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Systemic Lupus Erythematosus: Cardiovascular Pathophysiology
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Pathophysiological Disease Process
- SLE activates the immune system and the complement cascade.
- The chronicity of this activation theoretically contributes to atherosclerosis (Ammirati et al., 2014).
- “Atherosclerosis is an inflammatory disease initiated by dysfunction of the endothelial cells of the vasculature... resulting in damage to the endothelial layer of the arterial wall” (Turano, 2013, p. 49).
- Inflammation stimulates macrophages, cytokines, T cells and oxidation of low-density lipoproteins (LDLs).
- The cycle continues, “macrophages release growth factor that produces collagen forming a cap (plaque) over the accumulation of inflammatory cells, lipids and necrotic tissue” (Turano, 2013, p. 49).
- The obstruction limits blood flow or can rupture.

Signs and Symptoms
- “Dyspnea
- Cough
- Fever
- Chest pain
- Abdominal/flank pain
- Skin rash
- Decreased urine output
- Anorexia
- Abdominal and/or flank pain
- Erosion of nails
- Exfoliative dermatitis
- Photophobia
- SLE activates the immune system and the complement cascade.

Implications for Nursing Care
- Advanced Practice Nurses should monitor SLE patients: 1. Hypertension
- Heart failure
- Diabetes mellitus
- Lisch nodules, serum creatinine, potassium, proteinuria
- Echocardiogram (Tsoulos, Koumaras, Urowitz & Glidman, 2014, p. 523)
- Advanced Practice Nurses should educate SLE patients regarding cardiovascular risk factors: 1. Control blood pressure
2. Smoking cessation
3. Dietary restriction

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