

Action Plan for **Arthritis**

CORRESPONDENCE EDUCATION PROGRAM # 2013-105

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LEARNING OBJECTIVES FOR ACTION PLAN FOR ARTHRITIS

After completing this course participants will be able to:

1. Identify the most common types of arthritis.
2. Explain what a person with arthritis needs to know before setting their exercise goals.
3. Define arthritis.
4. Identify the lubricant in joints that allows the joint surfaces to glide smoothly.
5. Identify the most common form of arthritis.
6. Explain the difference between the stiffness felt with osteoarthritis and the stiffness felt with rheumatoid arthritis.
7. Identify the joints most commonly affected by rheumatoid arthritis.
8. Identify the joints affected by ankylosing spondylitis.
9. Identify the initial symptoms of ankylosing spondylitis.
10. Explain what a person with arthritis should do before starting an exercise program.
11. Identify the two most common classifications of injuries associated with exercise.
12. Identify the causes that can contribute to traumatic injury.
13. Explain the role of shoes in overuse injuries.
14. Identify the stages of change.
15. Explain how to set long term goals and short term goals.
16. Explain the importance of establishing a baseline.
17. Explain the tests that can be used by people to set their aerobic fitness, strength, and flexibility baselines.
18. Explain ways to help exercise adherence.

19. List the tasks that should be completed before a person starts an exercise program.
20. Identify the three elements of physical fitness.
21. Identify the criteria an activity must meet in order to be considered a good aerobic activity.
22. Identify one of the easiest ways to reduce the stiffness associated with arthritis.
23. Explain the changes produced by strength training programs.
24. Give a simple definition of flexibility.
25. Identify the most common reason people with arthritis lose their joint flexibility.
26. Identify several ways to reduce the stiffness caused by arthritis.
27. Explain what a warm-up activity is and why it is important.
28. Explain the principle of progression.
29. Explain the principle of reversibility.
30. Explain what an exercise program should emphasize for a person whose goal is improving basic fitness.
31. Explain how to use the Karvonen Formula to estimate a training heart rate.
32. Identify the recommended intensity for aerobic exercise to get a training response.
33. Explain how to take a pulse and use it to estimate the intensity level of a workout.
34. Identify alternate methods to use to determine intensity if a person is unable to use their heart rate.
35. Define interval exercise.
36. Explain the possible starting point for exercise for a person with arthritis.
37. Identify the most important piece of equipment in a walking program.
38. Identify the two factors in a cycling program that can affect knee and hip pain.
39. Explain the benefits of swimming for people with arthritis.
40. Explain why people may have problems with shoulder pain when doing a swimming program.
41. Identify the benefits of strength training for people with arthritis.
42. Explain one technique for determining a starting resistance level for a strength training program that can be used in gyms and fitness centers with a variety of equipment.
43. Identify one of the most important factors for determining the amount of resistance for a person with arthritis.

44. Explain a simple method for determining a rate of progression in a strength training program.
45. Explain what is used to determine the frequency of a person's strength training program.
46. Identify the three basic types of muscle contractions.
47. Identify what type of strength exercises a person should do if their joints are inflamed.
48. Explain the drawbacks of isometric resistance exercise.
49. Explain what type of activities should be kept to a minimum because of increased stress on joints.
50. Explain why an exercise beginner should start their strength program at a low intensity.
51. Identify two exercises recommended for stabilizing the spine without putting pressure on it.
52. Explain the benefits of a regular flexibility program.
53. Identify the different methods of stretching, and which one is the easiest and most useful.
54. Explain the importance of the active range of motion technique for people with arthritis.
55. Explain the different focus of static stretching and active range of motion activities.
56. Identify what type of group aerobic class a person with arthritis should look for.
57. Explain how to test for good standing posture.
58. Explain the importance of appropriate shoes for an exercise program.
59. Describe several common splints used by people with arthritis.
60. Identify a primary risk factor for developing arthritis.
61. Identify the methods of joint protection that apply to all persons.
62. Identify the first and simplest exercise adaptation a person should make in dealing with a flare-up of their arthritis.
63. Explain the prescription to use for acute injuries such as ankle sprains and muscle sprains.
64. Explain the effects on arthritis of exercising in cold and heat.



CEC/CEU Test for Action Plan for Arthritis

Please choose the BEST answer for each question

1. The majority of the more than 43 million people affected by arthritis are over age _____.
 - A. 65
 - B. 55
 - C. 45
 - D. 30

2. The most common types of arthritis are _____, _____, and _____.
 - A. Osteoarthritis, osteoporosis, rheumatoid
 - B. Rheumatoid, gout, fibromyalgia
 - C. Osteoarthritis, gout, fibromyalgia
 - D. Fibromyalgia, rheumatoid, infectious

3. In order for an individual to best determine his or her exercise goals, they should know about _____.
 - A. All contraindicated exercises they should not attempt
 - B. The possible alternative cures for arthritis
 - C. The type of arthritis they have and its causes and symptoms
 - D. The pain management techniques that work best for their type of arthritis

4. Which of the following statements best defines arthritis?
 - A. Arthritis is inflammation of a joint
 - B. Arthritis is inflammation of muscles
 - C. Arthritis is stiffness and pain in muscles
 - D. Arthritis is stiffness and pain in bones

5. What is the lubricant that is produced within a and decreases normal friction that allows the joint surfaces to glide smoothly?
 - A. Synoid oil
 - B. Synovial fluid
 - C. Joint fluid
 - D. Synovial oil

