

# NHA CPT VISUAL GUIDE

## Quick Reference Sheets

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Visual essentials for last-week review  
and exam-day confidence

MedCore Publishing – Exam Success Series

# Order of Draw & Tube Essentials

Tube color → Additive → Main tests → Exam tip

## BLOOD CULTURES (CULTURE BOTTLES)

**ADDITIVE:** Culture media

**MAIN TESTS:** BCx, sepsis

**EXAM TIP:** ALWAYS DRAW FIRST.

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## LIGHT BLUE

**ADDITIVE:** Sodium citrate

**MAIN TESTS:** PT/INR, aPTT, D-dimer

**EXAM TIP:** MUST BE COMPLETELY FULL (CORRECT RATIO).

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## RED

**ADDITIVE:** None / clot activator

**MAIN TESTS:** Serum, drug levels

**EXAM TIP:** No anticoagulant here.

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## GOLD / TIGER (SST)

**ADDITIVE:** Clot activator + gel

**MAIN TESTS:** CMP, lipids

**EXAM TIP:** Let clot, then spin.

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## GREEN

**ADDITIVE:** Heparin

**MAIN TESTS:** STAT chemistries, troponin

**EXAM TIP:** Not for coag tests.

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## LAVENDER

**ADDITIVE:** EDTA

**MAIN TESTS:** CBC, ESR, HgbA1c

**EXAM TIP:** MIX GENTLY — AVOID CLOTS.

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## GRAY

**ADDITIVE:** Sodium fluoride + oxalate

**MAIN TESTS:** Glucose, lactate

**EXAM TIP:** LAST TUBE — PRESERVES SUGAR.

# Order of Draw & Tube Essentials

One-Glance Sheet for the NHA CPT Exam

Tube color	Additive	Main tests	Exam tip
Blood culture bottles	Culture media	Blood cultures (BCx), sepsis	Always draw first.
Light blue	Sodium citrate	PT/INR, aPTT, D-dimer	Must be completely full.
Red	None / clot activator	Serum, drug levels	No anticoagulant here.
Gold / Tiger (SST)	Clot activator + gel	Most chemistry panels	Let clot, then spin.
Green	Heparin	STAT chemistries, troponin,	Not for coag tests.
Lavender	EDTA	CBC, diff, ESR, HgbA1c	Mix gently, avoid clots.
Gray	Sodium fluoride + potassium oxalate	Glucose, lactate	Last tube, preserves sugar.

# Standard Order of Draw

**BLOOD CULTURES → LIGHT BLUE → RED → GOLD/TIGER (SST) → GREEN → LAVENDER → GRAY**

## **MNEMONIC TO REMEMBER**

**“BETTER LEARN RULES — GOOD HABITS LAST GENERATIONS.”**

(Blood, Light blue, Red, Gold, Green, Lavender, Gray)

## **BIG EXAM TRAPS**

- **BLOOD CULTURES MUST COME BEFORE ANY TUBES.**
- **LIGHT BLUE MUST REACH THE FILL LINE** (coagulation ratio).
- **NEVER SHAKE TUBES — GENTLY INVERT THE REQUIRED NUMBER OF TIMES.**
- **LAVENDER (EDTA) MUST BE NEAR THE END** to reduce additive carryover.
- **GRAY LAST** to avoid contamination of glucose preservative.
- **HEMOLYSIS = REJECTED SAMPLE** → reduce trauma, correct gauge, let alcohol dry.

