physical therapist when you are not comfortable treating someone on your own.

Diagnosis

Diagnosis is made by X-ray. The Cobb angle measures the lateral curvature of the spine and is used to diagnose scoliosis and determine the severity of curves. (Fig 2) A lateral curve of at least 10 degrees is needed for the diagnosis of scoliosis. We name the frontal plane curve by the side of the convexity. A right thoracic curve is convex on the right but bent to the left. Because of coupled vertebral motion in the spine, the bend will be accompanied by a rotation, most often in the opposite direction. The vertebra that is most lateral or shifted in the convexity is called the apical vertebra. Due to

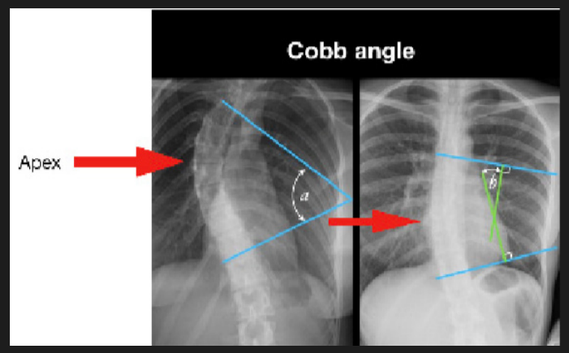


Fig 2. Measuring Cobb angle from the top vertebra to the bottom vertebra of the curve. The apex is the most shifted and rotated vertebra. Sometimes the apex is at the disc.

coupled motion, the apical vertebra is also the most rotated.

Scoliosis curves are categorized:
Mild: 10-29
Moderate: 30-49
Severe: > 50

The more severe a curve is, the more likely it is to progress. People with more severe curves are also more likely to have impaired breathing and organ function, psychological and self-image issues, and pain.

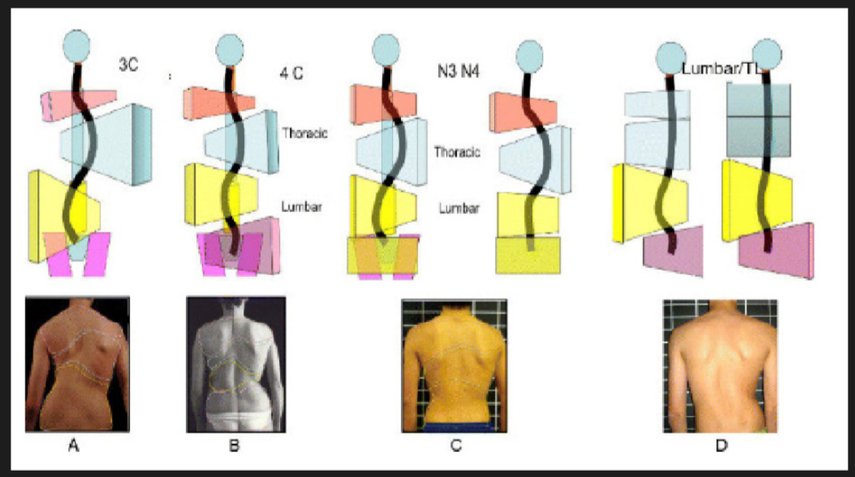
In the clinic, we also use the Adam's forward bend test as a screening tool to assess the lateral bends and rotations and help determine if a curve is structural or functional. A functional curve is one that appears to decrease upon forward bending. Scoliometers may be used to detect the amount of rotation in the spine and where the most rotation occurs.

What does it look like?

Traditionally, scoliosis curves were named either a C curve or an S curve. These classifications lack specificity and the ability to delineate the nuances of the varied scoliosis patterns. More recently, Rigo has defined several AIS curve types.[5,6] The new classifications are 3 curve, 4 curve, non-3 non-4 curve and single lumbar/thoracolumbar. In depth discussion is beyond the scope of this article. Schroth Barcelona uses a block system to describe how the major blocks move in different scoliosis patterns, making it easier to identify rotations, convexities/prominences and concavities (hollows). (Fig 3) Understand that there can be variation within the patterns. The spine doesn't always get the memo on how it is 'supposed' to behave!

Fig 3

The 4 block diagram. Red is shoulder block, blue is ribcage, yellow is lumbar, pink is pelvis. Note in 3C, lumbar and pelvis tend to move in one block.



(a, b, c, d): The BSPTS system of scoliosis curve classification illustrated with photographs and body block diagrams. The four scoliosis curve types in this classification system are 3C (a), 4C (b), N3N4 (c), and single lumbar or thoracolumbar (d). The 3C curve is a major thoracic scoliosis curve with a compensatory lumbar and pelvic shift (a). The 4C curve is a major lumbar scoliosis curve with a thoracic and lumbar shift (b). The N3N4 curve is a major thoracic scoliosis with or without a lumbar curve but with the pelvis in a neutral position (c). The single lumbar or thoracolumbar curve is a single curve scoliosis with an uncoupled pelvic shift and no thoracic curvature (d)
** Blocks let us see rotation, convexity/prominences and concavities.

Physiotherapy scoliosis-specific exercises – a comprehensive review of seven major schools - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/6a-b-c-d-The-BSPTS-system-of-scoliosis-curve-classification-illustrated-with_fig127_305851396 [accessed 12 Jul, 2020]

Treatment

Often, clients' goals are to reduce pain and improve appearance. To that end, we work to reorganize our client's tensegrity structure and develop new neuromuscular patterns to realign their body and be more adaptable to the forces of gravity and everyday movements. As Judith Aston has said, we work with 'what is'. We may not be able to change the shape of the deformed bones, but we can certainly address the soft tissue patterns that result from and contribute to a worsening of the pattern.

Tactile cues to facilitate containment of the convexity (client's right) and assist the client to breathe into the concavity to encourage expansion (left).

Assisting client out of his pattern into a de-rotated position while in traction to decrease lateral curvatures.

Myofascial soft tissue technique along SBL and Lateral Raphe. Client elongated in traction and de-rotated and encouraged to breathe into concavity to facilitate expansion from the 'inside out'.

Client is encouraged to have a daily practice of individualized corrective exercise that includes traction, self elongation, passive and active de-rotation, tensegral breathing and isometrics. Daily practice is key to making change.

