

# Facilitated (PNF) Stretching Home Study Course

11 CE Hours  
Online Study Guide

Presented by the:  
*Center for Massage Therapy Continuing Education*

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It is the responsibility of the practitioner to determine the appropriateness of the principles presented in terms within the scope of practice. This information is in no way meant to diagnose or treat medical conditions. This course is not meant to teach advanced hands-on massage techniques. Written medical opinions are always the best way to resolve any questions regarding contra-indications to massage therapy and/or facilitated (PNF) stretching.

**PLEASE CAREFULLY READ THE DIRECTIONS ON PAGE 2**

## **Instructions for the Facilitated (PNF) Stretching home study course**

Thank you for investing in the Facilitated (PNF) Stretching home study course, an 11 CE hour course designed to further your knowledge in the principles and practice of Proprioceptive Neuromuscular Facilitation (PNF) stretching techniques.

This guide will contain all of the instructions you will need to complete this course. This is an 11 CE hour course, so that means it should take you approximately 11 hours to read the textbook, watch the online videos, and complete the multiple choice exam and course evaluation.

### **The following are steps to follow in completing this course:**

- 1. Read the instructions and review the text, online videos, and exam.**
- 2. There are video clips totaling about 2 ½ hours of technique demonstrations from chapters 3-7. They can be accessed on the publisher's website by using this link: [https://hk-ancillaries.s3.amazonaws.com/MCATEE4E\\_OV/index.html](https://hk-ancillaries.s3.amazonaws.com/MCATEE4E_OV/index.html)**
  - a. NOTE: The only thing completed for this course on the publisher's website is viewing the online videos.**
  - b. The multiple choice exam for the course is located on page 4 of this guide and is completed on our website in your online account.**
- 3. Access the online examination in your account at [www.massagetherapyceu.com](http://www.massagetherapyceu.com).**
- 4. Complete your examination and print your certificate. The exam is open book and there is no time limit for completion.**

You must pass the exam with a 70% or better to pass this home study course. Feel free to review the textbook and online videos while taking the exam. You are allowed to access and take the exam up to 3 times if needed. There is no time limit when taking the exam. This course uses the text *Facilitated Stretching* by Robert E. McAtee and Jeff Charland. All of the answers can be found in the textbook and/or online videos.

It is advised to answer the exam questions in the study guide before testing online. That way, when you are testing you do not have to go back and forth through the online exam.

Good luck as you complete this course. If you have any question please feel free to contact us at 866-784-5940, 712-490-8245 or by email at [info@massagetherapyceu.com](mailto:info@massagetherapyceu.com). Most state boards require that you keep your "proof of completion" certificates for at least four years in case of audit. Thank you for taking our Facilitated (PNF) Stretching home study course.

# Facilitated (PNF) Stretching Exam

## Chapter 1

1. Currently, what is the most widely accepted theory for the effects of stretching?
  - A. Stress relaxation theory
  - B. Creep theory
  - C. Reflex-mediated theory
  - D. Sensory theory
2. What are agonist muscles?
  - A. The prime movers, the main muscles that generate a specific movement at a joint
  - B. Muscles that act in opposition to the movement generated by antagonist muscles
  - C. The helper muscles, they help the antagonist achieve the desired movement within the correct plane of motion
  - D. Smooth muscles that line and protect the vital organs in the body
3. Which of the following is an example of active stretching (in this text, the client is referred to as the stretcher and the therapist is referred to as the partner)?
  - A. A therapist moving a client's arm through its full range of motion
  - B. Using a partner to hold a stretch without assistance from the stretcher
  - C. Using an outside force to apply a stretch
  - D. The stretcher actively moving a limb through its full available range of motion