6. Which of the following is the most common form of arthritis?
 - A. Osteoporosis
 - B. Osteoarthritis
 - C. Rheumatoid
 - D. Fibromyalgia

7. Which of the following statements regarding osteoarthritis is NOT true?
- A. It is a degenerative disease
 - B. It affects the hip, knee, back, and hand joints, as well as others
 - C. It can be caused by trauma or infection, or mechanical stress combined with abnormal biomechanics
 - D. For the majority of people, osteoarthritis symptoms develop rapidly
8. All of the following are risk factors for osteoarthritis except _____.
- A. Obesity
 - B. Occupation
 - C. Smoking
 - D. Male gender
9. Which of the following are the joints that are most affected by rheumatoid arthritis?
- A. Wrist and knee
 - B. Knee and ankle
 - C. Ankle and elbow
 - D. Elbow and wrist
10. Which of the following is the difference between the stiffness felt with osteoarthritis and the stiffness felt with rheumatoid arthritis?
- A. Stiffness with rheumatoid arthritis lasts for 30 minutes or less
 - B. Stiffness with osteoarthritis generally lasts for less than 30 minutes
 - C. Stiffness with rheumatoid arthritis lasts for more than 30 minutes
 - D. Both B and C
11. Which of the following is NOT a common arthropathy?
- A. Psoriatic arthritis
 - B. Osteoarthritis
 - C. Reiter's syndrome
 - D. Ankylosing spondylitis
12. Ankylosing spondylitis primarily affects which joints of the body?
- A. Hip joint
 - B. Wrist joints
 - C. Joints of the spine
 - D. Knee joints
13. Which of the following statements regarding ankylosing spondylitis is NOT true?
- A. The risk factors for Ankylosing spondylosis include male gender, age, Caucasian race, and family history
 - B. Ankylosing spondylitis is a systemic disease and causes complications throughout the body
 - C. Initial symptoms of Ankylosing spondylitis are stiffness and aching joints and occur more in the afternoon
 - D. All of the above are true

14. It is recommended that before starting an exercise program, a person with arthritis should do which of the following?
- A. Go to a gym and work with a personal trainer
 - B. Start exercising slowly and gradually increase the intensity
 - C. Consult with their physician for advice on which exercise activity (if any) to avoid
 - D. All of the above
15. Which of the following is a valid question a person should ask when they visit their physician?
- A. What general precautions should I be aware of regarding exercise and my current health
 - B. Do any medications I take affect my ability to exercise or my response to exercise
 - C. Are there any activities that I should not do
 - D. All of the above
16. Which of the following is one of the best reasons for seeing the doctor before starting an exercise program?
- A. Few people over the age of 40 have only one health problem, and people with arthritis have an increased risk of heart disease
 - B. Medication being taken for a condition other than arthritis, or another health concern (such as medicine for high blood pressure) can determine exercise limitations other than those for arthritis itself
 - C. The doctor can establish an accurate measure for height and weight so people have a baseline from which they can measure the benefits of their exercise program
 - D. Both A and B
17. It is important for a person to get information about what type of arthritis they have because _____.
- A. Depending on the type of arthritis they have, a person may need to exercise at a lower level intensity
 - B. A person may need to use a protective device for a joint
 - C. A person may need a prescription medication for pain and inflammation control
 - D. All of the above
18. The two common classifications of injuries are _____, or _____.
- A. Sudden; chronic
 - B. Traumatic; overuse
 - C. Inflammatory; accidental
 - D. Superficial; traumatic
19. Tendinitis is an example of which type of injury?
- A. Chronic
 - B. Superficial
 - C. Overuse
 - D. Inflammatory

20. Which of the following can contribute to traumatic injuries?
- A. Unsuitable environment
 - B. Too much warm-up
 - C. Good quality equipment
 - D. Strong lower extremity muscles
21. Older people tend to get a greater percentage of _____ injuries
- A. Traumatic
 - B. Overuse
 - C. Accidental
 - D. Chronic
22. Overuse injuries are related to _____.
- A. Tissue changes that occur with arthritis
 - B. Imbalanced exercise programs
 - C. Improper equipment
 - D. All of the above
23. Which of the following statements best explains why shoes play an important role in overuse injuries?
- A. Wearing the wrong type of shoe for the activity being completed can cause foot injury
 - B. Improperly fitting shoes do not provide adequate support or good cushioning and this affects the way force is transmitted throughout the lower extremities, and shoes that allow excessive movement in the ankle are connected to knee pain
 - C. Shoes that are too small can cause blisters on the heel and soles of the feet that can prevent proper movement when performing exercises
 - D. Shoes that are not too tight and allow movement help prevent ankle sprains
24. One important consideration for people with arthritis who are starting an exercise program is _____.
- A. Getting enough exercise to improve conditioning
 - B. Getting the proper balance between exercise and rest
 - C. Performing exercises with good form and technique
 - D. Performing joint specific exercises to increase muscle strength around joints that are unstable
25. If you have not been exercising but are thinking about starting a program, you are in the _____ stage of change.
- A. Preparation
 - B. Action
 - C. Contemplation
 - D. Planning
26. During which stage of change should a person define or redefine their exercise goals?
- A. Preparation
 - B. Action
 - C. Contemplation
 - D. Planning

