ANGINA (CORONARY ARTERY DISEASE)

The classic symptom of coronary artery disease (CAD) is angina—pain caused by loss of oxygen and nutrients to the myocardial tissue because of inadequate coronary blood flow. In most but not all patients presenting with angina, CAD symptoms are caused by significant atherosclerosis. Unstable angina is sometimes grouped with MI under the diagnosis of acute coronary syndrome. Angina has three major forms: (1) stable (precipitated by effort, of short duration, and easily relieved), (2) unstable (longer lasting, more severe, may not be relieved by rest/nitroglycerin; may also be new onset of pain with exertion or recent acceleration in severity of pain), and (3) variant (chest pain at rest with ECG changes due to coronary artery spasm). The AHCPR guidelines of May 1994 state that unstable angina is a transitory syndrome that causes significant disability and death in the United States.

CARE SETTING

Patients judged to be at intermediate or high likelihood of significant CAD are often hospitalized for further evaluation and therapeutic intervention. Classification of angina (provided by Canadian Cardiovascular Society Classification [CCSC]) aids in determining the risk of adverse outcomes for patients with unstable angina and, therefore, level of treatment needs. Class III angina is identified as occurring if the patient walks less than two blocks and normal activity is markedly limited, and class IV angina occurs at rest or with minimal activity and level of activity is severely limited. These two classes may require inpatient evaluation/therapeutic adjustments.

RELATED CONCERNS

Cardiac surgery: postoperative care
Dysrhythmias
Heart failure: chronic
Myocardial infarction
Psychosocial aspects of care

Patient Assessment Database

ACTIVITY/REST

May report:
Sedentary lifestyle, weakness
Fatigue, feeling incapacitated after exercise
Chest pain with exertion or at rest
Awakened by chest pain

May exhibit:
Exertional dyspnea

CIRCULATION

May report:
History of heart disease, hypertension, obesity in self/family

May exhibit:
Tachycardia, dysrhythmias
Blood pressure normal, elevated, or decreased
Heart sounds: May be normal; late S_4 or transient late systolic murmur (papillary muscle dysfunction) may be evident during pain
Moist, cool, pale skin/mucous membranes in presence of vasoconstriction

EGO INTEGRITY

May report:
Stressors of work, family, others

May exhibit:
Apprehension, uneasiness

FOOD/FLUID

May report:
Nausea, “heartburn”/epigastric distress with eating
Diet high in cholesterol/fats, salt, caffeine, liquor

May exhibit:
Belching, gastric distension

PAIN/DISCOMFORT

May report:
- Substernal or anterior chest pain that may radiate to jaw, neck, shoulders, and upper extremities (to left side more than right)
- Quality: Varies from transient/mild to moderate, heavy pressure, tightness, squeezing, burning
- Duration: Usually less than 15 min, rarely more than 30 min (average 3 min)
- Precipitating factors: Physical exertion or great emotion, such as anger or sexual arousal; exercise in weather extremes; or may be unpredictable and/or occur during rest or sleep in unstable angina
- Relieving factors: Pain may be responsive to particular relief mechanisms (e.g., rest, antianginal medications)
- New or ongoing chest pain that has changed in frequency, duration, character, or predictability (i.e., unstable, variant, Prinzmetal's)

May exhibit:
- Facial grimacing, placing fist over midsternum, rubbing left arm, muscle tension, restlessness
- Autonomic responses, e.g., tachycardia, blood pressure changes

RESPIRATION

May report:
- Dyspnea worse with exertion
- History of smoking

May exhibit:
- Respirations: Increased rate/rhythm and alteration in depth

TEACHING/LEARNING

May report:
- Family history or risk factors of CAD, hypertension, stroke, diabetes, cigarette smoking, hyperlipidemia
- Use/misuse of cardiac, hypertensive, or OTC drugs
- Regular alcohol use, illicit drug use, e.g., cocaine, amphetamines

Discharge plan considerations:
- **DRG projected mean length of inpatient stay: 3.2–4.2 days**
- Alteration in medication use/therapy
- Assistance with homemaker/maintenance tasks
- Changes in physical layout of home
- Refer to section at end of plan for postdischarge considerations.

