

Spinal Tips

Rehabilitation for those with work-related back injuries.

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Spine-related injuries can occur in all workers, from sedentary white-collar workers to those who have more physically demanding occupations. That said, the preponderance of injuries occur among workers with more physically demanding jobs such as construction workers and laborers.

Although patients who perform sedentary work such as office workers might not seem to be at risk for spine-related injury, they are. Precisely because of their sedentary work, their muscles are not usually well-conditioned and therefore place them at risk when strenuous work like moving a desk or a heavy object is required.

Patients who do more physical work are, of course, at risk from the constant wear and tear. These patients usually show early degenerative changes to their discs and facets. Because of this, their physical reserves are low and even slight trauma could cause injury and symptoms.

Symptoms can vary from back pain/ache, muscle spasms and restricted range of motion to radicular pain or weakness in the lower extremities. However, the patient can be treated successfully if a thorough treatment plan is implemented. Here are some elements that should be included in any such plan.

History. In the evaluation of an injured patient, the importance of the history cannot be over emphasized. For example a patient who works at a desk who comes in with back pain but no leg pain after lifting a computer is quite different than one who does the same job but has both back and leg pain. The latter patient might not only

have a muscle strain but might also have a disc herniation. Past history of back pain and treatment, surgical as well as nonsurgical, should be noted. The history should also focus not only the patient's current symptoms but also work environment and any other systemic illness which might be important.

Rehabilitation. After the initial evaluation, most patients can begin rehabilitation. Work modification is useful while patients are in rehab. Work modification will help the patient to remain actively employed while undergoing treatment. This is important so that the patient doesn't focus entirely on his or her injury.

Rehabilitation should focus on three main objectives:

1. Decreasing pain and discomfort;
2. increasing flexibility; and
3. strengthening muscles and stamina.

Medication. Preferred medications are nonsteroidal anti-inflammatory drugs (NSAIDs). Muscle relaxers can also be used but effort should be made at this point to avoid narcotics due to their addictive and abuse potential. Patients who demand narcotics or who claim that none of the NSAIDs are effective in controlling their pain should be viewed with caution.

Other red flags for abuse are patients who lose their prescription, especially if it is eaten by the dog, has fallen into the toilet or been stolen from a purse/wallet. Moreover, drug-seeking patients will exhibit certain behavior patterns. These will



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include often calling for new prescriptions after hours or on the weekends, doctor shopping or even use multiple pharmacies to fill their prescriptions.

NSAIDs should only be used if the patient can tolerate it and has no history of adverse reactions such as GI ulcers. The combination of NSAID and early progressive therapy is very helpful in diminishing patient's symptoms and can be very encouraging for the patients.

Flexibility. As the patient's pain symptoms decrease a flexibility program can begin. The focus of this part of therapy is to focus on not only the "back" muscles but also the core muscles such as abdominals and also equally importantly the gluts/hamstring and quadriceps.

It is advisable to progress slowly at first. Pharmaceuticals are usually used at this point and are very helpful to diminish painful symptoms, allowing the patient to maximize the stretching program.

Although these muscles aren't located in and or around the spine they serve very important functions in that they help to balance the pelvis from which most of the back muscles originate from. Hamstring tightness is a common cause of back pain and is also indicative of underlying spine pathology such as pars defect and spondylolisthesis.

Stretching exercises should be gradual and done only after the muscles are properly warmed up. Stretching is to be done gradually to a point, held and then relaxed.

As the patient flexibility improves then the strengthening program should begin. Often times it is best to combine both a flexibility program and a strengthening program in each session.

Currently the emphasis in a strengthening program is on core muscles. These include not only abdominal muscles but also back muscles. All these muscles co-contract to varying degrees when the lumbar spine is in use. Therefore it is important to have all these muscles working in concert so one group isn't overloaded. The Swiss medicine ball is a great tool to teach muscle co-ordination since it helps with balance.

Next Steps. For the injured worker who does not improve with therapy further diagnostic studies are useful. These studies include MRI scan or perhaps a CT scan for those patients with metal fragments, pacemakers or vascular stents in which an MRI might be contra-indicated.

MRI scan is the imaging study of choice for the spine for a number of reasons. These reasons include the ability to examine the spine in multi-planes, ability to examine both neural and soft tissue structures and the ability to examine the condition of the inter-vertebral disc.

Other reasons for the use of an MRI or CT scan include the ability to look for more serious conditions such as neoplasms and infections.

Patients who show no significant improvement with rehab alone can be considered for injections. The injections are based on the pathology. For example if the patient has facet pain then facet injections are indicated, for patients with spinal stenosis then epidurals are useful.

These interventions are very useful for those patients who do not want surgical treatment but who are plateauing in therapy. The injections although temporary can significantly diminish the patient's symptoms and allow them to maximize physical therapy. ♦



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