27. Goals should be _____, _____, and _____.
- A. Written down, motivational, general
 - B. Written down, realistic, objective
 - C. Objective, measurable, realistic
 - D. Written, subjective, realistic
28. Long term goals are those you plan to achieve _____.
- A. Over several years
 - B. Over several months
 - C. Over several weeks
 - D. Within a month
29. Long term goals should be divided into short-term goals that cover _____.
- A. 12 to 14 weeks
 - B. 7 to 10 days
 - C. 2 to 4 weeks
 - D. 6 to 7 months
30. Another term for short-term goals is _____.
- A. Objectives
 - B. Schedule
 - C. Directions
 - D. Plans
31. Establishing your starting capability for a goal is known as _____.
- A. Setting intensity levels
 - B. Establishing a baseline
 - C. Setting an achievable goal
 - D. Establishing a timeline
32. The Rockport Walk Test assesses aerobic fitness by estimating _____.
- A. Oxygen consumption
 - B. VO_2 max
 - C. Fatigue level
 - D. Both A and B
33. If a person has arthritis in their shoulders, which of the following fitness tests might be contra-indicated for them to use to establish a baseline?
- A. The Rockport Walk Test
 - B. The Astrand-Rhyming bicycle test
 - C. The 12-minute swim test (especially if they are not used to swimming)
 - D. All of the above

34. Which of the following statements regarding evaluating your fitness progress is true?
- Using your baseline, measure your progress every exercise session
 - Always use an established fitness test to set a baseline
 - Determine a specific date for re-evaluating you fitness level and write it into your fitness plan
 - Increase your baseline measure every time you evaluate you progress
35. Strength baseline is established by measurement of a _____.
- 10-repetition maximum
 - 1-repetition maximum
 - Both A and B
 - B only
36. A timed curl-up test can be used to give an estimate of _____.
- Lower back endurance
 - Trunk strength and endurance
 - Lower back flexibility
 - Upper body strength and endurance
37. Which of the following is a way to help improve exercise adherence?
- Rewards when short term goals are reached
 - New clothes to show off weight loss
 - An exercise diary to record baseline starting point and keep track of training sessions
 - Purchase a gym membership
38. One of the most common reasons people cite for dropping out of an exercise program is _____.
- Cost
 - Injury
 - Program difficulty
 - Inconvenience
39. Which of the following is the correct order of tasks to complete before starting an exercise program?
- Decide to exercise; design an exercise program; set some goals; determine a personal baseline
 - Set some goals; design an exercise program; determine a personal baseline; decide to exercise
 - Decide to exercise; set some goals; determine a personal baseline; design an exercise program
 - Design an exercise program; decide to exercise; set some goals; determine a baseline
40. A basic conditioning program should be built around the three elements of physical fitness, which are _____, _____, and _____.
- Cardiovascular endurance; muscular strength; flexibility
 - Diet; aerobic endurance; muscular endurance
 - Diet; weight loss; muscle toning
 - Muscle toning; diet; stretching

41. Exercise activities that improve general health can be _____, but activities to improve physical fitness require _____.
- A. 5 minutes of continuous exercise activity done once a day; activity of a higher level of intensity and specificity
 - B. 30 minutes of activity accumulated throughout the day; activity of a higher level of intensity and specificity
 - C. 5 minutes of continuous activity; 30 minutes of continuous activity using the large muscles of the body
 - D. 30 minutes of continuous activity performed once a day; 30 minutes of vigorous activity performed several times a day
42. Activities that _____, _____, _____, and _____ are the best aerobic activities.
- A. Require maximum effort; last more than about 5 minutes; are repetitive in nature; use a large muscle mass
 - B. Require maximum effort; last more than 30 minutes; are repetitive in nature; use large muscle mass
 - C. Raise your heart rate to a training level; last more than about 5 minutes; are repetitive in nature; use a large muscle mass
 - D. Involve running; require walking at 4.0 miles per hour; use large muscle mass; be rhythmic in nature
43. One of the easiest ways to reduce stiffness associated with arthritis is _____.
- A. Lifting weights
 - B. Massage
 - C. Aerobic exercise
 - D. Either lying or sitting down and resting
44. The ability of a muscle to contract repeatedly or continuously is _____.
- A. Muscular strength
 - B. Muscular endurance
 - C. Muscular force
 - D. Muscular stamina
45. As people age or become inactive, many of them start to lose strength with women losing more strength than men do, especially from their _____.
- A. Legs and hips
 - B. Upper body
 - C. Gluteals and abdomen
 - D. Lower body
46. Most strength training programs produce both _____ and _____ changes that improve both muscular control and strength.
- A. Skeletal; muscular
 - B. Neural; muscular
 - C. Flexibility; neural
 - D. Skeletal; neural