DIAGNOSTIC STUDIES

ECG: Often normal when patient at rest or when pain-free; depression of the ST segment or T wave inversion signifies ischemia. Dysrhythmias and heart block may also be present. Significant Q waves are consistent with a prior MI.

24-hour ECG monitoring (Holter): Done to see whether pain episodes correlate with or change during exercise or activity. ST depression without pain is highly indicative of ischemia.

Exercise or pharmacological stress electrocardiography: Provides more diagnostic information, such as duration and level of activity attained before onset of angina. A markedly positive test is indicative of severe CAD. *Note:* Studies have shown stress echo studies to be more accurate in some groups than exercise stress testing alone.

Cardiac enzymes (AST, CPK, CK and CK-MB; LDH and isoenzymes LD_1, LD_2): Usually within normal limits (WNL); elevation indicates myocardial damage.

Chest x-ray: Usually normal; however, infiltrates may be present, reflecting cardiac decompensation or pulmonary complications.

P_{CO_2}, potassium, and myocardial lactate: May be elevated during anginal attack (all play a role in myocardial ischemia and may perpetuate it).

Serum lipids (total lipids, lipoprotein electrophoresis, and isoenzymes cholesterols [HDL, LDL, VLDL]; triglycerides; phospholipids): May be elevated (CAD risk factor).

Echocardiogram: May reveal abnormal valvular action as cause of chest pain.

Nuclear imaging studies (rest or stress scan): *Thallium-201:* Ischemic regions appear as areas of decreased thallium uptake.

MUGA: Evaluates specific and general ventricle performance, regional wall motion, and ejection fraction.

Cardiac catheterization with angiography: Definitive test for CAD in patients with known ischemic disease with angina or incapacitating chest pain, in patients with cholesterolemia and familial heart disease who are experiencing chest pain, and in patients with abnormal resting ECGs. Abnormal results are present in valvular disease, altered contractility, ventricular failure, and circulatory abnormalities. *Note:* Ten percent of patients with unstable angina have normal-appearing coronary arteries.

Ergonovine (Ergotrate) injection: On occasion, may be used for patients who have angina at rest to demonstrate hyperspastic coronary vessels. (Patients with resting angina usually experience chest pain, ST elevation, or depression and/or pronounced rise in left ventricular end-diastolic pressure [LVEDP], fall in systemic systolic pressure, and/or high-grade coronary artery narrowing. Some patients may also have severe ventricular dysrhythmias.)

NURSING PRIORITIES

1. Relieve/control pain.
2. Prevent/minimize development of myocardial complications.
3. Provide information about disease process/prognosis and treatment.
4. Support patient/SO in initiating necessary lifestyle/behavioral changes.

DISCHARGE GOALS

1. Achieves desired activity level; meets self-care needs with minimal or no pain.
2. Free of complications.
3. Disease process/prognosis and therapeutic regimen understood.
4. Participating in treatment program, behavioral changes.
5. Plan in place to meet needs after discharge.

NURSING DIAGNOSIS: Pain, acute

May be related to

Decreased myocardial blood flow
Increased cardiac workload/oxygen consumption

Possibly evidenced by

Reports of pain varying in frequency, duration, and intensity (especially as condition worsens)
Narrowed focus
Distraction behaviors (moaning, crying, pacing, restlessness)
Autonomic responses, e.g., diaphoresis, blood pressure and pulse rate changes, pupillary dilation, increased/decreased respiratory rate

DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:

Pain Level (NOC)

Report anginal episodes decreased in frequency, duration, and severity.
Demonstrate relief of pain as evidenced by stable vital signs, absence of muscle tension and restlessness

