

BODY TEMPERATURE

Assessment

- a. Assess signs of **hyperthermia, heatstroke, hypothermia, and skin condition**. (IPSG 3)
- b. Determine factors affecting temperature accuracy (**smoking, hot/cold food or drinks; wait 20–30 min for oral**). (IPSG 3)
- c. Assess pertinent laboratory values (CBC/WBC). (IPSG 3)
- d. Identify medications or treatments affecting body temperature. (IPSG 3)
- e. Select the appropriate temperature site and device. (IPSG 3)
- f. Obtain the patient's baseline temperature. (IPSG 3)

Planning

- a. Identify the patient using **2 identifiers**. (IPSG 1)
- b. Explain the procedure and proper positioning. (IPSG 3)

Implementation

- a. Perform hand hygiene. (IPSG 5)
- b. Position the patient comfortably.

Tympanic

- c. Position head, pull pinna, insert probe, scan, discard cover, **repeat after 2–3 min if needed**.

Oral

- d. Wear gloves if indicated, place probe in the **posterior sublingual pocket**, close lips, wait for beep, discard cover.

Axillary

- e. Raise arm, inspect axilla, insert probe, lower arm, wait for beep, discard cover.

Temporal

- f. Dry forehead, scan **forehead to behind the ear**, wait **~6 sec**.

Rectal

- g. Provide privacy, position in **Sim's**, wear gloves, lubricate, insert **1–1½ in**, hold until reading.

Evaluation

- a. Establish baseline if normal.
- b. Compare with baseline and age-appropriate normal range.
- c. Document findings and refer abnormal results.

rationale

Route	Level in Celsius	Level in Fahrenheit
Tympanic membrane	36.7 °C to 38.3 °C	98.0 °F to 100.9 °F
Oral	35.9 °C to 37.5 °C	96.6 °F to 99.5 °F
Axillary	35.4 °C to 37.0 °C	95.6 °F to 98.5 °F
Temporal arterial	36.3 °C to 37.9 °C	97.4 °F to 100.3 °F
Rectal	36.3 °C to 37.9 °C	97.4 °F to 100.3 °F

shortest

Hypothermia

- **Definition:** Body loses heat faster than it produces heat.
- **Temp:** **<36.7°C (98°F)**
- **Causes:** Cold exposure, hypoglycemia, hypothyroidism, starvation, neurologic dysfunction, shock.
- **Classification:**
 - Mild: **34–36°C**
 - Moderate: **30–34°C**
 - Severe: **<30°C**

Hyperthermia

- **Definition:** Body temperature rises due to failure of heat regulation.
- **Temp:** **>38.3°C (100.9°F)**
- **Causes:** Infection, inflammation, malignancy, trauma, bleeding, compromised immune system.

Fever Patterns (SIRR)

- **Sustained** – Constant high fever.
- **Intermittent** – Returns to normal within 24 hrs.
- **Remittent** – Fluctuates, never normal.
- **Relapsing** – Fever returns after normal periods (>24 hrs).

Nursing Interventions for Fever (Mnemonic: COOL FIT)

- **C** – Cultures before antibiotics (if ordered)
- **O** – Oxygen if ordered
- **O** – Oral fluids (8–10 glasses/day if not contraindicated)
- **L** – Lower heat (light clothing, keep dry, cool room **21–27°C**)
- **F** – Food (well-balanced meals)
- **I** – Identify fever pattern/trends & teach patient
- **T** – Temperature comfort (oral care, damp cloth, rest/limit activity)

RATIONALE

Measuring Body Temperature – Short Rationales Assessment

1. Assess signs & symptoms

- ➡ Identifies abnormal temperature and its cause.

2. Ask about recent smoking/eating/drinking (20–30 min)

- ➡ Prevents false oral temperature readings.

3. Assess laboratory values (WBC)

- ➡ Detects infection or decreased immunity affecting temperature.

4. Check medications/treatments

- ➡ Some drugs and warming/cooling devices alter body temperature.

5. Choose correct site & device

- ➡ Ensures the most accurate temperature reading.

6. Obtain baseline temperature

- ➡ Allows comparison with future readings.

Planning

1. Use two patient identifiers

- ➡ Ensures the correct patient.

2. Explain the procedure

- ➡ Promotes cooperation and prevents premature thermometer removal.

