# *Facilitated Stretching*

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# *LEARNING OBJECTIVES*

After reading *Facilitated Stretching* you should be able to:

1. Understand how the myotatic stretch reflex functions to protect muscles and joints from injury.
2. Understand the difference between passive and active stretching.
3. Understand what "PNF" stands for and when it was developed.
4. Understand the difference between ballistic and static stretching.
5. Understand the difference between MET and PNF stretching techniques.
6. Describe the technique for active isolated stretching.
7. Identify the two main types of PNF stretching.
8. Explain what is meant by "soft tissue barrier".
9. Identify the three steps involved in facilitated stretching.
10. Describe why facilitated stretches are safe.
11. Explain the philosophy behind facilitated stretching.
12. Explain the principles for self-stretching.
13. Learn the correct methods for paying attention to posture and body mechanics when acting as a partner during facilitated stretching.
14. Learn the correct way for a partner to communicate with the stretcher.
15. Learn methods for reducing fatigue and the possibility of injury for both the stretcher and the partner during facilitated stretching.
16. Understand the terms flexion, extension, abduction, adduction, pronation, supination, inversion, eversion, dorsiflexion, and plantar flexion.
17. Understand the basic PNF patterns of D1 and D2 flexion and extension.
18. Identify the nicknames used to describe the D1 and D2 movement patterns.

 

19. Identify the planes of motion used by spiral diagonal patterns of movement.

20. Understand the importance of precise hand contact between the partner and the stretcher.

21. Identify the muscles in the hamstring group.

22. Identify optimal range of motion for hip flexion.

23. Describe how to perform the Hamstrings Stretch, Straight Leg, Supine, With a Partner.

24. Identify where the Piriformis is and understand its function.

25. Understand what the Piriformis Stretch, Supine, With a Partner is used to improve.

26. Identify the muscles that are part of the hip abductors group.

27. Identify normal range of motion for the hip abductors.

28. Identify the problems that can develop if the hip abductors are hypertonic.

29. Identify the overuse injury caused by a tight IT band.

30. Understand what the Hip Abductors Stretch, Side-Lying, With a Partner is used to improve.

31. Understand how to modify the Hip Abductors Stretch, Side-Lying, With a Partner if the stretcher feels any low back pain.

32. Identify the muscles that are part of the hip adductor group.

33. Identify the function of the quadriceps muscles.

34. Describe how to check range of motion in the knee.

35. Understand how to modify the Quadriceps Stretch, Prone, With a Partner if the stretcher feels low back discomfort.

36. Identify what the Quadriceps Stretch, Prone, With a Partner is used to improve.

37. Identify the primary action of the iliopsoas muscle.

38. Identify what the Psoas Stretch, Prone, With a Partner is used to improve.

 

39. Describe how to perform the Psoas Stretch, Prone, With a Partner.

40. Identify the stretcher's position when performing the Iliopsoas Self-Stretch.

41. Describe what the Soleus Stretch, Prone, With a Partner is used to improve.

42. Identify normal range of motion for ankle plantarflexion.

43. Describe how to isolate the soleus muscle during the Soleus Stretch, Prone, With a Partner.

44. Identify the action of the tibialis anterior muscle.

45. Describe what the Tibialis Anterior Stretch, Supine, With a Partner is used to improve.

46. Identify which muscles evert the foot and which muscles invert the foot.

47. Identify normal range of motion in the ankle for eversion and inversion.

48. Describe the purpose of the Peroneals Stretch, Supine, With a Partner and the Tibialis Posterior Stretch, Supine, With a Partner.

49. Understand what the D1 Soccer Kick Stretch is used to improve.

50. Identify the target muscles lengthened in the starting position of the D1 Soccer Kick Stretch.

51. Identify the muscles that are part of the rotator cuff.

52. Understand what the Subscapularis Stretch, Supine, With a Partner is used to improve.

53. Understand what the Infraspinatus and Teres Minor Stretch, Prone, With a Partner is used to improve.

54. Understand what the Rhomboids and Middle Trapezius Stretch, Supine, With a Partner is used to improve.

55. Understand what the Pectoralis Major Stretch, Prone, With a Partner is used to improve.

56. Understand what the Biceps Brachii Stretch, Supine, With a Partner is used to improve.
57. Understand what the Triceps Stretch, Prone, With a Partner is used to improve.

 

58. Understand what the Wrist and Finger Extensor Stretch, Supine, With a Partner is used to improve.

59. Describe why the scalene muscles can be involved in several painful conditions of the neck, shoulder, and arm.

60. Understand what the Upper Trapezius Stretch, Supine, With a Partner is used to improve.

61. Understand what the Sternocleidomastoid Stretch, Supine, With a Partner is used to improve.

62. Describe how to perform the Levator Scapula Self-Stretch, Sitting.

63. Identify which back muscle is always involved with low back pain.

64. Understand how to modify the Quadratus Lumborum Stretch, Side-Lying, With a Partner if the stretcher experiences any low back pain.

65. Understand what the Latissimus Dorsi Stretch, Prone, With a Partner is used to improve.

66. Identify the most widely used treatment for acute injuries.

 

# *"FACILITATED STRETCHING" TEST*

***PART I -- Chapter 1:***

1. An isotonic contraction is a:
   a. Reflexive muscle contraction in which the muscle shortens and movement occurs
   b. Voluntary muscle contraction in which the muscle shortens and movement occurs
   c. Reflexive muscle contraction in which the muscle lengthens and movement occurs
   d. Voluntary muscle contraction in which the muscle lengthens and no movement occurs

2. Another term for eccentric contraction is:
   a. Isometrics
   b. Negative work
   c. Autogenic inhibition
   d. Positive work

3. The myotatic stretch reflex causes a muscle to _____ and is monitored by proprioceptors called _____.
   a. Relax, muscle spindles
   b. Relax, Golgi tendon organs
   c. Contract, muscle spindles
   d. Contract, Golgi tendon organs

4. When a muscle contracts during joint movement, reciprocal innervation may occur in order to allow movement around the joint by:
   a. Simultaneously inhibiting the opposing muscle
   b. Sequentially inhibiting the opposing muscle
   c. Reflexively innervating the opposing muscle
   d. Controlling the force of the contracting muscle

5. All of the following statements regarding passive stretching are true except:
   a. Passive stretching can be ballistic or static
   b. Passive stretching requires good communication between the stretcher and the partner
   c. Passive stretching is often used on gymnasts to enhance maximum flexibility
   d. Passive stretching can be done by anyone because it does not require any type of training

6. Stretching can be broadly categorized as:
   a. Passive, active, or assisted
   b. Reflexive or active
   c. Passive or active
   d. Reflexive or passive

7. The difference between passive stretching and active stretching is that:
   a. Active stretching is done to the stretcher by a partner and passive stretching means the stretcher is doing the work
   b. Active stretching means the stretcher is doing the work and passive stretching is done to the stretcher by the partner
   c. Active stretching is done using rapid bouncing movements and passive stretching is done slowly and held for 15 to 30 seconds