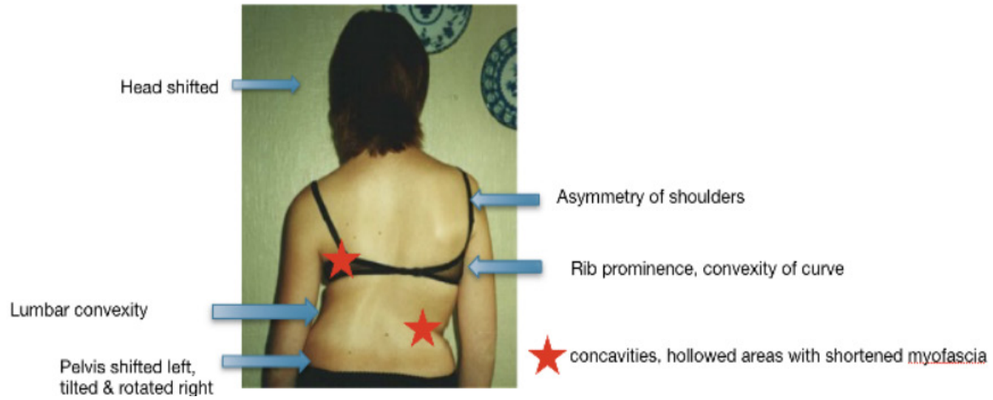
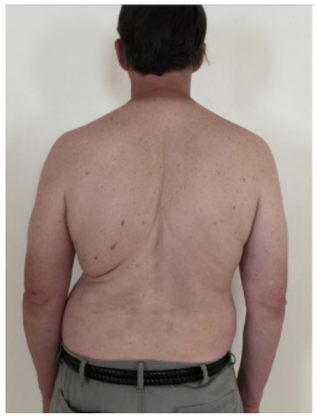


Fig 4. A 3 curve right thoracic scoliosis pattern. Note the flattening in the thoracic curve. Because the pattern is asymmetrical, the treatment is asymmetrical to bring a more neutral alignment back into the body.



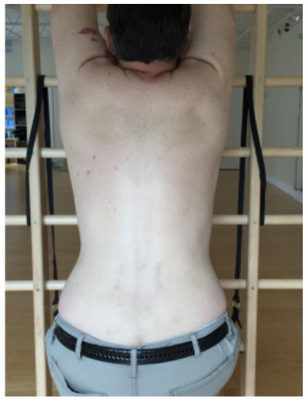


Fig 5. 60 y.o. male with DLS and single segment lumbar fusion. Notice the shift and compression that the bends and rotations create in the spine and the obliquity of the pelvis. There is a large area of concavity in the left thorax and prominence in the right thoracolumbar area.

Supported partial hang (feet and knees on rungs to limit traction force) with alignment cues for de-rotation. Note the unwinding and neutralizing of the spine, ribcage and pelvis. Targeted breathing, soft tissue techniques and isometrics are performed in this position to reinforce expansion and alignment. (**caution must be exercised when working with anyone with a fusion. Must be more conservative to avoid hypermobility syndrome at transition points.)

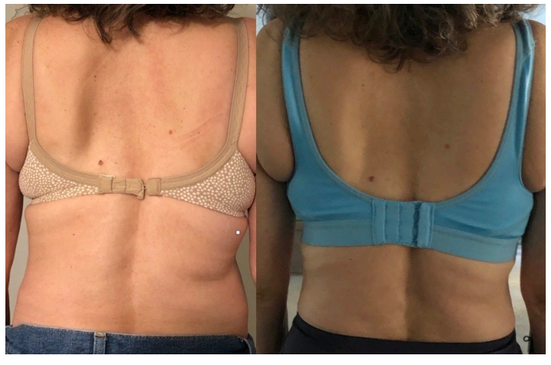


Fig 6. 58 y.o. female with AIS and complaint of low back pain. Picture at left is first day of treatment. Picture on right is after 6 weeks with 4 treatment sessions and daily practice of home program. Back pain was resolved.

Since scoliosis is a triplanar deformity of the spine that impacts the entire body, it requires us to work in all three planes to fully address the total body postural pattern. So, this isn't just a back line or lateral line problem! It's all lines, all the time interacting with the bones and nervous system. Because the pattern is asymmetrical, the treatment is asymmetrical. Scoliosis patterns create areas of convexity/prominence where the tissues are stretched and expanded and areas of concavity where tissues are shortened. (Fig 4) The deeper structures will be impacted by torsional forces. The diaphragms are not aligned, having a negative impact on breath, core stability and function. In our work we, "put it where it belongs and call for movement." (Note: while I am focusing on the 'blocks' in this article, we do work the entire body!) Finally, remember that the pattern took a long time to develop. In addition to the work of the practitioner, this method requires the client to practice the positions, breathing and isometrics regularly over time to make changes in their body.

Treatment includes the following:

Align the skeletal geometry. Orient the pelvis over the feet in all three planes. Actively elongate the spine to 'turn on' the stability system in a more neutral alignment. Use micro-movements to actively unwind rotations. Practice with a mirror at first to stimulate mirror neurons. Pads and wedges are also used to de-rotate the spine and tractioning helps to maintain elongation. Start with gravity minimized positions and progress to higher challenges. Take advantage of positions that encourage righting reactions to align the body.

Traction. Katarina Schroth used ladders to traction and elongate the spine.[7] Bands and straps are used to traction in all positions. Tractioning can help lengthen shortened tissues and decompress the spine. (Fig 5)

Tensegral Breathing. Breath creates tensegral expansion. Use it to reopen shortened/forgotten areas and balance soft tissue tone from the inside out. To encourage the ability to selectively expand, use imagery such as imagining they are blowing up a long balloon from the back left to the front right ribcage and not letting the air escape on the exhale.

Isometrics. Strong isometric contractions pretension the body. They help to reinforce the new alignment by strengthening myofascia in a more evenly elongated, neutral position. They also provide sensory information to the brain.