47. The nervous system can _____ when there is pain around a joint and this can cause a joint to give way.
- A. Inhibit muscular extension
 - B. Inhibit muscular flexibility
 - C. Inhibit muscular contraction
 - D. Inhibit muscular relaxation
48. The simplest definition of flexibility is _____.
- A. The ability of a muscle to stretch to its fullest extension
 - B. The ability of a joint to move through its range of motion
 - C. The ability of several joints to move in several directions
 - D. The ability of a muscle to flex and extend
49. Arthritis often causes loss of joint flexibility and its usually due to _____.
- A. Restricting movement because of pain
 - B. Increasing activities
 - C. Moving a joint through its complete range of motion
 - D. Doing aerobic exercises
50. One of the hallmarks of arthritis is _____.
- A. Increases in muscle strength
 - B. Stiffness
 - C. Feelings of discomfort or restriction of movement after a period of inactivity
 - D. Both B and C
51. Which of the following is NOT a recommended idea for reducing stiffness?
- A. Get up and move every hour
 - B. Take warm showers
 - C. Soak hands in cool water
 - D. Apply creams or topical analgesics
52. Improvement in a person's ability to do typical household chores, work-related activities, or perform daily functions is improvement in _____.
- A. Aerobic fitness
 - B. Functional fitness
 - C. Strength fitness
 - D. Endurance fitness
53. Which of the following statements best describes a warm-up?
- A. A decrease or slow down in activity level after an exercise session
 - B. A short period of gentle activity before the exercise session, that prepares the body for more strenuous exercise
 - C. A short period of vigorous activity before the exercise session that prepares the body for the exercise session
 - D. An increase in activity level just before the end of an exercise session

54. The length of a warm-up is determined by which of the following factors?
- A. The more intense the exercise activity is going to be, the longer the warm-up should be
 - B. If the exercise session is done in the morning, the warm-up should be at least 20 minutes long
 - C. Older or less fit adults may need a longer warm-up than young or fit adults
 - D. Both A and C
55. The principle of _____ says that if a person wants to improve their fitness, the amount of work (exercise) they do must increase
- A. Overload
 - B. Progression
 - C. Specificity
 - D. Reversibility
56. Which of the following is a factor in determining the rate of progression?
- A. Age
 - B. Past injuries
 - C. Current health
 - D. All of the above
57. The “use it or lose it” concept applies to which of the following principles of exercise?
- A. Overload
 - B. Progression
 - C. Specificity
 - D. Reversibility
58. Which of the following is NOT one of the three ways of overloading your body systems?
- A. Intensity
 - B. Duration
 - C. Exercise type
 - D. Frequency
59. In order to see improvements in the cardiovascular system, aerobic exercise must be done at least _____.
- A. 7 times per week
 - B. 2 times per week
 - C. 3 times per week
 - D. 2 times a day
60. To improve flexibility, range of motion and stretching activities should be done _____.
- A. Daily
 - B. 2 times per week
 - C. 3 times per week
 - D. 5 times per week

61. For someone who is just starting an exercise program and whose goal is basic fitness, it is recommended their exercise program emphasize
- A. Weight training
 - B. Flexibility
 - C. Weight loss
 - D. Cardiovascular exercise
62. A person's exercise program should fit their needs by matching their _____.
- A. Time schedule or work schedule
 - B. Baseline abilities
 - C. Goals, abilities, or restrictions
 - D. Exercises to the equipment available
63. Which of the following statements regarding aerobic exercise and arthritis is NOT true?
- A. Regular activity and exercise usually decrease arthritis symptoms
 - B. Exercise speeds up deterioration in arthritic joints
 - C. Aerobic exercise decreases the risk of heart disease, normalizes blood pressure, controls body weight, decreases blood sugar and lipids, and decreases stiffness and pain from arthritis
 - D. All of the above are true
64. In order for an activity to be aerobic, it must _____.
- A. Last more than a few minutes
 - B. Be performed at an intensity that can be sustained longer than a few minutes
 - C. Be performed at a level of intensity high enough that it prevents the circulatory system from being able to meet the oxygen demands of the muscles
 - D. Both A and B
65. A person's maximal heart rate is the _____.
- A. Highest their heart rate can go
 - B. Heart rate within their training heart rate zone
 - C. Heart rate at maximum intensity level
 - D. Heart rate taken during or immediately after an exercise activity
66. Your exercise intensity can be assessed by monitoring your heart rate because _____.
- A. The faster your heart rate drops after an exercise session, the less intense the exercise activity was
 - B. Of the linear relationship between heart rate and exercise intensity – the more intense the activity, the higher the heart rate
 - C. If your heart rate doesn't get up to maximum, the exercise activity isn't challenging enough
 - D. Wearing a heart rate monitor is the easiest and most accurate way to determine the effect of your activity session is in improving your fitness level
67. To use the Karvonen Formula to estimate training heart rate (target heart rate,) a person must know their _____.
- A. Weight
 - B. Resting heart rate
 - C. Exercise heart rate
 - D. Length of the exercise session

68. The recommended intensity for aerobic exercise in order to get a training response is _____.
- A. 60 to 70 percent of a person's heart rate reserve
 - B. 85 to 95 percent of a person's heart rate reserve
 - C. 50 to 85 percent of a person's heart rate reserve
 - D. 50 to 85 percent of a person's maximal heart rate
69. When the pulse is taken at the wrist, it is called the _____ and is counted for _____ immediately after completing the exercise activity.
- A. Radial pulse; 30 seconds
 - B. Carotid pulse; 30 seconds
 - C. Radial pulse; 15 seconds
 - D. Radial pulse; 10 seconds
70. To calculate your heart rate in beats per minute, multiply the _____ by _____.
- A. 15 second count; 6
 - B. 10 second count; 6
 - C. 30 second count; 2
 - D. 10 second count; 10
71. If a person takes medication that alters their heart rate response, they can _____.
- A. Use rating of perceived exertion (RPE)
 - B. Use the talk test
 - C. Not take their medication prior to activity
 - D. Both A and B
72. Which of the following is a factor in determining the initial intensity for your exercise program?
- A. Current activity level
 - B. Exercise precautions identified by your physician
 - C. The type and severity of your arthritis
 - D. All of the above
73. One way to tell if you are working too hard when exercising is _____.
- A. If you are only able to answer a question
 - B. If your heart rate exceeds your heart rate training zone
 - C. If your working muscles get a heavy burning sensation
 - D. Your muscles are sore after your workout
74. Which of the following statements best defines interval exercise?
- A. A continuous exercise session with varying levels of intensity with the intervals not necessarily equal
 - B. Exercise involving alternating periods of exercise and rest, or alternating periods of intensity with shorter rest periods to make the session more aerobic
 - C. A continuous exercise session with a constant level of intensity
 - D. An exercise session that begins at a high intensity which is followed by a period of low intensity exercise