 

d. Active stretching is done slowly and held for 15 to 30 seconds and passive stretching is done using rapid movements

8. The term PNF is the abbreviation for:
   a. Proprioceptive neuromuscular flexibility
   b. Proprioceptive neuromuscular facilitation
   c. Proprioreceptive neuromuscular flexibility
   d. Proprioreceptive neuromuscular facilitation

9. Which of the following best describes ballistic stretching?
   a. It is done using rapid, bouncing movements to force the target muscle to elongate and it is always done actively
   b. It is done using rapid, bouncing movements to force the muscle to contract and it is always done passively
   c. It is done using rapid, bouncing movements to force the target muscle to elongate and it can be done either actively or passively
   d. It is done using rapid, bouncing movements to force the target muscle to contract first, then elongate and it is always done actively

10. One of the stretching techniques often used by sports massage therapists to relieve muscle cramps is:
    a. Reciprocal Inhibition (RI)
    b. Contract-Relax (CR)
    c. Postisometric Relaxation (PIR)
    d. Dynamic stretching

11. The active-assisted stretching Muscle Energy Technique (MET) differs from PNF stretching in that:
    a. MET does not use an isometric contraction of the target muscle before the stretch
    b. The stretching phase of MET is always done actively
    c. One of the goals of MET is joint mobilization
    d. One of the goals of MET is joint stabilization

12. "Isolate the muscle to be stretched, then actively lengthen it to a point of 'light irritation', hold this position for two seconds, then return the limb to the starting position" describes which of the following stretching techniques?
    a. The Lewit Technique
    b. Active Isolated Stretching
    c. Static Stretching
    d. PNF Stretching

13. The two main types of PNF stretching are:
    a. Active and passive
    b. Ballistic and static
    c. Hold-relax and contract-relax
    d. Stretch-relax and contract-relax

14. Which of the following stretching techniques is usually done before doing an exercise or activity?
    a. Ballistic
    b. Static
    c. Active isolated
    d. Dynamic

 

15. “Slowly lengthening the muscle to be stretched, holding the stretch in a comfortable range for 15 to 30 seconds until the feeling of stretch diminishes and then moving into a deeper stretch” is a description of:
    a. Isotonic stretching
    b. Ballistic stretching
    c. Dynamic stretching
    d. Static stretching

16. Post-exercise stretching is recommended because:
    a. The muscles are warm and can be stretched quickly without any danger of overstretching or injury
    b. Post-exercise stretching can be done in place of a cool-down if time is limited
    c. After a workout the muscles stay shortened and stretching will return them to their normal resting length
    d. Stretching after exercising has been proven to prevent muscle soreness from developing

17. All of the following are benefits of warming up except:
    a. Decreased suppleness of the muscle fibers
    b. Increased rate of nerve transmission
    c. Increased oxygen exchange in the muscles
    d. Increased production of synovial fluid in joints

18. Stretching a muscle to its “soft tissue barrier” refers to:
    a. Stretching a muscle until the stretch reflex is felt
    b. Stretching a muscle to the point of mild discomfort
    c. Stretching the muscle to the point at which some resistance to further stretching is felt
    d. Stretching just to the point the muscle feels tight

19. The term “locked long” refers to a:
    a. Muscle that is in a constant state of concentric contraction
    b. Muscle that feels supple when palpated
    c. Muscle that is in a constant state of eccentric contraction
    d. Muscle that is short and tight

20. Sitting in front of a computer for extended periods of time can result in:
    a. Chronically hypertonic trapezius muscles
    b. Chronically hypertonic pectoralis muscles
    c. Chronically hypertonic rhomboid muscles
    d. Chronically hypertonic deltoid muscles

 

***Chapter 2:***

21. PNF techniques were developed in the late 40's and early 50's for the rehabilitation of:
    a. Sports injury athletes
    b. Head injury victims
    c. Polio victims with paralysis
    d. Accident victims with paralysis

22. Training workshops in PNF techniques were first presented in _____ by two physical therapists, _____ and _____.
    a. 1952, Margaret Knott, Dorothy Voss
    b. 1950, Herman Kabat, Margaret Knott
    c. 1946, Henry Kaiser, Herman Kabat
    d. 1960, Margaret Knott, Dorothy Voss

23. Facilitated stretching, which is based on PNF principles, is a _____ form of stretching.
    a. Passive-assisted
    b. Active-assisted
    c. Static-passive
    d. Dynamic-assisted

24. PNF stretching uses an _____ prior to the stretch to achieve greater gains than from stretching alone.
    a. Isotonic contraction
    b. Isokinetic contraction
    c. Isometric contraction
    d. Isolated contraction

25. The movement that occurs when a golfer swings his club or a tennis player swings his racket:
    a. Occurs on a single plane of motion
    b. Occurs only in the horizontal plane
    c. Occurs in a straight line
    d. Occurs through several planes of motion

26. Which of the following best describes facilitated stretching?
    a. It is active-assisted stretching which uses active motion and isometric work to improve flexibility and enhance motor learning
    b. It is partner assisted stretching where the stretcher relaxes and the partner moves the limb being stretched to gain new range of motion
    c. It is active or active-assisted stretching where the muscle to be stretched is isolated then actively lengthened to a point of light irritation and held for no more than two seconds
    d. It is partner assisted stretching in which the stretcher holds the limb at its lengthened range of motion and isometrically resists the partner's attempt to increase the stretch before relaxing and actively moving the limb into a deeper stretch

 

27. Which of the following statements describes step 2 of the Guidelines for Facilitated Stretching protocol?
    a. The target muscle is isotonically contracted by the stretcher for 6 seconds
    b. The target muscle is isometrically contracted by the stretcher for 6 seconds
    c. The target muscle is isotonically contracted by the partner for 10 seconds
    d. The target muscle is isometrically contracted by the partner for 10 seconds

28. Which of the following best describes the philosophical basis for using facilitated stretching?
    a. With facilitated stretching the stretching is done by the stretcher, not the partner, allowing the stretcher to learn to do it for himself and become more body aware
    b. With facilitated stretching, a deeper stretch and greater range of motion can be attained than by stretching alone
    c. If a stretcher has limited range of motion, using a partner to force a muscle to lengthen will improve flexibility faster than stretching alone
    d. With facilitated stretching the stretcher doesn't have to worry about form or proper body alignment since the partner guides the stretching movements

29. Which of the following is not a facilitated stretching principle for self-stretching?
    a. Proper positioning is used to isolate the target muscle
    b. Self-stabilization is used to prevent compensation
    c. Maximum strength effort is exerted during the isometric phase
    d. Contract the antagonist muscle to stretch the target muscle

30. All of the following statements are true except:
    a. Breath holding during the isometric phase helps the stretcher focus their efforts on the target muscle
    b. Breath holding during the isometric phase can be accompanied by compensatory recruitment of other muscles
    c. Breath holding often occurs during strong muscular effort and this is not required during facilitated stretching
    d. Breath holding during muscular contraction may raise the blood pressure

31. An acronym that is another name for facilitated stretching is _____ and means _____
    a. RACC, relax antagonist, control contract
    b. CRAC, contract, relax, agonist contract
    c. CRAC, control, reflex, antagonist contract
    d. CCRA, control, contract, relax antagonist

