

# *Somatic Anatomy*



## *Listening Hands and Tissue Palpation*

By Mary Ann Foster

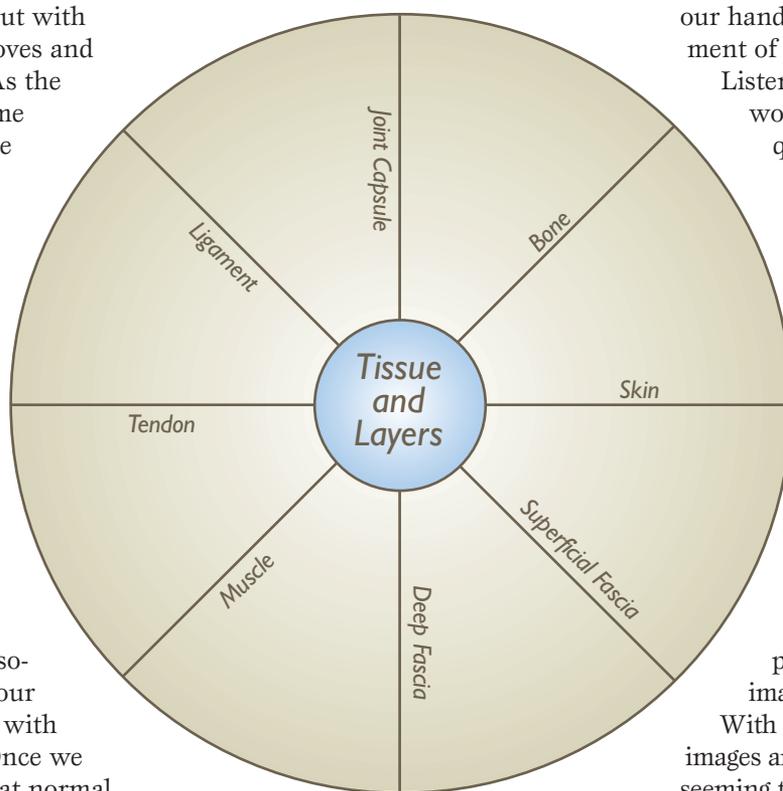
**M**assage therapists are hands-on people. We touch our work. The tactile experiences we have with anatomy during massage are in lively contrast to the precise, organized, and somewhat removed anatomy we study in class. Although cognitive learning is essential, the ability to listen to what our hands are telling us is a vital component of effective massage. We can integrate the two by taking simple two-minute breaks in anatomy class for tactile explorations of a particular tissue on ourselves or a partner.

Sensing the subtle variations in the qualities of various tissues is not so easy at first, but with practice this skill improves and confidence increases. As the subtleties of tissues come into focus, we recognize what our hands are feeling and build a personal database of tactile somatic experiences: “The fascia feels like ... the muscles feel like ...” We can then recall these bits of sensory recognition during our next hands-on experience as guideposts to knowing what we are touching, comparing this with other sensory memories stored in our somatic databases, and with what feels “normal.” Once we have a firm grip on what normal feels like, abnormal becomes more obvious. Also, it becomes easier to detect changes in our clients from session to session, and even during a session.

In anatomy class, we usually study tissues one at a time, yet their intimate and intermingled relationships actually make it impossible to massage any one

tissue in isolation. It is, however, possible to learn to identify and differentiate the tissues through palpation of tissue layers. Palpation helps us make the body-mind connection because we learn not just to listen with our hands, but to understand what we are listening to. It is the ability to relate what we have learned in the anatomy classroom to what lies under hand that makes a skilled and knowing massage therapist.

In the last Somatic Anatomy article, we looked at energetic cellular processes. In this article, we will explore both the anatomical



features and kinesthetic feel of tissue layers, moving down through the layers from skin to bone (see Figure 1, page 110). Note that all of the somatic anatomy exercises presented here can be done on yourself or with a partner.