Implementation

General

1. Hand hygiene

- ➡ Prevents transmission of microorganisms.

2. Position patient comfortably

- ➡ Ensures comfort and accurate reading.

Tympanic

Head turned; use upper ear

- ➡ Prevents falsely high reading.

Pull pinna up and back

- ➡ Straightens ear canal for accurate placement.

Keep probe still until beep

- Ensures accurate reading.

Remove carefully

- Prevents injury to the ear.

Discard probe cover

- Prevents cross-contamination.

Wait 2–3 minutes before repeating

- Allows ear canal temperature to return to normal.

Oral**Wear gloves if secretions present**

- Prevents infection transmission.

Place probe in posterior sublingual pocket

- Most accurate oral temperature site.

Close lips around probe

- Prevents heat loss.

Wait for beep

- Ensures complete measurement.

Discard cover

- Prevents cross-contamination.

Axillary**Inspect axilla and position probe correctly**

- Skin lesions or sweat affect accuracy.

Hold until beep

- Ensures accurate reading.

Discard cover

- Prevents infection.

Temporal**Dry forehead**

- Moisture interferes with the sensor.

Scan forehead to behind ear

- Follows the temporal artery.

Wait ~6 seconds

- ➡ Allows complete measurement.

Rectal

Provide privacy

- ➡ Maintains dignity and comfort.

Wear gloves

- ➡ Prevents infection.

Lubricate and insert 1–1½ inches

- ➡ Prevents trauma and discomfort.

Hold until reading appears

- ➡ Ensures accurate measurement.

Evaluation

1. Establish baseline

- ➡ Used for future comparison.

2. Compare with previous reading

- ➡ Detects abnormal changes.

3. Document and refer abnormal findings

- ➡ Ensures continuity of care and prompt treatment.

PULSE RATE

ASSESSING RADIAL PULSE AND APICAL PULSE

Assessment

a. Determine the need to assess **radial/apical pulse**. Assess risk factors:

- Heart disease
- Dysrhythmias
- Chest/acute pain
- Cardiovascular diagnostic tests
- Surgery
- Large IV infusion
- Hemorrhage/dehydration
- Cardiac medications

b. Assess signs of **altered cardiac output**:

- Dyspnea
- Fatigue
- Chest pain
- Orthopnea
- Syncope
- Palpitations
- JVD
- Edema
- Cyanosis/Pallor

c. Assess signs of **peripheral vascular disease**:

- Pale, cool extremities
- Thin, shiny skin
- ↓ Hair growth
- Thickened nails

d. Assess factors affecting pulse:

- Age
- Exercise
- Position changes
- Fluid balance
- Medications
- Temperature
- Sympathetic stimulation

e. Assess **serum potassium & CBC**.

f. Determine **baseline pulse**.

g. Check for **latex allergy**.

Planning

a. Identify patient using **2 identifiers**.

b. Explain procedure; relax patient, no talking, wait **5–10 min** after activity.

Implementation

Radial Pulse

a. Hand hygiene.

b. Provide privacy.

c. Position patient (supine/sitting).

d. Position arm (supine: alongside body; sitting: elbow **90°**, supported).

e. Palpate radial artery using **2–3 fingertips**.

f. Apply light pressure.

g. Assess strength (**4+, 3+, 2+, 1+, 0**).

h. Count using a watch.

i. **Regular**: 30 sec ×2 | **Irregular**: 1 min.

j. Assess irregularity and compare **bilateral radial pulses**.

Apical Pulse

a. Hand hygiene.

b. Clean stethoscope.

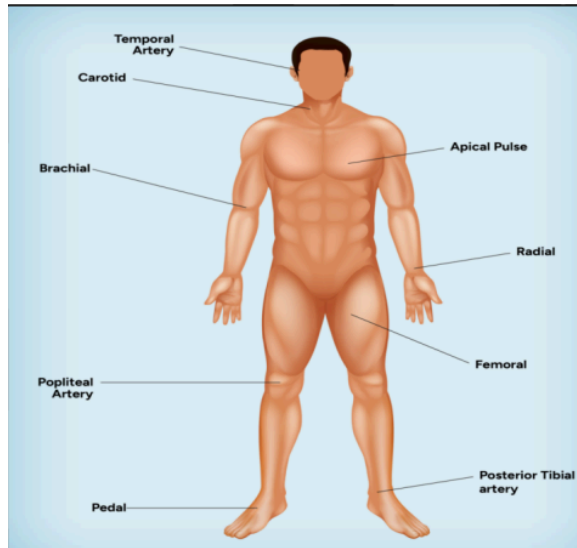
c. Position patient; expose left chest.

