

- Avoid preventable adverse drug effects
- Receive positive reinforcement for efforts to lower blood lipid levels
- Feel less anxious and more in control as risks of atherosclerotic cardiovascular disease are decreased

Interventions

Use measures to prevent, delay, or minimize atherosclerosis.

- Help clients to control risk factors. Ideally, primary prevention begins in childhood with healthful eating habits (ie, avoiding excessive fats, meat, and dairy products; obtaining adequate amounts of all nutrients, including dietary fiber; avoiding obesity), exercise, and avoiding cigarette smoking. However, changing habits to a more healthful lifestyle is helpful at any time, before or after disease manifestations appear. Weight loss often reduces blood lipids and lipoproteins to a normal range. Changing habits is difficult for most people, even those with severe symptoms.
- Use measures to increase blood flow to tissues:
 - Exercise is helpful in developing collateral circulation in the heart and legs. Collateral circulation involves use of secondary vessels in response to tissue ischemia related to obstruction of the principal vessels. Clients with angina pectoris or previous myocardial infarction require a carefully planned and supervised program of progressive exercise. Those with peripheral arterial insufficiency usually can increase exercise tolerance by walking regularly. Distances should be determined by occurrence of pain and must be individualized.
 - Posture and position may be altered to increase blood flow to the legs in peripheral arterial insufficiency. Elevating the head of the bed and having the legs horizontal or dependent may help. Elevating the feet is usually contraindicated unless edema is present or likely to develop.
- Although drug therapy is being increasingly used to prevent or manage atherosclerotic disorders, a major therapeutic option for management of occlusive vascular disease is surgical removal of atherosclerotic plaque or revascularization procedures. Thus, severe angina pectoris may be relieved by a coronary artery bypass procedure that detours blood flow around occluded vessels. This procedure also may be done after a myocardial infarction. The goal is to prevent infarction or reinfarction. TIAs may be relieved by carotid endarterectomy; the goal is to prevent a stroke. Peripheral arterial insufficiency may be relieved by aortofemoral, femoropopliteal, or other bypass grafts that detour around occluded vessels. Although these procedures increase blood flow to ischemic tissues, they do not halt progression of atherosclerosis.

The nursing role in relation to these procedures is to provide excellent preoperative and postoperative nursing care to promote healing, prevent infection, maintain patency of grafts, and help the client to achieve optimum function.

- Any dyslipidemic drug therapy must be accompanied by an appropriate diet; refer clients to a nutritionist. Overeating or gaining weight may decrease or cancel the lipid-lowering effects of the drugs.
- Encourage adult clients to have their serum cholesterol measured at least once every 5 years. Adults and children with a personal or family history of dyslipidemia or other risk factors should be tested more often.
- The most effective measures for preventing dyslipidemia and atherosclerosis are those related to a healthful lifestyle (diet low in cholesterol and saturated fats, weight control, exercise).
- Assist clients and family members to understand the desirability of lowering high blood lipid levels before serious cardiovascular diseases develop.

Evaluation

- Observe for decreased blood levels of total and low-density lipoprotein (LDL) cholesterol and triglycerides; observe for increased levels of high-density lipoprotein (HDL) cholesterol.
- Observe and interview regarding compliance with instructions for drug, diet, and other therapeutic measures.
- Observe and interview regarding adverse drug effects.
- Validate the client's ability to identify foods high and low in cholesterol and saturated fats.

PRINCIPLES OF THERAPY

Drug Selection

Drug selection is based on the type of dyslipidemia and its severity. For single-drug therapy to lower cholesterol, a statin is preferred. To lower both cholesterol and triglycerides, a statin, gemfibrozil, or niacin may be used. To lower triglycerides, gemfibrozil or niacin may be used. Gemfibrozil is usually preferred for people with diabetes because niacin increases blood sugar.

When monotherapy is not effective, combination therapy is rational because the drugs act by different mechanisms. In general, a statin and a bile acid sequestrant or niacin and a bile acid sequestrant are the most effective combinations in reducing total and LDL cholesterol. A fibrate or niacin may be included when a goal of therapy is to increase levels of HDL cholesterol. However, a fibrate–statin combination should be avoided because of increased risks of severe myopathy, and a niacin–statin combination increases the risks of hepatotoxicity.

Use in Children

Dyslipidemia occurs in children and may lead to atherosclerotic cardiovascular disease, including myocardial infarction, in early adulthood. Dyslipidemia is diagnosed with total