ACTIONS/INTERVENTIONS	RATIONALE
Pain Management (NIC)	
Independent	
Instruct patient to notify nurse immediately when chest pain occurs.	Pain and decreased cardiac output may stimulate the sympathetic nervous system to release excessive amounts of norepinephrine, which increases platelet aggregation and release of thromboxane A_2. This potent vasoconstrictor causes coronary artery spasm, which can precipitate, complicate, and/or prolong an anginal attack. Unbearable pain may cause vasovagal response, decreasing BP and heart rate.
Assess and document patient response/effects of medication.	Provides information about disease progression. Aids in evaluating effectiveness of interventions, and may indicate need for change in therapeutic regimen.
Identify precipitating event, if any; frequency, duration, intensity, and location of pain.	Helps differentiate this chest pain, and aids in evaluating possible progression to unstable angina. (Stable angina usually lasts 3–15 min and is often relieved by rest and sublingual nitroglycerin (NTG); unstable angina is more intense, occurs unpredictably, may last longer, and is not usually relieved by NTG/rest.)
Observe for associated symptoms, e.g., dyspnea, nausea/vomiting, dizziness, palpitations, desire to micturate.	Decreased cardiac output (which may occur during ischemic myocardial episode) stimulates sympathetic/parasympathetic nervous system, causing a variety of vague sensations that patient may not identify as related to anginal episode.
Evaluate reports of pain in jaw, neck, shoulder, arm, or hand (typically on left side).	Cardiac pain may radiate, e.g., pain is often referred to more superficial sites served by the same spinal cord nerve level.
Place patient at complete rest during anginal episodes.	Reduces myocardial oxygen demand to minimize risk of tissue injury/necrosis.
Elevate head of bed if patient is short of breath.	Facilitates gas exchange to decrease hypoxia and resultant shortness of breath.
Monitor heart rate/rhythm.	Patients with unstable angina have an increased risk of acute life-threatening dysrhythmias, which occur in response to ischemic changes and/or stress.
Monitor vital signs every 5 min during initial anginal attack.	Blood pressure may initially rise because of sympathetic stimulation, then fall if cardiac output is compromised. Tachycardia also develops in response to sympathetic stimulation and may be sustained as a compensatory response if cardiac output falls.
Stay with patient who is experiencing pain or appears anxious.	Anxiety releases catecholamines, which increase myocardial workload and can escalate/prolong ischemic pain. Presence of nurse can reduce feelings of fear and helplessness.

ACTIONS/INTERVENTIONS	RATIONALE
Pain Management (NIC)	
Independent	
Maintain quiet, comfortable environment; restrict visitors as necessary.	Mental/emotional stress increases myocardial workload.
Provide light meals. Have patient rest for 1 hr after meals.	Decreases myocardial workload associated with work of digestion, reducing risk of anginal attack.
Collaborative	
Provide supplemental oxygen as indicated.	Increases oxygen available for myocardial uptake/reversal of ischemia.
Administer antianginal medication(s) promptly as indicated:	
Nitroglycerin: sublingual (Nitrostat), buccal, or oral tablets, metered-dose spray; or sublingual isosorbide dinitrate (Isordil)	Nitroglycerin has been the standard for treating and preventing anginal pain for more than 100 yr. Today it is available in many forms and is still the cornerstone of antianginal therapy. Rapid vasodilator effect lasts 10–30 min and can be used prophylactically to prevent, as well as abort, anginal attacks. Long-acting preparations are used to prevent recurrences by reducing coronary vasospasms and reducing cardiac workload. May cause headache, dizziness, light-headedness—symptoms that usually pass quickly. If headache is intolerable, alteration of dose or discontinuation of drug may be necessary. *Note:* Isordil may be more effective for patients with variant form of angina.
Sustained-release tablets, caplets (Nitrong, Nitrocap T.D.), chewable tablets (Isordil, Sorbitrate), patches, transmucosal ointment (Nitro-Dur, Transderm-Nitro)	Reduces frequency and severity of attack by producing prolonged/continuous vasodilation.
Beta-blockers, e.g., acebutolol (Sectral), atenolol (Tenormin), nadolol (Corgard), metroprolol (Lopressor), propranolol (Inderal)	Reduces angina by reducing the heart's workload. (Refer to ND: Cardiac Output, risk for decreased, following, p. 000.) *Note:* Often these drugs alone are sufficient to relieve angina in less severe conditions.
Calcium channel blockers, e.g., bepridil (Vascor), amlodipine (Norvasc), nifedipine (Procardia), felodipine (Plendil), isradipine (DynaCirc), diltiazem (Cardizem)	Produces relaxation of coronary vascular smooth muscle; dilates coronary arteries; decreases peripheral vascular resistance.
Analgesics, e.g., acetaminophen (Tylenol)	Usually sufficient analgesia for relief of headache caused by dilation of cerebral vessels in response to nitrates.