- d. Locate **PMI (5th ICS, Left MCL)**.
- e. Warm diaphragm (5–10 sec).
- f. Auscultate **S1 & S2**.
- g. **Regular:** 30 sec ×2 | **Irregular:** 1 min.
- h. Clean stethoscope.

Evaluation

- a. Compare with **baseline** and normal range.
- b. Compare **bilateral radial pulses**.
- c. Correlate with **BP, palpitations, dizziness**.
- d. Document findings.

rationale(1)



Age	Pulse Average and Ranges
Newborn	130 (80- 180)
1 year old	120 (80-140)
5-8 years old	100 (75-120)
10 years old	70 (5-090)
Teenager	75 (50-90)
Adult	80 (60-100)
Older Adult	70 (60-100)

Here's a **last-minute concise reviewer** in the same style as your other notes.

Factors Affecting Pulse Rate

- **Temperature** – $\uparrow$ Body temperature = $\uparrow$ Pulse
- **Body Position** – Standing briefly $\uparrow$ pulse
- **Exercise** – $\uparrow$ Intensity = $\uparrow$ Pulse
- **Emotions/Pain** – Stress, anxiety, happiness, sadness, pain $\uparrow$ pulse
- **Body Size** – Obesity may $\uparrow$ pulse
- **Medications** – **Beta blockers & calcium channel blockers** $\downarrow$ pulse

Pulse Sites

Site	Location	Common Use
Temporal	Forehead, in front of ear	Head circulation; infants, unconscious

Carotid Side of neck Emergency; central circulation

Apical 5th ICS, Left MCL Most accurate; irregular pulse, infants

Brachial Inner arm near elbow BP measurement; infants

Radial Thumb side of wrist Routine adult pulse

Femoral Groin Lower extremity circulation; shock/trauma

Popliteal Behind knee Lower leg circulation

Posterior Tibial Behind medial malleolus Foot/lower leg circulation

Dorsalis Pedis Top of foot (between 1st & 2nd toes) Peripheral circulation; diabetic/vascular patients

🧠 Easy Mnemonic (Pulse Sites)

"The Clever Ape Buys Red Fresh Purple Diamonds"

- Temporal
- Carotid
- Apical
- Brachial
- Radial
- Femoral
- Popliteal
- Posterior Tibial
- Dorsalis Pedis

★ CI Favorites

- **Most common pulse site?** → **Radial**

- **Most accurate pulse?** → **Apical**
- **Emergency pulse?** → **Carotid**
- **BP pulse site?** → **Brachial**
- **PMI location?** → **5th Intercostal Space, Left Midclavicular Line (5th ICS, LMCL)**
- **Diabetic foot circulation?** → **Dorsalis Pedis & Posterior Tibial**

Assessment

a. Assess risk factors for pulse alterations.

- Identifies conditions affecting pulse.

b. Assess signs of altered cardiac output.

- Detects decreased cardiac output.

c. Assess signs of peripheral vascular disease.

- Detects impaired peripheral circulation.

d. Assess factors affecting pulse.

- Pulse varies with physiologic and environmental factors.

e. Assess serum potassium & CBC.

- Detects electrolyte imbalance and infection.

f. Determine baseline pulse.

- Basis for comparison.

g. Check for latex allergy.

- Prevents allergic reaction.

Planning

a. Use two patient identifiers.

- Ensures the correct patient.

b. Explain the procedure; allow patient to rest 5–10 minutes.

- Promotes cooperation and accurate pulse measurement.

Implementation

Radial Pulse

a. Perform hand hygiene.

- Prevents transmission of microorganisms.

b. Provide privacy.

- Maintains comfort and dignity.

c. Position the patient.

- Ensures comfort and accurate assessment.

d. Use 2–3 fingertips to locate the radial artery.

- Thumb has its own pulse.

e. Apply light pressure and assess strength.

- Heavy pressure may obliterate the pulse.

f. Count the pulse.

- Determines heart rate accurately.

g. Compare bilateral radial pulses if irregular.

- Detects vascular obstruction or circulatory impairment.

