Clinical Gait Quiz Questions

1. Which of the following potential implications of ACL reconstruction in the physically active population is not supported by a consensus of evidence?
   a. 6 times greater risk of ACL injury compared to healthy individuals
   b. 16% relative risk increase of osteoarthritis compared to healthy individuals
   c. Persistent declines in peak knee flexion angle during walking and running gait
   d. Persistent alterations in dynamic postural control

2. The anterior reach direction has been shown to be sensitive to differences in postural control between healthy individuals and those with a history of ACL reconstruction.
   a. True
   b. False

3. Unilateral quadriceps weakness has been linked to decreased sagittal plane knee moments during running/jogging gait in individuals with a history of ACL reconstruction.
   a. True
   b. False

4. Which of the following is a defining characteristic of jogging gait when compared to walking gait?
   a. Jogging gait has a double initial contact phase while walking gait has a single initial contact phase
   b. Walking gait has a single limb support phase while jogging gait does not
   c. Jogging gait has a single limb support phase while walking gait does not
   d. Jogging gait has a float phase (neither foot in contact with the ground) while walking gait does not

5. A rotational force generated around a joint of interest by either internal or external forces is known as a ________________.
   a. Joint angle
   b. Moment
   c. Minute
   d. Motion

6. Sagittal plane differences in knee joint moments following ACL reconstruction when compared to healthy individuals are most common during the loading phase of gait.
   a. True
   b. False

7. Which of the following kinetic changes following ACL reconstruction is similar to a gait pattern observed in individuals with symptomatic tibiofemoral osteoarthritis?
   a. Increased peak external knee adduction moment during the stance phase of gait
   b. Increased peak knee flexion angle during the stance phase of jogging gait
   c. Decreased peak external knee abduction moment during the stance phase of gait
d. Increased peak hip internal rotation angle at the initial contact phase of gait

8. Alterations in transverse plane kinematics have been directly linked to changes in knee joint articular cartilage characteristics following ACL reconstruction.
   a. True
   b. False

9. The maximum joint angle achieved during a motion of interest is known as what?
   a. Peak joint excursion
   b. Minimum joint angle
   c. Absolute joint excursion
   d. Peak joint angle

10. After ACL reconstruction, persistent reductions in quadriceps strength and activation are commonly observed in the involved limb while the uninvolved limb recovers to pre-injury strength and activation levels.
    a. True
    b. False

11. Which of the following has been reported during walking gait in subjects who acutely (< 2 weeks post injury) suffered a lateral ankle sprain (LAS)?
    a. Compared to controls, the LAS group had frontal plane kinematic differences at heel strike
    b. At and around toe off, the LAS group presented with increased inversion
    c. At and around toe off, the LAS group presented with increased plantar flexion
    d. There were no differences between the LAS group and controls throughout the entire gait cycle

12. Compared to controls, individuals who did not receive therapy 4-weeks post lateral ankle sprain (LAS):
    a. Presented with greater inversion throughout the gait cycle
    b. Walked at a faster pace down a 10m walkway during data collection
    c. Presented with altered sagittal plane motion during the swing phase of gait
    d. Reached peak plantar flexion earlier in the gait cycle

13. Subjects who have suffered a lateral ankle sprain within 4 weeks of initial injury present with reduced plantar flexion.
    a. True
    b. False

14. While walking barefoot, compared to controls, subjects with chronic ankle instability (CAI):
    a. Present with more inversion
    b. Present with reduced foot-floor clearance
    c. Present with a more lateral plantar pressure distribution during stance phase
    d. All of the above
15. While walking shod, compared to controls, subjects with chronic ankle instability (CAI):
   a. Increased inversion throughout the gait cycle
   b. Decreased inversion throughout the gait cycle
   c. Increased length of time of activation of the peroneus longus muscle
   d. None of the above

16. Gait kinematic findings in subjects with chronic ankle instability are consistent between barefoot and shod data collection methods.
   a. True
   b. False

17. Which of the following is TRUE regarding clinical gait assessment for ankle pathologies?
   a. Clinicians should establish and clearly mark important landmarks
   b. Clinicians should only evaluate the involved ankle joint
   c. Gait assessments are recommended for patients with ankle pathologies
   d. Only sagittal plane kinematics should be evaluated by clinicians

18. Altered toe off and swing phase kinematics have been noted in subjects suffering from chronic ankle instability (CAI).
   a. True
   b. False

19. Which of the following is not a component of the rehabilitation paradigm for the treatment of chronic ankle instability?
   a. Balance
   b. Functional Activities
   c. Range of Motion
   d. Strength
   e. All are a component of the rehabilitation paradigm
   f. None are a component of the rehabilitation paradigm

20. A model of rehabilitation that utilizes the assessment, treatment and reassessment of specific impairments associated with an injury is known as?
   a. Assessment based model
   b. Impairment based model
   c. Patient outcome based model
   d. Strength based model

21. For patients with chronic ankle instability, 4-weeks of dynamic balance training may provide greater ankle stability during walking by:
   a. Decreasing coupling variability between the shank and rearfoot
   b. Decreasing inversion kinematics during the swing and stance phases
   c. Increasing dorsiflexion kinematics during the swing and stance phases
   d. Increasing vertical ground reaction forces
22. Providing augmented feedback during a jump tuck task decreases frontal plane knee angles during a drop vertical jump task in female high school soccer athletes.
   a. True
   b. False

23. Providing augmented feedback during jump tucks or running causes a reduction in frontal plane knee angles.
   a. True
   b. False

24. Following a 2 week running gait retraining program that utilizes verbal feedback and mirrors for patients with patellofemoral pain, changes in contralateral pelvic drop have been shown to last for:
   a. 1 week
   b. 1 month
   c. 3 months
   d. 1 year
   e. No changes occur in hip adduction

25. Following a 2 week running gait retraining program that utilizes verbal feedback and mirrors for patients with patellofemoral pain, changes in hip adduction can be seen in which task:
   a. Running
   b. Squatting
   c. Step Descent
   d. Hip adduction is altered in all of the above
   e. Hip adduction is altered in none of the above

26. Which of the following is considered skill transfer:
   a. Providing feedback on jump tuck mechanics causes a change in frontal plane knee angle during a vertical drop landing task
   b. Providing feedback on running mechanics causes a change in hip adduction during running
   c. Completing a dynamic balance program that improves balance but does not improve inversion kinematics during gait
   d. Improving strength muscles of the lower leg does not improve walking mechanics

27. Currently, there is a high quality of evidence (Grade A) supporting various types of rehabilitation techniques that improve walking and running mechanics of individuals with lower extremity injury.
   a. True
   b. False

28. Current evidence recommends the use of mirrors over the use of video cameras when providing patients feedback during gait retraining programs.
   a. True
   b. False