75. According to the American College of Sports Medicine, an aerobic activity should be done continuously for _____.
- A. 30 – 45 minutes
 - B. 15 minutes
 - C. 20 – 60 minutes
 - D. 15 – 20 minutes
76. A person with arthritis may need to start with _____ of exercise, resting in between
- A. 5 minute bouts
 - B. 15 minute bouts
 - C. 20 minute bouts
 - D. 30 minute bouts
77. For cardiovascular fitness, it is recommended that a _____ of aerobic exercise be done per week.
- A. Maximum of 3 to 5 days
 - B. Minimum of 2 to 3 days
 - C. Maximum of 7 days
 - D. Minimum of 3 to 5 days
78. Which of the following statements regarding a walking program is NOT true?
- A. It is functional as well as a good aerobic activity
 - B. It decreases pain and depression in people with arthritis
 - C. It is not an activity that can be done daily
 - D. It improves aerobic capacity
79. The most important piece of equipment for a walking program is _____.
- A. Proper walking shoes that provide support and shock absorption
 - B. A stair stepper with adjustable speed
 - C. A walking path with hills
 - D. A pedometer for measuring distance
80. When starting a walking program, start out on _____ because _____.
- A. Even, flat terrain; walking down hills transmits more stress to the lower extremity joints and can cause injury
 - B. A two-day a week program; more than two days may cause stiffness
 - C. A path with steep hills in order to vary the intensity
 - D. A intensity of 75% of HRR; lower intensity won't challenge the aerobic system enough for improvement
81. Which of the following statements regarding arthritis and running is NOT true?
- A. Running has a higher impact on the lower extremities than walking, and evidence shows that running can lead to arthritis
 - B. A few studies have shown that the incidence of arthritis increases slightly with high mileage and fast training
 - C. Some larger studies have shown that previous joint injury, along with gender and obesity to be the most predictive factors of developing arthritis
 - D. Moderate levels of running may actually provide some protection from developing arthritis

82. A running program should also include strengthening exercises because _____.
- A. Strengthening the leg muscles can help increase both endurance and speed
 - B. Strengthening the leg muscles can help increase mileage without increasing arthritis symptoms
 - C. Increased muscular strength helps absorb the force of impact that running transmits through one's lower extremities
 - D. Increased muscular strength helps prevent knee pain that results from running
83. What are the two factors in a cycling program that can affect knee and hip pain?
- A. Seat height
 - B. Pedal resistance
 - C. Cycling speed
 - D. Both A and B
84. When cycling, the seat height should be _____.
- A. Adjusted so that the knees and hips are at a short range of motion when the pedal is at its lowest position
 - B. Adjusted so that the knee is almost completely extended when the pedal is at its lowest position, allowing the greatest range of motion through the knees and hips which disperses the stresses
 - C. Adjusted so that the knee is a 90 degree angle when the pedal is at its highest position, which disperses the stresses on the knee and hip
 - D. Adjusted so that the knee is at a 90 degree angle when the pedal is at its lowest position, which disperses the stresses
85. For people with arthritis, which of the following is a benefit of swimming?
- A. Decreased weight bearing
 - B. Increased relaxation
 - C. Reduced stiffness with warm water
 - D. All of the above
86. Heart rate is lowered when a person swims so it is suggested that you _____ and then calculate your target heart rate to provide a more accurate target heart rate for swimming.
- A. Subtract 10bpm from your maximal heart rate
 - B. Subtract 13bpm from your maximal heart rate
 - C. Subtract 13bpm from your heart rate reserve
 - D. Subtract 10bpm from your heart rate reserve
87. One of the reasons swimmers often have problems with shoulder pain is because _____.
- A. The posterior shoulder muscles become strong and tight pulling the shoulders into a forward, rounded position and need to be stretched and the anterior muscles need to be strengthened
 - B. The anterior shoulder muscles become strong and tight pulling the shoulders into a forward rounded position and need to be stretched and the posterior muscles need to be strengthened
 - C. The anterior shoulder muscles need to be strengthened because of the muscular pull that develops with swimming
 - D. None of the above

