

Action Plan for High Cholesterol

CORRESPONDENCE EDUCATION PROGRAM # 2013-141.

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Action Plan for High Cholesterol Course Objectives

After completing the Action Plan for High Cholesterol course, the participant will:

1. Understand the differences between cholesterol, triglycerides, and blood lipoproteins
2. Know the appropriate values of various blood cholesterol
3. Understand the connection between cholesterol and heart disease
4. Expand knowledge of the health benefits of exercise on cholesterol and how it increases HDL's
5. Learn how to set goals for clients in order to effectively lower cholesterol levels through exercise and healthy eating
6. Gain knowledge in how to design an individualized aerobic and muscular fitness program specifically for the purpose of lowering LDL-C and raising HDL-C
7. Understand proven principles and guidelines to help your client eat properly and optimally to improve lipid and lipoprotein profiles.
8. Understand the benefits from research on the most common lipid-lowering and non-lipid-lowering medications
9. Gain knowledge and understanding about other alternative therapies that can be used in conjunction with or in place of conventional therapies.



Action Plan for High Cholesterol Course Examination

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

1. Which of the following is NOT a function of cholesterol?
 - A. Assist in the production of steroids
 - B. Assist in the production of Vitamin A
 - C. Assist in the production of estrogen
 - D. Assist in the maintenance of the cell membrane

2. Which cholesterol level is the better way to estimate risk of heart disease?
 - A. Know the LDL only
 - B. Know the total only
 - C. Know the ratio between LDL and total
 - D. Know the ratio between HDL and total

3. Which is NOT one of the four general lipoprotein classifications?
 - A. Triglycerides
 - B. Chylomicron
 - C. VLDL
 - D. HDL

4. What is the name given to the process where HDL helps to remove cholesterol via the liver and blood stream?
 - A. Lymphatic cholesterol drainage
 - B. Inverse cholesterol transport
 - C. Reverse cholesterol transport
 - D. Postprandial periodic transport

5. Exogenous fat is:
 - A. VLDLs
 - B. Digested by the small intestines
 - C. Involved in reverse cholesterol transport
 - D. Digested by the large intestines

6. What organ is another source of VLDLs?
 - A. Large intestines
 - B. Gall bladder
 - C. Liver
 - D. Small intestines

7. The NCEP-recommended value of HDL-total cholesterol ratio for women is:
 - A. 4.5 or less
 - B. 4.0 or more
 - C. 4.5 or more
 - D. 4.0 or less

8. What is the name given to the condition resulting in the inability of the LDL receptor pathway to deliver cholesterol to cells?
 - A. Familial heterozygous hypercholesterolemia
 - B. Postprandial lipemia
 - C. Familial heterozygous hypocholesterolemia
 - D. CAD

9. At what LDL cut-off value does heart disease risk grow substantially?
 - A. 110
 - B. 100
 - C. 130
 - D. 120

10. What occurs when clients eat diets low in fat and high in carbohydrates?
 - A. LDL lowers, HDL increases
 - B. LDL lowers, total cholesterol increases
 - C. HDL lowers, TG increase
 - D. HDL increases, total cholesterol decreases

11. Which of the following is not a muscular layer of the heart?
 - A. Endocardium
 - B. Pericardium
 - C. Epicardium
 - D. Myocardium

12. Which layer of the artery is the layer next to where the blood flows?
 - A. Adventitia
 - B. Intimal
 - C. Media
 - D. Capillary

13. What is a thrombus?
 - A. A stationary blood clot
 - B. A heart attack
 - C. A stroke
 - D. A mobile clot

14. What is the first response that occurs according to the inflammation hypothesis?
 - A. A thrombus blocks the blood flow in the artery
 - B. Macrophages form and block blood flow
 - C. LDL-C oxidation occurs
 - D. Monocytes attach to the endothelial layer of the arterial wall

15. Which type of plaque is more prone to rupture and lead to a blood clot?
 - A. Hard plaque
 - B. Fibrolipid plaque
 - C. Raised plaque
 - D. Soft plaque