 

32. Which of the following best describes the sequence of facilitated stretching?
    a. The stretcher isometrically contracts the target muscle to resist a partner's attempt to stretch that muscle, the stretcher then relaxes the contraction and moves, with the partner's help, into a deeper stretch
    b. The stretcher actively lengthens the muscle to be stretched then isometrically contracts it against resistance provided by a partner and holds the contraction for 6 seconds then relaxes the contraction, contracts the antagonist muscle, and pulls the target muscle into a deeper stretch without assistance from the partner
    c. The stretcher isometrically contracts the target muscle against resistance provided by the partner, holds the contraction for 6 seconds, then relaxes the contraction and the partner moves the target muscle to its greatest range of motion
    d. The stretcher isometrically contracts the target muscle against resistance provided by the partner, holds the contraction for 6 seconds, then relaxes the contraction, contracts the antagonist muscle and pulls the target muscle into a deeper stretch with no help from the partner

33. The primary reason there is little risk of injury with facilitated stretching is because
    a. The passive stretching is only held for no more than two seconds
    b. Only minimal force is used during the isometric phase
    c. The stretcher does the work with little or no passive movement involved
    d. The partner increases the stretch using specific instructions from the stretcher

34. When acting as the partner in facilitated stretching, your instructions to the stretcher should be:
    a. To resist your attempts to push the target muscle into a stretched position
    b. To resist your attempts to pull the target muscle into a stretched position
    c. To relax the target muscle so you can lengthen it to its maximal pain free end range of motion
    d. To push or pull while you provide matching resistance

 

d. All of the above are important

35. When doing a hamstring stretch, if the stretcher lifts their hip off the table when isometrically contracting the hamstring it is most likely an example of:
    a. A pattern of compensation indicating hamstring weakness
    b. Incorrect positioning of the stretcher
    c. Stretching multiple muscle groups by incorporating the hamstring and the gluteus maximus
    d. The partner not correctly stabilizing the stretcher

36. When acting as the partner during facilitated stretching you should:
    a. Use your arms to provide resistance to the stretcher in order to protect your back
    b. Use the athletic stance in order to place your body in a balanced stable position
    c. Tell the stretcher to push against you as hard as they can for a maximum isometric contraction
    d. Tell the stretcher not to worry if the isometric stretch is uncomfortable since it is only held for 6 seconds

37. Which of the following is the most important in preventing injury to the partner during facilitated stretching?
    a. Use the large muscles of the trunk and extremities to resist the isometric contraction
    b. Keep the back relatively straight and the abdominal muscles tightened
    c. Avoid unnecessary twisting or bending
    d. All of the above are important

38. To keep the stretcher safe when performing facilitated stretches, all of the following points are true except:
    a. Make sure the stretcher is in the correct position for the stretch
    b. Make sure the stretcher exerts maximal effort during the isometric contraction
    c. Make sure the stretcher breathes during the stretch
    d. Make sure the stretcher remains pain free during the stretch

***Chapter 3:***

39. PNF stretching is based on which type of movement?
    a. Flexion and extension
    b. Rotational
    c. Multiplanar
    d. Spiral-diagonal

40. When muscles contract they create spiral motion because they:
    a. Spiral around bones from origin to insertion
    b. Spiral around bones from insertion to origin
    c. Spiral around joints from origin to insertion
    d. Spiral around joints from insertion to origin

41. When the _____ contract, they flex the elbow and rotate the forearm.
    a. Triceps
    b. Flexor carpi radialis
    c. Biceps
    d. Levator scapula

 

42. D1 and D2 are the two basic PNF patterns for the arm and leg and each pattern is divided into _____ and _____
    a. Flexion and rotation
    b. Flexion and extension
    c. Extension and rotation
    d. Spiral and diagonal

43. Turning the forearm so the hand faces upward is the description for:
    a. Supination
    b. Extension of the elbow
    c. Pronation
    d. Flexion of the elbow

44. Which of the following activities does not use components of the D1 pattern of movement for the arm?
    a. Using a seat belt in the car
    b. Taking a sweater off over the head
    c. Swinging a golf club
    d. Throwing a Frisbee

45. Movement of the arm toward the midline of the body, beginning with the arm at shoulder level, describes:
    a. Flexion
    b. Abduction
    c. Adduction
    d. Horizontal adduction

46. D1 extension ends in extension, abduction, and internal rotation so it must begin in:
    a. Flexion, adduction and internal rotation
    b. Flexion, abduction, and internal rotation
    c. Flexion, adduction, and external rotation
    d. Flexion, abduction, and external rotation

47. D2 extension ends in extension, adduction and internal rotation so it must begin in:
    a. Flexion, abduction, and external rotation
    b. Flexion, adduction, and external rotation
    c. Flexion, adduction, and internal rotation
    d. Flexion, abduction, and internal rotation

48. When completing the extension end of the D2 pattern for the arm, the humerus _____, _____, and _____.
    a. Internally rotates, adducts, flexes
    b. Internally rotates, adducts, extends
    c. Externally rotates, abducts, flexes
    d. Externally rotates, adducts, extends

49. Which of the following activities uses patterns of movement that have components of the D2 pattern for the arm?
    a. Throwing a ball
    b. Drawing a sword
    c. Using a hockey stick
    d. All of the above

50. Which of the following nicknames is used to describe the extension end of the D2 pattern for the arm?
    a. Self-feeding pattern
    b. Drawing a sword
    c. Reverse push-ups
    d. Sheathing a sword

 

51. Inversion and eversion refers to movement of which part of the body?
    a. Foot
    b. Hand
    c. Leg
    d. Arm

52. D1 flexion for the leg begins in:
    a. Flexion, abduction, and internal rotation
    b. Extension, abduction, and external rotation
    c. Extension, abduction, and internal rotation
    d. Flexion, adduction, and external rotation

53. The "soccer kick" is the nickname used to describe which pattern for the leg?
    a. D1 extension
    b. D1 flexion
    c. D2 extension
    d. D2 flexion

54. Eversion of the foot refers to:
    a. Bending the foot upward
    b. Bending the foot downward
    c. Turning the foot so that the sole faces outward
    d. Turning the foot so that the sole faces inward

55. D2 extension of the leg is similar to a ballet position so its nickname is:
    a. Plie
    b. Ballet lunge
    c. Toe-in
    d. $5^{th}$ position

56. The three planes of motion used by the full spiral-diagonal patterns of movement are:
    a. Extension or flexion, adduction or abduction, and internal or external rotation
    b. Extension or flexion, horizontal adduction or horizontal abduction, and circumduction
    c. Extension or flexion, adduction or abduction, and circumduction
    d. Inversion or eversion, flexion or extension, and rotation

57. In order to use only the lengthened position of the spiral-diagonal pattern for stretching, the stretcher's attempts to move the limb through the pattern are _____ and the stretch occurs when the stretcher _____ farther into the lengthened range of the pattern.
    a. Isometric, actively moves
    b. Isometric, passively moves
    c. Isotonic, actively moves
    d. Isotonic, passively moves

