Inside-Out Paradigm

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The Aspiration to Prevent Hip, Knee and Shoulder Replacements

In 1983, my right hip was fractured in a head on automobile accident with a drunk driver. The hip joint was so severely shattered that the acetabulum appeared as potato chips in the x-ray. The tibial plateau and ankle were fractured as well. The very good news was that I was only 30 years old and, after a month in traction and through the assistance of skilled soft tissue practitioners, chiropractic care and exceptional yoga teachers, I was able to rehabilitate to functional capacity over the next year.[1] The other good news is I was very lucky. The car burned completely within 3 minutes. An unidentified motorist saved both my step-son and myself.

Soon thereafter, clients with varying degrees of hip degeneration started showing up at my office. I have been able to assist many, yet the first theme of this article is the most important: we all need to become part of our clients' early detection team. This article will also propose some innovative relationships between the hip, knee and shoulder joints. I pray they will intrigue and pique your interest and motivate you to further explore them. These are anatomical interpretations that can positively influence your clients' range of function and their quality of life. Satisfied customers are how you grow your practice and prosper.

As massage therapists and frontline health care providers, we have an opportunity to incite curiosity and realistic hope into our nation's aging population. The progressions of hip, knee and shoulder degeneration are encroaching upon the quality of life of so many that the general public is beginning to reach out to our profession to assist them. No one wants the painful and life-disrupting experience of intrusive surgery and recovery; yet,

many will still endure them in large measure because early detection and competent preventative care has been missing.

Certainly, many clients come to us with pain and reduced range of motion associated with these joints. According to the physician who reviewed this article, his clinical experience suggests that his patients present with the early signs of these degenerations as young as their early 40's.[2] The important question is whether each of us has the skill sets to screen for early indicators that these joints may be progressing toward degeneration. The following are my time tested screenings for the shoulder, hip and knee. Other tests certainly do exist.

Shoulder Screening

For the shoulder, with the client seated, passively move the arm and shoulder into abduction guiding their arm over their head, feeling for ease, or lack thereof, for the humeral head gliding under the acromial shelf. If the range feels restricted, tremors or locks out (abruptly stops), this may be an indication that a degenerative process has begun. Yes, we may do much to mobilize the shoulder, yet planting a seed that more formal orthopedic evaluation and a MRI review may be useful to your client is a really good idea with all significant joint problems.

Hip Screening

For the hip, have the client lie on their side with their bottom leg and thigh extended. Place your foot on the table with your knee bent to 90 degrees and lift their top thigh and leg, balancing it on your thigh. Grasping just above the ankle, passively lift the leg into abduction, while palpating at the femoral trochanter and feeling for the range and quality of the movement through both of your hands as you guide the hip joint into internal rotation. Most commonly within my experience, if someone's hip joint has started down the path of degeneration, you will feel not just a restriction to motion, but rather an abrupt stop to the motion. This lack of internal rotation has

been my most reliable indicator that degeneration is progressing, especially if my best efforts to mobilize the joint are minimally effective.

Knee Screening

Evaluating knees is trickier because degeneration can create either an advancing immobility to flexing and extending normally or the joint can become destabilized to the point where a client suggests that it feels as if their knee is going to give out on them with increasing regularity. Again, our refrain needs to be encouragement to seek further medical evaluation.

Functioning as part of your clients' early detection team is a golden key to preserving their quality of life even if you typically see most of your clients only once. You touched them, you cared enough to express concern, trust that the seed was planted. This will serve us as a profession to do so.

Exploring Relationships

Let's now explore the relationships between the hip, knee and shoulder. Based on my clinical experience and research, the foundation to understanding the hip joint is that "roll and spin" is what characterizes its ongoing capacity for proper function. This relates to the ability of the femoral head within the hip socket to spin during internal and external rotation as well as to roll forward and backward during the flexion and extension phases of the walking cycle.[3]

What I have deduced over many years is that when clients present with chronic somatic hip pain and restriction, the femoral head has slipped posterior and has begun to ride the edge of of the hip socket. Of course, over time, the related soft tissues, especially the gluteus medius and minimus, the iliopsoas, the tensor fascia lata and its iliotibial band all shorten to protect and stabilize the femoral head as do other pelvic soft tissue structures.