Touch. Touch is a powerful tool for change. Our touch can help re-awaken lost areas of the body and communicate with the nervous system. Touch cues can assist clients in understanding where to expand and focus their breath and where to use their muscular efforts to contain over-expanded tissues. Myofascial touch as performed in ATSI work can enhance sensory input and improve glide, hydration and tissue balance, facilitating expansion, awareness and change.

Remember to assess posture and take photos. Sometimes change occurs slowly and we do not recognize it until we compare photos (Fig 6)

Important guidelines:

• No pain! If a position or correction causes pain, avoid it…for now.

• Progress slowly. Allow clients to absorb and assimilate the new information you are giving their body.

• Practice, practice, practice. We provide a window of opportunity in our treatment. The client's daily practice makes the lasting change. Once a client meets their goals, a less intense maintenance program can be employed.

This work is not for everyone, nor is it the only way to address a scoliosis pattern! It requires time and concentrated effort from the client and the clinician's understanding of the client's unique pattern and challenges. However, the changes can be profound.

Selected References:

1. Scoliosis Research Society. What is Scoliosis? https://www.srs.org/patients-and-families/conditions-and-treatments/parents/scoliosis Accessed: 3/31/20.

2. Weiss HR, Lehnert
Schroth C, Moramarco. Schroth Therapy: Advancements in Conservative Scoliosis Treatment. Germany: Lambert Academic Publishing; 2015.

3. Asher MA, Burton DC. Adolescent idiopathic scoliosis: natural history and long term treatment effects. Scoliosis. 2006; 1:2. http://www.scoliosisjournal.com/content/1/1/2 Open access.

4. Sure D.R., LaBagnara M., Smith J.S., Shaffrey C.I. Defining Adult Lumbar Scoliosis. In: Klineberg E. (ed) Adult Lumbar Scoliosis: A Clinical Guide to Diagnosis and Management. Cham, Switzerland. Springer International Publishing, 2017. https://doi-org.ezproxy.neu.edu/10.1007/978-3-319-47709-1

5. Rigo M, Villagrasa M, Gallo D. A specific scoliosis classification correlating with brace treatment: description and reliability. Scoliosis. 2010; 5:1. http://www.scoliosisjournal.com/content/5/1/1. Open Access.

6. Rigo M. Patient evaluation in idiopathic scoliosis: radiographic assessment, trunk deformity and back asymmetry. Physiotherapy Theory and Practice. 2011; 27(1):7-25.

7. Lehnert-Schroth C. Three-Dimensional Treatment for Scoliosis: A Physiotherapeutic Method for Deformities of the Spine. Palo Alto, CA: Martindale Press; 2007.

A CONVERSATION WITH LIZ STEWART

Julie Hammond

Julie: Hi Liz, I am so excited to feature you in our latest E mag. We have known each other for a few years now and we have had great conversations. I loved, during my self-quarantine, that we had a zoom call and got to talk about Touch. I know who you are and what amazing things you do for the SI (Structural Integration) community but can you give our readers some information about your history? Where did you grow up?

Liz: I grew up in New York City, in Manhattan and also in New Jersey, just three miles from New York City; my parents were New Yorkers. My father was a biologist and a paediatrician at Colombia University. My mom was an opera singer and we were always in New York City. I'm 57 now but as a kid we were allowed a lot of freedom to be independent, like riding the subway alone or with my friends when I was 10 or 11 years old, which I don't think would exist today.

My mom was in music and theatre. She practiced at Carnegie Hall so we got to go to Carnegie Recital Hall and while she was having her voice lessons, the four of us (my siblings and I) got to run around Carnegie Recital Hall and watch ballerinas, and other vocalists. I remember I would watch how they walked and I would try to mimic them and kind of get into the life of somebody for an hour. My personal life was kind of stressful and I was not a happy kid. My parents were big personalities in their fields. My father was a doctor for anorexics; he was the pioneering doctor for eating disorders.

I was exposed to a lot of art and culture and dance and literature. I come from a highly academic family. I did not do well academically, I was one of these feeling kids.
I also had a lot of childhood surgeries on my ears, my nose, my mouth, and so I was a sick kid. I had tested positive for tuberculosis and ended up spending a lot of time in the hospital.

I didn’t like studying at all, I liked people. I did like learning through experience but school was hard for me. I was strait laced but when I got to college I discovered partying and The Grateful Dead which became a pivotal band in my life. I went to college, in rural NE Tennessee in the mountains, and fell in love with nature. I had an accident in my senior year, a big fall, where I dislocated my shoulder pretty severely and that ended my education and after surgery I didn’t want to go back. My parents were like, what are we going to do with her? We don’t know what to do. They got me a job at IBM, through a friend of theirs. I started working at IBM and discovered to all our surprise that I had a photographic memory. I could look at numbers, and sequences of numbers, and put patterns together. I started going up the ranks at IBM. By the time I was twenty-six I was in management. And then everything shifted when I got Rolfed…

I had everything I really wanted but I wasn’t happy. A neighbour said, ”you know if you’re not happy you ought to go try some Rolfing.” I had no idea what that was but being in Boulder, I thought… why not!

I also was a really chubby person. I struggled, I was not so happy in my life and I was not embodied. I’d been in therapy for a good chunk of time but I just couldn’t figure things out. I heard about Rolfing®, went to get Rolfed and my life started shifting. Actually, it radically changed. I had that first session and I had this experience of, “oh, I’m here, I can breathe”. My psychotherapy started to gain momentum. I started to get more comfortable in my skin. So, I quit my job, I got on a plane, I went to Brazil, I started my journey.

Julie: You trained at the Guild, is that correct? How come you started your journey in Brazil?

Liz: I trained at the Guild of Structural Integration and I did my first phase, they have two phases, so I did my auditing phase in Brazil with Peter Melchior. Nilce Silveira was the assistant, she’s now a teacher. I was one of two Americans. I had no idea at the time that Peter lived in my same little town outside of Boulder. David Davis taught the anatomy.

Julie: Can you just explain what auditing is, as ATSI as a school don’t have this?

Liz: Auditing is the portion of the Guild’s Structural Integration training that, for the first eight weeks you’re asked to observe. And, to me, this is the essence of why I love this work. The hardest part of the training is having to sit there and learn to see. And because our work is really visual, not only do we have to learn how to see structure, but we have to learn this idea that seeing is touch at a distance. When you’re having to observe, you have to sit with yourself, you learn the series through observation, you have teachers dedicated to you, to help you understand what each step of the way is in the series. You’re also brand new, and everything is awakening your senses.

