

# MOVEMENT PRINCIPLES MODULE TEST

Name\_\_\_\_\_ Date\_\_\_\_\_ Training Location\_\_\_\_\_

TOTAL POINTS 74 PASSING 52

## MODULE 1 - WHOLE BODY MOVEMENT

1) What are the three levels of observation an instructor can use to analyze a client's movement patterns?

- a. Global, Integrated Planar and Local
- b. Front body, Side body, Back body
- c. Global, Transverse Plane and Sagittal Plane
- d. Joint range of motion, Joint integrity and Joint stability

2) When observing vertical alignment from the side, what key bony landmarks do you want to line up with the plumb line of gravity?

- a. Tip of earlobe, top of shoulder, center of rib cage, high point of iliac crest, mid-point of the lateral side of the knee, slightly in front of the lateral malleolus of the ankle
- b. Level of the nose, center of the sternum, belly button to the pubic symphysis, center of the hip joint, center of the patella and ankle
- c. Shoulder to shoulder level and balanced, rib cage centered over the pelvis, ASIS to ASIS level and balanced
- d. All of the above

3) What muscle imbalances are usually associated with thoracic kyphosis?

- a. Anterior chest muscles and the scapular stabilizers are strong and shortened
- b. Thoracic extensors are hyperactive and strong and anterior chest muscles are weak and short
- c. Thoracic extensors and scapular stabilizers are weak or long, anterior chest muscles are tight or short
- d. Anterior chest muscles are weak and long and the scapular stabilizers are strong and short

- 4) When training clients what key factors are important to consider when planning your exercise program?
- Current fitness level, age, quality of motor control and learning style
  - Unconscious control of movement, speed, endurance, and age
  - Ability to perform exercises with complete competence, balance and control
  - Competency of movement quality, ability to react and adapt to variation, general fitness level
- 5) The 80/20 rule in training applies to what philosophy?
- When training, 80% of a session is hard and 20% is easy
  - When training, 80% of a session is easy and 20% is hard
  - When training, 80% of a session is dedicated to new skill acquisition and 20% to skills already acquired
  - When training, 80% of a session is dedicated to refining skills the client has already learned and 20% to learning new skills

## MODULE 2 - TRUNK INTEGRATION

- 6) What are the four elements of Trunk Integration?
- Breath, core, trunk and spine
  - Breathing, inner unit, outer units, spinal mobility
  - Thoracic, lumbar, cervical and sacral integration of movements
  - Diaphragm, pelvic floor, multifidi, transversus abdominis
- 7) On an inhale, the diaphragm contracts and the dome moves
- Downward, drawing air in
  - Upward, drawing air in
  - Downward, expelling air
  - Upward, expelling air
- 8) Inhaling generally helps to facilitate what spinal movement
- Flexion
  - Extension
  - Both A and B
  - Neither

- 9) The inner unit or core includes what muscles?
- Erector spinae, thoracolumbar fascia and transverse abdominis
  - Pelvic floor, external obliques and rectus abdominis
  - Internal and external obliques, multifidus and diaphragm
  - Pelvic floor, transverse abdominis, multifidus and diaphragm
- 10) What foundational exercise(s) bring awareness to breath in relationship to the transversus abdominis
- Fingertip Abdominals
  - All fours Abdominals
  - A only
  - A and B
- 11) In a normal healthy body, the inner unit of the core fires
- Reflexively in reaction to postural changes and load being placed on the spine
  - Consciously when needed for support
  - To propel the body forward
  - All of the above
- 12) Supine exercises which teach lumbopelvic stability include
- Marching, Toe Taps, Dead Bug
  - Cat/Cow, Tail Wag, Opposite Arm and Leg
  - Marching, Mini Swan, Swimming
  - Bridging, standing marching, standing diagonal press
- 13) Which exercise is a good way to teach lumbopelvic stability in prone
- Diagonal Press
  - Swimming
  - Dead Bug
  - Bridge

- 14) A supine exercise which strengthens the hamstrings and glutes while training stability in the oblique slings is
- Articulated Bridge
  - Reverse Plank
  - Bridge Marching
  - Opposite Arm and Leg
- 15) The primary functions of the spine include
- Force transference
  - Protection of the spinal cord and nerve roots
  - Movement
  - All of the above
- 16) What is the name of the 1st cervical vertebra
- Atlas
  - Occipital condyle
  - Axis
  - Transference
- 17) The purpose of the Tail Wag and Seated Side Stretch is to facilitate and enhance what spinal movements
- Rotation
  - Flexion
  - Lateral Flexion
  - Rotation only
- 18) Movements of the spine in the Sagittal or "Wheel" plane include
- Flexion and extension
  - Lateral flexion and rotation
  - Flexion only
  - Rotation only