ACTIONS/INTERVENTIONS	RATIONALE
Pain Management (NIC)	
Collaborative	
Morphine sulphate (MS)	Potent narcotic analgesic may be used in acute onset because of its several beneficial effects, e.g., causes peripheral vasodilation and reduces myocardial workload; has a sedative effect to produce relaxation; interrupts the flow of vasoconstricting catecholamines and thereby effectively relieves severe chest pain. MS is given IV for rapid action and because decreased cardiac output compromises peripheral tissue absorption.
Monitor serial ECG changes.	Ischemia during anginal attack may cause transient ST segment depression or elevation and T wave inversion. Serial tracings verify ischemic changes, which may disappear when patient is pain-free. They also provide a baseline against which to compare later pattern changes.

NURSING DIAGNOSIS: Cardiac Output, risk for decreased

Risk factors may include

Inotropic changes (transient/prolonged myocardial ischemia, effects of edications)
Alterations in rate/rhythm and electrical conduction

Possibly evidenced by

[Not applicable; presence of signs and symptoms establishes an *actual* diagnosis.]

DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:

Cardiac Pump Effectiveness (NOC)

Report/display decreased episodes of dyspnea, angina, and dysrhythmias.
Demonstrate increased activity tolerance.
Participate in behaviors/activities that reduce the workload of the heart.

ACTIONS/INTERVENTIONS	RATIONALE
Hemolytic Regulation (NIC)	
Independent	
Maintain bed/chair rest in position of comfort during acute episodes.	Decreases oxygen consumption/demand, reducing myocardial workload and risk of decompensation.
Monitor vital signs (e.g., heart rate, BP) and cardiac rhythm.	Tachycardia may be present because of pain, anxiety, hypoxemia, and reduced cardiac output. Changes may also occur in BP (hypertension or hypotension) because of cardiac response. ECG changes reflecting ischemia/dysrhythmias indicate need for additional evaluation and therapeutic intervention.
Auscultate breath sounds and heart sounds. Listen for murmurs.	S_3, S_4, or crackles can occur with cardiac decompensation or some medications (especially beta-blockers). Development of murmurs may reveal a valvular cause for chest pain (e.g., aortic stenosis, mitral stenosis) or papillary muscle rupture.
Provide for adequate rest periods. Assist with/perform self-care activities, as indicated.	Conserves energy, reduces cardiac workload.
Stress importance of avoiding straining/ bearing down, especially during defecation.	Valsalva maneuver causes vagal stimulation, reducing heart rate (bradycardia), which may be followed by rebound tachycardia, both of which may impair cardiac output.
Encourage immediate reporting of pain for prompt administration of medications as indicated.	Timely interventions can reduce oxygen consumption and myocardial workload and may prevent/minimize cardiac complications.
Monitor for and document effects of/adverse response to medications, noting BP, heart rate, and rhythm (especially when giving combination of calcium antagonists, beta-blockers, and nitrates).	Desired effect is to decrease myocardial oxygen demand by decreasing ventricular stress. Drugs with negative inotropic properties can decrease perfusion to an already ischemic myocardium. Combination of nitrates and beta-blockers may have cumulative effect on cardiac output.
Assess for signs and symptoms of heart failure.	Angina is only a symptom of underlying pathology causing myocardial ischemia. Disease may compromise cardiac function to point of decompensation.
Evaluate mental status, noting development of confusion, disorientation.	Reduced perfusion of the brain can produce observable changes in sensorium.
Note skin color and presence/quality of pulses.	Peripheral circulation is reduced when cardiac output falls, giving the skin a pale or gray color (depending on level of hypoxia) and diminishing the strength of peripheral pulses.