Apical Pulse

a. Perform hand hygiene.

- Prevents transmission of microorganisms.

b. Clean the stethoscope.

- Prevents cross-contamination.

c. Position patient and expose the chest.

- Allows accurate auscultation.

d. Locate the PMI (5th ICS, Left Midclavicular Line).

- Correct site for apical pulse.

e. Warm diaphragm; auscultate S1 and S2.

- Promotes comfort and accurate heart sounds.

f. Count pulse (30 sec × 2 if regular; 1 min if irregular).

- Ensures accurate heart rate.

g. Clean the stethoscope after use.

- Prevents transmission of microorganisms.

Evaluation

a. Compare with baseline and normal range.

→ Detects changes from normal.

b. Compare bilateral radial pulses.

→ Identifies circulatory abnormalities.

c. Correlate with BP and symptoms.

→ Evaluates cardiovascular status.

d. Document findings.

→ Ensures continuity of care.



- **Why not use your thumb?** → It has its own pulse.
- **Why light pressure?** → Heavy pressure **obliterates the pulse.**
- **Why wait 5–10 minutes after activity?** → Activity **increases heart rate.**
- **Why count for 1 minute if irregular?** → **Most accurate** for irregular rhythms.
- **PMI?** → **5th Intercostal Space, Left Midclavicular Line (5th ICS, LMCL).**
- **Why compare both radial pulses?** → Detects **vascular obstruction/circulatory impairment.**
- **Why clean the stethoscope before and after?** → Prevents **cross-contamination.**

RESPIRATIONS

ASSESSING RESPIRATIONS

Assessment

- a. Determine the need to assess respirations and identify risk factors. (IPSG 3)
- b. Assess signs and symptoms of respiratory alterations. (IPSG 3)
- c. Assess pertinent laboratory values. (IPSG 3)
- d. Assess factors affecting respirations. (IPSG 3)
- e. Determine the patient's baseline respiratory rate. (IPSG 3)

Planning

- a. Identify the patient using **2 identifiers**. (IPSG 1)
- b. Explain the procedure and assess respirations **after measuring the pulse**. (IPSG 3)

Implementation

- a. Perform hand hygiene. (IPSG 5)
- b. Provide privacy (draw curtain/close door). (IPSG 3)
- c. Position the patient comfortably (**sitting or Semi-Fowler's 45–60°**). (IPSG 3)
- d. Position the patient's arm across the abdomen/lower chest or place your hand over the upper abdomen. (IPSG 3)
- e. Observe **one complete respiratory cycle** (inspiration and expiration). (IPSG 3)
- f. Count respirations using the second hand of a watch. (IPSG 3)

g. Count:

- **Regular:** 30 sec × 2
- **Irregular, <12 or >20:** 1 full minute. (IPSG 3)

h. Assess **depth** (shallow, normal, deep). (IPSG 3)

i. Assess **rhythm** (regular or irregular). (IPSG 3)

j. Assess **effort of breathing** and ask if it differs from the patient's usual breathing. (IPSG 3)

Evaluation

- a. Evaluate respiratory **rhythm**.
- b. Evaluate **effort of breathing** and compare with the patient's usual pattern.
- c. Document the procedure and findings. (IPSG 3)

rationale(2)

ASSESSING RESPIRATIONS

Assessment

Age	Rate (breaths per minute)
Newborn to one month	30–65
One month to one year	26–60
1–10 years	14–50
11–18 years	12–22
Adult and older adult	10–20

a. Determine need to assess respirations and identify risk factors.

→ Identifies patients at risk for respiratory alterations.

b. Assess signs and symptoms of respiratory alterations.

→ Detects abnormal respiratory status.

c. Assess pertinent laboratory values (ABGs, SpO₂, CBC).

→ Evaluates oxygenation and respiratory function.

d. Assess factors affecting respirations.

→ Prevents inaccurate assessment.

e. Determine baseline respiratory rate.

→ Provides a basis for comparison.

Planning

a. Identify the patient using two identifiers.

→ Ensures the correct patient.

b. Plan to assess respirations after measuring the pulse.

→ Prevents the patient from consciously altering breathing.

Implementation

a. Perform hand hygiene and provide privacy.

→ Prevents transmission of microorganisms and maintains privacy.

b. Position the patient comfortably (45°–60°).

