

Intraosseous Restrictions

by Marc Heller,DC

In chiropractic, we think of subluxations/restrictions as primarily occurring in joints. All of us work on the spine; some of us work on extremity joints other practitioners include the cranium or viscera. In this series of articles, I've focused on connectiveness, that is, what unifies the various lesions we find. The unifying theme in this analysis has been restriction, stiffness or lack of motion.

I want to introduce another type of tissue restriction - intraosseous restrictions - which we can find with basic palpation for give or stiffness, and effectively treat with low force manipulation. This tissue can be very clinically significant in many situations.

The tissue I am talking about is the bone itself, and restrictions within the bone. For this novel idea, I am indebted to osteopath Paul Chauffour's concept of mechanical link. In his first-level seminar, he emphasizes this concept: **Bone in the living body is alive and supple, has a vigorous blood supply, and replaces itself. It is not the dead, rigid tissue we see in models or cadavers. Normal bone has a certain amount of give or compliance.** A restricted bone lacks normal give in one or more directions. This concept is used in certain applied kinesiology techniques, in visceral manipulation, and is a core concept of George Roth's "tensegrity" (matrix repatterning). We address this primarily in long bones, where it is easier to assess, but it can also occur within the spinal vertebrae. The sacrum in particular with its fusion of five spinal bones is an important area to understand this concept.

I've attempted a Medline literature search on this topic without any real success. Compliance and flexibility are terms used in research, but bone researchers are not looking at the same phenomena that interest us. I truly wish we had millions of dollars to explore cutting-edge clinical concepts with rigorous research. In the meantime, I will continue to use what I find most effective, always aiming to be intellectually honest with myself and my patients, using reality checks before and after treatment. I appreciate tenderness (pain elicited upon palpation) and changes in tenderness as a reliable tool to tell if I have made a difference.

Significance of IO (Intraosseous) Restrictions

Our theory is that the musculoskeletal system is designed to absorb the shocks of daily living. When any tissue, be it joint or bone, becomes less flexible, it means it will transfer shock directly, rather than absorb and then release the shock. Trauma to a long bone will often leave that bone with less resilience, less ability to flex and give. This in turn puts other tissues farther up the line at risk, because they have to absorb more shock. George Roth's tensegrity model looks at this in an elegant way, using Stephen Levin's "continuous tension, discontinuous compression" model, looking at the various structures that make up the body.

If you have a chronic tennis elbow, it's likely that the ulna or radius will have intraosseous restrictions. When the low back is not working properly, the sacrum is likely to have intraosseous restrictions. An ankle sprain will often leave intraosseous restrictions in the tibia, as well as ankle joint restrictions, which may not show up as ankle or leg pain, but as knee, hip or low back pain months later. Almost any long bone fracture will heal with intraosseous restrictions, which only you are capable of correcting. Again, we look at these in the context of a regional or global/whole body evaluation. Anything can cause anything; the more you know, the more complicated problems you can solve.

Diagnosis, Finding Intraosseous Restrictions

OK, maybe I've got you interested, but I need you to feel this phenomena. Use a gentle style of palpation, assessing for the first motion to occur. Try bending or bowing from the dorsal side toward the palmar side, starting from the middle of the bone, of the metacarpals of your own hand. Compare the first, second and third metacarpals and compare right to left. You are not assessing for motion here, but just for a normal give (or lack of give). This requires a bit of a paradigm shift on your part. Remember, this is not a joint. If you've been practicing for a while, or have had previous sports injuries, you may notice a lack of give in one or more metacarpals. Palpate your patients, again by attempting **gently to bend or bow the bone**, starting near the middle, on any previously fractured or traumatized bone. Good candidates are the clavicle or the tibia. Both are easy to access, don't have too much muscle covering on their anterior surfaces, and frequently have clinically significant restrictions. Be careful, this is a new tissue to you. You do not need enormous force to feel for give in a bone, just sink to this level and "bow" the bone.

Correcting Intraosseous Restrictions

Once you have found a restriction, how do you correct it? This is relatively simple to do, but rather cumbersome to describe. You may want to re-read my fourth article, in the September 1, 2001 issue of *Dynamic Chiropractic*, Volume 19, Issue 18, to review the corrective techniques, including ELF and recoil (<http://www.chiroweb.com/archives/19/18/07.html>).

To correct an intraosseous restriction, we'll use either recoil (engage-release) or ELF (engage, listen, follow). Let's take the tibia as our example. For either method, we'll work our way down the bone, feeling for where the restriction is most severe, which will probably be exquisitely tender. Once we find the locus, the center, we'll correct from there. For recoil, find the three-dimensional quality of the restriction. Remember to use the lightest touch that gets you to the level you are palpating. Does the bone resist A-P or P-A motion? Does the bone resist lateral or medial motion? Does it resist a torque to the right or left?

When you have found the exact directions of the restrictions, engage the barrier by combining the various planes of resistance, and release suddenly. Repalpate and see if it is less tender and more moveable. For ELF, engage the restriction, find the barrier into

the 3-D direction of maximal resistance, and then listen and follow as the body releases the restriction.

Making It Practical: A Case Study

A 50-year-old female came in two years after a terrible ski accident. She had shattered her tibia, had surgery, and had screws in her surgically repaired tibia. She complained of lower leg pain, which was worse at night and affected her sleep. She called it her "screw pain," referring to the surgical screws. We found several significant restrictions within the tibia, and corrected them with ELF and recoil. Her pain was diminished by 90 percent, and she is no longer considering a second surgery to remove the screws.

How can you add this piece to your assessment and correction? You may want to make it part of your screen for the palpation exam of the lower and upper extremities, and the sacrum and sternum. (I will go into more detail on correcting the sacrum with this concept in a future article). You may want to reserve this for cases that are not responding to your work. Either way, add intraosseous restrictions to your mental flow chart. You certainly cannot find and correct these restrictions if you cannot imagine them. You now have a new opportunity to help your patients heal more completely and rid them of another subluxation/restriction that is preventing optimal motion.

References/Resources

- Lien-Mécanique (*Mechanical Link*), Paul Chauffour, 1986. Mechanical Link Seminars-98-00, Paul Chauffour, through Upledger Institute.
- Tensegrity seminars with George Roth, 1999,2000,2001.
- Framework seminars, Marc Heller, 1999-2001.

Continuous tension, discontinuous compression, a model for biomechanical support of the body, by Stephen M. Levin,MD. Published in *The Bulletin of Structural Integration*, Vol. 8, No. 1: Spring-Summer 1982. Originally a talk at the North American Academy of Manipulative Medicine in 1980.

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