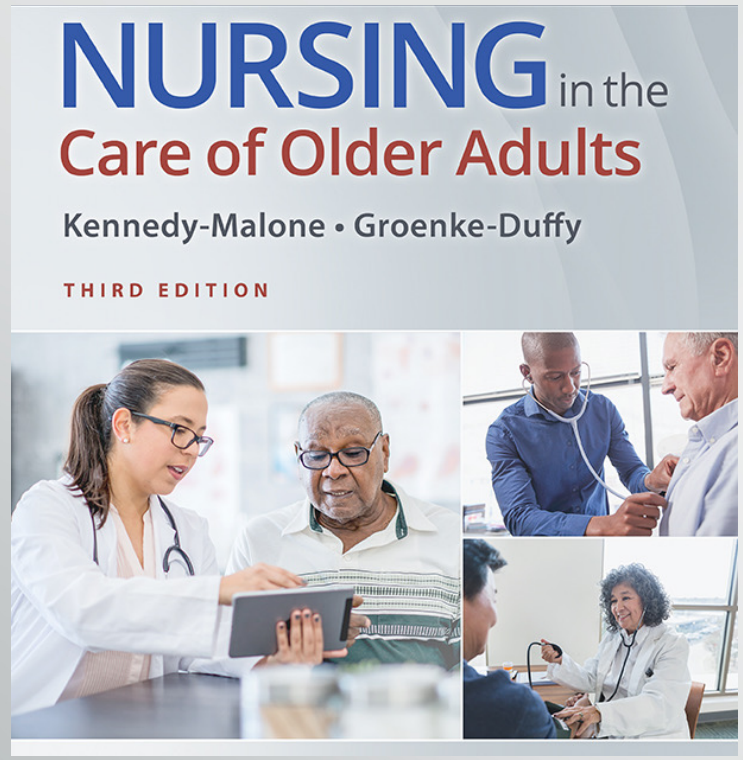

Assigned readings (see course outline)

Common Cardiovascular disorders in the elderly

Chapter: 7 (chest pain)
Chapter 10: CV disorders

Revised and updated Dr. Delacroix
2023

Assessment of the Cardiovascular System (taped)

- Key symptoms
  - Dizziness
  - Syncope
  - Orthopnea
  - Angina
  - Edema
  - Claudication
- Differentiating normal from abnormal function in older adults

CVD RISK FACTORS

- Four major risk factors for CVD:
  - Hypertension
  - Diabetes mellitus
  - Dyslipidemia
  - Smoking
- Higher rates of CVD in older people: absolute number of cases per risk factor tends to increase with age
- Multiple risk factors act in concert with age-related CV changes to promote the development and progression of heart and vascular disorders

PRINCIPAL EFFECTS OF AGING ON THE CARDIOVASCULAR SYSTEM (1 of 2)

Age effect	Clinical implication
↑ Arterial stiffness	↑ Afterload and systolic BP
↓ Myocardial relaxation & compliance	↑ Risk of diastolic heart failure and atrial fibrillation
Impaired responsiveness to β-adrenergic stimulation	↓ Maximum cardiac output; impaired thermoregulation
↓ Sinus node function and conduction velocity in the atrioventricular node and infranodal conduction system	↑ Risk of sick sinus syndrome, left anterior fascicular block, and bundle branch block

PRINCIPAL EFFECTS OF AGING ON THE CARDIOVASCULAR SYSTEM (2 of 2)

Age effect	Clinical implication
Impaired endothelium-dependent vasodilation	↑ Demand ischemia and risk of coronary artery disease and peripheral arterial disease
↓ Baroreceptor responsiveness	↑ Risk of orthostatic hypotension
↓ Exercise response (↓ maximal heart rate, maximal cardiac output, VO_2 max, coronary blood flow, peripheral vasodilation)	↓ Exercise capacity and ↑ cardiac complications (ischemia, heart failure, shock, arrhythmias, death) with illness

CLINICAL EFFECTS OF CV CHANGES

- In healthy older adults, age-related changes have modest clinically relevant effects on cardiac hemodynamics and performance at rest
  - Resting heart rate, ejection fraction, stroke volume, and cardiac output are well preserved even at very advanced age
- Ability to respond to increased demands associated with exercise or illness (either cardiac or noncardiac) declines progressively with advancing age
  - Peak aerobic capacity declines inexorably with age

Hypertension

- High prevalence of HTN only a third of elderly patients meets B/P target recommendations.
- symptoms
  - Often asymptomatic
  - If symptomatic: headache, CP, dyspnea or vision changes
- Description
  - Classified as essential or secondary

Hypertension

- Incidence:
- Affect 86 millions U.D. Adults 20 years or older
- Increase with age
- Half hypertensive patients are not well controlled
- 15% of hypertensive patients are not even aware they have HTN.
- Up to 95% are diagnosed with essential hypertension
- Higher in AA, with higher mortality rate
- Benefits of HTN control:
  - Reduction of 10 mmhg systolic and 5 mmhg diastolic at age 65 associated with
    - Reduction of 25% of MI, 40% stroke, 50% CHF, up to 20% mortality.
- Current HTN control remains extremely low despite obvious benefits.

Recommendation Summary

Population	Recommendation	Grade (What's This?)
Adults aged 18 years or older	The USPSTF recommends screening for high blood pressure in adults aged 18 years or older. The USPSTF recommends obtaining measurements outside of the clinical setting for diagnostic confirmation before starting treatment (see the Clinical Considerations section).	A

HTN: Risk factors