→ Promotes full chest expansion and accurate assessment.

c. Position the patient's arm across the abdomen/chest.

→ Makes respirations easier to observe discreetly.

d. Observe one complete respiratory cycle.

→ Ensures accurate counting.

e. Count respirations using a watch.

→ Determines respiratory rate accurately.

f. Count 30 sec ×2 if regular; 1 min if irregular, <12, or >20.

→ Improves accuracy for abnormal respirations.

g. Assess respiratory depth.

→ Detects altered ventilation.

h. Assess respiratory rhythm.

→ Identifies abnormal breathing patterns.

i. Assess breathing effort and compare with the patient's usual pattern.

→ Detects respiratory distress.

Evaluation

a. Establish baseline respiratory rate, rhythm, and depth.

→ For future comparison.

b. Compare with baseline and normal values.

→ Detects changes in respiratory status.

c. Document findings.

→ Ensures continuity of care.

- **Why assess after pulse?** → Prevents conscious breathing changes.
- **Why 45°–60°?** → Promotes lung expansion.
- **Why count 1 minute if irregular?** → Most accurate.
- **Why assess depth?** → Detects ventilation problems.
- **Why assess rhythm?** → Identifies abnormal breathing patterns.
- **Why compare with baseline?** → Detects changes.
- **Why document?** → Continuity of care.

BLOOD PRESSURE

ASSESSING BLOOD PRESSURE

Assessment

a. Determine the need to assess BP.

Assess risk factors:

- Cardiovascular, cerebrovascular, renal disease, diabetes
- Circulatory shock (hypovolemic, septic, cardiogenic, neurogenic)
- Acute/chronic pain
- Rapid IV fluid/blood infusion
- Increased intracranial pressure (ICP)
- Toxemia of pregnancy

b. Assess signs and symptoms of BP alterations:

- **Hypertension:** Headache (occipital), flushed face, epistaxis, fatigue
- **Hypotension:** Dizziness, confusion, restlessness, pale/dusky/cyanotic skin, cool mottled extremities

c. Assess factors affecting BP.

d. Determine the best site for BP assessment.

- Avoid arm with **IV/PICC, AV fistula/shunt, breast/axillary surgery, trauma, cast/bulky bandage**.
- Use **lower extremity** if brachial artery is inaccessible.

e. Determine the patient's **baseline BP**.

f. Check for **latex allergy**.

Planning

a. Identify the patient using **2 identifiers**.

b. Explain the procedure. Have the patient:

- Rest **5 min** (sitting/lying)
- Wait **1 min** if standing
- Sit with **legs uncrossed**
- **Do not talk**
- Breathe normally

c. Ensure no **caffeine or smoking** for **20–30 min** before BP measurement.

d. Position patient sitting with **legs uncrossed**; ensure the room is **warm, quiet, and relaxing**.

e. Select the **appropriate cuff size**.

Implementation

a. Perform hand hygiene and clean the stethoscope.

b. Position the patient:

- **Arm:** Forearm at **heart level**, palm up, feet flat, legs uncrossed.
- **Thigh:** Supine, thigh flat, knee slightly flexed.

c. Expose the extremity.

d. Palpate the **brachial/popliteal artery**. Center cuff over artery, place **2.5 cm (1 in)** above the pulse, wrap snugly.

e. Position the manometer **vertically at eye level** (within **1 m**).

Two-Step Method

f. Palpate artery; inflate **30 mmHg above** disappearance of pulse; deflate completely and wait **30 sec**.

g. Insert earpieces.

h. Place diaphragm/bell over artery.

i. Close valve.

j. Inflate cuff **30 mmHg above palpated systolic pressure**.

k. Deflate **2–3 mmHg/sec**.

l. Note **first Korotkoff sound** (systolic).

m. Note **muffled sound**.

n. Note **disappearance of sound** (diastolic); listen **10–20 mmHg** more, then deflate completely.

One-Step Method

o. Insert earpieces.

p. Place diaphragm/bell over artery.

q. Close valve.

r. Inflate cuff **30 mmHg above usual systolic pressure**.

s. Deflate **2–3 mmHg/sec**.

t. Note **first Korotkoff sound** (systolic).

u. Note **muffled sound**.

v. Note **disappearance of sound** (diastolic); listen **10–20 mmHg** more, then deflate completely.

w. Remove cuff. If first assessment, repeat on the **other extremity**.

x. Return the patient to a comfortable position.

y. Discuss findings as needed.

z. Perform hand hygiene and clean the cuff.