ACTIONS/INTERVENTIONS	RATIONALE

Hemolytic Regulation (NIC) **Collaborative**	
Administer supplemental oxygen as needed.	Increases oxygen available for myocardial uptake to improve contractility, reduce ischemia, and reduce lactic acid levels.
Monitor pulse oximetry or ABGs as indicated.	Determines adequacy of respiratory function and/or O_2 therapy.
Measure cardiac output and other functional parameters as indicated.	Cardiac index, preload/afterload, contractility, and cardiac work can be measured noninvasively thorough various means, including thoracic electrical bioimpedance (TEB) technique. Useful in evaluating response to therapeutic interventions and identifying need for more aggressive/emergency care. *Note:* Evaluation of changes in heart rate, BP, and cardiac output requires consideration of patient's circadian hemodynamic variability (e.g., these measurements are normally expected to be lower at night in patients who are active during the day).
Administer medications as indicated: Calcium channel blockers, e.g., diltiazem (Cardizem), nifedipine (Procardia), verapamil (Calan), bepridil (Vascor), amlodipine (Norvasc), felodipine (Plendil), isradipine (DynaCirc);	Although differing in mode of action, calcium channel blockers play a major role in preventing and terminating ischemia induced by coronary artery spasm and in reducing vascular resistance, thereby decreasing BP and cardiac workload.
Beta-blockers, e.g., atenolol (Tenormin), nadolol (Corgard), propranolol (Inderal), esmolol (Brevibloc);	These medications decrease cardiac workload by reducing heart rate and systolic BP. *Note:* Overdosage produces cardiac decompensation.
Acetylsalicylic acid (ASA), other antiplatelet agents, e.g., ticlopidine (Ticlid); glycoprotein IIb/IIa, abciximab (ReoPro), eptifibatide (Integrilin)	Useful in unstable angina, ASA diminishes platelet aggregation/clot formation. For patients with major GI intolerance, alternative drugs may be indicated. New antiplatelet medications are being used IV in conjuction with angioplasty. Oral forms are under investigation.
IV heparin	Bolus, followed by continuous infusion, is recommended to help reduce risk of subsequent MI by reducing the thrombotic complications of plaque rupture for patients diagnosed with intermediate or high-risk unstable angina. *Note:* Use of low-molecular-weight heparin is increasing because of its more efficacious and predictable effect with fewer adverse effects (e.g., less risk of bleeding) and longer half-life. It also does not require anticoagulation monitoring.
Monitor laboratory studies e.g., PTT, aPTT.	Evaluates therapy needs/effectiveness.
Discuss purpose and prepare for stress testing and cardiac catheterization, when indicated.	Stress testing provides information about the health/strength of the ventricles.

ACTIONS/INTERVENTIONS	RATIONALE

Hemolytic Regulation (NIC) **Collaborative**	
Prepare for surgical intervention, angioplasty with/without intracoronary stent placement, valve replacement, CABG, if indicated.	Angioplasty (also called percutaneous transluminal coronary angioplasty [PTCA]) increases coronary blood flow by compression of atheromatous lesions and dilation of the vessel lumen in an occluded coronary artery. Intracoronary stents may be placed at the time of PTCA to provide structural support within the coronary artery and improve the odds of long-term patency. This procedure is preferred over the more invasive CABG surgery. CABG is the recommended treatment when testing confirms myocardial ischemia as a result of left main coronary artery disease or symptomatic three-vessel disease, especially in those with left ventricular dysfunction. *Note:* Stent placement may also be effective for the variant form of angina where periodic vasospasms impair arterial flow.
Prepare for transfer to critical care unit if condition warrants.	Profound/prolonged chest pain with decreased cardiac output reflects development of complications requiring more intense/emergency interventions.