16. Which of the following is not a primary risk factor for heart disease?
- A. Stress
 - B. High blood pressure
 - C. Metabolic syndrome
 - D. Male over the age of 45
17. If total cholesterol is above 300 mg/dL, what is the risk of developing heart disease?
- A. 6-8 times more
 - B. 2 times less
 - C. 1-2 times more
 - D. 3-5 times more
18. What can cause a decrease in heart disease risk when looking at triglyceride levels?
- A. High LDL levels
 - B. High HDL levels
 - C. Low HDL levels
 - D. Low LDL levels
19. The concern with LDL oxidation is:
- A. It links up with free radicals
 - B. It increases the size of the cholesterol molecule
 - C. It makes cholesterol more absorbent into the bloodstream
 - D. It raises TG levels
20. For every 1 mg/dL your HDL-C levels increase, your risk of developing heart disease decreases by how much if you are a male?
- A. 3%
 - B. 5%
 - C. 2%
 - D. 1%
21. Which of the following is an enzyme that helps dissolve clots?
- A. Lp(a)
 - B. Free radicals
 - C. Plasminogen
 - D. Omega-3
22. The time period up to 8 hours following a meal where blood TG increase is called:
- A. Reverse cholesterol transport
 - B. Fasting
 - C. Preprandial lipemia
 - D. Postprandial lipemia
23. At what intensity is optimal physical fitness gained?
- A. 50-60%
 - B. 70-80%
 - C. 60-70%
 - D. 40-50%
24. How much can a client improve physical fitness as a result of planned exercise?
- A. 10%
 - B. 10-25%
 - C. 3%
 - D. 70-80%

25. What percentage of Americans do not participate in the recommended amount of daily physical activity?
- A. 60%
 - B. 50%
 - C. 80%
 - D. 70%
26. Which of the following is not a result of physical activity and exercise?
- A. Lp(a) has no change
 - B. Triglycerides decline
 - C. Total cholesterol declines
 - D. HDL increases
27. The ability of the body to complete work is called:
- A. Aerobic capacity
 - B. Functional capacity
 - C. Cardiac output
 - D. Anaerobic threshold
28. The amount of exercise completed during the endurance training program is called:
- A. Frequency
 - B. Time
 - C. Volume
 - D. Intensity-Frequency ratio
29. How long after starting an exercise program that consists of moderate physical activity will one see TG decline?
- A. 3 months
 - B. 10-14 days
 - C. 1 month
 - D. 60 days
30. What is the surest response to a single exercise session?
- A. Reduction of the triglycerides
 - B. Reduction of the LDL-C
 - C. Increase of the HDL-C
 - D. Reduction of the postprandial lipemia
31. Which of the following are more closely related to heart disease?
- A. Smaller LDL particles
 - B. Larger HDL particles
 - C. Smaller TG particles
 - D. Larger LDL particles
32. At what level of Lp(a) are people at an extremely high risk for developing premature heart disease?
- A. > 65 mg/dL
 - B. >25 mg/dL
 - C. <25 mg/dL
 - D. a ratio of 3%

33. Which statement below is true concerning larger, less dense HDL2 particles?
- A. The more particles the lower the risk of heart disease
 - B. The more particles the higher the risk of heart disease
 - C. The size of the particle does not matter
 - D. Exercise training results in a lower HDL
34. Which statement is false concerning resistance training?
- A. complete 1-3 circuits
 - B. Perform weight training 2-3 days per week
 - C. One circuit typically has 14 exercises
 - D. Rest is generally between 20 seconds and 2 minutes
35. Which is not a component of physical fitness?
- A. Flexibility
 - B. Blood pressure
 - C. Body composition
 - D. Muscular strength
36. What amount of caloric expenditure is needed each week in order to optimize blood lipid profiles?
- A. 3500 – 7000 calories
 - B. 600-800 calories
 - C. 2000 calories
 - D. 1200 – 1500 calories
37. When reviewing the Five Stages of Change, at which stage is your client if they are thinking about exercising, but have not done anything further?
- A. Precontemplation
 - B. Preparation
 - C. Contemplation
 - D. Denial
38. When a client is in the preparation phase, in what time frame are they prepared to make the intended change?
- A. Within 1 week
 - B. Within 3 months
 - C. Within 6 months
 - D. Within 30 days
39. Which is not a factor in overcoming barriers to making changes?
- A. Research
 - B. Reinforcement
 - C. Limitations
 - D. Personal beliefs
40. Which is not part of the SMART goal setting principle?
- A. Time-oriented
 - B. Ready
 - C. Attainable
 - D. Specific
41. Which of the following describes moderate activity?
- A. Intensity equal to 3-6 METS
 - B. Activity greater than 6 METS
 - C. Less strenuous than a brisk walk
 - D. 1-3 METS