88. If you are doing a swimming program, it is recommended that the _____ be used sparingly because it is especially stressful to the shoulder joint.
- A. Breast stroke
 - B. Back stroke
 - C. Butterfly stroke
 - D. Side stroke
89. One of the benefits of strength training for people with arthritis is that _____.
- A. Building strength in the legs helps a knee replacement patient recover from surgery faster
 - B. It can reduce pain and improve strength and function without worsening arthritis
 - C. It can improve walking as well as other simple tasks in patients with knee arthritis
 - D. All of the above
90. Which of the following methods can be used to overload the muscular system?
- A. Increasing the resistance against a movement or by increasing the frequency or duration of the resisted movement
 - B. Do different resistance exercises every exercise session
 - C. Do high intensity aerobics at least two times a week
 - D. Focus only on resistance exercise without doing any aerobic or flexibility exercises
91. Which of the following strength exercises are recommended for people who have difficulty getting into and out of a chair that has no arms?
- A. Plinth exercise
 - B. Latissimus pull-downs and rows
 - C. Leg press and hip extension
 - D. Rows and bicep curls
92. Older adults adapt to strength training primarily through _____.
- A. Muscle hypertrophy
 - B. Neural changes
 - C. Skeletal changes
 - D. Muscle atrophy
93. One technique for determining starting resistance levels for weight training that works well in a gym or fitness center is _____.
- A. 12-lift maximum for each movement
 - B. Use a percentage of body weight, for example, bench press = 30 percent of body weight; leg extension = 20 percent of body weight; leg press = 50 percent of body weight
 - C. Using 50 percent of body weight as your starting resistance level for every exercise you intend to include in your program
 - D. Set a starting resistance, then do 10 repetitions and if 10 reps are easy, double the resistance for the next session
94. For a general strengthening program, resistance will be moderate to high or approximately _____.
- A. 95% of maximum
 - B. 90% of maximum
 - C. 85% of maximum
 - D. 80% of maximum

95. One of the most important factors for determining the amount of resistance for a person with arthritis is _____.
- A. Their grip strength
 - B. Their weight
 - C. Their comfort level
 - D. Their pain free range of motion
96. A simple method for determining progression is to _____.
- A. Increase the resistance or number of repetitions when the exercise can be done without strain (you feel you could easily do more) to 15 repetitions per set. Once you can do 15 reps, increase the weight and decrease the number of repetitions
 - B. Increase the number of repetitions by 5 every exercise session. Once you reach 15 reps, increase the weight by 5 to 10 pounds and decrease the number of repetitions
 - C. Increase the resistance by 10 to 15 pounds when you can do the exercise without strain
 - D. When you can do the exercise without strain, increase the resistance by 5 to 10 pounds and increase the number of repetitions by 5 to 10 reps until the exercise feels challenging again
97. The frequency of strength training program is determined by your _____.
- A. Baseline
 - B. Neural adaptations
 - C. Goals
 - D. Physical limitations
98. Newer guidelines for resistance training to improve strength recommend _____.
- A. Three days a week on consecutive days
 - B. Two to three times per day
 - C. Two days a week with a rest day between
 - D. Four days a week alternating between upper body and lower body
99. If you are starting a strength program for pain reduction or for rehabilitation, you should do it _____ with high reps and low resistance
- A. One day per week
 - B. Five days per week
 - C. Seven days per week
 - D. Three days per week
100. The three basic types of muscle contraction are _____, _____, and _____.
- A. Concentric; eccentric; isometric
 - B. Concentric; eccentric; isotonic
 - C. Concentric; extension; flexion
 - D. Concentric; extension; isometric
101. Which of the types of muscle contractions involves no movement?
- A. Concentric
 - B. Eccentric
 - C. Isotonic
 - D. Isometric

102. A _____ contraction shortens the muscle and the _____ contraction lengthens the muscle.
- A. Concentric; isometric
 - B. Isometric; concentric
 - C. Concentric; eccentric
 - D. Isometric; eccentric
103. If your joint is inflamed, it is recommended that you do _____ exercises.
- A. Concentric
 - B. Isotonic
 - C. Eccentric
 - D. Isometric
104. Which of the following might be considered drawbacks to doing isometric resistance exercises
- A. They are not as effective as resistance programs that use movement
 - B. Isometric exercises do not help you maintain total joint range of motion
 - C. Isometric exercises reduce blood flow to the muscle, which causes blood pressure to rise
 - D. All of the above
105. Which of the following is NOT a guideline for a safe and effective strength program?
- A. Include a warm-up and cool-down with each resistance session
 - B. Hold your breath while lifting the weight and exhale as you release the weight
 - C. Exercise both the front and back of a joint for muscular balance
 - D. Use full range of motion for a joint, when possible
106. Which of the following activities should be kept to a minimum because of the increased stress on joints?
- A. Closed chain activities
 - B. Standing leg press with tubing under the feet
 - C. Open chain activities
 - D. Both A and C
107. What type of program is recommended to help with grip strength?
- A. A program that focuses on muscular strength using high resistance and low repetitions
 - B. A program that focuses on muscular endurance using low resistance and high repetitions
 - C. A program that focuses on muscular strength using low resistance and high repetitions
 - D. A program that focuses on muscular endurance using high resistance and low repetitions
108. Which of the following exercises works the latissimus dorsi, biceps, and pectoralis major muscle
- A. Chest press
 - B. Latissimus pull-down
 - C. Reverse fly
 - D. Bicep curl

