Acute Care Guide

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Blood Pressure (BP)

Category	SYSTOLIC (mmHg)		DIASTOLIC (mmHg)
Normal	<120	and	<80
Elevated	120-129	and	<80
Stage 1 Hypertension	130-139	or	80-89
Stage 2 Hypertension	>/=140	or	>/=90
Hypertensive Crisis	>/=180	and/or	>120

Orthostatic Hypotension

Definition	Causes	Signs & Symptoms	Treatment
Decrease in Systolic >20 mmHg or Diastolic >10 mmHg within 3 minutes	position change, medication	lightheadedness, diaphoresis, dizziness, confusion, blurred vision	have the patient sit down if they are standing or have the patient lie down if they are sitting

Normal Response to Exercise

01 Systolic BP increases linearly

02 Diastolic BP shows no change

03 Heart Rate increases

04 Respiratory Rate increases

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Heart Rate (HR)

Assessment	Beats Per Minute
Normal	60-100 bpm
Tachycardia	>100 bpm
Bradycardia	<60 bpm

Respiratory Rate (RR)

Assessment	Breaths Per Minute
Normal	12-18 breaths/min
Bradypnea	<10 breaths/min
Tachypnea	>24 breaths/min

45 breaths/min = use caution with exercise
50 breaths/min = no exercise

Pulse Grade

Pulse Grade	Description
Absent (0)	No pulse
Thread (1+)	Barely perceptible
Weak (2+)	Difficult to palpate
Normal (3+)	Easy to palpate
Bounding (4+)	Hyperactive and very strong

Oxygen Saturation (SpO2)

Assessment	Percent O2 Saturation
Normal	>95%
Precaution	90%
Stop Exercise	<88%

Considerations: patient breathing on room air or supplemental oxygen

Monitor for hypoxemia:

01 Wheezing

02 Changes in HR

03 Diaphoresis

04 Clubbing

05 Changes in nail bed color

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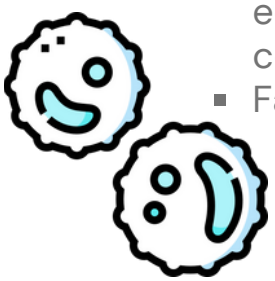
White Blood Cells

Normal range	5.0-10.0 10^9/L
Leukocytosis	>11.0 10^9/L
Leukopenia	<4.0 10^9/L
Neutropenia	<1.5 10^9/L

White blood cells: used to identify infection and pathologies that cause inflammation and abnormal reactions

- **Leukocytosis:** abnormally high levels of WBC due to infection, inflammation, or immune system compromise
  - **Presentation:** fever, fatigue, bleeding, bruising

- **Leukopenia:** abnormally low levels of WBC due to chemotherapy, radiation, or autoimmune disease
  - **Presentation:** frequent infections, headache, night sweats, stiff neck, inflammation around the mouth
  - **Clinical Implication:**
    - Monitor fatigue levels during therapy and educate on energy conservation
    - Fall prevention program



Platelets

Normal range	150-400 k/uL
Thrombocytosis	>450 k/uL
Thrombocytopenia	<50 k/uL

Platelets: forms clots to help prevent bleeding

- **Thrombocytosis:** abnormally high platelet levels due to polycythemia vera, cancer, strenuous exercise, iron deficiency anemia, acute or chronic inflammation
  - **Presentation:** headache, dizziness, weakness, chest pain, tingling in the hands and feet
  - **Clinical Implication:**
    - Screen for DVT

- **Thrombocytopenia:** abnormally low platelet levels due to a hemorrhage, damage to blood cells
  - **Presentation:** ecchymosis, oral bleeding, hematuria, petechiae
  - **Clinical Implication:**
    - Fall prevention program due to risk of spontaneous bleeding as a result of a fall
    - Monitor fatigue levels during therapy and educate on energy conservation

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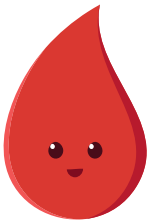
	Normal range	Polycythemia	Anemia
Hemoglobin	Males: 14-17.4 g/dL Females: 12-16 g/dL	>20 g/dL	<5-7 g/dL
Hematocrit	Males: 42-52% Females: 37-47%	>60%	<15-20%

Hemoglobin: transports oxygen and carbon dioxide as a component of red blood cells

Hematocrit: percentage of red blood cells in the total blood volume

- **Polycythemia:** abnormally high levels of hemoglobin due to dehydration, high altitude, smoking, heart disease, chronic pulmonary disease
  - **Presentation:** fatigue, headache, dizziness, visual changes, TIA, dysrhythmia, bruising, bleeding
  - **Clinical Implication:**
    - Monitor vital signs
    - Fall prevention program
    - Activity pacing strategies

- **Anemia:** abnormally low levels of hemoglobin due to hemorrhage, iron deficiency, bone marrow depression, cancer
  - **Presentation:** tachycardia, orthostatic hypotension, dysrhythmias, pallor, decreased endurance and activity tolerance
  - **Clinical Implication:**
    - Potential need for blood transfusion in the acute setting
    - Monitor vital signs, particularly oxygen saturation
    - Fall prevention program
    - Activity pacing strategies
    - Monitor for fatigue



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	Normal range	Hyperglycemia	Hypoglycemia
Glucose	70-100 mg/dL	>200 mg/dL	<70 mg/dL

Glucose: major energy source from diet and may be created naturally within the body via gluconeogenesis

- **Hyperglycemia**: abnormally high levels of blood glucose due to diabetes mellitus, stress, Cushing Syndrome, chronic kidney disease
  - **Presentation:**
    - Type 1 and 2 Diabetes: polyuria, polydipsia, blurred vision, weakness, fatigue, dizziness
    - Diabetic Ketoacidosis: fruity breath, confusion, weak/rapid pulse
  - **Clinical Implication:**
    - Assess loss of protective sensation and educate on proper footwear and self-care
    - Lifestyle modifications including exercise and diet
    - Assess integumentary system
    - Educate the importance of monitoring blood glucose
    - Fall prevention program

- **Hypoglycemia**: abnormally low levels of blood glucose due to increased levels of insulin, Addison's Disease, malnutrition, alcoholism, hypopituitarism
  - **Presentation:** perspiration, weakness, pallor, seizure, lethargy, irritability, palpitation, tachycardia, altered mental status, hunger, shaking, blurred vision
  - **Clinical Implication:**
    - Ingest 15-30 g of fast carbohydrates before activity
    - Educate the importance of monitoring blood glucose
    - Monitor for cognitive impairment

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	Normal range	Increased INR
Prothrombin Time	11.0-12.5 sec	-
International Normalized Ratio (INR)	0.8-1.1	>5.5 (critical)

Prothrombin Time: the amount of time it takes for a clot to form

International Normalized Ratio: international standard for PTT

- **Causes of increased PTT & INR:**
  - Alcohol, liver disease, inherited deficiency of Factor VII
- **Presentation of increased PTT & INR:**
  - Increased bleeding risk
  - Bruising
- **Clinical Implications for increased PTT & INR:**
  - Fall prevention program
  - Examine integumentary system for bruises or petechiae
  - Educate that falls or contact trauma may increase bleeding risk
  - Apply long pressure for open wounds

Reference: Aptaacutecare.org. Accessed May 13, 2024. https://www.aptaacutecare.org/