## VEINS, SITES & RED FLAGS – QUICK GUIDE

### BEST ANTECUBITAL SITES (IN ORDER)

1. **MEDIAN CUBITAL VEIN**

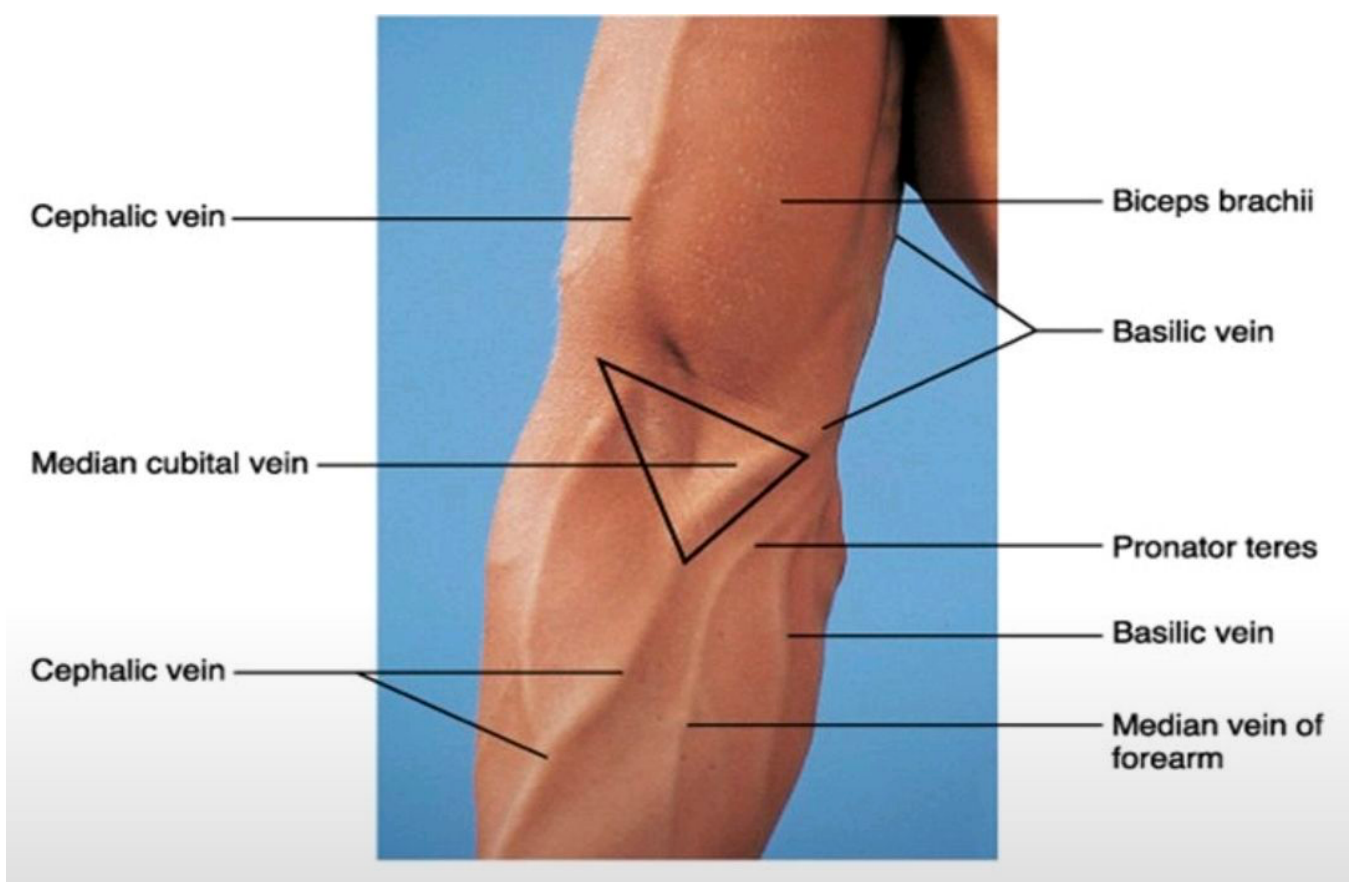
Large, stable, usually easiest to access. Lowest risk of complications.

2. **CEPHALIC VEIN**

Good backup when median cubital is not available. Often used in obese patients.

3. **BASILIC VEIN**

**LAST CHOICE** in the antecubital area. Close to artery and nerves → higher risk if you miss.



### SITES TO AVOID WHEN POSSIBLE

- **MASTECTOMY SIDE**  
Lymphatic drainage is altered; risk of infection and lymphedema.
- **FISTULA OR DIALYSIS SHUNT ARM**  
Never use without specific physician order.
- **ARM WITH AN ACTIVE IV LINE**  
Risk of diluted sample. If you must use that arm, draw **BELOW** the IV and follow facility policy.
- **EDEMA, BURNS, SCARS, INFECTION**  
Unreliable blood flow and higher risk of complications.
- **HEMATOMA OR “HARD / CORD-LIKE” VEIN**  
Blood may be clotted or stagnant; choose another site.

## HAND AND WRIST VEINS

- Use only when antecubital veins are not available.
  - Use **SMALLER GAUGE** and gentle angle.
  - Avoid in very fragile or pediatric patients unless specifically allowed by policy.
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## CAPILLARY COLLECTION – ADULTS (FINGER STICK)

- Use the **SIDE OF THE MIDDLE OR RING FINGER**.
  - Warm the site if needed to improve blood flow.
  - **NEVER** use:
    - Thumb or index finger
    - Little finger
    - The center of the fingertip
  - Wipe away the **FIRST DROP** of blood when required by facility procedures.
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## CAPILLARY COLLECTION – NEONATES (HEEL STICK)

- Use the **LATERAL OR MEDIAL PLANTAR SURFACE** of the heel.
  - **NEVER** puncture:
    - Center of the heel
    - Arch of the foot
    - Previous puncture sites that are still healing
  - Depth must follow device and facility limits to avoid bone injury.
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## QUICK EXAM REMINDERS

- Choose the **SAFEST VEIN FIRST**, not just the most visible.
- If something feels wrong (pain, tingling, numbness, sharp shooting pain) → **STOP IMMEDIATELY** and choose another site.
- Document unusual sites or difficult draws according to facility policy.