58. In order to emphasize the diagonal line of stretch and get a blend of adduction/flexion in the D1 pattern it may help the partner to:
    a. Imagine a horizontal line through opposite sides of the table
    b. Imagine a vertical line from the top of the table to the bottom
    c. Imagine a diagonal line through opposite corners of the table
    d. Imagine a diagonal line from the stretcher's shoulder to their hip

 

59. In order to have precise hand contact with the stretcher, if the partner places their hand on the medial side of the stretcher's limb, he/she should verbally direct the stretcher to push or pull the limb:
    a. Away from the midline of the body
    b. Toward the midline of the body
    c. Toward their head
    d. Toward their feet

**PART II**

60. Although facilitated stretching is based on PNF principles, which of the following is a principle of PNF stretching that is not necessarily a focus of facilitated stretching?
    a. Increased flexibility
    b. Increased coordination
    c. Development of strength
    d. PNF and facilitated stretching focus on all of the above

61. Spiral-diagonal patterns are used for all of the following reasons except:
    a. As a way to increase the flexibility and coordination of groups of muscles that act together
    b. To develop flexibility or awareness in a specific muscle or muscle group
    c. To stretch groups of muscles simultaneously
    d. As an evaluative tool to determine which muscles in a synergistic group are limiting motion, exhibiting weakness, or not firing in proper sequence

***Chapter 4:***

62. Chronically shortened _____ can contribute to low back pain, knee pain and leg length differences.
    a. Iliopsoas
    b. Gastrocnemius
    c. Rectus femoris
    d. Hamstrings

63. Which of the following athletes would be more likely to suffer from weak hamstrings?
    a. Swimmers
    b. Runners
    c. Gymnasts
    d. Golfers

64. The semimembranosus is part of the _____ group and its origin is on the _____.
    a. Quadriceps, ischial tuberosity
    b. Hamstrings, ischial tuberosity
    c. Quadriceps, head of the fibula
    d. Hamstrings, head of the fibula

65. Hip flexion to _____ with the leg _____ is optimal range of motion.
    a. 90°, leg slightly bent
    b. 75°, leg straight
    c. 90°, leg straight
    d. 75°, leg slightly bent

66. In order to make sure the hamstrings are isolated when performing the Hamstrings Stretch, Straight Leg, Supine, With a Partner:
    a. Keep both hips flat on the table
    b. Slightly tilt the hip on the same side as the leg being stretched
    c. Contract the gluteus maximus before lifting the leg being stretched
    d. Slightly bend the knee of the leg being stretched

 

67. To make the Hamstrings Stretch, Straight Leg, Supine With a Partner more comfortable, the stretcher may:
    a. Lift his/her hips off the table during the isometric phase
    b. Hold his/her breath to increase the focus of the stretch
    c. If stretching the right leg, bend the left knee and rest the left foot flat on the table
    d. Bend both knees as needed during the sequence of the stretch

68. Which of the following stretches is recommended for a person with very short hamstrings?
    a. Hamstrings Self-Stretch, Standing
    b. Hamstrings Stretch, Bent Knee, Supine, With a Partner
    c. Hamstrings Stretch, Straight Leg, Supine, With a Partner
    d. Hamstrings Self-Stretch, Supine, with a Stretching Strap

69. The _____, one of six deep lateral hip rotators which not only laterally rotates but also helps stabilize the hip, inserts on the _____.
    a. Quadratus femoris, anterior sacrum
    b. Piriformis, anterior sacrum
    c. Piriformis, superior aspect of the greater trochanter
    d. Gluteus minimus, anterior sacrum

70. Hypertonic lateral hip rotators contribute to a _____ and restrict _____ rotation of the hip.
    a. Toe out gait, internal
    b. Toe in gait, external
    c. Toe in gait, internal
    d. Toe out gait, external

71. If the lateral hip rotators are _____, they can squeeze the _____ causing pain and irritation.
    a. Hypotonic, sciatic nerve
    b. Hypertonic, brachial plexus
    c. Hypotonic, brachial plexus
    d. Hypertonic, sciatic nerve

72. The Piriformis Stretch, Supine, With a Partner is used to improve:
    a. Lateral rotation of the femur
    b. Pronation of the feet
    c. Medial rotation of the femur
    d. Supination of the feet

73. The Piriformis Stretch, Supine, With a Partner, is initiated with the stretcher _____ with the right hip and knee flexed to _____ and drawn up toward the left shoulder with the left leg _____.
    a. Supine, 20°, bent with the foot on the table
    b. Supine, 45°, straight on the table
    c. Supine, 90°, rotated with the toes turned out
    d. Supine, 90°, resting on the table

74. If the stretcher feels any pain in their medial knee during the isometric phase of the Piriformis Stretch, Prone, With a Partner, the partner should:
    a. Bring their hand to support the medial knee of the leg being stretched
    b. Immediately switch to an alternate stretch
    c. Bring their hand to the medial side of the lower leg of the leg being stretched
    d. Place one hand on the medial ankle and one hand on the medial knee of the leg being stretched

 

75. The primary hip abductor muscles are the _____ and the _____.
    a. Tensor fascia latae, gluteus maximus and minimus
    b. Tensor fascia latae, gluteus medius and minimus
    c. Iliopsoas, gluteus medius and minimus
    d. Iliopsoas, gluteus maximus and minimus

76. The tensor fascia latae inserts on the _____ which then inserts on the _____.
    a. Iliotibial band, medial tibial condyle
    b. Iliotibial band, lateral tibial condyle
    c. Iliotibial band, posterior superior aspect of the greater trochanter
    d. Iliotibial band, iliac crest

77. If the hip abductors are _____, knee problems and IT band syndrome can develop.
    a. Hypertrophic
    b. Hypotrophic
    c. Hypertonic
    d. Hypotonic

78. An overuse injury caused by a tight IT band rubbing over the lateral femoral condyle is a definition of:
    a. IT band syndrome
    b. Groin stress
    c. Sciatica
    d. Piriformis syndrome

79. The Hip Abductors Stretch, Side-Lying, With a Partner is used to:
    a. Improve adduction at the hip
    b. Improve abduction at the hip
    c. Improve internal rotation at the hip
    d. Improve external rotation at the hip

80. If the stretcher experiences any low back pain during the first phase of the Hip Abductors Stretch, Side-Lying, he can:
    a. Place a pillow under his low back
    b. Place a pillow under his hips
    c. Bring his knee into his chest
    d. Bend forward from the waist to round his low back

81. After the isometric phase of the supine stretch for the hip abductors, the stretcher:
    a. Inhales and attempts to press his bent knee across his straight leg and toward the table
    b. Exhales and pulls his leg farther across the midline
    c. Inhales and pulls his leg farther across the midline
    d. Inhales and attempts to externally rotate his bent knee

82. Which of the following muscles is part of the hip adductor group?
    a. Pectineus, gracilis, and adductor magnus
    b. Pectineus, adductor magnus, and rectus femoris
    c. Gracilis, adductor magnus, and pectorals
    d. Pectineus, pectorals, and gracilis

