

A Woman's Guide to Muscle & Strength

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A Women's Guide to Muscle and Strength

Course Objectives

After completing the A Women's Guide to Muscle and Strength course, the participant will:

1. Discuss the benefits of strength training for women
2. Gain knowledge on the myths of strength training for women
3. Understand the develop needs for training various areas of the body for women
4. Understand periodization programs and the design of such programs for women
5. Gain knowledge in different types of strength exercises, correct form, and devices that can be incorporated into such programs
6. Understand how to transition women from a beginning program into a more advanced program for strength and endurance
7. Understand the basic principles of strength training program design for all levels of fitness



Women's Guide to Muscle and Strength Course Examination

For each of the following questions, circle the letter of the answer that best answers the question.

1. What is the best definition of Excess Postexercise Oxygen Consumption (EPOC)
 - A. When systolic blood pressure lowers by 2 percent postexercise due to increased oxygen in the bloodstream
 - B. When you are still burning more calories hours after exercise than your basal metabolic rate
 - C. The amount of oxygen utilized by the body which is higher after exercise than at rest
 - D. The ability of the body to continue to burn fat after high intensity exercise

2. Which type of muscle fiber are the core muscles primarily made up of?
 - A. Type 1b
 - B. Type 1a
 - C. Type 2a
 - D. Type 2b

3. What term is best used to describe twisting or rotational movements around a joint?
 - A. Horizontal
 - B. Transverse
 - C. Lever
 - D. Torque

4. Which statement is false concerning Delayed Onset Muscle Soreness (DOMS)?
 - A. Stretching after an intense workout will decrease the effects of DOMS
 - B. The most severe cases of DOMS are from excessive eccentric contractions
 - C. Stretching before and after exercise while also incorporating a good warm up may help reduce the risk of DOMS
 - D. It is not necessary to experience DOMS while still getting a beneficial workout

5. Which statement is false concerning the phosphagen energy system?
 - A. Carbs and fats are the primary fuel source
 - B. It is the system used for high intensity activities lasting 10 seconds or less
 - C. ATP is made through stored creatine phosphate
 - D. Oxygen is not needed for the phosphagen system to work

6. What is "lactate threshold"?
 - A. The point at which glucose levels drop quickly for energy
 - B. The point at which the exercise is nearing the point of transitioning from aerobic to anaerobic
 - C. Where oxygen consumption begins to level off
 - D. Where carbohydrate and fat energy is combined

7. What is considered the ideal body fat percentage for most women?
- 8-12%
 - 12-15%
 - 15-18%
 - 18-22%
8. Which statement is true concerning cellulite?
- It is a type of visceral fat
 - Cellulite is easy to exercise off
 - How much you have depends on body weight more so than genetics
 - It is impossible to reduce cellulite with lotion or cream
9. At what age does loss of muscle typically begin for women?
- 60+
 - 40's-50's
 - 30's or 40's
 - 20's-30's
10. Which of the following is not considered a key to muscle growth and development?
- Specificity
 - Frequency
 - Overload
 - Intensity
11. According to the book, what is considered the most popular myth about aerobic exercise?
- You must stay within a specific heart rate range to burn fat
 - The rate of energy expenditure is not important when burning fat
 - Cardio is not as important as strength training when it comes to losing weight
 - Strength training will not help reduce the risk or effects of coronary heart disease
12. The pattern of how a woman will lose body fat is dependent on all of the following EXCEPT:
- Genetics
 - Exercise specificity
 - Hormones
 - Age
13. All are reasons that women will not bulk up from strength training EXCEPT:
- Women do not have as much testosterone
 - Women have more muscles fibers
 - Women have smaller muscles
 - Men typically lift heavier weights
14. Which statement is false concerning supplements?
- Some dietary supplements may be safe and effective
 - Mega doses of vitamins can lead to toxicity
 - Dietary supplements are regulated by the FDA
 - The label on the supplement is not guaranteed to be true
15. What is the "principle of diminished returns"?
- When a client takes time off from exercising and has to reduce intensity upon their return
 - When a client is overtraining and losing efficiency and strength
 - When too many sets are performed and the muscle becomes fatigued
 - When muscles begin to adapt to an exercise and to not have to work as hard