NURSING DIAGNOSIS: Anxiety [specify level]

May be related to

Situational crises
Threat to self-concept (altered image/abilities)
Underlying pathophysiological response
Threat to or change in health status (disease course that can lead to further compromise, debility, even death)
Negative self-talk

Possibly evidenced by

Expressed concern regarding changes in life events
Increased tension/helplessness
Apprehension, uncertainty, restlessness
Association of diagnosis with loss of healthy body image, loss of place/influence
View of self as noncontributing member of family/society
Fear of death as an imminent reality

DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:

Anxiety Control (NOC)

Verbalize awareness of feelings of anxiety and healthy ways to deal with them.
Report anxiety is reduced to a manageable level.
Express concerns about effect of disease on lifestyle, position within family and society.
Demonstrate effective coping strategies/problem-solving skills.

ACTIONS/INTERVENTIONS	RATIONALE

Anxiety Reduction (NIC) **Independent**	
Explain purpose of tests and procedures, e.g., stress testing.	Reduces anxiety attributable to fear of unknown diagnosis and prognosis.
Promote expression of feelings and fears, e.g., denial, depression, and anger. Let patient/SO know these are normal reactions. Note statements of concern, such as"Heart attack is inevitable."	Unexpressed feelings may create internal turmoil and affect self-image. Verbalization of concerns reduces tension, verifies level of coping, and facilitates dealing with feelings. Presence of negative self-talk can increase level of anxiety and may contribute to exacerbation of angina attacks.
Encourage family and friends to treat patient as before.	Reassures patient that role in the family and business has not been altered.
Tell patient the medical regimen has been designed to reduce/limit future attacks and increase cardiac stability.	Encourages patient to test symptom control (e.g., no angina with certain levels of activity), to increase confidence in medical program, and to integrate abilities into perceptions of self. (Refer to CP: Psychosocial Aspects of Care, ND: Anxiety [specify level]/Fear, p. 000, for additional considerations).
Collaborative Administer sedatives, tranquilizers, as indicated.	May be desired to help patient relax until physically able to reestablish adequate coping strategies.

NURSING DIAGNOSIS: Knowledge, deficient [Learning Need] regarding condition, treatment needs, self-care and discharge needs

May be related to
Lack of exposure
Inaccurate/misinterpretation of information
Unfamiliarity with information resources

Possibly evidenced by
Questions; statement of concerns
Request for information
Inaccurate follow-through of instructions

DESIRED OUTCOMES/EVALUATION CRITERIA—PATIENT WILL:
Participate in learning process.
Assume responsibility for own learning, looking for information and asking questions.

Knowledge: Illness Care (NOC)
Verbalize understanding of condition/disease process and potential complications.
Verbalize understanding of /participate in therapeutic regimen.
Initiate necessary lifestyle changes.

ACTIONS/INTERVENTIONS	RATIONALE
Teaching: Disease Process (NIC)	