So, you’re getting to watch the teacher work, the assistant work and the practitioners at the end of their training. But you’re also having to notice what happens in your learning process of observation. So you get to train your eye, so that when you get to the practitioner phase, which is the next phase, you are ready to touch. Then as the practitioner, you’re taking a partner through the work. So in auditing, we were not touching, at least when I was trained.

When I became an assistant instructor, I wanted my auditing students to touch and explore touch; we all have our own way to do it.

But the classic way is, you sit, you watch, you take notes, you write up your own recipe. So you create your own map, understanding that the map is not the territory. And you go off, and you have a break. When I trained, you could have maybe three months to a year off. And then you would come back.

And then the practitioner phase would begin. You would do one exchange with a partner that you would go through the whole training with. I love that I'm still friends with my partner. One thing Ida Rolf wrote about that was paramount to my training was honouring the wisdom of insecurity. Knowing what you don't know has value and is part of understanding how you learn.

I audited with Peter and then I practitioned in Boulder with Emmett Hutchins.

Julie: When did you start assisting yourself?

Liz: I lived in Boulder and I had left my job at IBM. I completed my training with the Guild, and they needed help in the office. So I became the office administrator. I worked at Emmett and Richard's home. Richard Stenstadvold was the president; he and Emmett were life partners. The school was run out of their home office where Ida Rolf had also lived at one point, in Boulder. Eventually they moved office, and I went with them, as the office helper. I was typing a lot of letters so I was quite aware of the politics going on between the Rolf Institute and the Guild at the time.

I was quite poor at that time. I'd left my big fancy job, gave up corporate America and bought a 25-pound bag of rice and a 25-pound bag of beans, and I lived in the mountains in a cabin. It was very rustic. I gave up life as I knew it and I just said 'I'm gonna make this work.' I would show up at every single class at the Guild and watch the teachers' and the assistants' demos. And then I'd leave.

And they said, 'you know, we take photographs, so why don't you take pictures for us?' I got to run the polaroid. People would stand and I would take their before and after, and we would hang them on the walls. At a certain point, Peter invited me to be an assistant and I started to assist in classes.

Julie: I'm so excited you've just said all that because it's not just me who believes assistants need to take the photos and clean the classrooms, do all of it, to be a good teacher.

Liz: The benefit of doing all these jobs is that you can really identify with the student. When I became an assistant, I was so nervous. But Peter would say 'you're closer to the student than I am'. So I could also help them set up the sheets, take the sheets off the table, hang the pictures, and really get trained to be in practice. And in Boulder, where the "who's who" was at that time, Peter and Emmett were there. Jan Sultan, Tom Wing and Heather Wing were all there, all these known names.

I started assisting but at the same time Peter invited me, along with my original Rolfer, to work in a medical clinic. This clinic was run by a physician, Dr Joe Swartz. He was a family practice physician and was also a Rolfer. He had an integrative medicine center in Boulder. A number of Rolfers and Guilders, even Peter Levine, the Somatic experiencing icon who had trained in Rolfing, was working there. There were somatic experiencing practitioners, Pilates instructors, psychiatrists, body centered psychologists, Rolfers, Guilders, movement practitioners - Jane Harrington, an original movement faculty, and Heather Wing - were also there. None of us got paid well but we all got to be together and learn.

I started to study somatic experiencing and movement work that really worked well with SI. Now at that time, you could not train at the Rolf Institute at all. There was no friendliness between the Guild and the Institute. I'm assisting also and trying to establish a practice. So my way of learning was to call up different Rolfers and say, 'I have $500 that I've put away, could you train me? What would that look like?' I would show up in their office and they would mentor me. And they would offer me support.

And so, I did that. I shared an office with Peter, and I had a lot of help. And certain Rolfers would say, ‘why don’t we set up a study group?’ And so, some of us from the Guild and the Institute would get together as a cohort, and we would show up, and one of these teachers would teach us. It was really warm and friendly amidst a lot of politics that weren’t our politics.

At the Guild there was always the encouragement to take a continuing ed workshop every year. So I took every possible workshop I could. Either in exchange for work trade, or for a lower fee.

I got to study consistently. I learned If you practice this thing over and over and over, it will start to make sense. I was lucky to train with some great names; Dorothy Nolte, who taught her movement system, Structural Awareness. She was the person who did the movement work with the kid who became the little boy logo of the Rolf Institute. She trained a handful of us before she passed away. I got to work with Heather Starsong, and I learned Rolf movement with her privately. Against all the rules. But I wasn’t looking for certification, I was looking for education.

I trained with Gael Ohlgren who had trained with Ida Rolf when she was nineteen. She was a movement and continuum movement teacher, and a Rolfer and Rolf faculty. I also trained with Stacey Mills who trained with Ida Rolf before Peter and Emmett. She was teaching at the Guild, but I was spending outside of the classroom time with her.

I learned from direct students of Ida Rolf’s. Which gave me a certain lens of ‘this is the recipe but even within the recipe or the series, we each have our own way to apply it.’ Take the goal and find your way through. So I got that as a very valuable tool.

I then started to assist to get as much infusion and to learn how to see, because seeing, to me, was my great challenge.

Julie: Tell me about your early years as a practitioner, how did you find your style? As a teacher I find that is often the hardest thing for students to be able to see their strengths.

Liz: As a practitioner, I was still uncomfortable, even though I was very passionate about the work. I started a private practice and I had a lot of support but Boulder was not the place to be because the “who’s who” was here, and at that time I was just nervous and compared myself to others. I was so nervous that I would count, I would say, ‘how long am I supposed to have my hand under here, I don’t really know what I’m doing. So I’ll just count to thirty and then I’ll take my hand out.’ Unbeknownst to me, it still worked!

When you’re new, you’re given this recipe. You don’t know what to do. But actually, if you follow it, it works.