16. When dealing with muscle soreness and fatigue, when should the client be concerned that they have over-trained?
- Sudden, sharp pain
 - DOMS
 - Aches
 - Soreness
17. When is the best time to try on workout shoes?
- Early in the morning
 - On the weekend
 - Late in the day
 - Early afternoon
18. Which body type had the more lean physique?
- Endomorph
 - Micromorph
 - Mesomorph
 - Ectomorph
19. Which of the following is not a typical sign that a female athlete is suffering from possible Female Athlete Triad?
- Restricting diet
 - Having warm hands and feet
 - Fatigue
 - Irregular or absent menstrual cycles
20. Which posture abnormality is not a common indication of a muscular imbalance seen in women?
- Protruding abdomen
 - Lordosis
 - Flat back
 - Hyperextended knees
21. Another term used for “hip width apart” is
- ASIS joint apart
 - PSIS joint apart
 - AIIS joint apart
 - PIIS joint apart
22. Which statement is correct when properly breathing during strength training?
- The internal obliques contract when you forcefully exhale
 - The external obliques contract when you forcefully exhale
 - The rectus abdominus contracts when you forcefully inhale
 - The transverse abdominus contracts when you forcefully exhale
23. Which exercise is a closed-chain exercise?
- Glute blast machine
 - Leg extension
 - Chest press
 - Lunge
24. Which statement is correct when deciding equipment options for strength training?
- TRX suspension is a type of free weight exercise
 - Free weight exercises provide a broader range of motion, but not utilization of core
 - You can lift more weight with barbells than with dumbbells
 - Dumbbells are extremely safe when lifting overhead

25. Which of the following is not considered a balancing device?
- A. TRX
 - B. BOSU
 - C. Stability Ball
 - D. Foam Roller
26. The American Council on Exercise listed all of the following as physiological benefits of a warm up EXCEPT:
- A. Increased muscle elasticity
 - B. Increased metabolic rate
 - C. Feeling ready to workout
 - D. Higher rate of oxygen exchange
27. How many dynamic flexibility exercises does the author recommend before your workout?
- A. 1-2
 - B. 3-5
 - C. all of them
 - D. 8-10
28. What is a good way to tell if a client has cooled down appropriately?
- A. She is not sweating during the cool down itself
 - B. She has cooled down for at least 5 minutes
 - C. She says she is done
 - D. She is not sweating after her shower
29. Which statement is true concerning stretching?
- A. Ballistic stretching is held for 6-10 seconds
 - B. You have more control during ballistic stretching
 - C. Dynamic stretching has less possibility of causing injury to connective tissue
 - D. Dynamic stretching and ballistic stretching are one in the same
30. The hamstring stretch using a towel to pull the leg back shown on page 57 is a type of:
- A. Active ballistic stretch
 - B. Passive PNF stretch
 - C. Active static stretch
 - D. Passive static stretch
31. Which of the following stretches is considered an active static stretch?
- A. Quadruped cat and cow
 - B. Spinal twist
 - C. Child's pose
 - D. Forward bend
32. All of the following are characteristics of a kyphotic posture EXCEPT:
- A. An exaggerated inward curve of the thoracic spine
 - B. Rounded shoulders
 - C. Sunken chest
 - D. Hyperextended neck
33. Which rotator cuff muscle does not rotate the shoulder?
- A. Subscapularis
 - B. Teres Minor
 - C. Supraspinatus
 - D. Infraspinatus

34. Which muscles and movement of the shoulder needs to be trained separately from other exercises?
- External rotators
 - Adductors
 - Internal rotators
 - Abductors
35. Which two muscles are considered the “forgotten” muscles of the upper body?
- Serratus posterior and teres major
 - Subscapularis and serratus anterior
 - Pectoralis minor and multifidus
 - Pectoralis minor and serratus anterior
36. Which muscle handles most of the movements during overhead exercises?
- Supraspinatus
 - Medial deltoid
 - Latissimus dorsi
 - Anterior deltoid
37. Which part of the trapezius muscle, when over-developed, causes the neck to appear shorter?
- Lower traps
 - Middle traps
 - Upper traps
 - Entire trap muscle
38. The latissimus dorsi performs all of the following movements EXCEPT:
- Abducts the shoulder
 - Externally rotates the shoulder
 - Horizontally abducts the shoulder
 - Flexes the shoulder
39. What muscle has to work harder when the lower portion of erector spinae is weak?
- Quadratus lumborum
 - Rectus abdominus
 - Tensor fascia latae
 - Transverse abdominus
40. What is another name for the biceps brachii?
- Biarticulate muscle
 - Hammer muscle
 - Triarticulate muscle
 - Work horse muscle
41. When performing elbow flexion with the hands in neutral, what muscle is the primary mover?
- Coracobrachialis
 - Long head of the biceps
 - Short head of the biceps
 - Brachioradialis
42. Which muscle creates the horseshoe-looking shape on the posterior upper arm when well-developed?
- Medial head of tricep
 - Long head of tricep
 - Lateral head of tricep
 - Posterior deltoid