Independent Discuss pathophysiology of condition. Stress need for preventing and managing anginal attacks.	Patients with angina need to learn why it occurs and what they can do to control it. This is the focus of therapeutic management to reduce likelihood of myocardial infarction and promote healthy heart lifestyle.
Review significance of cholesterol levels and differentiate between LDL and HDL factors. Emphasize importance of periodic laboratory measurements.	Although recommended LDL is ±160 mg/dL, patients with two or more risk factors (e.g., smoking, hypertension, diabetes mellitus, positive family history) should keep LDL ±130 mg/dL, and those with diagnosis of CAD need to keep LDL below 100 mg/dL. HDL below 35–45 is considered a risk factor; a level above 60 mg/dL is considered an advantage.
Encourage avoidance of factors/situations that may precipitate anginal episode, e.g., emotional stress, extensive or intense physical exertion, ingestion of large/heavy meal, especially at bedtime, exposure to extremes in environmental temperature.	May reduce incidence/severity of ischemic episodes. Helps patient manage symptoms.
Assist patient/SO to identify sources of physical and emotional stress and discuss ways that they can be avoided.	This is a crucial step in limiting/preventing anginal attacks.
Review importance of weight control, cessation of smoking, dietary changes, and exercise.	Knowledge of the significance of risk factors provides patient with opportunity to make needed changes. Patients with high cholesterol who do not respond to 6-month program of low-fat diet and regular exercise will require medication.
Encourage patient to follow prescribed reconditioning program; caution to avoid exhaustion.	Fear of triggering attacks may cause patient to avoid participation in activity that has been prescribed to enhance recovery (increase myocardial strength and form collateral circulation).
Discuss impact of illness on desired lifestyle and activities, including work, driving, sexual activity, and hobbies. Provide information, privacy, or consultation, as indicated.	Patient may be reluctant to resume/continue usual activities because of fear of anginal attack or death. Patient should take nitroglycerin prophylactically before any activity that is known to precipitate angina.
Demonstrate how/encourage patient to monitor own pulse and BP during/after activities, when appropriate, and to schedule/simplify activities, avoid strain, and take rest periods.	Allows patient to identify those activities that can be modified to avoid cardiac stress and stay below the anginal threshold.
Discuss steps to take when anginal attacks occur, e.g., cessation of activity, keeping "rescue" NTG on hand, administration of prn medication, use of relaxation techniques.	Being prepared for an event takes away the fear that patient will not know what to do if attack occurs.

ACTIONS/INTERVENTIONS	RATIONALE
Teaching: Disease Process (NIC)	

Independent	
Review prescribed medications for control/prevention of anginal attacks:	Angina is a complicated condition that often requires the use of many drugs given to decrease myocardial workload, improve coronary circulation, and control the occurrence of attacks.
Lipid-lowering agents: bile acid sequestrants, e.g., cholestyramine (Questran), colestipol (Colestid); nicotinic acid; and HMG-CoA reductase inhibitors, e.g., lovastatin (Mevacor), simvastatin (Zocor)	These drugs are considered first-line agents for lowering serum cholesterol levels. *Note:* Questran/Colestid may inhibit absorption of fat-soluble vitamins and some drugs such as Coumadin, Lanoxin, and Inderal. The HMG-CoA reductase inhibitors may cause photosensitivity.
Stress importance of checking with physician before taking OTC drugs.	OTC drugs may potentiate or negate effects of prescribed medications.
Discuss ASA and other antiplatelet agents as indicated.	May be given prophylactically on a daily basis to decrease platelet aggregation and improve coronary circulation. May prolong survival rate of patients with unstable angina.
Review symptoms to be reported to physician, e.g., increase in frequency/duration of attacks, changes in response to medications.	Knowledge of expectations can avoid undue concern for insignificant reasons or delay in treatment of important symptoms.
Discuss importance of follow-up appointments.	Angina is a symptom of progressive coronary artery disease that should be monitored and may require occasional adjustment of treatment regimen.

POTENTIAL CONSIDERATIONS following discharge from care setting (dependent on patient's age, physical condition/presence of complications, personal resources, and life responsibilities)

Pain, acute—episodes of decreased myocardial blood flow/ischemia
Activity intolerance—imbalance between oxygen supply/demand, sedentary/stressful lifestyle
Denial, ineffective—learned response patterns (e.g., avoidance), cultural factors, personal and family value systems
Family Processes, interrupted—situational transition and crisis
Home Maintenance, impaired—altered ability to perform tasks, inadequate support systems, reluctance to request assistance