42. How many repetitions are recommended if you are wanting to build muscular endurance?
- A. 6-8
 - B. 8-12
 - C. 12-15
 - D. 20-25
43. If muscular strength and endurance are not performed on a regular basis, how much muscle will someone lose after age 25?
- A. 1 lb per month
 - B. 25 lbs within 10 years
 - C. ½ lbs every year
 - D. 25% of total mass every year
44. Which of the following is not considered to be an exercise principle?
- A. Specificity
 - B. Reliability
 - C. Progression
 - D. Overload
45. Calculate the heart rate of a 47 year old who wants to exercise at 80% intensity.
- A. 138 bpm
 - B. 142 bpm
 - C. 120 bpm
 - D. 175 bpm
46. How many calories are burned for a 175 lb individual walking at 4.0 mph for 30 minutes?
- A. 117
 - B. 300
 - C. 351
 - D. 243
47. Which of the following is incorrect regarding recommendations for a beginner exerciser?
- A. Moderate intensity
 - B. 60-70% of HRmax
 - C. 20 minutes
 - D. increase intensity after several weeks to months
48. If you are not exercising with a partner, how long should the rest period be for circuit training?
- A. 24 hours
 - B. 3-5 minutes
 - C. 45-60 seconds
 - D. 1-2 seconds
49. How long should you take to lift the weight during the concentric phase of strength training?
- A. 5 seconds
 - B. 1 second
 - C. 2 seconds
 - D. as fast as you can
50. How long does it take to regenerate and rebuild muscle after a strength training session?
- A. 12 hours
 - B. 48 hours
 - C. 3-5 minutes
 - D. 24 hours

51. What is the best way to positively affect blood cholesterol?
- A. Eat vegetables
 - B. Decrease high fat foods
 - C. Decrease trans fats
 - D. Reduce body weight
52. How long does it take to send the signal that you are full from the stomach to the brain?
- A. 15 minutes
 - B. 10 minutes
 - C. 30 minutes
 - D. 5 minutes
53. How many more calories per day do Americans eat compared to 1970?
- A. 500
 - B. 700
 - C. 800
 - D. 1000
54. How much protein is recommended by most health professionals working in disease prevention?
- A. 30-40% of total calories
 - B. 12-15% of total calories
 - C. 25% of total calories
 - D. 40-50% of total calories
55. How much fat should a client with heart disease consume per day?
- A. 30% of total calories
 - B. No more than 20% of total calories
 - C. No more than 10% of total calories
 - D. Between 30-40% of total calories
56. Which sugar can be advantageous to diabetics?
- A. Glucose
 - B. Sucrose
 - C. Fructose
 - D. Maltose
57. How much fiber is needed to reduce total and LDL cholesterol by 25%?
- A. 45 g/day of insoluble fiber
 - B. 25-35 g/day of soluble fiber
 - C. 5-10 g/day of insoluble fiber
 - D. 5-10 g/day of soluble fiber
58. How much soy can decrease LDL cholesterol by 12%?
- A. 10 g/day
 - B. 15 g/day
 - C. 25 g/day
 - D. 47 g/day
59. Which of the following is not a function of dietary fat?
- A. Formation of nerves
 - B. Formation of muscles
 - C. Absorption of vitamin B
 - D. Absorption of vitamin A