And if you pay attention to it, you start to grow into it and eventually get to see that there’s a person that I can see more with. And then, all these other trainings that I had done started to make sense. And at my own timing, I could start to go, oh, I understand there is trauma. Now I can feel what tissue feels like. Now I understand I can add movement here. And I had to do it at my own pace. I left Boulder, and went to Atlanta Georgia, and I worked with a Rolfer. And the Rolfer was also really pivotal in my education as we did not connect at all. She had trouble with the fact that I was quite chubby; I’d been chubby most of my life. Not so much now, but I was. She had trouble that I only did ten sessions.

And she would look at a client and say ‘oh, you’ve got the worst (fill in the blank) I’ve ever seen. You’ll need at least forty sessions.’ And I’m thinking, that’s not what I was taught.

I started to get my strength there, because eventually, you always learn things, so I learned how I would never work. I have that motto of ‘you learn from everybody.’ You’re going to learn how to work, how not to work, what to stay away from. And, who am I in this work? I decided I had to leave and one of her clients actually said, ‘I have a place for you to rent. You’re moving into my house.’ And about a week later, he had a big party, and he said, ‘ok Liz, I’m going to introduce you to all my friends.’ He said to his very wealthy friends, ‘guys, take your shoes off, and let her look at ya.’ And I was just terrified, I looked at how everybody’s feet were. And I said, ‘oh, your feet go out, and oh, your feet go in, oh, you’re not really standing on that part of your foot.’ I picked apart what I could see, and from that, within weeks I had a full practice in Atlanta. And I was in my first six months of work.

I spent two years in Atlanta. There were four of us that were practitioners; I was the Guilder and the rest were Rolfers. Libby Eason called me up and she said, ‘we have a little group, why don’t you come join us.’ They were very, very welcoming and warm, even though there were still politics going on and we met and we talked with each other.

I then went back to Boulder, and suddenly I had confidence. I just worked and worked and worked and I came back and thought, oh wow, I can do this, and that’s when I started assisting Peter and then Emmett invited me too. He had his primary people, but he would have me in, here and there. Peter really mentored me. Other people had me come in and assist at workshops and so I was just immersed in the work. And that’s pretty much how I got started.

Then I had a private practice and I just worked. And I fell in love with the work and here I am. I never kind of diverted out.

Julie: When did you become a teacher?

Liz: I didn't become a teacher for fifteen years and I was very heartbroken about this. I was watching my colleagues at the Rolf Institute become teachers within a year or two. It really, really pulled on my heart strings, I had a lot of trouble with this. But I'm really grateful now because I got to really learn how to be in the assistant role. I got to learn how to go slowly. I got to refine things. And eventually Peter said to me, 'Liz, I don't think there's a place for you at the Guild.' He suggested I go to Salt Lake City and go and apply for a teaching job at the massage school where they taught Structural Integration. So I went there, and I didn't like it.

Then Peter said, 'there's a teacher in Germany called Herbert Grassman.' Herbert invited me and I went and did a workshop for Herbert. We had some trouble. We had a lot of trouble together, which I'm really grateful for, because I really learned how to have challenging times and repair them. Herbert's a wonderful person and he helped me slow down.

I did a workshop for his students and I ended up going to Berlin to teach the series to practitioners who wanted to learn more about how the Guild did it. I was not part of the Guild. And I taught there every six months for three years. Re-teaching the recipe. All being translated. So the translation really helped me slow down again.

I came back to the Guild to teach again. I was invited to teach and that was very exciting, but I kind of finally realised, 'I don't know if this is how I want to teach…' One of things that happened to me was, I started to study, after Germany, this idea of transference and counter-transference. In our schools, and I know we have it in all our schools but, people put a lot of emphasis on the teacher. When I really truly believe the teacher wants to put emphasis on the work. So it became, 'Peter says, Emmett says, Ida says…' And I wanted to know, 'what do I have to say? What do my teachers say, instead of what their teacher said?' This was the beginning of understanding that I was having a reaction and wanted to study this more deeply.

So in about 1998, I started my journey in studying group dynamics. Because I didn't want it to be about the guru. I really wanted to come back to teach and make it about the work. And figure out, is it possible to do that? I still don't know if it's possible. I think it's a real uphill battle. Because we all want to attach to our teacher.

Julie: I very much believe in team teaching. The students get to hear the voices of all the team, because we each have something different to offer. And I also want to hear the students' voices. I need to hear their voices so I can adapt to that, and where are they and what are they feeling? And them getting used to their voice. And I love hearing my team's voices. I love watching them change and go and get more comfortable in their style. So, I do think it can be done.

Liz: One of the things Peter did say to me was – there were two very pivotal experiences as an assistant. He said, 'I want to hear what you say.' And I said, 'what if I don't agree with you?' And he said, 'I still want to hear it.' So I went in saying what I thought. It didn't always go that well…

The thing that he taught me was that my voice actually matters. And so he supported me in having my voice. And so, even difficult experiences in the classroom, shaped me.

Julie: Tell me about the supervision group work you do.

Liz: I went into group work and I went in to study what happens as a teacher in the classroom when I start to feel too many things and I'm taking it home. I don't necessarily like a student, or they don't like me. Or, 'why do I act one way with one person and one way with another?' And I translated that into my practice. And, 'how am I slowing down enough?' Again, how to see things differently. And, 'why is it that I work one way with one client and another way with someone else?' Or, I go home and I don't feel good. And all the standard things that people would say like, 'wash your arms from your elbow down, or put crystals under, or (I don't drink but) go have a drink'. None of these things worked for me.

I started to really study how certain techniques focusing on interpersonal skills could help me. That's how I got into supervision and getting supervised, and studied that.

So that's kind of my big history. In the midst of that I got married, divorced, had a kid. My mother died, my father died. And Peter died. Again, I learned more about how to be in the world.

For me, the whole path is a personal path of discovery. Of 'who am I?' And, 'what do I value', and 'what's my flavor?' And so all of these things kind of created my flavor of work.

HE SAID, 'I WANT TO HEAR WHAT YOU SAY.' AND I SAID, 'WHAT IF I DON'T AGREE WITH YOU?' AND HE SAID, 'I STILL WANT TO HEAR IT.' SO I WENT IN SAYING WHAT I THOUGHT. IT DIDN'T ALWAYS GO THAT WELL...