 

83. Normal range of motion for the hip abductors is:
    a. 30 to 60 degrees from midline
    b. 45 to 50 degrees from midline
    c. 45 to 60 degrees from midline
    d. 30 to 50 degrees from midline

84. The hip adductors not only adduct the hips, they also:
    a. Assist knee flexion
    b. Assist knee extension
    c. Assist hip flexion and lateral rotation
    d. Assist hip extension and medial rotation

85. After completing the final Hip Adductors Stretch, Supine, With a Partner, the stretcher should be helped to bring his legs together to avoid:
    a. Possible strain of the medial collateral ligament
    b. Possible abductor cramps
    c. Possible adductor cramps
    d. Possible groin strain

86. The Hip Adductors Self-Stretch, Standing, is done with the stretcher:
    a. Standing in a side-lunge position with the leg straight on the side being stretched and the other leg bent at 90° or less
    b. Standing with one leg crossed over the other leg and both feet flat on the floor
    c. Standing in a forward lunge position with the back leg bent at 90°
    d. Standing in a wide leg squat position with both knees slightly bent

87. The function of the quadriceps muscles is to:
    a. Extend the hip
    b. Extend the knee
    c. Flex the knee
    d. Flex the hip

88. To check range of motion in the knee, the stretcher should be able to straighten the lower leg in a smooth motion and the knee should extend to _____ or into a few degrees of ____.
    a. 90°, hyperextension
    b. 90°, hyperflexion
    c. 0°, hyperflexion
    d. 0°, hyperextension

89. The Quadriceps Stretch, Prone, With a Partner is used to improve:
    a. Hip flexion
    b. Hip extension
    c. Knee flexion
    d. Knee extension

90. When performing the Quadriceps Stretch, Prone, With a Partner, the partner should keep the lower leg of the leg being stretched aligned with the thigh in order to:
    a. Not stress the knee joint
    b. Stretch the quads to end of range
    c. Keep the hip in contact with the table
    d. Extend the stretch barrier

91. If the stretcher feels any low back discomfort while performing the Quadriceps Stretch, Prone, With a Partner stretch, the stretcher can:
    a. Place a pillow under their hips
    b. Contract their abdominal muscles to flatten and stabilize their low back
    c. Both a and b
    d. Switch to an alternate stretch

 

92. During the Quadriceps Stretch, Prone, With a Partner, the partner may gently rest one hand on the hamstrings of the leg being stretched to:
    a. Be sure the stretcher is not activating them which could cause the hamstrings to spasm
    b. Be sure the stretcher is not activating them which could cause the quadriceps to spasm
    c. Be sure the stretcher keeps his/her hips on the table
    d. Be sure the stretcher is not placing too much stress on the ligaments of the knee joint

93. If the stretcher is flexible enough that their heel easily reaches their buttock when they do the Quadriceps Self-Stretch, Standing, their next goal when doing this stretch is to:
    a. Use the opposite hand to hold the leg to increase the range of the stretch
    b. Focus on bringing the thigh more vertical so that the knee points directly to the floor without hyperextending the lumbar spine
    c. Bring the heel across the midline and try to touch the opposite buttock
    d. Life the heel toward the buttock and at the same time abduct the hip to stretch both the hip adductors and the quads

94. The primary action of the iliopsoas is:
    a. Hip flexion
    b. Hip extension
    c. Knee extension
    d. Knee flexion

95. Normal range of hip flexion is ____, and normal range of hip extension is approximately ____.
    a. 90°, 30°
    b. 120°, 30°
    c. 30°, 120°
    d. 120°, 90°

96. When performing the Modified Thomas Test, if the stretcher lifts their right knee to their chest and their left lower leg straightens, this indicates:
    a. Tight quadriceps and tensor fascia latae on the left leg
    b. Tight iliopsoas on the left side
    c. Tight biceps femoris on the left side
    d. Tight hip adductors on the left side

97. When performing the Psoas Stretch, Prone, With a Partner, the stretcher should always:
    a. Exhale after the isometric push
    b. Hold their breath during the isometric phase
    c. Keep their hips flat on the table
    d. Lift their hips to deepen the stretch

98. The Psoas Stretch, Prone, With a Partner is used to improve:
    a. Hip abduction
    b. Hip adduction
    c. Hip extension
    d. Hip flexion

 

99. When performing the Psoas Stretch, Prone, With a Partner, the stretcher should use his/her _____ and _____ to lift their leg off the table
    a. Quadriceps, hip extensors
    b. Quadriceps, gluteals
    c. Hamstrings, gluteals
    d. Tensor fascia latae, gluteals

100. To help the stretcher eliminate co-contracting their gluteals with their psoas when performing the Psoas Stretch, Prone, With a Partner, the partner can:
    a. Have the stretcher briefly drop the weight of their leg into the partner's hand prior to the isometric contraction of the psoas
    b. Remind the stretcher to relax their gluteals prior to the isometric contraction of the psoas
    c. Have the stretcher briefly straighten their lower leg prior to the isometric contraction of the psoas
    d. Instruct the stretcher to press the thigh of the leg not being stretched into the table at the same time as they lift the thigh of the leg being stretched

101. If the stretcher is able to lift their leg off the table higher than _____ when performing the Psoas Stretch, Prone, With a Partner, they may be _____ in their low back.
    a. 45°, hypermobile
    b. 30°, hypermobile
    c. 45°, hypertonic
    d. 30°, hypotonic

102. The Iliopsoas Self-Stretch is performed with the stretcher:
    a. Standing with one leg forward and the other leg back with the torso bending forward slightly
    b. Standing with the feet parallel and the knees slightly flexed with an upright torso and flat back
    c. Standing with the feet parallel and the knees slightly flexed with the torso bending forward slightly
    d. Standing with one leg forward and the other leg back with an upright torso and flat back

103. If the stretcher is performing the Psoas Self-Stretch, Standing, with their left leg back and right leg forward in a lunge position, the left iliopsoas is being stretched by:
    a. Contracting the gluteals and attempting to pull the left leg forward while keeping the left foot anchored to the floor
    b. Relaxing the gluteals and attempting to pull the left leg forward while keeping the left foot anchored to the floor
    c. Contracting the gluteals and attempting to pull the left leg forward while lifting the heel of the left foot
    d. Relaxing the gluteals, bending the right and left knees, and attempting to pull the left leg forward

 

104. The gastrocnemius and soleus muscles are also called the ____ and they both insert on the ____.
   a. Triceps surae, calcaneus via the Achilles tendon
   b. Triceps surae, base of the first metatarsal, first cuneiform
   c. Triceps surae, head of the fibula
   d. Triceps, surae, lesser trochanter of the femur

105. Lying prone and flexing the knee to 90° relaxes the _____.
   a. Iliopsoas
   b. Biceps femoris
   c. Gastrocnemius
   d. Soleus

106. Checking range of motion at the ankle with the stretcher lying prone and flexing their knee to 90° helps determine whether the stretching should focus on the ____ or on the ____.
   a. Gastrocnemius, tibialis anterior
   b. Soleus, tibialis posterior
   c. Soleus, tibialis anterior
   d. Gastrocnemius, soleus