Evaluation

a. Compare BP with **baseline** and **age-appropriate normal values**.

b. Correlate BP with **pulse** and **cardiovascular signs and symptoms**.

rationale (3)

Category	Systolic BP (mmHg)	Diastolic BP (mmHg)
Normal	<120	<80
Elevated	120-129	<80
Hypertension, stage 1	130-139	80-89
Hypertension, stage 2	>140	>90

DOT

- **Systolic Pressure** – Pressure during **ventricular contraction**.
- **Diastolic Pressure** – Pressure during **ventricular relaxation**.
- **Pulse Pressure** – **SBP – DBP** (Normal: **≈40 mmHg**, up to 100 mmHg during exercise).
- **Mean Arterial Pressure (MAP)** – Average arterial pressure (**70–110 mmHg**).
- **Hypotension** – BP below normal.
- **Orthostatic Hypotension** – BP drops when moving from lying to sitting/standing.
- **Hypertension** – Persistent BP above normal (>120/80 mmHg per your notes).
- **Korotkoff Sounds** – Sounds heard during BP measurement.
 - **Phase I** – First clear tapping = **Systolic BP**
 - **Phase II** – Softer, swishing
 - **Phase III** – Louder, sharper tapping
 - **Phase IV** – Muffling (used for children)
 - **Phase V** – Disappearance = **Diastolic BP**
- **Auscultatory Gap** – Temporary disappearance then return of Korotkoff sounds.

Factors Affecting BP

- **Age** – ↑ age = ↑ systolic BP
- **Exercise** – ↑ BP
- **Stress** – ↑ BP
- **Race** – Higher prevalence in Black adults

- **Sex** – Men > women until menopause
- **Medications** – Antihypertensives ↓ BP; NSAIDs, steroids, stimulants ↑ BP
- **Obesity** – Predisposes to hypertension

BP Sites

- **Brachial** – Upper arm (most common)
- **Popliteal** – Thigh
- **Radial** – Forearm
- **Posterior tibial/Dorsalis pedis** – Leg/foot

Methods

Direct

- Invasive arterial catheter (most accurate)

Indirect

- Auscultatory (most common)
- Palpatory

Assessment Rationale

Assess risk factors & BP alteration signs

- Identifies patients at risk and detects BP abnormalities.

Assess factors affecting BP

- Ensures accurate measurement.

Determine best BP site

- Prevents inaccurate readings and impaired circulation.

Obtain previous baseline BP

- Provides comparison for future readings.

Check latex allergy

- Prevents allergic reaction.

Planning Rationale

Identify patient (2 identifiers)

- Ensures correct patient.

Explain procedure & allow 5-minute rest

- Promotes relaxation and prevents falsely elevated BP.

No caffeine/smoking 20–30 minutes

- Prevents false BP elevation.

Position patient comfortably

- Improves accuracy.

Select correct cuff size

- Prevents false-high or false-low readings.

Implementation Rationale

Hand hygiene & clean stethoscope

- Prevents microorganism transmission.

Position arm/thigh at heart level

- Prevents false BP readings.

Expose extremity

- Ensures proper cuff placement.

Palpate artery & apply cuff correctly

- Ensures accurate pressure transmission.

Manometer at eye level

- Prevents reading error.

Two-Step Method

- **Palpate first** → prevents false-low systolic reading.
- **Inflate 30 mmHg above palpated systolic** → ensures accurate measurement.
- **Deflate 2–3 mmHg/sec** → prevents inaccurate readings.
- **First sound = Systolic BP**
- **Fourth sound = Diastolic (children)**
- **Fifth sound disappears = Diastolic (adults)**
- **Listen 10–20 mmHg after last sound** → confirms diastolic BP.

One-Step Method

- Same principles:
 - Proper stethoscope placement
 - Inflate 30 mmHg above usual SBP
 - Deflate slowly
 - **Phase I = SBP**
 - **Phase IV = DBP (children)**
 - **Phase V = DBP (adults)**

Remove cuff & repeat on opposite arm if first assessment

- Detects circulation differences (normal difference **5–10 mmHg**).

Return patient to comfort

- Promotes well-being.