Julie: Personal path of discovery. I love that. I just wrote a piece on social media about lessons learned in business, and would I change any of it? No. Because, each of those things makes you who you are. And you learn from them. Good or bad, you learn. They make you the practitioner you are, I feel, the teacher, the person.

Liz: Yeah. Was there something in particular that really stands out for you that made you the teacher you are?

Julie: I think, finding yourself, your voice, your style, is the key. And being able to own that, and be comfortable with it. Not everybody's going to love you, and that's ok too. So that, for me, was probably the biggest learning experience. It's been a good learning experience, discovery, of yourself. What triggers? Why do you behave that way? What happens? And then just acknowledging your own emotions.

Liz: I think that's the trick, is acknowledging it, and taking it and saying, 'how can I shape this?'

I got into supervision because I'd been getting supervision for a long time. The story behind the supervision is that I taught in Germany, and it was really challenging. I grew up Jewish. I went to Germany and I had no idea that I would have all sorts of feelings that I didn't think were alive in my body. That were dormant in my body but became alive.

So I came home, very overwhelmed, and went into supervision to try and understand what had happened to me. And again, like you just said, these things shaped me.

Eventually, I started to realise, in our community, supervision doesn't really exist. There's a lot of apprenticeship and there's mentoring.

It's just semantics but words have value to me. So mentoring is, to me, 'I want to learn how to work like you. I want to walk into your office, I want to see how you use your hands. I want to understand how you work with vectors, how you see, how you do all these things. And I want to understand your style so I can add that to my repertoire, or my palette.'

Supervision, I finally realised, was 'oh, I'm not learning how to work like you. You're helping me identify how I can work like me. How you can ask me questions, how you can help with my development as a practitioner, how the supervisor can help me understand the ethics of our work, which we don't talk a lot about. Do we socialise with our clients? Do we socialise with our students? What are ways that we think ethically?'

So there's professional development, helping them create their style, helping them understand how to be a quality practitioner which involves ethics. Helping them understand how to take care of themselves. How to create a supportive environment, whether that's in their office or how they go home at night. And mostly a place to talk and present their clients. Their clients, their feelings about their clients.

"Because I really have this sense that talking is as integrative as touch."

Talking is part of our integrative work. We ask our clients to schedule, to interact if they show up late, or not at all, and talk in a session. We want to find out what they notice or feel. As a practitioner, we become experts at touch in this method of Structural Integration but that doesn't mean that we become skilful at how we have inter-personal relationships.

If we can have some supervision and have someone to talk and to debrief with and to share our struggles with, or to ask questions 'how would you do this? I don't know how to do this.' That's what kind of launched this idea of offering supervision. To help people with their professional self. It's not psychotherapy. It's a type of continuing education.

So my vision was that the school would say to them, 'after school, go out and have a year of supervision. And by the way, you'll need to pay for it.' I think that having them pay for it, teaches them about money and how to work with money. How to work with billing. How to work with scheduling. Because they have to be accountable to show up for a session.

I think the big thing is also teaching how to feel good about the boundaries. The boundaries are not to keep people out. The boundaries are to help them feel safe as a practitioner.

Julie: The boundaries, for me, are the important piece. Being comfortable with your boundaries. They are there for a reason, an important reason.

Students are taught how to BodyRead, anatomy, how to touch, the series, you get all of that put together. And then you go out, and you also have to discover the relationship with clients, the relationship with business. Some clients you don't get on with. You know, you're not taught any of that.

Liz: No. And you and I both come from a business background.

Julie: Yes, supervision is just so important, it's that next step that's needed.

THE PHRASE I THINK OF A LOT IS,

‘THERE’S CONTENT, AND THERE’S CONTACT.’

AND WHEN THINGS FALL APART, I NEED CONTACT.

Liz: And it’s uncomfortable. Just the way the training is uncomfortable. But one of the differences is in supervision, and this was always part of my fantasy, that my teachers would be there for me, after class. And then I became a teacher and I’m like, ‘I’m wiped out. I know I said I would be there, but actually I made a mistake. And I’m sorry, and you might never forgive me. Hopefully we can repair but I just don’t have the bandwidth because I have to go back to my practice or back to the classroom.’

So, in supervision, now that I’m doing it and it’s actually quite active, people have a dedicated person to come to. And then I draw from my group training. I’ve studied different methods of body-centered therapies, of analysis that works with body language, and put it all together to create a way to provide supervision for teachers and for practitioners. As practitioners we get isolated, and we need connection and contact.

Julie: The other thing I wanted to chat to you about is – you’ve been helping to keep your community connected. I’ve loved what you’ve been doing.

Liz: I’ve taken a little break, but I did start the private page for Structural Integrators on facebook and I also started the Tracking the Recipe for Structural Integrators. To me, community is really essential. And we work in a very private way. We work one-on-one, unless you’re in a clinic setting. And most of us are kind of isolated.

So, with community, I also think the same thing. We need connection and contact and we need each other because otherwise we can, as a community, kind of get arrogant about our work. ‘I do it this way, I’m a Rolfer, I’m a Guilder, I’m an ATSI, I’m this, I’m that and my way is best.’ And that’s not true. There’s somebody for everybody and when we can bring the different schools of thought together, which is also what IASI does, I wanted to do it more on a ground level.

So I started the facebook groups and then I started supervision groups, but mostly, since covid has happened, I felt as though, not only do we need to come together but we need each other more than ever. Because, I don’t know about life in other countries but, in this country, one day I had an overly full practice and then that ended. And not only did I not have work, but there was no foreseeable future of work. And people I know personally, my friends’ parents, are dropping dead from this virus. And then I get sick. But even within that, I still was longing for connection.

So I started to read a book online, and I started to reach out to people. And I could do it when I felt well. I grew up in a family where we took care of each other, even when things weren’t ok.

So that’s what I have attempted to do in this covid environment and I will continue because it’s become now reciprocal. There are people that speak the language that feeds me, and I feed a language to some people. There are other people that need education, and there are folks that are doing that and there’s something for everybody. So I was just trying to do the piece, honestly, that I needed.

