

## **SIM 386 Assessment and Evaluation of Lower Extremity Injuries**

### **Risk Management and Injury Prevention**

- 1-1: The student will assess the following:
- e. limb girth
  - f. limb length
  - h. body composition, using a manual skinfold caliper and appropriate formulas
- 2-1: The student will demonstrate the ability to perform and evaluate the results of the following tests:
- a. flexibility tests
  - b. strength (repetition) testing
  - c. agility tests
  - d. speed tests

### **Assessment and Evaluation**

- 1-1: The student will recognize the following postural deviations and predisposing conditions:
- a. kyphosis
  - b. lordosis
  - c. scoliosis
  - d. pelvic obliquity
  - e. tibial torsion
  - f. hip anteversion and retroversion
  - g. genu valgum, varum, and recurvatum
  - h. rearfoot valgus and varus
  - i. forefoot valgus and varus
  - j. pes cavus and planus
  - k. foot and toe posture
- 1-2: The student will perform a postural assessment of the following:
- d. hip and pelvis
  - e. knee
  - f. ankle, foot, and toes
- 1-3: The student will identify and classify body types as:
- a. endomorph
  - b. ectomorph
  - c. mesomorph
- 4-1: The student will identify and assess the following:
- a. cranial nerves
  - b. dermatomes
  - c. myotomes
  - d. deep tendon reflexes
  - e. pathological reflexes
- 6-A1: Obtain the medical history of an ill or injured athlete or other physically active individual suffering from foot, ankle, or leg pathology.
- 6-A2: Observe and identify the clinical signs and symptoms associated with the following common injuries, illnesses, and predisposing conditions:

- |                            |                              |
|----------------------------|------------------------------|
| a. overuse injures         | h. deep vein thrombosis      |
| b. Achilles tendon rupture | i. neuroma                   |
| c. compartment syndrome    | j. osteochondritis dissecans |
| d. apophysitis             | k. sprain                    |
| e. dislocation/subluxation | l. strain                    |
| f. foot type/structure     | n. weight-bearing alignment  |
| g. fracture                | o. gait                      |

- 6-A3: Administer active and passive range-of-motion tests using standard goniometric techniques for the foot, ankle, and lower leg.
- 6-A4: Use manual muscle-testing techniques for the foot, ankle, and lower leg.
- 6-A5: Administer appropriate sensory, neurological, and circulatory tests for the foot, ankle, and lower leg.
- 6-A6: Administer functional tests and activity-specific tests for the foot, ankle, and lower leg.
- 6-A7: Identify, palpate, and interpret the integrity of bony landmarks for the foot, ankle, and lower leg.
- 6-A8: Identify, palpate, and interpret the integrity of soft tissue of the foot, ankle, and lower leg.
- 6-A9: Administer the following commonly used special tests to make a differential assessment:
- |                         |                    |
|-------------------------|--------------------|
| a. compression test     | e. talar tilt test |
| b. percussion test      | f. Thompson test   |
| c. anterior drawer test | g. Tinel's sign    |
| d. Kleiger's test       | h. Homans' sign    |
- 6-E9: Administer commonly used special tests to make a differential assessment of the following:
- joint instability (e.g., valgus stress test, varus stress test)
  - inflammatory conditions (e.g., tests for lateral epicondylitis, tests for medial epicondylitis)
  - neuropathy (e.g., Tinel's sign, pronator teres syndrome, pinch grip test)
- 6-K1: Obtain the medical history of an ill or injured athlete or other physically active individual suffering from knee pathology.
- 6-K2: Observe and identify the clinical signs and symptoms associated with common injuries, illnesses, and predisposing conditions:
- |                           |                                      |
|---------------------------|--------------------------------------|
| a. bursitis               | k. patellar tendon rupture           |
| b. chondromalacia patella | l. peroneal nerve contusion or palsy |

- c. dislocation and subluxation
- d. fat pad contusion
- e. fracture
- f. leg length
- g. meniscal tear
- h. Osgood-Schlatter disease
- i. osteochondritis dissecans
- j. patellar alignment (e.g., patella alta, patella baja, squinting patella, Q angle)
- m. popliteal cyst
- n. sprain
- o. strain
- p. tendonitis
- q. tibial torsion
- r. tibiofemoral alignment (e.g., ...)

