

Joint Motion and Motion Therapy

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The use of joint motion for diagnostics and treatment is common in many professions. In fact, at the clinics I oversee, we have 12 orthopedic surgeons and one neurosurgeon, and all agree that they are seeing better outcomes with patients who have some form of motion retention after surgery. This can aid in the recovery process and help diminish postsurgical complications, such as deterioration of the adjacent joints.

It is well-known that in spinal joint complexes, immobilization can cause an increase in spinal disc degeneration. Without adequate motion, proper disc hydration via hydrostatic motion does not occur. Without this mechanism, the nutrients don't reach the disc, the pH level drops, proteoglycan synthesis stops and the degeneration process begins.¹⁻² This can lead to intra-articular adhesions and cartilage degeneration.³⁻⁴ It is now understood that joint motion is paramount in the healing process.

Joint palpation and [ROM assessment](#) are common diagnostic tools used in most health professions. In fact, motion palpation is now taught at all chiropractic colleges in the U.S. What we know is that healthy synovial joints are capable of an active range of motion, performed under voluntary control. In addition, there is a small range of movement that can be obtained only passively by the examiner; this is called *joint play*. This is the area of motion within the joint complex that is not under voluntary control. Some doctors also refer to this as *end-range feel* or *accessory movement*.⁴⁻⁵

We all know that restrictive motion within a joint will likely cause the patient to experience pain and discomfort within a relatively short period of time, as well as start the degenerative process.^{5-6,8} By examining the spinal joints and their play, a practitioner can obtain a better picture of what is actually causing the problem.

Joint play usually has some common characteristics. It can stop abruptly or grind to a halt, or it can slow to a stop rather quickly with increased resistance. Both instances can produce pain for the patient. This type of feel might aid the clinician in making a proper diagnosis. [Dvorak and Dvorak](#) describe joint play: "A hard end feel is most likely due to articular (structural) degenerative changes, while soft end feel is usually associated with shortened muscles. Pain in conjunction with introduced motion indicates a segmental somatic dysfunction."⁵

The clinician must take caution, however, not to confuse general loss of motion with the cause of discomfort. Other factors within the exam must be taken into consideration as well. For example, take Patient A and Patient B. Patient A can stand and bend at the waist only 25 degrees, which produces central LBP. Patient B can stand and bend at the waist only 25 degrees, but this produces left-leg radiculopathy. Both A and B have the same restrictive ROM, but they have vastly different outcomes and will most likely need to be given different diagnoses and treatment plans. ROM can be a valuable tool in diagnosing the presenting case.

Joint ROM is not just a valuable exam tool, but can also be a highly effective treatment option. Motion therapy for purposes of rehabilitation is not a new concept; in fact, it has been around for centuries. It is relatively simple to start implementing some form of motion therapy into practice. Simple devices ranging from physio balls to wobble chairs to more advanced devices designed specifically for motion therapy can all be effective. The key, as with all therapeutic measures, is to have a plan of action in place for the patient's care.

We have found that the key to making it work as well as it does is to build motion therapy into the clinic protocol. If a patient present with a typical disc pathology, they will undergo chiropractic care, decompression therapy, then on to motion therapy (passive motion therapy first, then active, then active resistive) then on to more advanced exercises all in the same visit. Most practitioners I have spoken to state that by adding motion therapy to their practice, they notice better case outcomes and better compliance with treatment programs.

Patients who are not suitable for aggressive treatments (such as acute auto whiplash cases) usually do great with passive motion therapy for the first few visits. This will allow you to start getting motion back into the joints without eliciting a muscle-guarding response.³ Postsurgical cases are great candidates for this procedure and usually find some form of relief. Depending on the individual case presentation, a doctor may want to start off with some form of motion therapy or do motion therapy prior to resistive exercise rehabilitation so the joints are warmed up and ready to go.

In my experience, motion therapy is a great adjunct to rehabilitation programs. Every patient can benefit from some form of motion therapy, but particularly patients who are not candidates for traditional services. We often see postsurgical patients who are in need of decompression therapy, but are unable to accomplish this due to certain types of spinal hardware. Most of these patients are prime candidates for motion therapy and usually respond rather well.

References

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