## Sinking Through Tissues With Awareness

**W**e all reach a level where we know how to give a good massage. With experience, we grow into seasoned practitioners, working with an intuitive wisdom that builds with every client. Experience teaches us what different tissue layers feel like and how they respond. Experience provides us with clues to gauge the depth, rate, and direction of movement in our hands so that we can tailor each massage to the unique and varying issues clients present.

In an effort to give a great massage, it is possible to drown out what we could feel or “hear” with our hands by the diligent movement of hardworking hands.

Listening to our hands as we work and adjusting our quality of touch to individual needs may be one of the most challenging skills in massage. It requires a solid knowledge of anatomy as well as the ability to palpate and respond to individual tissue variances.

Palpation requires imagination. Imagery helps us find our way down into the tissue.

Initially, cognitive studies provide vivid and detailed imagery to guide the journey.

With practice, anatomical images arise from direct experience, seeming to pop into our hands. The more people we massage, the more variances we experience and the broader our anatomy image database becomes. Gradually, the generalized textbook picture of the one body depicted over and over again in anatomy class yields to a personal sense of what each tissue layer feels like and how this feel varies from one client to another.

As we explore the nuances of tactile awareness, the tissues lead us into the massage, and we work from a feeling place. The process evolves into a nurturing energy exchange between practitioner and client. A skilled practitioner listens to what lies under hand and answers the call. A partnership with communication that travels two ways emerges: the client feels the massage and responds; we sense our client's response and adjust our touch accordingly; and the process deepens with each round. Deepening depends just as much on the client's responsiveness to touch as the therapist's ability to sense and read the client's responses. In this regard, pure palpation is impossible. As soon as the client responds (which may be conscious or subconscious), a listening or palpatory touch becomes treatment.

### Skin

All we can actually get our hands on in massage is the skin. Palpating other tissues through skin is akin to exploring densely packed objects inside a pliable leather bag. We recognize each object by its shape, density, and texture. Superficial fascia feels porous and spongy, deep fascia smooth and slippery, muscle thick and fleshy, and bones solid and distinct (see Figure 1).

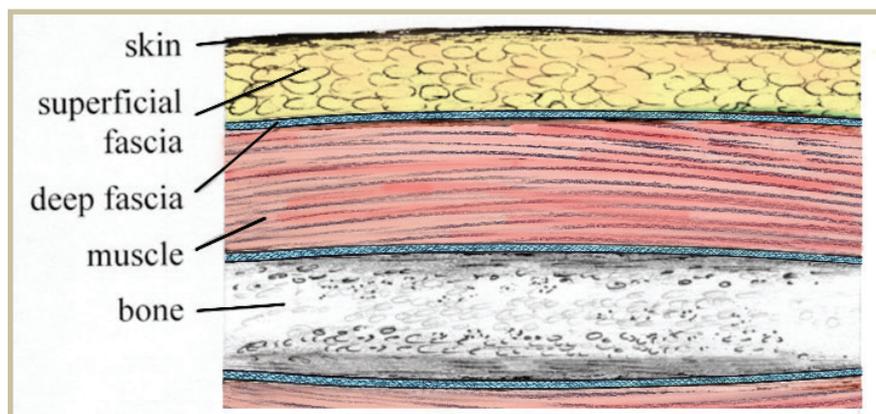


Figure 1. The tissue layers.

The health of the skin is evident in its tone, texture, and responsiveness. We can stretch healthy skin in every direction; it rebounds on release. Scar tissue thickens skin over sites of old injuries, often gluing this protective layer to underlying tissues. Friction and skin-rolling techniques effectively

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loosen scars, although one should avoid stretching very thin scars, which could weaken them even more. With age, the delicate fibers adhering skin to underlying tissues also weaken, causing wrinkles. Therefore, stretching overly loose skin should also be avoided.



Figure 2. Pressing through skin into the superficial fascia.

Clients usually like deep pressure over the thick skin covering the hands, feet, and back. In contrast, thin, delicate skin over the armpits, inner thighs, and anterior neck tends to be sensitive and irritates easily with sliding strokes. To prevent irritation, we can avoid stretching skin in these areas by applying direct pressure, then use small, circular strokes or trigger-point pressure to work the underlying tissues. Skin is rich in sensory nerves, making it highly sensitive to light feathery strokes that can be used sparingly.