60. The NCEP recommends eating how much dietary cholesterol per day?
- 300 mgs
 - 600 mgs
 - 100 mgs
 - 200 mgs
61. Which of the following is not a monounsaturated fat?
- Peanut oil
 - Olive oil
 - Sunflower oil
 - Canola oil
62. How many servings of fruit are recommended by the USDA per day for a 2000 calorie diet?
- 3 cups
 - 2 ½ cups
 - 2 cups
 - 5 ½ cups
63. What is the “5 A Day campaign” ?
- Eat at least 5 servings of fruit and vegetables per day
 - Eat at least 5 servings of vegetables per day
 - Exercise at least 5 days per week
 - Eat at least 5 servings of fiber each day
64. Which color vegetable helps with urinary tract health
- White
 - Yellow and orange
 - Blue and purple
 - Green
65. Which of the following is not a TLC dietary recommendation?
- Saturated fat should be no more than 10% of total calories
 - Up to 20% of total calories can come from polyunsaturated fat
 - Sodium consumption should be less than 2400 mg per day
 - Monounsaturated fat can be up to 15% of total calories
66. What does DASH stand for?
- Dietary Approaches to Stop Heart Disease
 - Daily Approaches to Stop High Cholesterol
 - Dietary Approaches to Stop Hypertension
 - Daily Approaches to Stop Hypertension
67. Which of the following is not a recommendation for the Mediterranean diet?
- Fish is consumed in low to moderate amounts
 - A great deal of nuts are consumed
 - Eggs are consumed no more than 2x/week
 - Olive oil is used often for monounsaturated fats
68. How long after starting an exercise program and healthy eating should you and your physician begin to consider medications if your cholesterol levels are still elevated?
- 1-2 months
 - 12 months
 - 3-6 weeks
 - 3-6 months

69. After what time frame of cholesterol drug therapy should one see a substantial decrease in the risk of death or illness due to heart disease?
- A. 8 months
 - B. 12 months
 - C. 6 months
 - D. 3 months
70. Which medication is a cholesterol absorption inhibitor?
- A. Vytorin
 - B. Crestor
 - C. Lipitor
 - D. Tricor
71. When muscle cells break down and release myoglobin, this is called:
- A. Hemolysis
 - B. Iron deficiency
 - C. Rhabdomyolysis
 - D. Toxicity
72. Rhabdomyolysis can lead to:
- A. Liver failure
 - B. Myocardial infarction
 - C. Heart failure
 - D. Kidney failure
73. Grapefruit's interaction with certain blood pressure medications can cause all of the following EXCEPT:
- A. Nausea
 - B. Decrease positive effects of meds
 - C. Confusion
 - D. Heart palpitations
74. Which medication does not require any type of follow-up with the physician?
- A. MNG-CoA reductase inhibitors
 - B. Bile-acid sequestrants
 - C. Fibric acid
 - D. Niacin
75. Which cholesterol medication can cause upset stomach, flatulence, constipation, and abdominal pain/cramps?
- A. Zetia
 - B. Niacin
 - C. Statins
 - D. Bile-Acid Sequ4strants
76. Which drug is FDA-approved to use with statins but not with other lipid-lowering medications?
- A. Niacin
 - B. Crestor
 - C. Zetia
 - D. Ezetimibe