- 19) The nucleus pulposus of the spine is
- The soft, jelly like, center of the intervertebral disc
  - The pulp-like marrow within the bones
  - The center of the vertebral arch
  - The center most vertebra of the spine

### MODULE 3 - LOWER BODY STRENGTH AND POWER

- 20) When creating lower body training protocols, it is important to train all of the following except
- Optimum leg alignment
  - Balance joint range of motion and muscular strength
  - Inner and outer unit integration
  - Agility, balance and coordination
- 21) When observing alignment of the legs, ideal standing alignment is
- When viewing from the side: Hip, knee and ankle joint are lined up over each other
  - When viewing from the front: Just inside the ASIS of the hip lines up with the center of the patella and roughly with the second toe of the foot
  - When viewing from behind: Center of the gluteal fold, center of the back of the knee, achilles are vertical and center through the heel
  - All of the above
- 22) Foot and ankle work, such as heel raises and jumping, work to
- Stabilize the ankle, strengthen the ankle, improve balance
  - Strengthen the ankle, activate the core, mobilize the spine
  - Improve balance, challenge stability of the spine, enhance mobility of the hip joint
  - All of the above

- 23) Without good range of motion on both sides of a joint, the muscles cannot work correctly. For example, if the hip flexors are too tight, the hamstrings won't have enough range to work well and strength gains will be difficult. This is an example of
- Reciprocal training
  - Inhibited isolation
  - Reciprocal inhibition
  - Reciprocal activation
- 24) Which of the leg joints is a ball and socket joint
- Hip joint
  - Knee joint
  - Ankle joint
  - None of the above
- 25) All of the following are true statements about the sacroiliac joint except
- It is a fixed joint with no movement
  - It is often an area of dysfunction
  - It allows for minimal movement
  - It is attached to the pelvis via strong ligaments
- 26) Marching with contralateral arm swing trains
- Counter rotation of the torso and pelvis with leg and arm movements
  - People how to swing their arms
  - Gives clients something to do with their arms while working lumbopelvic stability
  - None of the above
- 27) What powerful lower body exercises build balanced strength in the legs and hips
- Squats and lunges
  - Standing Multifidi
  - Standing Marching
  - Stepping Out

## MODULE 4 - UPPER BODY STRENGTH AND BALANCE

- 28) Movements of the glenohumeral joint include all of the following except:
- Flexion and extension
  - Abduction and adduction
  - Medial and lateral rotation
  - Upward rotation and downward rotation
- 29) Scapulohumeral rhythm refers to:
- The movement of the scapulae as they relate to one another
  - The movement of the scapula as it relates to the movement of the humerus
  - The movement of the scapula as it relates to the movement of the shoulder joint
  - None of the above
- 30) When creating an upper body training protocol all of the following are important to consider except
- Glenohumeral stability and endurance
  - Scapular mobility and coordination
  - Scapular stability and dynamic control
  - Strengthen powerful mover muscles before working glenohumeral stability and endurance
- 31) Functional movement patterns of the upper body include all of the following except:
- Pushing
  - Pulling
  - Lifting
  - Striding
- 32) Sternum Drops primarily move the scapulae in:
- Elevation and depression
  - Protraction and retraction
  - Elevation and retraction
  - Depression and protraction

- 33) Upward rotation of the scapulae occur when the arms
- Move overhead
  - Are holding the body in a plank position
  - Move behind the body
  - Relaxed at the sides of the body

## MODULE 5 - DYNAMIC FLEXIBILITY

- 34) The stretch reflex is responsible for:
- Moderating muscle length
  - Protecting against overstretching a joint
  - Causing muscles to spontaneously stretch
  - A and B only
- 35) Myofascial release techniques are designed to do all of the following except:
- Relax muscles
  - Improve muscle strength
  - Improve blood and lymphatic circulation
  - Decrease "stickiness" between the tissues
- 36) Active Isolated Stretching technique is
- Contracting the opposing muscle to release the target muscle
  - Isometrically contracting the target muscle before releasing
  - Holding a stretch for 40-60 seconds
  - None of the above
- 37) All of the following are important for recovery except
- Breath
  - Rest
  - Aerobic class
  - Relaxation