107. Normal range of motion of ankle plantarflexion is ____ and if it is limited, it may be due to a _____.
   a. 90°, tight tibialis anterior
   b. 50°, tight tibialis anterior
   c. 20°, tight soleus
   d. 50°, tight soleus

108. During the isometric phase of the Gastrocnemius Stretch, Prone, With a Partner, the stretcher should _____ their foot.
   a. Dorsiflex
   b. Slightly lift
   c. Plantarflex
   d. Rotate

109. The Soleus Stretch, Prone, With a Partner, is used to:
   a. Improve dorsiflexion
   b. Improve plantarflexion
   c. Improve pronation of the foot
   d. Improve supination of the foot

110. In order to isolate the soleus muscle during the Soleus Stretch, Prone, With a Partner, the stretcher should:
   a. Lie prone with one knee flexed to 90° and the other knee extended
   b. Lie prone with both knees extended and both feet plantarflexed
   c. Lie prone with both knees flexed to 90°
   d. Lie prone with both knees extended

111. The action of the tibialis anterior is ____ and ____.
   a. Ankle dorsiflexion, eversion of the foot
   b. Ankle plantarflexion, inversion of the foot
   c. Ankle dorsiflexion, inversion of the foot
   d. Ankle plantarflexion, eversion of the foot

112. The Tibialis Anterior Stretch, Supine, With a Partner, is used to:
   a. Improve dorsiflexion
   b. Improve plantarflexion
   c. Improve pronation of the foot
   d. Improve supination of the foot

 

113. During the isometric phase of the Tibilalis Anterior Stretch, Supine, With a Partner, the stretcher ____ their foot.
   a. Inverts
   b. Everts
   c. Plantarflexes
   d. Dorsiflexes

114. The primary everters of the foot are the ____ and the ____.
   a. Peroneus longus, tibialis posterior
   b. Peroneus brevis, tibialis posterior
   c. Peroneus longus, peroneus brevis
   d. Peroneus tertius, tibialis posterior

115. The primary inverters of the foot are the ____ and the ____.
   a. Peroneus longus, tibialis posterior
   b. Tibialis anterior, tibialis posterior
   c. Peroneus, tibialis anterior
   d. Peroneus longus, peroneus brevis

116. When assessing range of motion in the ankle, eversion should be approximately ____ and inversion should be approximately ____.
   a. 45°, 20°
   b. 20°, 45°
   c. 65°, 30°
   d. 30°, 65°

117. The purpose of the Peroneals Stretch, Supine, With a Partner, is to _____ and the purpose of the Tibialis Posterior Stretch, Supine, With a Partner is to _____.
   a. Increase eversion of the ankle, increase inversion of the ankle
   b. Increase pronation of the ankle, increase supination of the ankle
   c. Increase inversion of the ankle, increase eversion of the ankle
   d. Increase dorsiflexion of the ankle, increase plantarflexion of the ankle

118. When performing the Tibialis Posterior Stretch, Supine, With a Partner, if the stretcher everts his ankle he is:
   a. Turning the sole of his foot toward the midline
   b. Turning the sole of his foot away from the midline
   c. Bending the foot upward
   d. Bending the foot downward

119. The target muscles that are lengthened in the starting position of the D1 Soccer Kick Stretch include the:
   a. Quadriceps, gluteals, ITB, gastrocnemius, soleus and peroneals
   b. Quadriceps, gluteals, TFL, tibialis anterior and peroneals
   c. Hamstrings, gluteals, TFL, tibialis anterior and peroneals
   d. Hamstrings, gluteals, TFL, gastrocnemius, soleus and peroneals

 

120. When performing the isometric contraction phase of both the Soccer Kick Stretch and the Snowplow Stretch, it is important that the stretcher _____ and _____.
   a. Initiates the motion from their foot; keeps both hips flat on the table
   b. Initiates the motion from their lower leg; keeps both hips flat on the table
   c. Initiates the motion from their hip; slightly elevates the hip of the leg to be stretched
   d. Initiates the motion from their hip; keeps both hips flat on the table

121. The target muscles that are lengthened in the starting position of the D1 Toe-Off Stretch include the:
   a. Iliopsoas, biceps femoris, adductors and lateral hip rotators
   b. Iliopsoas, biceps femoris, abductors and lateral hip rotators
   c. Iliopsoas, rectus femoris, adductors and lateral hip rotators
   d. Tensor fascia latae, rectus femoris, abductors, and lateral hip rotators

***Chapter 5:***

122. The rotator cuff muscles include all of the following except:
   a. Teres major
   b. Supraspinatus
   c. Infraspinatus
   d. Subscapularis

123. All of the rotator cuff muscles insert on the ____.
   a. Scapula
   b. Humerus
   c. Clavicle
   d. Sternum

124. The Subscapularis Stretch, Supine, With a Partner, is used to:
   a. Improve external rotation of the humerus
   b. Improve internal rotation of the humerus
   c. Improve horizontal adduction of the humerus
   d. Improve horizontal abduction of the humerus

125. During the isometric phase of the Subscapularis Stretch, Supine, With a Partner, the partner should instruct the stretcher to:
   a. "Try to press your hand toward the floor"
   b. "Try to lift your elbow to the ceiling"
   c. "Try to push your wrist toward the ceiling"
   d. "Try to pull your elbow to your rib cage"

126. The Infraspinatus and Teres Minor Stretch, Prone, With a Partner, is used to:
   a. Improve horizontal adduction of the humerus
   b. Improve horizontal abduction of the humerus
   c. Improve external rotation of the humerus
   d. Improve internal rotation of the humerus

 

127. The infraspinatus can be self-stretched using:
   a. The door knob on a securely closed door
   b. A towel with one end in each hand
   c. A door jamb
   d. A fixed upright object

128. The Rhomboids and Middle Trapezius Stretch, Supine, With a Partner is used to improve:
   a. Scapula protraction
   b. Scapula flexion
   c. Scapula extension
   d. Scapula retraction

129. In the initial phase of the Rhomboids and Middle Trapezius Stretch, Supine, With a Partner, the stretcher lies supine and _____ their right _____ and brings their _____ across their chest as far as possible.
   a. Extends, elbow, humerus
   b. Flexes, elbow, shoulder
   c. Flexes, elbow, humerus
   d. Extends, elbow, shoulder

130. In order to help the stretcher lengthen their pectoralis minor muscle to its end range when performing the Pectoralis Minor Stretch, Supine, With a Partner, the partner should instruct the stretcher to:
   a. "Press your shoulder blade into the table"
   b. "Put your shoulder blade in your back pocket"
   c. "Raise your shoulder blade toward the ceiling"
   d. "Press your shoulder blade toward your spine"

131. The Pectoralis Major Stretch, Prone, With a Partner is used to:
   a. Improve range of motion in horizontal abduction, flexion, extension and external rotation of the humerus
   b. Improve range of motion in abduction, flexion, extension and external rotation of the humerus
   c. Improve range of motion in horizontal abduction, flexion, extension, and internal rotation of the humerus
   d. Improve range of motion in horizontal adduction, flexion, extension, and external rotation of the humerus