## Chapter 2

4. What is the goal of PNF (proprioceptive neuromuscular facilitation) techniques?
  - A. To promote non-functional movement through facilitation, inhibition, strengthening, and relaxation of muscle groups
  - B. To promote functional movement through facilitation, inhibition, weakening, and contraction of muscle groups
  - C. To promote functional movement through facilitation, inhibition, strengthening, and relaxation of muscle groups
  - D. To promote functional inactivity through impedance, inhibition, strengthening, and contraction of muscle groups
5. All of the following are one of the four main stretching techniques which have emerged from PNF EXCEPT:
  - A. Antagonist contraction (reciprocal inhibition stretching)
  - B. Contract-relax stretching
  - C. Hold-relax stretching
  - D. Hold-relax-agonist-contract stretching
6. Facilitated stretching is a modified form of the:
  - A. Contract-relax (CR) stretching
  - B. Hold-relax-agonist-contract (HRAC) stretching
  - C. Agonist contraction (AC) stretching
  - D. Hold-relax (HR) stretching

7. One of the key differences in performing facilitated stretching is that the \_\_\_\_\_ plays an active role in moving and contracting the limb.
- A. Stretcher
  - B. Partner
  - C. Physician
  - D. Bolster

### Chapter 3

8. The spiral-diagonal nature of normal movements arises from the design of the skeletal system and the placement of muscles on it, in that the muscles:
- A. Spiral around the bones from insertion to origin
  - B. Spiral around the bones from origin to insertion
  - C. Diagonally contract from top to bottom
  - D. Diagonally contract from bottom to top
9. Which of the following actions is an example of the diagonal two (D2) pattern for the arm?
- A. Grab seat belt
  - B. Fasten seat belt
  - C. Draw sword
  - D. Forward sword
10. In facilitated stretching, the primary goal is to:
- A. Improve strength and coordination
  - B. Improve strength quickly and effectively
  - C. Decrease range of motion quickly and effectively
  - D. Increase range of motion quickly and effectively
11. The isometric contraction performed by the stretcher in the facilitated stretches presented lasts for:
- A. 2 seconds
  - B. 4 seconds
  - C. 6 seconds
  - D. 8 seconds
12. The “soccer kick partner stretch” targets all of the following muscles EXCEPT:
- A. Tibialis anterior
  - B. Hamstrings
  - C. Tensor fasciae latae
  - D. Peroneals
13. Because using the spiral patterns stretching requires more concentration from both the stretcher and the partner, the textbook recommends:
- A. Explaining the stretch to the stretcher before attempting to perform the stretch sequence
  - B. Passively moving the stretcher through the pattern several times before attempting to perform the stretch sequence
  - C. Having the stretcher move actively through the pattern several times before attempting to perform the stretch sequence
  - D. Practicing the stretch sequence before they are on the table or mat

14. The “fasten seat belt partner stretch (extension end of D1)” improves range of motion in:
- A. Flexion, abduction, and external rotation of the shoulder
  - B. Extension, adduction, and external rotation of the shoulder
  - C. Flexion, adduction, and internal rotation of the shoulder
  - D. Extension, abduction, and internal rotation of the shoulder
15. The starting position for the flexion end of D2 (in the “draw sword partner stretch”) lengthens which of the following target muscles to their end range?
- A. Pectorals (sternal head) and anterior deltoid
  - B. Subscapularis and pronator teres
  - C. Latissimus dorsi and teres major
  - D. All of the above
16. In the “sheathe sword self-stretch,” the stretching strap or cable pulley machine is used to:
- A. Resist the attempt at motion
  - B. Aid in the motion you are attempting
  - C. Stabilize the extremity
  - D. Build strength in the targeted areas
17. Before performing strengthening exercises or instructing clients on strengthening exercises, we recommend determining if this is within the scope of practice in your state. It is also recommended to:
- A. Consult with the appropriate professional to help design the program appropriate for your and/or your clients
  - B. Become sufficiently familiar with the spiral patterns by practicing them as general warm-ups
  - C. Start slowly and work your way up to a more strenuous routine
  - D. All of the above
18. The “D2 flexion: arms” improves the strength, endurance, and coordination of the muscles in the:
- A. D1 flexion pattern (back of the shoulder and neck)
  - B. D2 flexion pattern (front of the shoulder and chest)
  - C. D2 extension pattern (top of the shoulder and neck)
  - D. D1 flexion pattern (front of the shoulder and chest)
19. In the strengthening exercises using the patterns, it is recommended to begin with:
- A. One set of 5 to 7 repetitions, adjusting up or down based on your level of fitness
  - B. Two sets of 10 to 12 repetitions, adjusting up or down based on your level of fitness
  - C. One set of 10 to 12 repetitions, adjusting up or down based on your level of fitness
  - D. Two sets of 5 to 7 repetitions, adjusting up or down based on your level of fitness
20. The “D1 extension: legs” improves the strength, endurance, and coordination of the muscles in the:
- A. D1 extension pattern (hip extensors, medial rotators, and abductors)
  - B. D2 flexion pattern (hip extensors, lateral rotators, and abductors)
  - C. D2 flexion pattern (hip flexors, internal rotators, adductors)
  - D. D1 flexion pattern (hip extensors, external rotators, and adductors)

