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| 36 | A | B | C | D | E |
| 37 | A | B | C | D | E |
| 38 | A | B | C | D | E |
| 39 | A | B | C | D | E |

## PRACTICE QUESTIONS

### Vascular Access Certification Corporation (VACC)

# VAC

## Vascular Access Certification

EDITION

Demo

QUESTIONS

9

ISSUED

September 3, 2026

# Before you begin

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## What this is

9 practice questions for Vascular Access Certification Corporation (VACC) **VAC**, each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

## If something looks wrong

Send us three things and we will check it:

- the exam code, **VAC**
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

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**QUESTION 1**

SINGLE CHOICE

Which vessel is generally the preferred site for peripheral IV cannulation in the adult patient because of its superficial location, adequate size, and lower complication rate?

- ☒ **A** Cephalic vein
- ☐ **B** Femoral vein
- ☐ **C** External jugular vein
- ☐ **D** Popliteal vein

**ANSWER A**

**WHY** The cephalic vein in the upper extremity is the preferred site for routine peripheral IV access due to its superficial location, suitable diameter, and lower risk of infiltration and other complications compared with lower-extremity or central sites.

**QUESTION 2**

SINGLE CHOICE

Which of the following is an absolute contraindication to insertion of a peripheral intravenous catheter in a specific extremity?

- ☐ **A** Mild anxiety in the patient
- ☐ **B** Scheduled phlebotomy through the same limb
- ☒ **C** Active cellulitis in the extremity
- ☐ **D** Recent meal within the last hour

**ANSWER C**

**WHY** Active cellulitis in an extremity is an absolute contraindication to peripheral IV insertion in that limb because of the risk of worsening the infection and seeding bacteria into the bloodstream. Mild anxiety, recent meals, and phlebotomy plans are not absolute contraindications.

**QUESTION 3**

SINGLE CHOICE

A patient with a tunneled central venous catheter develops fever, chills, and tenderness along the subcutaneous tunnel. Which complication is most likely present?

- ☐ A Phlebitis
- ☐ B Catheter-related thrombosis
- ☒ C Tunnel infection
- ☐ D Catheter embolism

**ANSWER C**

**WHY** Tenderness, erythema, and induration along the subcutaneous tunnel of a tunneled catheter are classic signs of a tunnel infection, a serious complication that typically requires catheter removal and systemic antibiotic therapy.

**QUESTION 4**

SINGLE CHOICE

According to standard vascular access practice, which action provides the most effective reduction of intraluminal microbial contamination when accessing a central venous catheter port?

- ☐ A Flushing the catheter with normal saline before each use
- ☒ B Scrubbing the needleless connector with an approved antiseptic for the recommended contact time
- ☐ C Applying a transparent semipermeable dressing over the site
- ☐ D Changing the administration set every 96 hours

**ANSWER B**

**WHY** Scrubbing the needleless connector with an approved antiseptic (such as chlorhexidine or povidone-iodine) for the manufacturer- and evidence-recommended contact time is the single most effective action to reduce intraluminal microbial contamination and prevent central line-associated bloodstream infections (CLABSI).

**QUESTION 5** SINGLE CHOICE

A patient receiving infusion therapy through a peripheral IV reports pain, swelling, and coolness at the insertion site, with the skin appearing blanched and tight. Which complication has most likely occurred?

- ☐ A Extravasation
- ☐ B Phlebitis
- ☒ C Infiltration
- ☐ D Thrombophlebitis

**ANSWER C**

**WHY** Coolness, blanching, swelling, and tightness at the insertion site are classic signs of infiltration, in which a non-vesicant solution leaks into the surrounding tissue. Phlebitis would present with warmth, redness, and a palpable cord along the vein, and extravasation involves a vesicant drug, while thrombophlebitis combines inflammation with thrombosis.

**QUESTION 6** SINGLE CHOICE

Which solution and volume is most appropriate for routine maintenance flushing of a peripheral intravenous catheter in an adult patient?

- ☐ A Heparin 100 units/mL, 5 mL
- ☒ B Normal saline 0.9%, 2 to 3 mL
- ☐ C Half-normal saline 0.45%, 10 mL
- ☐ D Tissue plasminogen activator (tPA), 2 mg

**ANSWER B**

**WHY** Routine maintenance flushing of a peripheral IV catheter in adults is performed with 2 to 3 mL of preservative-free 0.9% sodium chloride using a push-pause technique. Heparin is not routinely recommended for peripheral catheters, hypotonic solutions are not used for flushing, and tPA is reserved for restoring patency in occluded catheters.

**QUESTION 7**

SINGLE CHOICE

When using ultrasound guidance for internal jugular vein cannulation, which characteristic most reliably distinguishes the vein from the carotid artery on a transverse (short-axis) view?

- ☐ A The vein is located medial to the artery
- ☐ B The vein is deeper than the artery
- ☒ C The vein is compressible and non-pulsatile
- ☐ D The vein has a thicker, more echogenic wall

**ANSWER C**

**WHY** On a transverse ultrasound view, the internal jugular vein is distinguished from the carotid artery primarily by being easily compressible with light probe pressure and by being non-pulsatile, whereas the artery is thick-walled, pulsatile, and resistant to compression.

**QUESTION 8**

SINGLE CHOICE

Which assessment finding requires immediate removal of a PICC line in an adult patient?

- ☐ A Occasional discomfort at the insertion site that resolves with repositioning
- ☐ B Transparent dressing that is lifting at one corner
- ☒ C Persistent pain along the arm with swelling and a palpable cord
- ☐ D Dressing change due in 3 days

**ANSWER C**

**WHY** Persistent arm pain, swelling, and a palpable cord along the vein are signs of upper extremity deep vein thrombosis (DVT), a serious complication of PICC lines that generally requires catheter removal and anticoagulation. Minor discomfort, a lifting dressing edge, or a routine dressing change do not require removal.

**QUESTION 9**

MULTIPLE CHOICE

Which of the following are recommended actions when obtaining a blood sample from a central venous catheter for laboratory testing? (Choose two.)

- ☒ **A** Stop all infusions for at least one minute before drawing the discard
- ☐ **B** Use the first 1 to 2 mL of blood as the discard volume before collecting the sample
- ☐ **C** Discard the blood into a clean sink rather than returning it to the patient
- ☒ **D** Label the specimen immediately at the bedside after collection

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**ANSWER** A • D

**WHY** Before drawing blood from a central venous catheter, infusions should be paused and the appropriate discard volume withdrawn to clear residual fluid or medication that could contaminate the specimen, and the specimen must be labeled at the bedside to ensure correct patient identification. The discard is typically returned to the patient (or handled per institutional policy), and the discard volume depends on catheter type rather than a fixed 1 to 2 mL for every line.