

## Practice Pearls: There's More to ROM Than Meets the Eye

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As part of my neuromusculoskeletal examination, I perform range-of-motion (ROM) evaluations. I can "eyeball" the range and measure, I can use a goniometer and measure, I can use my phone app and measure, or I can use various other instruments to help determine degrees of motion. In my practice, I most often eyeball the range of motion, but when I use the [goniometer](#) or app, I write down the actual number I see - I don't round up or down to a zero or a five.

I like using range of motion because it brings awareness to the patient of how much or little range they have available and what it feels like to move (tight, stiff, dull, aching, etc.). If it is a [hypomobile](#) range, it may imply that I need to release a muscle, a joint, fascial tissues or a nerve. Occasionally, ROM testing will highlight [hypermobility](#), implying the need for stabilization or activation of muscles.

### Using ROM on a Visit-to-Visit Basis

Active and passive range of motion help guide me to consider if I am dealing with muscle, joint, fascia or nerve. Post-intervention changes assist me in the treatment decision process for further flexibility / mobility techniques or stability programming.

On each follow-up office visit, I like to perform quick range-of-motion re-examinations of previous determined abnormalities. I'm curious to know if the patient has maintained the gains I hope we've created from the previous session. As we retest, I talk out-loud with the patient, allowing them to become aware of whether they've reached the benchmark ROM guidelines or not. This process enhances patient participation; as these movements are learned, they become part of the patient's responsibility to maintain.

I explain to my patient, "Range of motion and mobility status may change and decline as we age. I make it a goal to help my patients gain back lost range of motion if that is possible and at least not lose any more range as part of my healthy aging strategy." When I encounter loss of motion in multiple joints and planes, and it's associated with soreness or aching, I suspect low-level inflammation.

### Low-Level Inflammation and Range-of-Motion Restrictions

Several of the body's responses to low-level inflammation include vague, nonspecific pain, heightened pain sensitivity at the joints, *restricted ROM*, osteoporosis, fatigue, asthma, high blood pressure, high blood sugar, gastrointestinal disorders, dementia and Alzheimer's. These are often chronic conditions associated with aging that are actually associated with low-grade systemic inflammation, not resulting from any specific injury.

Age-related chronic inflammation has been called "inflamm-aging." I am concerned about helping my patients avoid chronic diseases from low-level inflammation, especially avoiding loss of mobility and

strength as they age, which has effects on mental health and overall quality of life.

I like to think I am using the current science properly, so I must discuss with my patients how diet, supplementation with natural anti-inflammatories, sleep and exercise (movement) may resolve age-associated inflammation. One of the purposes of decreasing the inflammation is to see if it translates to improved range of motion and decreased soreness in the joints during follow-up ROM evaluations.

If I find multiple joints with decreased range of motion and I'm suspicious of low-level inflammation, I now offer patients a quick and simple finger-prick test. In addition, the patient takes an online 15-minute task test. I send the sample to a lab and get back levels of [cellular palmitic acid](#) levels, omega-3 index, and cell inflammation balance between omega-6 (AA): omega-3 (EPA) ratio.

From the online testing portion, we see how well the patient performs compared to age-matched individuals on working and recognition tests, sustained attention tests, cognitive flexibility, and choice of reaction speed tests. The results come back with nutritional and other lifestyle recommendations.

Restoring ROM: Diet, Supplements and Exercise

Patient compliance to participate in the diet, supplement and exercise part is a main component to promote decreased pain, swelling and morning stiffness, and increase mobility. Patients easily understand the assessment of decreased range of motion, and when I tie it together with other common complaints that they checked off on the intake forms (fatigue, allergies, memory problems, bowel disorders, rashes, scaly skin, headaches, water retention, stuffy nose, gum inflammation, etc.) and that these are all symptoms that may indicate diet related low-level inflammation.

Other blood biomarkers you may correlate include elevated levels of c-reactive protein (associated with elevated risk of cardiovascular mortality), IL-6 and TNF alpha. There are a host of natural supplements such as boswellia, [hyaluronic acid](#), bromelain, hops, turmeric, fish oils (combined EPA/DHA), and vitamin D3 that I can recommend. Talk to your local vitamin company reps to help educate you about the products they offer.

Even though we are all chiropractors, we would probably say we have our own health care system. I love offering nonpharmacological interventions to manage inflammation symptoms. My health care system is evolving all the time and lately I am concentrating on fat loss to motivate patients to change diet.

I talk to my patients, connecting and explaining how overweight, obesity, lack of physical activity, mitochondrial damage, epigenetic modification, and oxidative stress have a complex relationship with low-level inflammation and their health outcomes. The range-of-motion testing is just one way to connect the dots.

The in-office therapy interventions I am using include mobilization / manipulation, as well as super-pulsed class 3B laser that can be placed directly over restricted joints and muscles. I think the laser is improving blood flow / circulation, doing something with the nitric oxide system, improving ATP production and influencing glucose and oxygen.

Teaching patients specific stabilization exercises is especially helpful. Exercise, if done regularly, has an anti-inflammatory effect. Getting to and maintaining a healthy weight is an important strategy to reduce inflammation and diseases associated with inflamm-aging.

In short, I find the combination of hands-on therapy, laser, supplements, a few dietary changes promoting weight loss, and some active movement on the patient's part helps to resolve low-level inflammation and increase range of motion.

### *Resources*

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