The net effect is that hip range of motion is reduced and altered from its normal tracking. I hypothesize that the hip's blood supply is reduced both due to the shift of the femoral head and as a result of protective spasm of the relevant soft tissues. To fully comprehend the essential anatomical nature of the femur, it is important to recognize that there is a tri-angular relationship between the proximal femoral head, its lateral projection - the trochanter - and its distal femoral condyles. These distal condyles interface with the depressions of the tibial plateau to form the knee joint.

A factor that I believe has been overlooked is that even a small chronic rotation and posterior shift of the femoral head and trochanter may be communicated down the shaft of the femur in such a way that the "tracking of the knee between the femoral condyles and the depressions of the tibia are influenced." You may observe this twist by noticing the relative position of the patella usually lateral to center, or with your client prone, noticing the angle of the posterior knee crease as more diagonal than horizontal. Sometimes, the twist into the knee is so obvious that the lower leg, ankle and foot are externally rotated relative to the knee joint by 25 degrees or more.

So to be clear, I am proposing that often in the progression of hip degeneration a posterior shift of the femoral head occurs and that the femur as a whole becomes fixed in a slightly rotated position, thereby communicating this torque into the functional articulations of the femoral condyles, altering proper knee tracking and support function.

The progression of degeneration is proposed to loop between both ends of the femur. Which joint degenerates more quickly is influenced by many variables, yet the number of knee replacement surgeries is approximately double that of the number of hip replacements.[4] Might these relationships be a factor in chronic low back dysfunction and pain? In my clinical experience, the answer is a resounding "Yes."[5]

Very early in my career, one of my instructors stated that knee problems usually begin as hip troubles, yet did not describe "how."[6] From experiences with tens of thousands of clients, I now believe a posterior shift of the femoral head coupled with this angular relationship between the two ends of the femur is at least part of the answer. Further, with the associated tracking relationship of the knee being strained, I theorize that the increased friction between the opposing joint surfaces contributes to knee degeneration over years of misaligned compression.

I further propose that the degeneration of the hip, knee and shoulder may have an evolutionary linkage. My conjecture is that their inherent weaknesses come to us as an evolutionary pre-disposition from our time as primates living in trees. A fall from a height all too often led to an immediate or eventually related death. Those dead primates' genes were not passed on. As a result, I propose that nature selected for a more flexible anterior shoulder capsule and a more distensible posterior hip capsule to assist the capacity to "tuck and roll" during a sudden fall.

Take a moment to consider: Aren't all falls sudden? Remember for yourself a time when you had a sudden, unexpected fall. Did you not endeavor to twist while going down? One may not have been successful, but the automatic response to do so was there. It is a good thing we have these reflexes to assist us.

Typically, after a fall or significant impact, these reflexes lock into the nervous system shortening one entire side of the body. Thomas Hanna referred to this as a Lateral Trauma Reflex. Might such an ipsilateral shortening be a variable that could contribute to the degeneration of the joints being discussed? Over 25 years of my clinical experience with clients supports this assertion.[7]

Additionally, it is an osteopathic construct that the fascial elements from the latissimus dorsi's attachment to the humerus relate downward throughout the torso via the sacroiliac joints, blending into the lateral hamstrings, then descending further along the peroneal muscle group to the lateral ankle and foot.[8] This one construct gives us a fascial linkage between the joints that need to be most commonly replaced. I don't think that is a coincidence, do you?

Most importantly, as massage therapists, it suggests that we may be able to provide preventative assistance if clients come to us earlier in the progression of their joint degenerations. For those of us in our profession who feel the call to learn more of how to assist clients with these progressions of degeneration, this is the time. Those who are aging and desire to be active throughout the span of their lives need you. This is a call to action, our nation needs you.

My next article will explore the more intrinsic relationships of anatomy and physiology that I have clinically correlated to be contributing variables to the progression of degeneration within these joints. Reflect for a moment, our quality of life really does depend upon the normal functioning of our hips, knees and shoulders.

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