77. Which of the following is NOT a major side effect of bile-acid sequestrants?
- A. Interference with absorption of vitamins B and C
 - B. Bloating
 - C. Constipation
 - D. Flatulence
78. Which medication is the better choice for increasing HDL-C?
- A. Ezetimibe
 - B. Niacin
 - C. Zetia
 - D. Crestor
79. What is the **most** common side effect of niacin, especially with sustained-released?
- A. Diabetes
 - B. Kidney failure
 - C. Heart failure
 - D. Hepatitis
80. Which non-lipid-lowering medication can actually lower LDL-C?
- A. Levothyroxine
 - B. Oral hypoglycemics
 - C. Beta blockers
 - D. Aspirin
81. Which statement is false concerning complementary and alternative medicines (CAM)?
- A. They are not considered traditional medical treatments
 - B. It involves a diverse group of practices
 - C. Their claims are all supported by scientific research
 - D. It involves a diverse group of products
82. Which technique has been scientifically studied the most?
- A. Acupuncture
 - B. Chiropractic
 - C. Ayurveda
 - D. Electromagnetic fields
83. Which CAM is a form of conventional medicine emphasizing diseases in the musculoskeletal system?
- A. Osteopathic medicine
 - B. Naturopathy
 - C. Massage therapy
 - D. Reiki
84. Which of the following is not one of the five main categories for CAM?
- A. Mind-body connections
 - B. Eastern therapies
 - C. Energy therapies
 - D. Manipulative and body-based therapies
85. All of the following are examples of biofield therapies EXCEPT:
- A. Qi gong
 - B. Reiki
 - C. Aromatherapy
 - D. Therapeutic touch

86. Which is not a suggested question to ask when evaluating a web site to make sure it has accurate information?
- A. Who runs the site
 - B. What is the purpose of the site
 - C. How current is the information
 - D. Is it government approved
87. Which statement is false concerning CAM methods to lower blood cholesterol?
- A. Some products have scientific data that is reliable
 - B. The overall goal is to use nonconventional approaches that lead to a better quality of life with fewer side effects
 - C. Physicians are giving greater consideration to CAM therapies
 - D. The FDA does regulate these CAM supplements and herbal compounds
88. Which statement is false concerning herbal products for cholesterol lowering?
- A. Some manufacturers voluntarily comply with FDA Good Manufacturing Practices
 - B. They are considered drugs
 - C. Frequently there are few directions on how to use the product
 - D. There is typically a lack of customer information on the product.
89. Which is not a red yeast rice preparation?
- A. Fenugreek
 - B. Zhita
 - C. Cholestin
 - D. Xuezhikang
90. Which contains more cholesterol-lowering ingredients?
- A. Zhita
 - B. Xuezhikang
 - C. Fenugreek
 - D. Cholestin
91. What is another benefit of taking fenugreek besides lowering blood cholesterol?
- A. Improving immune system
 - B. Improving kidney function
 - C. Increasing HDL-C
 - D. Lowering blood sugar levels
92. What is the ingredient in psyllium that helps decrease cholesterol?
- A. Zhitai
 - B. HMG-CoA
 - C. Soluble fiber
 - D. Monacolin K
93. In addition to helping lower cholesterol, artichoke can also help:
- A. Decrease glucose
 - B. Decrease blood clots
 - C. Decrease nausea
 - D. Reduce heart palpitations
94. Consuming too much garlic can lead to:
- A. Dizziness
 - B. Flatulence
 - C. Kidney failure
 - D. Immune system depression

95. In addition to helping lower blood cholesterol, green tea can also:
- A. Decrease nausea
 - B. Cleanse the colon
 - C. Decrease glucose
 - D. Act as an antioxidant
96. Guggul extract is similar in function to which cholesterol lowering medication?
- A. Crestor
 - B. Clofibrate
 - C. Lipitor
 - D. Niacin
97. Beta-Glucan has a significant cholesterol lowering ability primarily because:
- A. It acts as a laxative
 - B. It is a soluble fiber
 - C. It is an insoluble fiber
 - D. It is an antioxidant
98. Which of the following is not considered an antioxidant that can assist in lowering cholesterol?
- A. Selenium
 - B. Vitamin C
 - C. Vitamin A
 - D. Magnesium
99. Which B-vitamin has not be identified as a possible aid in reducing the risk of heart disease and stroke?
- A. Riboflavin
 - B. Folic acid
 - C. B6
 - D. B12
100. Which of the following has been shown to improve congestive heart failure and hypertension?
- A. Selenium
 - B. CoQ10
 - C. Clofibrate
 - D. Guggul