# PPE & SAFETY QUICK GUIDE

## STANDARD PPE FOR VENIPUNCTURE

- **GLOVES** – always required.
- Perform **HAND HYGIENE** before putting them on and after removing them.
- Change gloves between patients and when contaminated.

## WHEN ADDITIONAL PPE IS NEEDED

### SPLASH OR SPRAY RISK

- Gloves + **MASK** + **EYE PROTECTION** (goggles or face shield).
- Protects eyes, nose, and mouth from blood exposure.

### LEAKING, BROKEN, OR HIGH-RISK SPECIMENS

- Gloves + **GOWN**.
- Disinfect all surfaces after cleanup.

### ISOLATION ROOMS

Follow posted precautions:

- **DROPLET**: mask/respirator + eye protection.
- **CONTACT**: gown + gloves.
- **AIRBORNE**: N95 or facility-approved respirator.

## OSHA-RELATED SAFETY RULES (HIGH-YIELD)

- **NEVER RECAP NEEDLES** – activate safety device immediately.
- **DISPOSE SHARPS DIRECTLY** into approved sharps container.
- Replace sharps containers before they reach the fill line.
- Keep food/drinks **OUT** of specimen processing areas.
- Wear **CLOSED-TOE SHOES** when performing procedures.

## LABELING SAFETY

- Label tubes **AT THE BEDSIDE**, not at the desk.
- Use **TWO PATIENT IDENTIFIERS** (name + DOB, or per facility policy).
- Confirm identifiers **VERBALLY** when possible.

## **EXPOSURE INCIDENTS (MUST KNOW)**

If a needle stick or blood exposure occurs:

1. **WASH/FLUSH** the exposed area immediately.
2. **REPORT** the incident to your supervisor.
3. **DOCUMENT** according to facility protocol.
4. Follow post-exposure evaluation instructions.

## **QUICK EXAM REMINDERS**

- Gloves are **ALWAYS** required.
- Mask/eye protection when there is splash risk.
- No PPE = **AUTOMATIC VIOLATION** in NHA scenario-based questions.
- Never recap needles → biggest safety pitfall on the exam.



# PRE-ANALYTICAL ERRORS & QUICK FIXES

## HEMOLYSIS

**WHAT HAPPENS:** False results, specimen rejected.

**COMMON CAUSES:**

- Needle gauge too small
- Shaking tubes
- Alcohol not fully dry
- Excessive vein trauma

**QUICK FIX:**

Use a 21–23 gauge needle, let alcohol dry, invert gently — **NEVER SHAKE.**

## WRONG ORDER OF DRAW

**WHAT HAPPENS:** Additive carryover → inaccurate results.

**QUICK FIX:**

Always follow the correct sequence:

**BLOOD CULTURES → LIGHT BLUE → RED → GOLD/SST → GREEN → LAVENDER → GRAY**

## UNDERFILLED LIGHT BLUE TUBE

**WHAT HAPPENS:** Wrong blood-to-citrate ratio → invalid PT/INR/aPTT → must redraw.

**QUICK FIX:**

Ensure tube is **COMPLETELY FULL.**

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## MISLABELED OR UNLABELED SPECIMEN

**WHAT HAPPENS:** Specimen rejected; patient safety risk.

**QUICK FIX:**

Label tubes **AT THE BEDSIDE**, using two identifiers (name + DOB or per facility policy).

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## CLOTTED EDTA (LAVENDER) TUBE

**WHAT HAPPENS:** CBC and platelet counts become unusable.

**QUICK FIX:**

Invert immediately after draw (**8–10 GENTLE INVERSIONS**).

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## **IV ARM DRAW**

**WHAT HAPPENS:** Sample contaminated/diluted with IV fluids.

**QUICK FIX:**

Use the **OTHER ARM** whenever possible.

If unavoidable: draw **BELOW** the IV site and follow facility policy.

## **IMPROPER TEMPERATURE OR TRANSPORT**

**WHAT HAPPENS:** Analytes degrade → unreliable results.

**QUICK FIX:**

Follow required handling:

- Some samples → **ON ICE**
- Others → **ROOM TEMPERATURE**
- Transport promptly

## **WRONG TUBE FOR THE TEST**

**WHAT HAPPENS:** Specimen rejected.

**QUICK FIX:**

Verify test order and tube color **BEFORE DRAWING**.