21. All of the following are important safety reminders EXCEPT:
- A. An isometric contraction is one in which no movement occurs. The stretcher begins slowly and builds the contraction as you, the partner, provide matching resistance. Don't allow the stretcher to overpower you.
  - B. Don't push or pull. The partner should rarely push or pull to deepen the stretch.
  - C. Stretch pain free. Facilitated stretches should always be pain free.
  - D. If the stretcher experiences pain, hold and/or deepen the stretch until the muscle is able to relax and then proceed.

## Chapter 4

22. Normal thoracolumbar extension is:
- A. 90 degrees
  - B. 30 degrees
  - C. 45 degrees
  - D. 20 degrees
23. In the "oblique abdominal muscles partner stretch, seated," twisting to the right stretches:
- A. The right external oblique and the left internal oblique
  - B. The left external oblique and the right internal oblique
  - C. The right external oblique and the left rectus abdominus
  - D. The left external oblique and the right rectus abdominus
24. Which of the following stretches may be contraindicated if the stretcher is already complaining of low back pain?
- A. Oblique abdominal muscles partner stretch, seated
  - B. Quadratus lumborum partner stretch
  - C. Back extensors stretch, supine, both knees to chest, with a partner
  - D. Upper trapezius partner stretch, supine on a table
25. The "spinal twist partner stretch, supine" works all of the following muscles EXCEPT:
- A. Lumbar paraspinals
  - B. Quadratus lumborum
  - C. Oblique abdominals
  - D. Trapezius
26. \_\_\_\_\_ are the most common medical complaint in the United States, accounting for billions of dollars per year in sales of over-the-counter medications.
- A. Whiplash
  - B. Headaches
  - C. Shoulder pain
  - D. Muscle strains

27. In the “upper trapezius partner stretch, supine on a table,” which of the following is the correct stretcher starting position which lengthens the left upper trapezius to its pain-free end range?
- A. The head rotated to the right as far as possible without pain and the chin tucked as far as possible
  - B. The head extended backward as far as possible without pain and the chin lifted as far as possible
  - C. The head flexed as far as possible without pain and the chin touching the chest
  - D. The head laterally flexed as far as possible without pain and the chin as straight as possible
28. In the “sternocleidomastiod partner stretch,” which of the following is the correct isometric push from the stretcher?
- A. Rotating the head to the right
  - B. Lifting the head from the table
  - C. Extending the neck
  - D. Flexing the neck
29. Which of the following stretches improves flexion of the head on the neck and helps release the head to balance more freely on the cervical spine?
- A. Scalenes partner stretch
  - B. Scalenes self-stretch
  - C. Suboccipitals partner stretch
  - D. Levator scapulae partner stretch
30. In which of the following positions is the “levator scapulae partner stretch” performed?
- A. Supine
  - B. Prone
  - C. Side-lying
  - D. Seated

## Chapter 5

31. Which of the following is the action of the gluteus maximus?
- A. Knee flexion, lateral rotation of the lower leg with knee flexed
  - B. Powerfully extends the hip, especially from a flexed position
  - C. Medial rotation of the lower leg with knee flexed
  - D. Powerfully flexes the hip, especially from an extended position
32. All of the following can be used to replace the partner in the “hamstrings self-stretch, supine with stretching strap” EXCEPT:
- A. Towel
  - B. Weighted belt
  - C. Stretching strap
  - D. Upright object such as a doorjamb