### Superficial Fascia

Sink through the top layer of skin and we find a spongy layer of superficial fascia (see Figure 2). Fibers in this loose connective tissue are arranged in an open, porous weave that resembles bubble wrap, except the hollow spaces are filled with adipose cells and laced with nerves and circulatory vessels.

Like a thick coat of insulation, superficial fascia is so substantial that when peeled off the body in its entirety, it still resembles the human form.<sup>1</sup> Superficial fascia varies according to composition; adipose makes it spongier, fiber makes it denser, and fluid makes it squishier. →

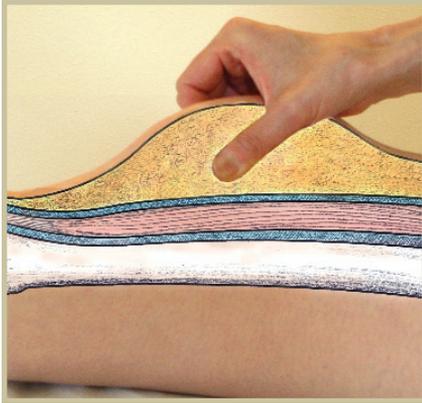


Figure 3. Lifting the skin and superficial fascia.



Figure 4. Pressing a fluid pocket.



Figure 5. Pressing through superficial fascia into deep fascia.

Lifting and separating superficial fascia from deeper fascia can break up fibrous adhesions between the two (see Figure 3). Kneading and pinching it can loosen crunchy adipose deposits (although the irritation this method causes may outweigh its benefits). Lightly buffing the skin over superficial fascia with semi-circular strokes can effectively drain excess fluid. It is helpful to differentiate watery edema from adipose with light compression, noting that pockets of fluid will displace sideways, whereas adipose tissue has a springy quality (see Figure 4).

#### Exercise. Exploring Skin and Superficial Fascia

- Without compressing or sliding, lightly stretch the top layer of skin in one direction (see Exercise 1). Release and notice how it recoils. Explore stretching skin in several directions.
- Press the skin into superficial fascia, which will feel thick, spongy, and springy. Explore gently kneading this layer, like a cat would paw a pillow.
- Lift and roll the skin and superficial fascia in different areas of the body, noting variances in thickness.

#### Deep Fascia

Deep fascia is a dense, irregular connective tissue made up of cross-hatched layers of collagen fibers. It is found directly under superficial fascia in white glistening sheets that envelope muscle and bone. When we peel deep fascia from the underlying tissues, we get a milky opaque layer that resembles a mix of thin rubber and fibrous parchment. Most people recognize this filmy tissue on chicken.

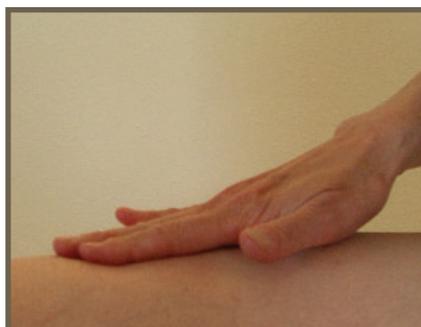
Like plastic wrap, deep fascia covers all the muscles and bones, blending into ligaments and joint capsules, and wrapping organs. It has a slippery quality and can be palpated easily by sliding the skin and superficial fascia over underlying muscles and superficial bones (see Figure 5).

When deep fascia around muscles becomes fibrous and stiff, it restricts the muscles from expanding when

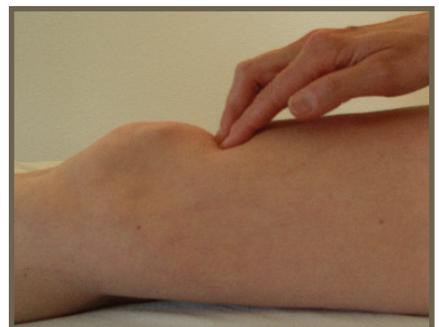
they contract. Stripping techniques can restore elasticity and extensibility to myofascia, as can deep, broad effleurage strokes. Fascia thickens over fracture lines, which can be sore to the touch but will release with slow, deep compression, effectively relieving pain.