109. When doing the birddog exercise you focus on _____.
- A. Keeping the leg straight out
 - B. Keeping the arm straight out
 - C. Keeping your trunk still when moving your arms and legs
 - D. Holding the end position for at least 45 seconds
110. The standing leg press exercise is a _____ exercise and strengthens the _____ and _____ muscles.
- A. Open chain; quadriceps; hamstrings
 - B. Close chain; quadriceps; hamstrings
 - C. Open chain; quadriceps; gluteal
 - D. Closed chain; quadriceps; gluteal
111. Which muscle is very important for normal walking and is the primary hip abductor?
- A. Quadriceps
 - B. Iliopsoas
 - C. Gluteus medius
 - D. Hamstrings
112. A beginner should start a strength program at a low intensity because _____.
- A. They are less likely to develop extreme muscle soreness and more likely to want to do another session
 - B. It gives the tissues a chance to adapt to the overloads gradually, so the exercises are less likely to aggravate arthritis
 - C. It makes the exercises easier to do with good form
 - D. Both A and B
113. The technique of holding one's breath when lifting a heavy weight can cause a rapid rise in blood pressure, followed by a fall in arterial pressure resulting in dizziness, blurred vision, and sometimes fainting and is called the _____.
- A. Valsalva technique
 - B. Valsalva maneuver
 - C. Breath holding technique
 - D. Trunk stabilization maneuver
114. For people with hypertension, it is recommended they emphasize _____.
- A. Isometric exercises
 - B. High resistance and low repetitions
 - C. Low resistance and high repetitions
 - D. Including an extra day of rest in their program
115. Which two exercises are recommended for stabilizing the spine without putting undue pressure on it?
- A. The plough
 - B. The plinth
 - C. The birddog
 - D. Both B and C

116. Which of the following is NOT a benefit of a regular flexibility program?
- A. Increased potential for injury
 - B. Better biomechanics
 - C. Reduced anxiety
 - D. Lower blood pressure
117. The two ways flexibility can be thought of is _____ or _____.
- A. Total body, where all the muscle groups are stretched; specific, where only the muscles used during a specific activity are stretched
 - B. A general ability to move in a combination of ways; a specific motion
 - C. Stretching for functional activities; stretching for sports activities
 - D. None of the above
118. Factors affecting an individual's response to stretching that cannot be changed include _____.
- A. Age
 - B. Previous injury to a joint or muscle
 - C. Presence of disease
 - D. All of the above
119. Which of the following statements regarding flexibility is NOT true?
- A. Warm muscles are more flexible than cold muscles
 - B. The strength of the muscles on either side of the joint affects its range of motion
 - C. Range of motion exercise done in cool water is effective
 - D. Staying well hydrated helps keep muscles pliable
120. The method of stretching that is the easiest and the most useful is _____ stretching.
- A. Ballistic
 - B. PNF
 - C. Static
 - D. Active isolation
121. Stretching that employs a repetitive bouncing motion to induce a stretch is _____.
- A. Ballistic
 - B. PNF
 - C. Static
 - D. Active isolation
122. When doing static stretching, it is recommended each stretch be held for _____ with _____ repetitions.
- A. 60 seconds; 8 to 10
 - B. 45 seconds; 3 to 5
 - C. 30 seconds; 3 to 5
 - D. 30 seconds; 8 to 10

123. _____ The method of stretching that uses nervous system reflexes to help relax a muscle is _____ stretching.
- A. Ballistic
 - B. PNF
 - C. Static
 - D. Active isolation
124. _____ An important benefit to arthritis patients of the active range of motion flexibility technique is that _____.
- A. It is used by physical therapists as part of rehabilitation programs
 - B. The movements load and unload the joint, a process that helps nutritional substances get into a joint and metabolic by products get out of it
 - C. These exercises have been used successfully with patients who have rheumatoid arthritis
 - D. These exercises are easy to perform
125. _____ The two types of flexibility activities recommended are _____ and _____.
- A. PNF stretching; active isolated stretching
 - B. Static stretching; active range of motion activities
 - C. Static stretching; gentle ballistic stretching
 - D. Ballistic stretching; active range of motion activities
126. _____ Static stretching focuses on _____ and active range of motion activities focus on _____.
- A. Maintaining normal motion; increasing flexibility
 - B. Warming up the body; increasing flexibility
 - C. Increasing flexibility; maintaining normal motion
 - D. Helping to relax the body; reducing morning stiffness
127. _____ Active range of motion activities should be done for _____ repetitions.
- A. 15 to 20
 - B. 2 to 3
 - C. 5 to 10
 - D. 10 to 15
128. _____ Static stretches should be done for tight muscles and should be done as part _____.
- A. The warm-up
 - B. The cool-down
 - C. The activity portion
 - D. Your morning routine
129. _____ Overstretching is particularly bad for arthritic joints because _____.
- A. Most arthritic joints already have some instability present and overstretching the surrounding muscles may increase both the instability and the potential for damage
 - B. Muscle tissue that is inflamed during arthritic flare-ups are more prone to damage and the intensity of a stretch may need to be decreased
 - C. Overstretching can cause sharp, shooting pains or muscle cramps
 - D. Both A and B