33. In the “gluteus maximus partner stretch, supine,” which of the following is the correct position of the stretcher’s hips to ensure they are stretching the muscle and not just rotating the pelvis?
- A. Slightly lifted off the surface
  - B. Moderately lifted off the surface
  - C. Staying flat on the surface
  - D. Rotated to the left 30 degrees
34. What is the normal range of flexion of the hip?
- A. 120 degrees
  - B. 90 degrees
  - C. 60 degrees
  - D. 30 degrees
35. In the “piriformis partner stretch, supine,” how does the stretcher rotate their left thigh laterally?
- A. By moving their left foot further from their right shoulder while maintaining flexion at the hip
  - B. By moving their left foot closer to their right shoulder while reducing flexion at the hip
  - C. By moving their left foot further from their right shoulder while reducing flexion at the hip
  - D. By moving their left foot closer to their right shoulder while maintaining flexion at the hip
36. All of the following muscles are medial rotators of the hip EXCEPT:
- A. Gluteus medius
  - B. Gluteus minimus
  - C. Gluteus maximus
  - D. Tensor fasciae latae
37. In the “medial hip rotators partner stretch, prone,” which of the following is the correct partner hand placement?
- A. Your right hand on their foot or lateral ankle, and your left hand resting lightly on their sacrum
  - B. Your right hand on their upper calf, and your left hand resting lightly on their sacrum
  - C. Your right hand on the bottom of their foot, and your left hand resting lightly on their upper thigh
  - D. Your right hand resting lightly on their sacrum, and your left hand securing around their middle calf
38. Where is pain from IT band syndrome usually reported?
- A. Just distal to the lateral knee and possibly at the IT band’s insertion on the tibia
  - B. Just proximal to the lateral knee and possibly at the IT band’s insertion on the tibia
  - C. Just proximal to the lateral knee and possibly at the IT band’s origin on the tibia
  - D. Just distal to the lateral knee and possibly at the IT band’s origin on the tibia

39. In the “hip adductor partner stretch, supine on a table,” what can you do if the stretcher experiences mild abductor cramping during the stretch?
- A. Continue with the stretch, and hold it for 12 seconds instead of 6
  - B. Discontinue the stretch and refer the client to the appropriate healthcare professional
  - C. Stop and stretch the adductors, and then come back to the adductor stretch
  - D. Stop and stretch the abductors, and then come back to the adductor stretch
40. In the “quadriceps partner stretch, prone,” in order to offer resistance to the isometric contraction of the quads, where should your hands or your shoulder be placed?
- A. On the stretcher’s ankle
  - B. Against the stretcher’s knee
  - C. Against the stretcher’s shin
  - D. Under the stretcher’s knee
41. Plantar fasciitis is:
- A. An overuse injury characterized by pain on the sole of the foot, usually near the heel
  - B. An overuse injury characterized by pain on the big toe, usually near its base
  - C. An overuse injury characterized by pain on the Achilles’ tendon, usually near the heel
  - D. An overuse injury characterized by pain on the sole of the foot, usually near the toes
42. What is the “soleus partner stretch, prone” used to improve?
- A. Plantar flexion
  - B. Rotation
  - C. Adduction
  - D. Dorsiflexion
43. In the “tibialis anterior partner stretch, supine,” which of the following motions does the stretcher attempt to create the isometric contraction?
- A. Pushing the foot away from the knee (plantar flexion)
  - B. Pulling the foot toward the knee (dorsiflexion)
  - C. Bending at the knee
  - D. Rotating the foot in a circular motion
44. All of the following are toe extensor muscles EXCEPT:
- A. Extensor digitorum longus
  - B. Extensor hallucis brevis
  - C. Extensor digitorum brevis
  - D. Extensor carpi ulnaris
45. The tibialis anterior is a \_\_\_\_\_ muscle.
- A. Ankle extensor
  - B. Ankle evertor
  - C. Ankle invertor
  - D. Knee flexor

46. All of the stretches presented should be repeated:
- A. One to two times
  - B. Two to three times
  - C. Four to five times
  - D. Six to seven times