#### Exercise. Exploring Deep Fascia

- Compress skin and superficial fascia, then slide them over the deep fascia underneath, which feels slick, like slipping on ice.
- Palpate deep fascia in various parts of the body, noticing variances in texture and elasticity. Contrast moving across deep fascia over bone and muscle.
- Pin the deep fascia against its underlying muscle or bone. Stretch it to end range and hold until you feel it yield, then stretch a bit further.



Exercise 1



Exercise 2

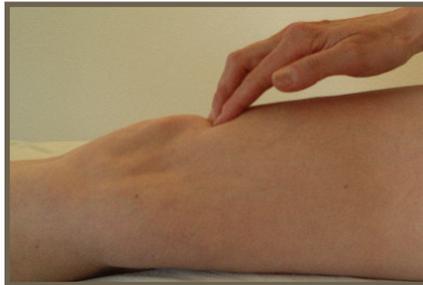
## Connective Tissues

Tendons, ligaments, and joint capsules are all dense connective tissues. In tendons, we find collagen fibers arranged in parallel bundles, whereas ligaments and joints capsules form flat straps or cuffs. Deep, cross-fiber friction applied for a few minutes can effectively soften scars in these tough, leathery tissues. James Cyriax, MD, recommends up to twenty minutes of cross-fiber friction (stop if the tissue starts smoking!), although sixty to ninety seconds usually suffices.<sup>2</sup> Since

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friction stimulates an inflammatory response, it is helpful to tell clients they will be sore in areas you worked the next day.

Chronic muscular contractions put tendons under tensile strain, which can be relieved with any technique that helps a client relax overactive muscles. Fibrous buildup in tendons can be stretched with deep, linear stripping. Tight joint capsules have a leathery end feel that may yield if



**Exercise 3**

held under a strong, passive stretch for several minutes.

Ligaments help keep the ends of bone in the right place, but can become weak from repetitive-use injury. Since ligaments are not elastic, overstretching can permanently damage them. Lax ligaments are evident in loose hyper-mobile joints. It is best to avoid stretching joints with loose ligaments. Better that a client learns to strengthen muscles crossing hyper-mobile joints.

### Exercise. Palpating Tendons and Ligaments

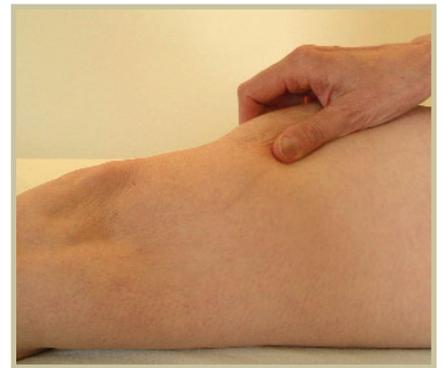
- Palpate tendons above the wrist. They will feel like slippery cords. Follow the tendon up the arm, noting what the transition from tendon to muscle feels like. One is fibrous and ropy, the other meaty and substantial.
- Palpate the patellar tendon above the knee (see Exercise 2, page 112). Differentiate muscle from tendon by contracting and relaxing the quads as you palpate (see Exercise 3).
- Run your finger across collateral ligaments of the knee or wrist. How do ligaments feel different from tendons?

## Muscle

Hands down, skeletal muscles win the popularity contest in massage. We learn many massage techniques to address muscles, relax spasms, restore length, reduce hypertonicity, and relieve pain, to name a few. I find practitioners

sometimes mistake superficial fascia for muscle. The problem with this is that massage techniques directed toward muscle but done on fascia are not only ineffective but will create a disconnected feeling in the client. Perhaps this explains the often-heard lament of clients longing for a good deep-muscle massage; frequently, we simply fail to reach the muscle tissue. A simple way to differentiate the two is to pick up the skin and superficial fascia, then contract the underlying muscles, which will harden (see Figure 6). Since muscles generally hug bones, squeezing down to the bone is another sure way to transcend superficial layers and access muscle tissue.

