CASE STUDY: Football Player

Dr. Arnold gives background on the patient. He is a football player who had pain over the summer. It got better, and now the pain is much more manageable with no red flags. He had an MRI, which indicated 1-sided spondylolysis. Dr. Arnold removes the athlete from sport and braces him for 2 months, and will then order a CT scan. The process should take about 8 – 12 weeks to return to sport, and the patient will start PT in 2 weeks when pain is controlled.

1. In young athletes reporting insidious onset of extension based low back pain, your most-likely initial concern is regarding what diagnosis?
   - A. Lumbar disc herniation – the athlete would likely report flexion-based LBP
   - B. Lumbar compression fracture – This is not as likely with insidious onset
   - C. Lumbar pars defect – correct: pars defects are a common cause of extension-based low back pain
   - D. Lumbar spinal stenosis – this is a common cause of extension-based low back pain in older adults, not young athletes

2. The “scottie-dog” deformity seen on diagnostic imaging is used to diagnose lumbar spondylolysis. Which of the following is the most accurate to identify lumbar spondylolisthesis?
   - A. Oblique view radiograph – commonly used as the first imaging tool but can miss pars defect
   - B. Posterior view radiograph – only lateral and oblique views are used to identify pars defects
   - C. Lateral view radiograph – this is commonly used as a first imaging tool but is not as accurate as CT
   - D. Computed Tomography – correct

3. Spondylolysis is a defect that affects which portion of the vertebrae?
   - A. Lamina – incorrect
   - B. Pedicle – incorrect
   - C. Pars interarticularis – correct
   - D. Transverse process – incorrect
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In physical therapy, Dr. Kiesel explains why he will emphasize local core training and breathing, especially in the beginning of rehab when the athlete is braced.

4. Athletes with spondylolysis will prefer to sleep, relax, and even complete exercises in which position/posture of the spine?

A. **Extension** – this typically causes pain
B. **Flexion** – correct: this typically relieves pain
C. **Rotation** – this typically causes pain
D. **Side bending** – this typically will not cause pain if the patient side bends away, but will not be as relieving as flexion

5. When training the local core in a patient who typically utilizes a high threshold strategy during movement and core activation, which is the most appropriate for Transversus Abdominis training initially?

A. **Low repetitions and long holds** – incorrect
B. **Low repetitions and short holds** – incorrect
C. **High repetitions and long holds** – incorrect
D. **High repetitions and short holds** – correct