



NURSING CARE PLAN A Client with Peripheral Vascular Disease

William Duffy, age 69, is retired. His wife convinces him to see his primary care provider for increasing leg pain with walking and other exercise.

ASSESSMENT

Katie Kotson, RN, obtains Mr. Duffy's history before he sees his physician. He states that he can only walk about a block before the pain in his calves gets so bad that he has to stop and rest. As a result, he has been less and less active, spending most of his time the past few months watching sports on television. He denies rest pain. He was diagnosed with type 2 diabetes about 15 years ago, which he manages with daily glyburide (DiaBeta), an oral hypoglycemic. He also has stable angina, for which he takes atenolol (Tenormin) and an occasional nitroglycerin tablet. His alcohol intake is moderate, averaging one to two beers per day, and he smokes about a pack of cigarettes per day. He states he tried to quit smoking after developing angina, but "after nearly 50 years of smoking, I think that's impossible!"

Physical exam findings include height 68 inches (173 cm), weight 235 lb (107 kg), BP 168/78, P 66, R 16, T 97.6°F (36.5°C); upper extremities warm and pink, normal hair distribution, pulses strong and equal; lower extremities below knees cool and ruddy when dependent, pale to pink when elevated, skin shiny, scant hair; posterior tibial pulses weak bilaterally; weak pedal pulse on R, unable to palpate on L; 1+ to 2+ edema both feet and ankles.

The physician finds that Mr. Duffy's systolic blood pressure in his legs is an average of 28 mmHg lower than in his arms. He makes the diagnosis of peripheral atherosclerosis, and schedules Mr. Duffy for an exercise stress test with ankle pressure measurements before and after exercise and a color-flow Doppler ultrasound. Mr. Duffy is to return in 3 weeks after these studies have been completed.

DIAGNOSES

- *Activity Intolerance* related to poor blood flow to lower extremities
- *Ineffective Health Maintenance* related to smoking and lack of information about disease management
- *Risk for Impaired Skin Integrity* related to ischemic tissues of legs and feet
- *Risk for Peripheral Neurovascular Dysfunction* related to impaired peripheral blood flow to lower extremities

EXPECTED OUTCOMES

- Walk for at least 15 minutes three to four times per day, gradually increasing his pace and duration of exercise.
- Relate the benefits of smoking cessation.
- Identify strategies to improve chances for success in stopping smoking.
- Meet with dietitian before next visit to discuss dietary measures to promote weight loss and slow atherosclerosis.

- Verbalize an understanding of appropriate foot care measures.
- Identify measures to prevent inadvertent injury of feet and legs.

PLANNING AND IMPLEMENTATION

- Teach about peripheral atherosclerosis and its relationship to Mr. Duffy's symptoms.
- With Mr. and Mrs. Duffy, plan strategies to start and maintain a program of regular exercise.
- Instruct to warm up slowly, and to stop exercise and rest for 3 minutes (or until pain is relieved) when claudication develops, then resume exercising.
- Discuss the effects of smoking on blood vessels.
- Help Mr. Duffy identify smoking cessation strategies such as support groups, clinics, and nicotine patches.
- Schedule an appointment with the dietitian to develop a low-calorie, low-fat, and low-cholesterol ADA diet that includes preferred foods and considers usual eating patterns.
- Reinforce and supplement previous foot care teaching.
- Discuss effects of impaired circulation on sensation in feet and legs and measures to prevent injury.

EVALUATION

When Mr. Duffy returns to the office 3 weeks later, his diagnosis has been confirmed by the diagnostic studies. The physician decides to continue conservative therapy, now prescribing atorvastatin (Lipitor) to lower Mr. Duffy's serum cholesterol level, and cilostazol (Pletal) to reduce the risk of thrombosis and improve symptoms of claudication. Mr. Duffy also asks his physician for a prescription for nicotine patches, saying he is ready to quit smoking, but thinks he needs help to be successful. Mr. and Mrs. Duffy tell Miss Kotson that they are walking before every meal and really enjoying being outside more. They plan to walk in the local shopping mall when the weather gets worse. Mrs. Duffy has bought an American Heart Association cookbook, and is carefully planning their meals. Both Mr. and Mrs. Duffy have lost 5 lb since the previous visit. Mr. Duffy's skin on his legs and feet remains intact, and he identifies the measures he is using to protect his lower extremities from injury.

CRITICAL THINKING IN THE NURSING PROCESS

1. What additional lifestyle changes related to peripheral atherosclerosis might be appropriate to suggest to Mr. Duffy at this time? Why?
2. Explain the relationship between physical exercise and pain in the client with peripheral atherosclerosis. Compare this relationship to that between exercise and angina.
3. Mr. Duffy uses a beta-blocker, atenolol, to prevent angina. Why is this drug not effective in preventing claudication?
4. Develop a nursing care plan for the nursing diagnosis *Imbalanced Nutrition: More than Body Requirements*. See *Evaluating Your Response in Appendix C*.