132. In the initial position of the Pectoralis Major Stretch, Prone, With a Partner, the stretcher externally rotates and abducts his arm to 90° with the elbow bent to 90°, but if the abduction is decreased the focus of the stretch shifts to the:
   a. Lower fibers of the sterno-costal head
   b. Sternal head fibers
   c. Clavicular head fibers
   d. Humeral head fibers

133. The Biceps Brachii Stretch, Supine, With a Partner, is used to:
   a. Improve the range of elbow and shoulder extension
   b. Improve the range of elbow and shoulder flexion
   c. Improve the range of motion of elbow flexion and shoulder abduction
   d. Improve the range of motion of elbow extension and shoulder adduction

 

134. In the initial position of the Biceps Brachii Stretch, Supine, With a Partner, the stretcher's forearm is in neutral which means:
   a. The palm faces upward
   b. The palm faces inward
   c. The palm faces downward
   d. The palm faces outward

135. The Triceps Stretch, Prone, With a Partner, is used to:
   a. Improve flexion at the shoulder with the elbow straight
   b. Improve extension at the shoulder with the elbow bent
   c. Improve flexion at the shoulder with the elbow bent
   d. Improve extension at the shoulder with the elbow straight

136. The three primary wrist flexor muscles have a common origin on the _____.
   a. Lateral epicondyle
   b. Medial epicondyle
   c. Greater tubercle of the humerus
   d. Lesser tubercle of the humerus

137. Pronator teres dysfunction is caused by compression of the _____ and can mimic the pain of _____.
   a. Median nerve; golfer's elbow
   b. Radial nerve; tennis elbow
   c. Median nerve; medial epicondylitis
   d. Both a and c

138. The Wrist and Finger Extensor Stretch, Supine, With a Partner is used to:
   a. Increase wrist and finger flexion
   b. Increase wrist and finger extension
   c. Increase pronation at the wrist
   d. Increase supination at the wrist

139. The Flexion End of the D2 Stretch is used to improve range of motion in:
   a. Flexion, adduction, and internal rotation
   b. Flexion, adduction, and external rotation
   c. Flexion, abduction, and external rotation
   d. Flexion, abduction, and internal rotation

140. The Extension End of D2 starts with the stretcher:
   a. Supine with one shoulder flexed, abducted, and externally rotated, and the forearm supinated with the wrist and fingers extended
   b. Prone with one shoulder extended, adducted, and internally rotated, and the forearm pronated with the wrist and fingers in neutral
   c. Prone with one shoulder extended, adducted, and internally rotated, and the forearm supinated with the wrist and fingers in neutral
   d. Supine with one shoulder flexed, adducted, and externally rotated, and the forearm pronated with the wrist and fingers flexed

 

141. In the initial phase of the Grab Seat Belt Stretch:
   a. The stretcher's shoulder is flexed, abducted and externally rotated, the elbow is straight, the forearm is supinated, and the wrist and fingers extended
   b. The stretcher's shoulder is flexed, adducted and internally rotated, the elbow is bent, the forearm is pronated, and the wrist and finger are in neutral
   c. The stretcher's shoulder is flexed, abducted and internally rotated, the forearm is pronated, and the wrist and fingers flexed
   d. The stretcher's shoulder is flexed, adducted and externally rotated, the elbow is straight, the forearm is supinated, and the wrist and fingers are in neutral

142. The name used to describe the Extension End of D1 is _____.
   a. Grab Seat Belt
   b. Draw Sword
   c. Sheath Sword
   d. Fasten Seat Belt

***Chapter 6:***

143. The neck area of the body is also referred to as the ____.
   a. Brachial plexus
   b. Thoracic area
   c. Cervical area
   d. Subclavian area

144. The scalene muscles can be implicated in several painful conditions of the neck, shoulder and arm because the ____ and the ____ pass between the anterior and middle scalene and can become entrapped if the scalenes are _____.
   a. Brachial plexus, subclavian artery, hypertonic
   b. Sciatic nerve, femoral artery, hypertonic
   c. Brachial plexus, femoral artery, hypotonic
   d. Sciatic nerve, subclavian artery, hypotonic

145. When assessing range of motion for the head on the neck, tucking the chin to the neck assesses ____ and should be ____.
   a. Flexion; 85°
   b. Flexion; 10°
   c. Extension; 25°
   d. Extension; 70°

146. The Upper Trapezius Stretch, Supine, With a Partner, is used to:
   a. Improve range of motion in cervical rotation and flexion and shoulder elevation
   b. Improve range of motion in cervical rotation and extension and shoulder depression
   c. Improve range of motion in cervical rotation and flexion and shoulder depression
   d. Improve range of motion in cervical rotation, extension and shoulder elevation

 

147. Which of the following is the correct hand placement for the partner in preparation for the isometric phase of the Upper Trapezius Stretch, Supine, With a Partner?
   a. Left hand at the stretcher's occiput, fingers pointing toward the neck, right hand on the stretcher's left shoulder
   b. Right hand at the stretcher's occiput, fingers pointing toward the neck, left hand on the stretcher's left shoulder
   c. Right hand on the stretcher's occiput, fingers pointing toward the ceiling, left hand on the stretcher's left shoulder
   d. Left hand at the stretcher's occiput, fingers pointing toward the ceiling, right hand on the stretcher's left shoulder

148. The Sternocleidomastoid Stretch, Supine, With a Partner, is used to improve:
   a. Rotation of the head and neck
   b. Flexion of the head and neck
   c. Extension of the head and neck
   d. Elevation of the scapula

149. In order to prevent the stretcher from adding rotation to the lateral flexion of his head performed in phase 1 of the Scalene Stretch, Supine, With a Partner, the partner should instruct the stretcher to:
   a. Keep his nose pointed directly to the ceiling
   b. Press his ear to his shoulder
   c. Tuck his chin to his chest
   d. Look straight to the front

150. To make the Scalenes Stretch, Supine, With a Partner more specific to the left posterior scalene, the stretcher should laterally _____ the neck to the right, then rotate the head _____ to the right.
   a. Flex, 30°
   b. Extend, 45°
   c. Flex, 45°
   d. Extend, 30°

151. When performing phase 1 of the Suboccipitals Stretch, Supine, With a Partner, the partner should instruct the stretcher to:
   a. Extend her head as far as possible
   b. Tuck her chin toward her throat
   c. Lift her head toward her chest
   d. Tilt her head and look down

152. During the isometric phase of the Suboccipitals Stretch, Supine, With a Partner, it is important that the partner:
   a. Use their thumbs to prevent the stretcher from tilting their head back
   b. Maintain contact with stretcher's occiput as the stretcher begins to tilt their head
   c. Pull gently on the stretcher's head in order to lengthen the suboccipitals
   d. Use their fingertips to palpate the stretcher's occiput

 