Julie: It’s interesting, I taught in Hong Kong, came back and was in self-quarantine. And then we spoke and for me, as an introvert who thought it would be really easy, it wasn’t easy. I needed connection, I needed community, I needed touch. So, I learnt a lot about myself in self-quarantine.

Liz: The phrase I think of a lot is, ‘there’s con**tent**, and there’s con**tact**.’ And when things fall apart, I need contact. So I needed contact with people and I remember when we talked, that actually made me feel connection again. I think connection is what we need as practitioners.

Can I add something that’s important to me that I feel like I need to say? There’s so much scism in our community. Everybody has an opinion and, this school hurt this school’s feelings, or this teacher said something this teacher didn’t like, and I really think that with the covid virus, the one thing I did was, I had really stepped away from the Guild. And a lot of hurt feelings. I called them up and I said, ‘can we repair?’ And we’ve been slowly repairing. And I feel good. (This is Guild in Salt Lake City.) And then I just volunteered to teach a free 3-week class, one hour a week for three weeks. But that’s not the important thing. The important thing is that, now’s the time, more than ever, for me to believe that we have to repair with each other and we have to get out of our way.

And say, ‘you know what, it’s ok to be different.’ But let’s agree that we can be different and enjoy that. Rather than compete, and have bad feelings towards each other.

PETER SAID TO ME:

“YOU WANT TO GET COMFORTABLE FEELING BIG. WE NEED TO FEEL BIG IN THIS WORK. AND IF PEOPLE ONLY SEE YOUR PHYSICAL BIGNESS, THEY’RE MISSING OUT ON YOU.”

THAT WAS HUGE FOR ME. AND THAT WAS THE BEGINNING OF KNOWING THAT HE SAW ME. HE DIDN’T SEE WHAT I IMAGINED OTHER PEOPLE SAW……..

CHRIS CLAYTON

Human Growth Through Touch

What we feel through touch

Touch is everywhere, it is part of every interaction with our world, our daily activities, using inanimate objects, during exercise and with our loved ones. Touch is so intrinsic in our lives, it has also wound its way into our speech, “I will get in touch” or “it was a touching moment”. Touch is so universally felt, that an emotion or a feeling that moves us, can be related to or identified with the term ‘touch’. I would rather not even try to define the parameters of our touch language, I would rather it run wild and free to be what it is. Some things that it surely must be are an expression of love, and I believe it to be the beginning of healing.

I would like to look at the effects of touch on human growth in two ways; from a philosophical/metaphorical point of view, and by exploring the research that identifies how human touch has physiological and psychological effects on our growth and development.

Philosophically, touch is a form of acceptance. Its absence is possibly a form of alienation. When we touch someone’s shoulder in support, or hug someone, we are literally drawing them closer to us, reaching out with our heart - with our hands and arms being the heart’s diligent instruments of extension.

The first thing that we would normally do (social distancing has temporarily changed this) when someone injures themselves, is to place a gentle hand on an arm or shoulder and ask ‘are you okay’? This touch is a reassurance provided through our skin’s unmyelinated C-Tactile afferent fibres; even without a word we can say, ‘I am here, I will help you.’ Even more so, we are potentially saying ‘you are worthy’. That brings me to the crux of touch as a metaphor. When we touch or are touched, or share an embrace, we are giving a tactile reassurance that communicates worth, love and acceptance. Touch can trigger oxytocin, it can help calm cardiovascular stress and activate the vagus nerve which is connected with our sense of compassion.

We see all these things in the communities of our primate friends and in nature itself. I for one firmly believe in what I term as NDS (nature deficiency syndrome) where we literally lose touch with nature's gifts. We who have pets can also confidently attest to the communication with our furry friends and the comfort that creates through touch.

Touch, in its many wonderful forms, is what helps us grow as an infant and as a child developmentally. As an adult, it helps us grow and develop in that place that is in the centre of us all. Touch is an intrinsic part of love, it grounds us and gives us hope.

Touch comes before sight, before speech. It is the first language, and the last, and it always tells the truth. - Margaret Atwood

Psychology of Touch

Researchers have been able to demonstrate the importance of social connection through touch, and how it shapes us and assists in our emotional regulation throughout our lives. Our unmyelinated C-Tactile afferent fibres can determine and interpret types of touch and even detect the emotion that it was intended to deliver. Touch sensations get delivered to our insular cortex, notably the posterior part of the contralateral insular cortex (Olausson et al., 2002) and mid-anterior orbitofrontal cortex (OFC) (McGlone et al., 2012), both with links to our limbic system which deals with emotion and memory. The limbic system regulates autonomic or endocrine function in response to emotional stimuli and also is involved in reinforcing behavior. No wonder touch can be intrinsically connected to our psychology; it is a part of our sensory input so that we can feel on both the physical and mental side of the coin. ('Social touch and human development,' Carissa J. Cascioa, David Mooreb, Francis McGloneb, 2018) Yet another research paper points out, "as adulthood continues, while discriminative touch abilities decline with age, perceived pleasantness of C-Tactile afferent targeted touch continues to increase into the ninth decade of life" (Sehlstedt et al., 2016). Touch provides that quiet feedback loop that we probably do not realise we rely on for so much confirmation, reinforcement and social reward throughout life, and thankfully it continues as we age.

A touch of research

We often look at science as cold and indifferent and, to be objective, it has to be. What I really like is when science's cold hard facts, which we could easily assume to be in opposition to the philosophical aspects of this subject, instead beautifully reinforce it.

Let's start by taking a quick look at prenatal and postnatal touch. It has certainly been said that touch is potentially our first language, a language that we start to learn in the womb. One study explored changes using ultrasound in third trimester babies. The study used the mother's touch on her belly and the mother's voice compared to a control method. Our noble researchers watched for head, arm, mouth movement and yawning. "Results showed that fetuses displayed more arm, head, and mouth movements when the mother touched her abdomen and decreased their arm and head movements to maternal voice." ('Fetal Behavioural Responses to Maternal Voice and Touch', Viola Marx and Emese Nagy, 2015). So we start learning the beginnings of the touch language before we are even born, surely because it is initially going to be our only form of communication in the early stages of life.

