Cardiovascular History & Interview Risk Factors

- Increased workload
  - weight
  - smoking
  - increased BP
- Exercise intolerance
- Fatigue

- Nutrition
  - Fats
    - atherosclerosis, risk of clot formation & hypertension
  - Sugar
    - diabetes & clot formation
  - Caffeine
    - vasoconstriction

Interview & History

- Family History
- History of:
  - Chest pain
    - where
    - when
    - provocation
    - intensity
    - duration
  - SOB
  - Hypertension

- Cough
  - productive?
  - When does it occur?
- Palpitations
  - pounding
  - racing
  - skipped beats

Interview & History

- Extremity changes
  - Edema
    - Weight gain
    - Shoes or belt tighter?
  - Varicosities
    - Occupation?
  - Ulcers
  - Coloration
    - Dusky, reddened, bronze
  - Leg cramps

- Weight gain
- Shoes or belt tighter?

- Extremity changes
  - Edema
    - Weight gain
    - Shoes or belt tighter?
Interview & History

• Changed pattern of sexual activity
• Medication use
  – Stimulants
  – Vasopressors
  – Antihypertensives
  – Antiarrhythmics

Physical Exam

• General
• Vital signs
  – When to check
• Heart
  – Auscultation
    • Rate
    • Rhythm
    • Sounds

Heart Sounds

Systole
Closure of A-V valves
$S_1$

Diastole
Closure of pulmonic & Aortic valves
$S_2$
**Physical Exam – Heart Sounds Auscultation**

Adult & child

Infants

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**BLOOD PRESSURE**

SYSTOLIC = VENTRICULAR CONTRACTION

DIASTOLIC = CONSTANT PRESSURE IN ARTERIAL BED

PULSE PRESSURE = SBP-DBP

NARROWING?

WIDENING?

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**VASODILATION**

B.P. = C.O. \(\times\) P.V.R.

**VASOCONSTRICTION**

S.V. (STROKE VOLUME) \(\times\) H.R. (HEART RATE)

Contractility & Volume

Impacts filling time & coronary circulation
FACTORS INFLUENCING BP

1. Stress=
   Sympathetic Stimulation
   Increase CO & vasoconstriction
   BP↑

2. Vasodilation, fluid loss, pump failure
   BP↓

3. Fever, cold, obesity
   BP↑

Peripheral Circulation

- Extremities - inspection
- Pulses - palpation
  - rate
  - rhythm
  - quality - related to volume/tension within arterial bed
  - sites

Pulse sites
Peripheral Circulation

• Extremities - inspection
• Pulses - palpation
  – rate
  – rhythm
  – quality - related to volume/tension within arterial bed
  – sites
• capillary refill (blanch test)

Normal Variations

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Assessment - Influencing Factors

• Age
• Exercise
• Health status
• Diversity
  – Ethnicity
  – Gender
• Fever
Diagnostics

• Blood tests
  – Dig Level
  – K⁺
  – Pt/PTT
  – Hgb, Hct
  – Triglycerides
  – Cholesterol
    • HDL vs. LDL

• EKG
• CXR
• Exercise stress test
• BMI

Common Alteration Behaviors

• Abnormal heart sounds
• Pulse – weak or bounding
• Hypotension
• Orthostatic hypotension
• Hypertension
• Edema
Common Alteration Behaviors (con’t)

- Chest pain
- Palpitations
- Faintness, dizziness
- Fatigue
- Dyspnea
- Nocturia
- Cough

Common Behaviors (con’t)

- Dyspnea on exertion – DOE
- Shortness of breath – SOB
- Paroxysmal nocturnal dyspnea – PND
- Peripheral Vascular Disease – PVD

Nursing Diagnosis

- Activity intolerance
- Anxiety
- Impaired skin integrity
- Altered tissue perfusion
- Sleep pattern disturbance
- Potential impaired skin integrity
- Altered nutrition: < body requirements
Nursing Care Planning

Outcomes:
- Will identify lifestyle changes
- Stress reduction
- Paced activities
- Decreased signs of activity intolerance
- Increased energy for ADL's

INTERVENTIONS

- Teach risk factor modification
  - weight
  - diet
  - smoking
  - exercise
- Assess response to activity
- Leg exercises, TED Hose
- Documentation

Pharmacological Agents

DIGOXIN

ANTICOAGULANTS

POTASSIUM
Summary

• Primary function of the heart is to deliver deoxygenated blood to the lungs for oxygenation and to deliver oxygen & nutrients to the tissue.
• Cardiac output determinants
  – Preload
  – Contractility
  – Afterload
• Vascular system
  – BP
  – Pulse
  – Perfusion
  – Skin
• Internal & external environmental changes can affect the cardiovascular system
• Nursing process