- 6-K3: Administer active and passive range-of-motion tests using standard goniometric techniques for the knee.
- 6-K4: Use manual muscle-testing techniques for the knee.
- 6-K5: Administer appropriate sensory, neurological, and circulatory tests for the knee.
- 6-K6: Administer functional tests and activity-specific tests for the knee.
- 6-K7: Identify, palpate, and interpret the integrity of bony landmarks of the knee.
- 6-K8: Identify, palpate, and interpret the integrity of soft tissue of the knee.
- 6-K9: Administer commonly used special tests to make a differential assessment of the following:
- a. uniplanar stress tests (e.g., valgus stress test, varus stress test, Lachman test, anterior drawer test, posterior drawer test, posterior sag sign)
  - b. multiplanar (rotational) stress tests (e.g., Slocum test, Hughston's test, lateral pivot shift maneuver)
  - c. meniscal tears (e.g., McMurray's test, Apley's test)
  - d. patellofemoral dysfunction (e.g., grind test, apprehension test)
  - e. intra-extracapsular swelling (e.g., sweep test, ballottable patella)
- 6-P1: Obtain the medical history of an ill or injured athlete or other physically active individual for hip/pelvis pathology.
- 6-P2: Observe and identify the clinical signs and symptoms associated with common injuries, illnesses, and predisposing conditions:
- a. leg length discrepancies
  - b. hip retroversion
  - c. hip anteversion
  - d. Legg-Calve-Perthes disease
  - e. apophysitis
  - f. slipped capital femoral epiphysis
  - g. dislocation or subluxation
  - h. fracture
  - j. osteitis pubis
  - k. athletic pubalgia
  - l. bursitis
  - m. piriformis syndrome
  - n. iliotibial band syndrome
  - o. contusion
  - p. sprain
  - q. strain

i. stress fracture

r. tendonitis

- 6-P3: Administer active and passive range-of-motion tests using standard goniometric techniques and/or a tape measure for the hip/pelvis.
- 6-P4: Use manual muscle-testing techniques for the hip and pelvis.
- 6-P5: Administer appropriate sensory, neurological, and circulatory tests for the hip and pelvis.
- 6-P6: Administer functional tests and activity-specific tests for the hip/pelvis.
- 6-P7: Identify, palpate, and interpret the integrity of bony landmarks of the hip/pelvis.
- 6-P8: Identify, palpate, and interpret the integrity of soft tissue of the hip and pelvis.
- 6-P9: Administer commonly used special tests to make a differential assessment of the following:
- a. sacroiliac dysfunction (e.g., Patrick's/FABER, Gaenslen's test, pelvic compression/distraction test)
  - b. neuropathy (e.g., femoral nerve traction test)
  - c. neuromuscular pathology (e.g., Trendelenburg test, Thomas test, rectus femoris contracture test, Ober test, Noble's test, piriformis test)
- 6-T1: Obtain the medical history of an ill or injured athlete or other physically active individual of the thorax and lumbar spine.
- 6-T2: Observe and identify the clinical signs and symptoms associated with common injuries, illnesses, and predisposing conditions:
- a. café au lait macules (spots)
  - b. dislocation or subluxation
  - c. spina bifida occulta
  - d. facet syndrome
  - e. intervertebral disc pathology
  - f. spinal posture (kyphosis/ lordosis)
  - g. leg length discrepancies
  - h. nerve root compression
  - i. sacroiliac dysfunction
  - j. scoliosis
  - k. vertebral pathology (e.g., spondylitis, spondylolysis, spondylolisthesis)
  - l. sprain
  - m. stenosis
  - n. step deformity
  - o. strain
- 6-T3: Administer active and passive range-of-motion tests using standard qualitative and quantitative techniques for the thoracic and lumbar spine.
- 6-T4: Use manual muscle-testing techniques for the thoracic and lumbar spine.
- 6-T5: Administer appropriate sensory and neurological tests for the thoracic and lumbar spine.

- 6-T6: Administer functional tests and activity-specific tests for the thoracic and lumbar spine.
- 6-T7: Identify, palpate, and interpret the integrity of bony landmarks of the thoracic and lumbar spine.
- 6-T8: Identify, palpate, and interpret the integrity of soft tissue of the thoracic and lumbar spine.
- 6-T9: Administer commonly used special tests to make a differential assessment of the following:
- a. intervertebral disc herniation (e.g., Valsalva's maneuver)
  - b. neuropathy (e.g., straight leg raise test, well straight leg test, Babinski's reflex test, Oppenheim's gait test, Kernig's sign, Brudzinski sign test, bowstring test, Hoover sign test)
  - c. vertebral defects (e.g., stork standing test/spondylolisthesis test)
  - d. joint instability (e.g., spring test)