Studies into 'fetal origin of adult disease' (FOAD), have tracked the effects of various conditions from the womb to mid 40's with fascinating results. Some of the outcomes of these studies relate to how touch, or the lack of it, in postnatal environments can have far reaching effects. Very sadly, statistics from orphanages reinforce the importance of touch as a form of communication when there is little or none of it. Statistics show a much higher illness and fatality rate among children who were raised in non-loving (non-touching) environments. Whilst it is sad that such situations exist in our world, it also clearly advocates that we need connection for our growth in the physiological and philosophical sense.

As an example, let's look at 'Stress Induced Dwarfism' (uncommonly low growth rates) ('Somatomedin and growth hormone in psychosocial dwarfism', Saenger et al, 1977), and its relevance to all of us. Stress induced dwarfism is a very rare condition that affects a very low percentage of children. An example was included of a young 7 year old boy who was suffering from the condition and interestingly was admitted to hospital after being found in an unsavoury living situation.

The child took a shine to one of the nurses; she in particular gave him more physical contact and attention, and he began to grow! As the boy was in hospital, they could monitor and record his human growth factor, calories, height and weight, etc. The boy even ate a little less in the hospital, (around a hundred calories a day less). It could have been thought that something else caused his growth change, but he suddenly almost stopped growing for three weeks... Why? His favourite nurse had gone on holidays for those three weeks. When she returned, his growth stabilized and even accelerated. The positive effects of loving touch on human growth affirmed by science, love it!

Adult responses to touch - The human condition

Going by our pre and postnatal experience, we could possibly conclude that this touch thing is something that we only need as children. However, although we may physically stop growing in adulthood, our connection to the language of touch is lifelong. It seems that touch can be so intrinsic in our daily life that we take it for granted, until an event like COVID-19 locks us all down and we start to quickly realise how much we interact using touch and that we all need touch. In another study, people were asked to detect the intended emotion through touch. The participants underestimated their own abilities to communicate through touch, they demonstrated that they could discern emotion via touch quite accurately, ('Touch communicates distinct emotions' Hertenstein, M. J., Keltner, D., App, B., Bulleit, B. A., & Jaskolka, A. R., 2006). This research shows we can detect emotions through touch. If we can detect and discern emotions, then we can also deliver our feelings via touch, and now we have achieved communication. When we can communicate, we can express ourselves to others and gain vital reassurance and acknowledgment in return. Touch sounds like a very special and beautiful language to me.

So touch can assist us in the womb, postnatally during our infancy and childhood and touch also sustains us through all of the phases of adult life. We see and feel touch in action every day. We see its sacred qualities in the therapy that we give and receive. Sometimes we all can feel "out of touch"; recent times are a stark reminder of what "being in touch" really means. What I have learnt is something everyone with a fast paced life can relate to, "make the time to take the time" (a phrase from a good friend) to stay in touch and be truly connected.

AFTER ALL, TOUCH IS HOW WE COMMUNICATE HOPE.

Chris Clayton

ANATOMY TRAINS

COMING SOON – Brand new video course from Tom Myers!

Deeper Ground

Restoration and Vitality for the Female Pelvis

Reach your 'deeper ground' of embodied awareness and strategic confidence.

"The female pelvis – with sexual trauma, periods, birth, and menopause – is not handled well in our society. Not that men don't have pelvic restrictions, but this program – the distillation of 30 years of practice – is focused on freeing and balancing the very cradle of life."

Highlights include:

- Hands-on certainty and technique review for all the major muscle groups
- Assessments and techniques for posterior and anterior pelvic floor, psoas complex, and diaphragm
- Postural patterns and their effect on pelvic health
- Handling fibroids, pelvic pain, diastasis recti, and scar repair
- Expanded anatomy of bones, ligaments, deep muscles, pelvic floor fascial layers – as only Tom can explain it.

Anatomy Trains e-mag readers can take **20% OFF** with the code
EMAGDEEPERGROUND20

Visit: **anatomytrains.com** for details

AUSTRALIAN FASCIA SYMPOSIUM

WWW.FASCIASYMPOSIUM.COM.AU

DR. ROBERT SCHLEIP

ONLINE EVENT
18 – 20 SEPTEMBER 2020

australianfasciasymposium
australianfasciasymposium
fasciasymposium

PROF. SCOTT WEARING

PROF. BRUNO BORDONI

CATERINA FEDE PHD

ANDRZEJ PILAT PT

DAVID LESONDAK

JILL MILLER

KARIN GURTNER

ALISON SLATER

What Is Fascia?

Fascia is connective tissue. Quite simply, it is the glue that holds us together and shapes us. It encapsulates our cells, surrounds each individual muscle fibre as well as our; muscles, organs, nerves, arteries, and veins.
It supports these tissues, binds some structures together, and allows other structures to slide smoothly over each other. It is one of our richest sensory organs, and plays an important role in our perception of posture and movement. It is all of the above and so much more!

Why Is Fascia Important?

Healthy fascia is as important as healthy muscles. Fascia plays an important role in the support and function of our bodies. In its healthy state, fascia has the ability to stretch and move without restriction, allowing relative movement between tissues.

While fascia can be healthy, it can also change in response to stress, trauma, injury, and inflammation. Fascia can thicken and stiffen and lose its pliability. This can result in less flexibility and limited range of motion as well as improper movement patterns. Overtime these factors can result in chronic pain and injury.

What Is The Australian Fascia Symposium?

The Australian Fascia Symposium is an online event featuring globally renowned Leaders in Fascial Research and Applications, presenting their innovative work on the latest fascia discoveries. Topics will range from Where to start to understand the fascia, The latest news from the international science field, Pathway to the pelvic floor, all the way to Molecular Aspects of the Fascia.

The intention behind the Australian Fascia Symposium has always been to *create a space for people to collaborate, learn, and clearly understand how research translates in to clinical practice.*

Who Should Attend?

If you are a Medical Practitioner, Health Professional, Manual Therapist, Movement Therapist, or anyone with a passion for the Human form and how it operates, **join us at the very first Australian Fascia Symposium.** Expand your knowledge of Fascia from the comfort of your own home!

USE CODE: **AT-EMAG**
AT CHECKOUT FOR $50 OFF YOUR TICKET PRICE!


ANATOMY®
TRAINS