Healthy muscles have a distinct, firm, fleshy feel; they are responsive to touch. As muscles relax, we feel a melting quality in the tissue. This effect may be more the result of touch increasing the client's awareness of muscle tension than the actual result of our work.



**Figure 6. Contracting muscle to differentiate it from superficial fascia.**

The varying qualities of muscles determine how we massage them. A strong, slow, compressive touch helps relax dense, hard muscles. Deep petrissage and friction loosens fibrous buildup in stretch-weakened, stringy muscles, as well as fluffing them out and stimulating tone. A pumping, kneading

touch can restore local circulation to dehydrated or knotty muscles. And a slow, soothing touch can quiet overactive nerves in sore, irritated muscles.

### Exercise. Exploring Muscles

- With a partner, explore tracing the muscles. Follow along the fibers and fascicles from one end of a limb to the other.
- Contrast palpating muscles along and across the fibers.
- Explore squeezing round muscles like the deltoid and triceps (see Exercise 4), pressing into muscles over bones like the infraspinatus (see Exercise 5), and lifting the edges of flat muscles like the latissimus (see Exercise 6).

### Bone

**B**one tissue is more easily palpable because it is dense and has easy-to-trace edges. Since joints are highly innervated with mechanoreceptors, they provide much information about where the body is in space. Given the clarity and proprioception associated with bones and joints, simply tracing their edges can awaken an awareness of structural integrity in the body.

### Exercise. Tracing Bone

- Meticulously trace the bones in one foot. Feel the edges and shape of each tarsal, metatarsal, and phalanx in the toes (see Exercise 7).
- After you have traced all the bones in one foot, stand up and walk around, noticing any difference in how that foot feels.
- Trace any bony structure where you want to increase an awareness of structural support in the body.



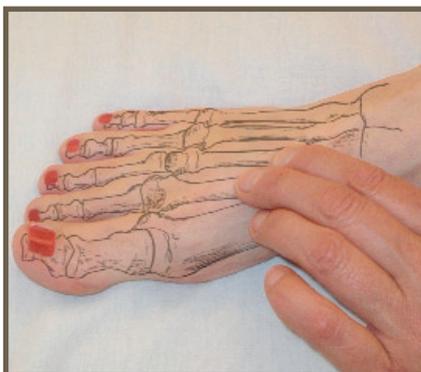
Exercise 4



Exercise 5



Exercise 6



Exercise 7

If we listen carefully to our clients' tissues with our hands, what we hear can lead us into the massage and guide the process. A receptive, slow touch allows us to pause and sense what is going on in a client's tissues before we start moving the tissues around, balancing feeling with doing. The more we can bring thinking and sensing together, the more encompassing our touch, the more connected we become, and the deeper the client's experience can be.

Listening to our hands during massage also helps us avoid overworking. Listening trains us to take pause, rest, and receive rather than continually plowing through tissues in a way that can block incoming signals, leading to problems for both massage therapist and client. Many clients come to massage focused on their aches and pains. As holistic practitioners, we strive to cultivate overall health and well-being. To this end, we massage more than just the painful areas, using skillful imagination to touch all the tissues and layers, awakening within the client a holistic perception of the entire body. The more we can listen with our hands, the more we feel and the more the client feels, leading to a stronger and more therapeutic connection for practitioner and client alike. **M&B**

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### Notes

1. See Gil Hedley's remarkable dissection video, *The Integral Anatomy Series, Vol. 1: Skin and Superficial Fascia* (2005), in which he actually separates the superficial fascia from the body in its entirety.

2. J. H. Cyriax and P. J. Cyriax, *Cyriax's Illustrated Manual of Orthopaedic Medicine*, 2nd ed. (London: Butterworth Heinemann, 1993).