130. Which of the following could be a cause of increased pain?
- A. Too rapid motion
 - B. Overstretching
 - C. Severity of your arthritis
 - D. All of the above
131. Participation in aerobic classes has been shown to _____.
- A. Improve lower-extremity function and strength
 - B. Improve walking speed or distance
 - C. Decrease depression after completion of a class
 - D. All of the above
132. People with arthritis should look for an aerobics class that _____.
- A. Is a low-impact class without a lot of bouncing and jumping
 - B. Is intended for individuals with arthritis
 - C. Both A and B
 - D. Lasts only 30 minutes
133. You can protect your joints by _____, _____, _____, and _____.
- A. Strengthening the surrounding tissues; maintaining proper flexibility; using correct posture, and appropriate equipment; controlling weight
 - B. Only participating in water aerobic exercise; strengthening the surrounding tissues; use correct posture; controlling weight
 - C. Avoid resistance exercise; discontinue or avoid running or jogging activities; control weight; take beneficial supplements
 - D. Use correct posture; avoid running or jogging activities; eat properly; take beneficial supplements
134. _____ is used to test good standing posture and represents an equal distribution of forces behind and in front of the major joints.
- A. Neutral spine
 - B. The line of gravity
 - C. Postural alignment
 - D. Gravitational balance
135. Which of the following statements is the correct way to check standing posture using a wall?
- A. Stand with your back to the wall and your heels against it; you should have your buttocks and back of your head touching the wall and your shoulder blades about an inch from the wall
 - B. Stand with your back to the wall and your heels against it; you should have your buttocks, the small of your back, your shoulder blades, and the back of your head touching the wall
 - C. Stand with your back to the wall and your heels against it; you should have your buttocks, shoulder blades and the back of your head touch the wall
 - D. Stand with your back to the wall and your heels about a foot away from it; lean back against the wall until the back of your head and your shoulder blades touch the wall and your buttocks are within a few inches of it

136. Shoes are a very important component of an exercise program because _____.
- A. Good comfortable shoes provide motivation to exercise
 - B. Appropriate foot wear helps absorb landing forces and maintain joint alignment in your lower extremities during exercise
 - C. Investing in athletic shoes provides incentive to a person to stick with their program
 - D. Having the appropriate footwear for the activity a person will be doing helps build confidence and improves ability to do the exercise
137. Which of the following is NOT a feature to look for when selecting the right athletic shoes?
- A. A sole that provides shock absorption and cushioning
 - B. Good arch support
 - C. A snug toe box
 - D. Secure closure
138. _____ are devices that help align and support a joint in order to improve function and decrease pain.
- A. Orthotics
 - B. Splints
 - C. Arch supports
 - D. Both A and B
139. The two general types of wrist splints are a _____ and a _____ and for exercise, you need a _____.
- A. Work splint; rest splint; rest splint
 - B. Flexible splint; fixed splint; flexible splint
 - C. Work splint; rest splint; work splint
 - D. Both A and B
140. Arthritis patients usually take _____ and several studies show that _____ has similar pain-reducing properties without some of the side effects.
- A. Tylenol; glucosamine
 - B. Nonsteroidal anti-inflammatory drugs (NSAIDS); glucosamine
 - C. Aspirin; chondroitin
 - D. Nonsteroidal anti-inflammatory drugs; chondroitin
141. Calcium is a valuable nutritional component for someone who is exercising and has arthritis; the recommended dietary allowance for men and women between the ages of 20 and 50 is _____ of calcium and _____ of vitamin D, and after age 50 increases to _____ of calcium.
- A. 800 milligrams; 5 micrograms; 1000 milligrams
 - B. 1000 milligrams; 5 micrograms; 1200 milligrams
 - C. 1200 milligrams; 5 micrograms; 1500 milligrams
 - D. 500 milligrams; 10 micrograms; 1200 milligram

142. _____ is a primary risk factor for developing arthritis.
- Injury
 - Obesity
 - Overuse
 - Smoking
143. The best way to lose body fat and improve your health is to _____ and _____.
- Follow a strict diet; cut calorie intake
 - Eliminate intake of all sugars; exercise regularly
 - Exercise; modify your diet
 - Only eat 2 meals a day; exercise
144. Several methods of joint protection apply to everyone and these include _____, _____, and _____.
- Proper posture; appropriate shoes; healthy diet
 - Aerobic exercise; strength training; good posture
 - Proper posture; calcium supplements; glucosamine
 - Proper posture; appropriate shoes; splints
145. The big drawback to using specific joint protection devices is that _____.
- They are very expensive
 - If used incorrectly or not fitted properly, they can cause more damage than they prevent
 - They have to be custom made to be beneficial
 - They have to be applied before every exercise session
146. When dealing with a flare-up of your arthritis, the first and simplest adaptation you should make is to _____.
- Decrease the intensity and increase the frequency of your exercise regimen
 - Use RPE (rating of perceived exertion) as a way of determining how hard to work and exercise in the moderate range
 - Decrease the intensity and frequency of both your strength-training and your cardiovascular programs. Use RPE to determine how hard to work and exercise in the mild range
 - Increase the intensity and frequency of your cardiovascular program and decrease the frequency of your strength-training program
147. For acute injuries such as ankle sprains or pulled muscles, apply the _____.
- ICE prescription
 - RICE prescription
 - 24 hour rule
 - 48 hour rule
148. When traveling causes a break in your exercise routine and there are exercise facilities available where you will be staying, you can _____.
- Perform a modified strength-training program using body weight activities such as push-ups, wall sits, crunches, and bird dog exercises
 - Take rubber tubing and use it for your resistance, focusing on high repetitions
 - Don't worry about having to take a day or two off from your exercise routine
 - Both A and B

149. The most common symptom that arthritis manifests when exercising in cold weather is _____.

- A. Joint inflammation
- B. Stiffness
- C. Joint pain
- D. Injury

150. If you have rheumatoid arthritis, when exercising in the heat you should be aware that _____.

- A. Stiffness is reduced, but the intensity should be kept low
- B. Your heat loss mechanisms may not function well and you may be susceptible to heat-related illness
- C. You should never cover your head, keep it bare so that heat can escape
- D. Exercising in the heat makes the joints and muscles more pliable, so be careful not to overwork them