## **COMMON COLLECTION MISTAKES**

- Not letting alcohol dry → hemolysis
- Tourniquet applied > 1 minute → hemoconcentration
- Drawing above an active IV → diluted sample
- Expired tubes → insufficient vacuum

## **QUICK EXAM REMINDERS**

- Most high-yield NHA questions involve:  
**HEMOLYSIS, ORDER OF DRAW, LIGHT BLUE TUBE ERRORS, MISLABELING.**
- When in doubt:  
**“STOP, VERIFY, RELABEL OR REDRAW ACCORDING TO PROTOCOL.”**

# Consent & Legal Essentials – Quick Guide

## INFORMED CONSENT

**DEFINITION:** The patient agrees after you explain the procedure, risks, and purpose.

**EXAMPLE:** “Yes, I understand and agree to the blood draw.”

## IMPLIED CONSENT

**DEFINITION:** Patient’s actions indicate agreement.

**EXAMPLE:** Patient rolls up their sleeve and extends the arm.

## VERBAL CONSENT

**DEFINITION:** Patient verbally gives permission.

**EXAMPLE:** “You can draw my blood.”

## REFUSAL OF CONSENT

**DEFINITION:** Patient states they do not agree, or pulls arm away.

### ACTION REQUIRED:

- **STOP IMMEDIATELY.**
- Document the refusal per facility policy.
- Notify the appropriate supervisor if required.

## LEGAL REPRESENTATIVE CONSENT

### USE WHEN:

- The patient is a minor.
- The patient is not mentally competent to consent.

### WHO CAN CONSENT:

Parent, legal guardian, or legally authorized representative.

## **HIPAA & PATIENT RIGHTS (HIGH-YIELD)**

### **TWO PATIENT IDENTIFIERS**

Always verify **TWO IDENTIFIERS** before drawing:

- Full name
- Date of birth  
(or facility-approved alternatives)

### **MATCH INFORMATION**

Requisition → Wristband → Labels must match exactly.

### **PROTECT PRIVACY**

- Do not discuss patient information in hallways or public areas.
- Keep paperwork secure and out of sight from others.

## **DOCUMENTATION ESSENTIALS**

You must document when:

- A patient refuses the procedure
- There is a complication
- You used an alternative site or method
- An incident or exposure occurred

Documentation must be:

**ACCURATE, TIMELY, AND CONSISTENT WITH FACILITY POLICY.**

## **QUICK EXAM REMINDERS**

- **NEVER DRAW WITHOUT CONSENT.**
- **NEVER IGNORE A REFUSAL.**
- **HIPAA VIOLATIONS = AUTOMATIC INCORRECT ANSWER.**
- If unsure, choose the most legally safe option:  
    **“STOP, REASSESS, AND FOLLOW FACILITY PROTOCOL.”**

# Zero-Error Venipuncture Checklist

## BEFORE THE PROCEDURE

- ☐ Verify the test order and requisition
- ☐ Confirm **TWO PATIENT IDENTIFIERS** (name + DOB)
- ☐ Explain the procedure and obtain consent
- ☐ Perform hand hygiene
- ☐ Gather all required supplies (tubes, needle, tourniquet, gauze, labels, PPE)

## SITE SELECTION

- ☐ Inspect both arms for best vein
- ☐ Prioritize: **MEDIAN CUBITAL** → **CEPHALIC** → **BASILIC**
- ☐ Avoid: IV arm, mastectomy side, fistula/shunt, edema, burns, scars, hematoma
- ☐ If patient reports pain, numbness, or tingling → **STOP** and choose another site

## PREPARATION

- ☐ Apply tourniquet (no longer than **1 MINUTE**)
- ☐ Ask patient to make a fist (not pump)
- ☐ Clean the site with antiseptic and **ALLOW TO DRY COMPLETELY**
- ☐ Reapply tourniquet if needed (if removed during drying)

## DURING THE DRAW

- ☐ Anchor vein, insert needle at correct angle (15–30°)
- ☐ Follow **ORDER OF DRAW**:  
Blood cultures → Light blue → Red → Gold/SST → Green → Lavender → Gray
- ☐ Fill tubes to correct volume (especially **LIGHT BLUE**)
- ☐ Gently invert additive tubes (no shaking)
- ☐ Release tourniquet **BEFORE** removing the needle

## AFTER THE DRAW

- ☐ Remove needle, activate safety device immediately
- ☐ Apply pressure and ensure bleeding stops
- ☐ **LABEL TUBES AT THE BEDSIDE** (two identifiers, date/time, initials if required)
- ☐ Check patient comfort and site condition
- ☐ Dispose sharps properly and perform hand hygiene
- ☐ Transport specimens promptly with correct temperature handling

## QUICK EXAM REMINDERS

- Always label **BEFORE LEAVING THE PATIENT'S SIDE.**
- Light blue tube **MUST BE FULL** for accurate coag tests.
- Never recap needles.
- If anything feels unsafe, the correct answer is usually:  
**“STOP AND FOLLOW FACILITY PROTOCOL.”**