43. Which exercise targets serratus anterior
- Dumbbell chest press
 - Decline barbell press
 - Standing cable chest fly
 - Barbell chest press
44. How far should you lower yourself when performing a decline push up?
- Where the chest touches the floor or step
 - Where the chest is a fist's distance from the step or floor
 - Where the wrist are bent at 90 degrees
 - Where the nose touches the step or floor
45. Which exercise targets both the anterior and medial deltoids and the triceps?
- Front raise
 - Lateral raise
 - Seated shoulder press
 - Front cable raise
46. Which hand position is correct when performing the straight bar upright row?
- Hands 3-5 inches apart with a supinated grip
 - Hands shoulder width apart with an overhand grip
 - Hands 8-10 inches apart with a neutral grip
 - Hands 8-10 inches apart with an overhand grip
47. Which statement is incorrect when performing the Pilates swimming spinal extension exercise?
- Move from your shoulders and your hamstrings
 - Lift your belly button away from the floor
 - Extend far enough so the head lifts off the mat
 - Keep your face towards the floor or mat
48. How can you increase the intensity of the chest press when using the TRX suspension system?
- Keep your feet far apart
 - Create a steeper angle
 - Face towards the anchor
 - Stand in a more upright position
49. Which muscle externally rotates the hip?
- Gluteus minimus
 - Gracilis
 - Gluteus maximus
 - Semitendonosis
50. Which of the following muscles does not adduct the hip?
- Pectenius
 - Sartorius
 - Gracilis
 - Adductor brevis
51. Which muscle is called the "teardrop" muscle of the lower body?
- Rectus femoris
 - Biceps femoris
 - Vastus medialis
 - Vastus lateralis

52. Which muscle helps the hamstrings flex the knee?
- A. Gastrocnemius
 - B. Soleus
 - C. Tensor fascia latae
 - D. Iliotibial band
53. The muscle that helps the tibialis anterior perform dorsiflexion is:
- A. Flexor hallucis longus
 - B. Extensor hallucis longus
 - C. Flexor digitorum longus
 - D. Extensor digitorum longus
54. All of the following muscles are targeted in the Good Morning exercise EXCEPT:
- A. Low back
 - B. Gluteals
 - C. Quadriceps
 - D. Hamstrings
55. What is the proper tempo when performing the stability ball gluteal squeeze?
- A. 6 count
 - B. 8 count
 - C. 3 count
 - D. 4 count
56. What is the main difference between performing front lunges vs reverse lunges?
- A. The reverse lunge targets the hip flexors while the front lunge does not
 - B. The front lunge is easier to do for beginners
 - C. You do not need to lower as far for the reverse lunge as you do for the front lunge to get the full benefit
 - D. The reverse lunge targets the gluteal muscles while the front lunge does not
57. What muscle is worked during a walking lunge that is not during the reverse lunge?
- A. Hamstrings
 - B. Quadriceps
 - C. Calves
 - D. Gluteals
58. The angled kettlebell squat is different from the kettlebell squat in that the:
- A. Angled kettlebell squat adds a left lift to work the adductors
 - B. The kettlebell squat does not require the kettlebell to be lifted overhead
 - C. Angled kettlebell squat adds a left lift to work the abductors
 - D. The kettle bell squat requires that the you hinge forward
59. Which of the following is incorrect form when performing the TRX squat?
- A. Avoid using the straps to pull yourself up
 - B. Drop the tailbone towards the floor as you lower
 - C. Allow your hands to be supported by the straps while driving through the exercise with your legs
 - D. Elbows should be fully extended in the starting position
60. Which statement below is incorrect concerning the core?
- A. The upper two ribs interact with the cervical vertebrae when you inhale
 - B. When you breath the diaphragm contracts and rises
 - C. Core movements are more about quality and not large movements
 - D. The core muscles are largely responsible for stopping movements