153. During the initiation phase of the Levator Scapula Stretch, Supine, With a Partner, Sitting, the partner places one hand ____ of the stretcher's head and the other hand ____.
   a. At the back; at the top of the stretcher's left scapula
   b. On the top; at the top of the stretcher's left scapula
   c. At the back; against the inferior angle of the stretcher's left scapula
   d. At the top; against the superior angle of the stretcher's left scapula

154. To perform the Levator Scapula Self-Stretch, Sitting, the stretcher should be seated with their spine____, drop their chin to their chest, turn their chin to the right about ____, place their hand ____ and pull slightly.
   a. Slightly rounded, 45°, to the top of their head
   b. Straight, 20°, to the side of their head
   c. Straight, 45°, to the side of their head
   d. Lengthened, 45°, to the top of their head

155. The erector spinae muscle group includes all of the following except:
   a. Iliopsoas
   b. Iliocostalis
   c. Longissimus
   d. Spinalis

156. The back muscle that is always involved in low back pain is the:
   a. Spinalis
   b. Multifidus
   c. Quadratus lumborum
   d. Latissimus dorsi

157. When performing the Trunk Rotators Stretch, With a Partner, Sitting, twisting right stretches the ____ and the ____.
   a. Right external oblique, left external oblique
   b. Right internal oblique, left internal oblique
   c. Right internal oblique, left external oblique
   d. Right external oblique, left internal oblique

158. If the stretcher experiences any low back pain while performing the Quadratus Lumborum Stretch, Side Lying, With a Partner, he:
   a. Can reach his arms out to the front
   b. Place a pillow under his head
   c. Place a pillow under his hips
   d. Bend forward from the waist to round his low back

159. The Latissimus Dorsi Stretch, Prone, With a Partner, mimics the ____ and is used to increase range of motion in ____ and ____ of the humerus.
   a. Horizontal row, flexion, external rotation
   b. Lat pull-down, flexion, external rotation
   c. Horizontal row, flexion, internal rotation
   d. Lat pull-down, flexion, internal rotation

160. During the initiation phase of the Back Extensors Stretch, With a Partner, Sitting, the stretcher sits with their knees slightly bent to:
   a. Relax the gastrocnemius
   b. Relax the gluteus maximus
   c. Relax the hamstrings
   d. Relax the iliopsoas

 

161. When performing the Back Extensor Stretch, With a Partner, Sitting, after the isometric push the stretcher contracts their ____ and their ____ to bend farther forward to deepen the stretch.
   a. External obliques, Piriformis
   b. Rectus abdominus, psoas
   c. Rectus femoris, psoas
   d. External obliques, internal obliques

***PART II – Chapter 7:***

162. Combining facilitated stretching with soft tissue therapy is used only on _____ in order not to disrupt the formation of _____ during the _____ phase.
   a. Chronic injuries; adhesions; acute
   b. Acute injuries; adhesions; chronic
   c. Acute injuries; scar tissue; chronic
   d. Chronic injuries; scar tissue; acute

163. When working with a client with a chronic hamstring pull, in order to emphasize the medial hamstring, the ____ would be used and to emphasize the lateral hamstrings, the ____ would be used:
   a. Extension pattern for D2 extension; D1 flexion pattern
   b. Spiral pattern for D2 extension; D1 flexion pattern
   c. Spiral pattern for D2 flexion; D1 flexion pattern
   d. Extension pattern for D1 extension; D1 flexion pattern

164. When the Pin-and-Stretch Technique: Piriformis is used, and the stretcher externally rotates their thigh, the lower leg ____ and when their thigh is passively internally rotated, the lower leg ____.
   a. Is flexed to 90°; is extended straight out on the table
   b. Crosses the midline; is extended straight out on the table
   c. Is pulled toward the partner; is pushed across the midline
   d. Crosses the midline; is pulled toward the partner

165. If the serratus anterior muscle is hypertonic, it can cause ____ and also add ____to the rhomboids.
   a. The scapula to excessively protract; eccentric stress
   b. The scapula to excessively retract; eccentric stress
   c. The scapula to excessively protract; concentric stress
   d. The scapula to excessively retract; concentric stress

***Chapter 9:***

166. The most widely used treatment for acute injuries is:
   a. Heat, rest, compression
   b. Heat pack, rest, elevation, massage
   c. Rest, ice, compression, elevation
   d. Cold, elevation, rest, massage

 

167. The most common types of pain caused by trigger points in the neck and shoulder are usually described as:
   a. Mild soreness and stiffness
   b. Stabbing pain when the head is flexed
   c. Mild soreness when pressure is applied
   d. Numbing, tingling, shooting pain or deep ache

168. Bursitis or tendonitis in the shoulder is most often caused by:
   a. An impact sports injury
   b. A fall
   c. Starting a new activity or overdoing an activity
   d. A sudden movement related to a sports activity

169. Which of the following describes a recommended exercise for strengthening the rotator cuff muscles for a client with bursitis or tendonitis in the shoulder?
   a. Standing, hold arms straight out front, shoulder height, thumbs pointing toward each other, move arms out 45°, turn thumbs down, lower arms to sides
   b. Standing, hold arms straight out to sides, shoulder height, thumbs pointing to ceiling, rotate thumbs down, lower arms to sides
   c. Standing, hold arms straight out front, shoulder height, thumbs pointing to ceiling, move arms out 45°, lower arms to sides
   d. Standing, hold arms straight out to sides, shoulder height, thumbs pointing to floor, rotate thumbs up, lower arms to sides

170. A common injury related to gripping or squeezing during bending and straightening of the elbow is ____.
   a. Tennis elbow
   b. Carpal tunnel syndrome
   c. Biceps tendonitis
   d. Impingement syndrome

171. Another common name for trochanteric bursitis is ____.
   a. Lumbago
   b. Hip or thigh myalgia
   c. Sacroilliac sprain or strain
   d. Piriformis syndrome

172. Patella tendonitis, also called ____, is usually the result of ____ and is usually felt as pain ____.
   a. Runner's knee; falling on the knee; at the bottom of the knee cap
   b. Runner's knee; overuse; at the top of the knee cap
   c. Jumper's knee; overuse; at the bottom of the knee cap
   d. Jumper's knee; falling on the knee; lateral side of the knee cap

173. Achilles Tendonitis is a condition that can typically result from:
   a. Sitting for long periods of time
   b. Lifting something improperly
   c. Starting a new running activity
   d. Prolonged squatting

 

174. Which of the following describes the pain associated with plantar fascitis?
   a. Pain in the bottom of the feet felt when taking the first few steps after getting out of bed in the morning
   b. Pain in the ankles felt when taking the first few steps after getting out of bed in the morning
   c. Pain felt in the bottom of the feet when taking the first few steps after prolonged sitting
   d. Both a and c

175. Aging is a factor in plantar fascitis due to the fact that as we get older:
   a. The bones in the feet become more susceptible to breaks
   b. The muscles in the feet weaken allowing the arch to fall and put stress on the fascia
   c. The ligaments in the feet become stiffer and the feet become less flexible
   d. The tendons in the feet become more pliable and the feet are more susceptible to impact stress

 

 