Referral Guidelines

Back Pain: Initial Diagnosis and Management in Adolescents

Back pain

Common in children/adolescents with 50 percent of teenagers developing an episode of muscular back pain. Up to 10 percent of these patients will have persistent pain affecting their daily activities. Children less than 10 years of age are more likely to have pathology beyond muscular pain/deconditioning.

Diagnosing

A thorough history and examination is mandatory to ensure there are no "red flag" signs or symptoms (listed below) that are suggestive of more serious conditions.

- Regular night pain causing awakening
- Leg pain > back pain
- Numbness or paresthesias in the legs
- Urinary or fecal incontinence
- Pain severe enough to cause child to miss school or play activities
- Pain that is increasing in severity

High quality plain radiographs are recommended for patients having symptoms greater than one month or with any "red flag" signs or symptoms. We recommend MRI and CT scans be deferred until evaluation by a spine specialist.

Should I obtain any imaging?

Imaging with plain radiographs is not necessary with symptoms less than one month in duration in the absence of any "red flag" signs or symptoms. Images should be obtained for symptoms > one month or in the presence of "red flag" signs or symptoms.

What should I look for if radiographs are obtained?

Spondylolysis (pars defect) is the most common radiographic finding. Signs of infection or tumor, such as abnormal lucencies, abnormal calcification, loss of disc space height and vertebral body collapse.

Differential diagnosis of back pain

Muscular back pain	*Most common cause*
Spondylolysis	*Common*
Herniated disc	*Less common*
Spondylolisthesis	*Less common*
Disc degeneration	*Less common*
Infection	*Infrequent*
Apophyseal ring fracture	*Infrequent*
Ankylosing spondylitis	*Infrequent*
Fracture	*Infrequent*
Vertebral or spinal cord tumors	*Infrequent*

Initial treatment for muscular back pain

Healthcare providers should start by educating the patient on core fitness activities: This includes stretching and strengthening of the core musculature including abdominals and paraspinals. These are generally successful in resolving the most common types of muscular back pain. Physical therapy is recommended to help educate patients on the proper stretches and strength training. Emphasize that a home regimen must be followed to see improvement.

Contact the Orthopedics Institute about Back Pain

The Orthopedics Institute welcomes consultations. Reach us through OneCall at 720-777-3999 or toll free at 800-525-4871.

For more information or to schedule an appointment, please call 720-777-6600.

Initial treatment for muscular back pain (cont.)

- Daily back and core exercise; 10-15 minutes twice daily are recommended.
- Patients should be encouraged to increase their overall activity level.
- Minimum of 30 minutes of daily recreational activity is recommended to improve conditioning.

In some instances, highly competitive sporting activities (Gymnastics, weight lifting, football, dance, ballet) can lead to "over use" etiologies of back pain. Nonsteroidal anti-inflammatory drugs (NSAIDS) can be used for symptomatic relief. Massage, yoga, pilates, acupuncture, chiropractic care and heat can also be helpful.

How do I know if it's muscular back pain?

Lumbar and hamstring tightness

Patients with muscular back pain often have lumbar and hamstring stiffness with restricted range of motion. This can be tested with the lumbar flexibility test. The distance from the patients fingertips to the ground can be used to monitor progress with physical therapy.

- Have patients flex forward with their knees fully extended and attempt to touch their toes. A healthy patient will easily be able to touch their fingertips to the ground; those with inflexibility will not be able to do so.
- For hamstring tightness place the patient supine, flex their hips to 90 degrees, and then extending the knees. Patients with tight hamstrings will have limited ability to extend their knees. This can also be used to monitor progress with physical therapy.

Patients will not have any objective deficits in their sensory or motor examination of the lower extremities and will have symmetric deep tendon reflexes at the patellar and Achilles tendons.

When to refer

A referral to an orthopedic spine specialist should be given if the patient experiences:

- Diagnosis of spondylolysis/spondylolisthesis
  - Refer for confirmation of benign type
- Objective lower extremity sensory deficit
- Objective lower extremity motor deficit
- Asymmetric deep tendon reflexes
- Regular night pain causing awakening
- Leg pain > back pain
- Numbness or paresthesias in the legs
- Urinary or fecal incontinence
- Pain severe enough to cause child to miss school or play activities
- Pain that is increasing in severity
- Pain that does not improve with two to three months trial of overall conditioning and home exercise program guided by a physical therapist

Recommendations and helpful clinical data prior to referral

Primary care physicians may be more successful than specialists in assessing for other contributors to back pain in this population such as sleep disturbances and school or other family stressors. Addressing life stressors and sleep disturbances can often have substantial impact in moderating the disability of back pain in this population.

Want to provide information to your patients and families?

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