61. Which core muscles are used for the “ha” breath?
- A. Transverse abdominus and intercostals
 - B. Obliques and intercostals
 - C. Intercostals and diaphragm
 - D. Quadratus lumborum and obliques
62. Functional fitness movements include all of the following EXCEPT:
- A. Multiplanar
 - B. Isokinetic
 - C. Multijoints
 - D. Core utilization
63. Women who have multiple pregnancies may be at risk for permanent separation of the linea alba. At what point of separation is the risk?
- A. 3 inches
 - B. 2 finger widths
 - C. 2 inches
 - D. 5.6 cm
64. What is the order of the erector spinae muscle group from most medial to most lateral?
- A. Iliocostalis, longissimus, spinalis
 - B. Longissimus, Iliocostalis, spinalis
 - C. Spinalis, longissimus, iliocostalis
 - D. Quadratus lumborum, spinalis, iliocostalis
65. When performing the abdominal progression series, what is the correct order of leg positions from easiest to hardest?
- A. Knees bent with feet in the air, knees bent with feet on floor, Pilates roll up
 - B. Knees bent with feet on floor, knees bent with feet in the air, legs straight in the air
 - C. Pilates roll up, legs straight in the air, knees bent with feet in the air
 - D. Legs straight in the air, knees bent with feet in the air, knees bent with feet on floor
66. In addition to working the core, a benefit to the supine plank is:
- A. It increases chest and shoulder flexibility
 - B. It increases the core intensity from the standard plank
 - C. It incorporates the oblique muscles
 - D. It utilizes the diaphragm more when breathing
67. When performing the TRX side plank, why do you roll “under” to switch sides instead of “over”?
- A. So the internal oblique is worked evenly with the external oblique
 - B. So the feet do not come out of the handles
 - C. To increase the challenge of the exercise
 - D. To prevent the back from sagging
68. The purpose of any exercise program is to:
- A. Make money for the trainer
 - B. Look good
 - C. Lose weight
 - D. Stress the body appropriately in order to adapt and improve
69. Which of the following is not one of the 5 components of fitness according to ACSM?
- A. Muscular strength
 - B. Body composition
 - C. Blood pressure
 - D. Cardiovascular function

70. When discussing how muscles respond to strength training, which statement is false?
- Certain types of strength training protocols allow us to focus on both hypertrophy and strength at the same time.
 - Initial gains in strength are due to motor learning
 - When the muscles adapt, oxygen is converted into more energy more efficiently
 - Two types of hypertrophy exist
71. When strong muscles are created, but not as much growth, this is called:
- Myofibrillar hypertrophy
 - Sarcoplasmic hypertrophy
 - Power
 - Physiological adaptation
72. All of the following are assumptions necessary to validate the results of a submax fitness test EXCEPT:
- The biomechanical efficiency is the same for everyone
 - A steady state heart rate is achieved for each workload
 - The maximal heart rate is exact
 - As workload increases, so does heart rate
73. When conducting a cardiovascular submax fitness test, two heart rates are taken to determine steady state. These two heart rates must be within ____ beats of each other in order to be considered a steady state heart rate.
- 2 bpm
 - 3 bpm
 - 10 bpm
 - 5 bpm
74. When performing the Bruce Protocol Treadmill test, the incline increases every 3 minutes by:
- 4%
 - 1%
 - 3%
 - 2%
75. At what point must a submax cardiovascular test be stopped regardless of whether the client can continue in order for it to be considered a submax test?
- Max heart rate
 - 85% of the max heart rate
 - Until the client collapses
 - 220-age
76. On the average, what resting heart rate range indicates a high level of fitness?
- 120/70
 - 60-75 bpm
 - 80 bpm
 - 40-60 bpm
77. When using the 1-10 RPE scale, what intensity should most of your workouts be?
- 4-5
 - 9-10
 - 5-6
 - 6-7