## Chapter 6

47. Which of the following are the muscles of the rotator cuff?
- A. Supraspinatus, infraspinatus, teres minor, and subscapularis
  - B. Supraspinatus, subscapularis, teres minor, and biceps brachii
  - C. Subscapularis, infraspinatus, teres minor, and teres major
  - D. Supraspinatus, infraspinatus, pectoralis minor, and pectoralis major
48. When performing the “subscapularis self-stretch, standing,” the elbow should be kept:
- A. Straight out, flexed to 45 degrees
  - B. Against your side, flexed to 45 degrees
  - C. Against your side, flexed to 90 degrees
  - D. Straight out, flexed to 10 degrees
49. All of the following stretches improve the internal rotation of the humerus EXCEPT:
- A. Subscapularis partner stretch, supine on a treatment table
  - B. Infraspinatus and teres minor partner stretch, prone on a treatment table
  - C. Infraspinatus and teres minor partner stretch, seated
  - D. Supraspinatus partner stretch, prone
50. In the “pectoralis minor partner stretch, supine,” which of the following motions does the stretcher attempt to create the isometric contraction?
- A. Depressing the shoulder down toward the hip
  - B. Pressing the shoulder back into the table or mat
  - C. Raising the shoulder up toward the ear
  - D. Rolling the shoulder up into your right hand
51. Which of the following is the insertion of the latissimus dorsi?
- A. Lateral lip of bicipital groove of the humerus
  - B. Spine of the scapula
  - C. Medial aspect of bicipital groove of humerus
  - D. Crest of ilium
52. Which of the following stretches mimics the lat pull-down?
- A. Latissimus dorsi partner stretch, prone
  - B. Pectoralis major partner stretch, seated
  - C. Latissimus dorsi partner stretch, seated
  - D. Serratus anterior partner stretch, prone

53. In the “biceps brachii partner stretch, supine,” where should your hands be placed in order to offer resistance?
- A. Your right hand against the stretcher’s left elbow and your left hand stabilizing the shoulder
  - B. Your right hand against the stretcher’s left forearm and your left hand stabilizing the shoulder
  - C. Your right hand against the stretcher’s left bicep and your left hand stabilizing the shoulder
  - D. Your right hand against the stretcher’s left ear and your left hand stabilizing the shoulder
54. Normal range of extension, measured from the wrist in neutral is:
- A. 90 degrees
  - B. 80 degrees
  - C. 70 degrees
  - D. 60 degrees
55. Which of the following stretches increases wrist and finger flexion?
- A. Wrist and finger flexors partner stretch, supine
  - B. Wrist and finger extensors partner stretch, supine
  - C. Forearm supinator partner stretch, supine
  - D. Forearm pronators partner stretch, supine
56. In the “forearm pronators partner stretch, supine,” which of the following is the correct stretcher beginning position?
- A. Prone, with their right upper arm resting at their side, elbow flexed to about 90 degrees
  - B. Supine, with their right upper arm resting at their side, elbow flexed to about 25 degrees
  - C. Prone, with their right upper arm resting at their side, elbow flexed to about 45 degrees
  - D. Supine, with their right upper arm resting at their side, elbow flexed to about 90 degrees

## Chapter 7

57. In the stretching routines for specific activities, it is recommended to:
- A. Perform one to two rounds of stretching for each muscle, which will take 20-30 seconds total
  - B. Perform two or three rounds of stretching for each muscle, which will take 30-45 seconds total
  - C. Perform three to four rounds of stretching for each muscle, which will take 45-60 seconds total
  - D. Perform four to five rounds of stretching for each muscle, which will take 60-90 seconds total
58. All of the following stretches are recommended for use before cycling EXCEPT:
- A. Pectoralis major
  - B. Hamstrings
  - C. Piriformis
  - D. Hip flexors

59. Which of the following is the approximate amount of time it should take to complete the self-stretches before running?
- A. 20-28 minutes
  - B. 17-20 minutes
  - C. 10-12 minutes
  - D. 5-8 minutes
60. Which of the following are self-stretches included in the stretching routine for “rusty hinges?”
- A. Quadriceps and hamstrings
  - B. Oblique abdominals and quadratus lumborum
  - C. Upper trapezius and scalenes
  - D. All of the above

This completes the Facilitated (PNF) Stretching exam.