Discuss findings

- Promotes understanding and participation.

Hand hygiene & clean equipment

- Prevents microorganism transmission.

Evaluation Rationale

Compare with baseline/normal

- Evaluates changes in condition.

Correlate BP with pulse & cardiovascular signs

- BP and heart rate are interrelated.

Document findings

- Ensures continuity of care.

CI Questions

- **Normal BP: 120/80 mmHg** (per your handout)
- **MAP: 70–110 mmHg**
- **Pulse Pressure: ≈40 mmHg**
- **Phase I = Systolic**
- **Phase V = Diastolic (adult)**
- **Phase IV = Diastolic (child)**
- **Most common site:** Brachial artery
- **Most common method:**
Auscultatory
- **Deflate cuff: 2–3 mmHg/second**
- **Inflate cuff: 30 mmHg above palpated/usual systolic**
- **No caffeine/smoking: 20–30 minutes before BP**
- **Rest before BP: 5 minutes**

- **Repeat first BP on opposite arm**
- **Normal arm difference: 5–10 mmHg**

OXYGEN SATURATION

ASSESSING OXYGEN SATURATION (SpO₂)

Assessment

a. Assess need for SpO₂:

- Risk factors (respiratory disease, post-anesthesia/sedation, chest injury, ventilator, O₂ therapy changes). (IPSG 3)
- Signs of hypoxia (altered respirations, adventitious sounds, cyanosis, restlessness, confusion, ↓LOC, labored breathing). (IPSG 3)

b. Assess site:

- Good circulation
- Clean/dry; no nail polish/artificial nails
- Earlobe if tremors
- Single-use probe for obese client (IPSG 3)

Planning

a. Identify patient (2 identifiers). (IPSG 1)

b. Explain the procedure. (IPSG 3)

Implementation

a. Hand hygiene. (IPSG 5)

b. Instruct patient to breathe normally. (IPSG 3)

c. Remove nail polish if needed. (IPSG 3)

d. Apply sensor probe. (IPSG 3)

e. Turn on oximeter; check waveform/beep. (IPSG 3)

f. Wait for stable SpO₂ and pulse reading. (IPSG 3)

g. Hand hygiene. (IPSG 5)

Evaluation

a. Compare SpO₂ with baseline/normal values. (IPSG 2)

b. Correlate SpO₂ with ABG results. (IPSG 2)

rationale (4)

Assessment

a. Assess need, risk factors, and signs of decreased oxygen saturation.

- Identifies patients at risk and detects abnormal oxygenation.

b. Assess the monitoring site.

- Ensures accurate SpO₂ reading (moisture/nail polish affect readings).

Planning

a. Identify patient using two identifiers.

- Ensures correct patient.

b. Explain the purpose and procedure.

- Promotes cooperation and compliance.

Implementation

a. Perform hand hygiene.

- Reduces transmission of microorganisms.

b. Instruct patient to breathe normally.

- Prevents changes in SpO₂ from altered breathing.

c. Remove nail polish if needed.

- Ensures accurate readings.

d. Apply the sensor probe and explain it will not hurt.

- Reduces anxiety and prepares the patient.

e. Turn on oximeter; observe waveform and beep.

- Confirms a valid pulse signal.

f. Leave probe until reading is stable.

- Ensures an accurate SpO₂ measurement.

g. Perform hand hygiene.

- Reduces transmission of microorganisms.

h. Discuss findings with the patient if needed.

- Promotes understanding and participation.

Evaluation

a. Compare SpO₂ with baseline and normal values.

- Detects abnormalities.

b. Correlate SpO₂ with ABG results.

- Confirms reliability of the non-invasive reading.

- Why correlate SpO₂ with ABG? — ABG is the gold standard; confirms accuracy.
- Why use the earlobe if the patient has tremors? — Reduces motion artifact. Why must the site have good circulation? — Ensures accurate SpO₂ reading. Why remove nail polish/artificial nails? — Prevents false readings.
- Why wait until the reading is stable? — Ensures accurate measurement.
- What causes false SpO₂ readings? — Poor perfusion, motion, nail polish/moisture.
- What does cyanosis indicate? — Severe hypoxemia.
- Can a normal SpO₂ rule out respiratory distress? — No. Always assess the patient clinically.
- If SpO₂ is low, what is your first action? — Assess the patient, then verify the reading.