78. When exercising in Zone 2, what percentage of energy is burned from fat?
- A. 100%
 - B. 70%
 - C. 60%
 - D. 50%
79. At what percentage of 1 RM should your muscle endurance workouts be for optimal training benefits?
- A. No less than 60%
 - B. No less than 75%
 - C. 85%
 - D. 50%
80. Which is incorrect procedure when performing the sit up test?
- A. Your head should touch the floor with each repetition
 - B. Feet should be 18 inches from your hips
 - C. Knees should touch the elbows at the top
 - D. Do as many repetitions as you can in 1 minute
81. Which of the following is incorrect procedure for the push-up test?
- A. Knees are on the floor
 - B. Your chest should lower to within 3 inches from the floor
 - C. Place your hands just outside of shoulder width
 - D. Perform as many reps as you can do in 1 minute
82. How often should body composition be rechecked?
- A. Every day
 - B. Every week
 - C. At each progression
 - D. Every 6 weeks
83. Where should the heels be in relation to the tape measure when performing the sit and reach test?
- A. At the 15 inch mark
 - B. At the zero mark
 - C. At the 20 inch mark
 - D. At the 10 inch mark
84. What is a good way to measure your goals?
- A. By writing them down
 - B. Be realistic
 - C. Fitness assessments
 - D. Set a time frame
85. When macrocycles are divided into shorter chunks of time, they are called:
- A. Sets and reps
 - B. Minicycles
 - C. Microcycles
 - D. Mesocycles
86. Which is not a method used to determine workload?
- A. Weight lifted
 - B. Repetitions
 - C. Frequency
 - D. Time

87. What is considered to be the maximal length of a typical strength training session?
- A. 20 minutes
 - B. 75 minutes
 - C. 60 minutes
 - D. 30 minutes
88. When performing interval training, the 1:1 work to rest ratio is utilized which energy system?
- A. Lactic Acid
 - B. Glycogen
 - C. Phosphagen
 - D. Aerobic
89. A beginner to strength training should keep the volume in the first mesocycle:
- A. At the low end of the continuum
 - B. In the middle of the continuum if the reps are high
 - C. In the middle of the continuum if the weight lifted is low
 - D. At the high end of the continuum
90. Which phase of periodization helps best to determine training load?
- A. Microcycles
 - B. Macrocycles
 - C. Mesocycles
 - D. Minicycles
91. Which statement is false concerning training loads?
- A. Advanced strength trainers should use a narrow loading range in a periodization fashion
 - B. Eventual focus should be on heavy loading for advanced strength trainers
 - C. Rest periods should be 3-5 minutes between sets
 - D. Lift on a 1-2 count, lower on a 1-2 count for advance strength trainers
92. At what increment should weights increase when the load is getting too easy?
- A. 20% of the current weight
 - B. 5-10% of the current weight
 - C. Whatever the client can do if lifting the weight 1 time
 - D. 90% of the original 1 RM
93. Out of all the principles of strength training, which one is viewed by the author as being the most important?
- A. Volume
 - B. Type
 - C. Specificity
 - D. Recovery
94. The author suggest taking how long for recovery at the end of each mesocycle?
- A. 48 hours
 - B. 1 week
 - C. 3-5 minutes
 - D. 12 days
95. Which statement is false concerning beginner strength training programs?
- A. The client should be able to finish the entire workout in 30 minutes by the end of month 3
 - B. Circuits should have 8-10 exercises
 - C. The goal is to complete 12-15 reps for each circuit
 - D. Each circuit should be completed 2-3 times

96. What is the goal of the second mesocycle?
- A. To increase overall fitness
 - B. To establish a consistent routine to move into the intermediate program
 - C. To create a comfort level with the techniques
 - D. To establish a consistent routine to move to the advanced program
97. Circuits for advanced programming are:
- A. Sets of 4 exercises 2 minutes each with 1 minute rest
 - B. Sets of 4 exercises 1 minute each with 1 minute rest
 - C. Sets of 4 exercises with no rest, and alternating with an exercise for the opposing muscle
 - D. 8-10 exercises, 4-6 reps, 90% of 1 RM
98. How long is the mesocycle for the advanced strength training routine?
- A. 12 weeks
 - B. 6 months
 - C. 2 weeks
 - D. 3 months
99. When setting up the TRX suspension training system, where should the equalizer loop be?
- A. 6 feet from the ceiling or bar
 - B. 6 feet from the floor
 - C. Level with the shoulders
 - D. At the client's center of gravity
100. Range of Motion (ROM) refers to:
- A. Flexibility at the joints
 - B. Flexibility of the ligaments
 - C. Flexibility of the muscle
 - D. Flexibility of the tendon