

PIV355: Safe IV Patient Care

Study Guide

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Completion education. No accredited nursing contact hours awarded.

Course Description

Implement comprehensive patient safety practices for intravenous therapy including medication rights, patient identification, compatibility checking, and adverse reaction recognition. Master infusion rate verification, infiltration monitoring, and patient education strategies.

How to Use This Guide

This is a condensed, high-yield reference. Skim the key terms and the quick-reference tables, confirm you can explain each high-yield point, then read the section summaries to spot any gap. Return to the on-site lesson for full detail, and attempt the post-test cold. Passing score: 90%.

Key Terms at a Glance

Term	What it means
Two Patient Identifiers	two independent identifiers, such as name and medical record number, verified before every administration.
Five Rights	right patient, right drug, right dose, right route, and right time — the core medication verification framework.
Drug Compatibility	verification that co-administered medications and solutions will not react, precipitate, or inactivate each other.
Smart Pump	an infusion pump with dose-error-reduction software that checks programmed rates against preset safety limits.
Infiltration	leakage of a non-vesicant fluid into surrounding tissue, detected by swelling, coolness, and discomfort.
Adverse Reaction	an unintended, harmful response to a medication that requires early recognition and prompt response.
Infusion Rate Verification	confirming the ordered rate against the pump setting to prevent over- or under-infusion.
Patient Education	teaching the patient to report pain, swelling, or wetness as an active partner in safety.

High-Yield Points

- **Critical Practice** Using two patient identifiers (name and medical record number, or name and date of birth) before ANY medication administration is mandatory to prevent wrong-patient errors.
- **Clinical Pearl** Many medications are incompatible and can form precipitates or lose effectiveness when mixed. Always verify compatibility before administering medications through the same IV line.
- **Critical Alert Signs:** Fever, rash, respiratory difficulty, chest pain, wheezing, hypotension, or altered consciousness may indicate medication reaction, anaphylaxis, or other serious complications requiring immediate intervention.
- **Clinical Pearl** Educating patients about their IV therapy empowers them to recognize problems early and report concerning symptoms, enhancing overall safety.
- **Safe IV Patient Care Checklist** Before Any IV Medication Administration: Verify patient identity using TWO independent identifiers Check patient allergies and contraindications Verify medication order and patient's medication list Confirm correct drug, dose, route, and time Check drug-to-drug compatibility Assess IV line integrity and patency During Administration: Verify infusion rate matches order (smart pump confirmation) Monitor patient response continuously Watch for signs of infiltration or adverse reaction Keep IV site visible and protected Maintain aseptic technique if line manipulation needed After Administration: Reassess IV site and patient response Maintain proper line flushing and locking Document time, drug, dose, route, patient response Report any adverse reactions immediately Monitor patient for delayed reactions
- **Safe vs. Unsafe IV Practices** SAFE Practice Two identifiers verified against wristband Five rights verified systematically Compatibility checked before mixing Smart pump with dose verification Line integrity assessed before use Site monitored continuously Infiltration recognized early Reactions reported immediately Complete documentation Patient educated and empowered
- **Key Takeaway** Safe IV patient care depends on systematic verification, vigilant monitoring, and clear communication. Apply the five rights consistently, recognize complications early, educate patients as partners in safety, and document thoroughly. These practices prevent errors and save lives.

Quick-Reference Tables

Right	Key Verification	Common Error
Right Patient	Two independent identifiers	Wrong patient given medication
Right Drug	Verify medication name against order	Sound-alike medication substituted
Right Dose	Calculate and verify ordered dose	Decimal point error or miscalculation
Right Route	Confirm IV administration ordered	Oral medication given IV
Right Time	Verify timing of administration	Dose skipped or given at wrong time

Infiltration Signs	Severity Level	Intervention
Coolness, edema, pain at site	Grade 1-2 (mild)	Elevate limb, warm compresses, monitor
Significant edema, pale skin, cool	Grade 3 (moderate)	Remove catheter, elevate, notify physician
Severe pain, skin blistering, tissue damage	Grade 4 (severe)	Stop infusion, remove catheter, physician evaluation

Section-by-Section Summary

The key idea of each lesson section, condensed to the essentials. Use it to review fast and spot any gap before the post-test.

PIV355: Safe IV Patient Care

Learning Objectives: Apply the five rights of medication administration, verify patient identity, prevent adverse reactions, recognize and manage infiltration, and educate patients to enhance safety throughout IV therapy.

1. Patient Identification: Foundation of Safety

Correct patient identification is the critical first step in safe medication administration. The standard of practice requires using two independent identifiers to confirm patient identity before administering IV medications.

2. The Five Rights of Medication Administration

Systematic Verification Framework

The five rights of medication administration provide a systematic framework for verifying critical elements before drug administration. Each right must be independently verified to prevent medication errors.

3. Drug Compatibility Checking

Medication compatibility is the ability of two or more drugs to be mixed or administered through the same IV line without chemical or physical interaction. Incompatibilities can result in precipitate formation (visible particles), color change, loss of drug potency, or generation of toxic compounds.

4. Infusion Rate Verification & Smart Pumps

The infusion rate must be verified before administration and checked regularly throughout the infusion to ensure the correct volume per hour is being delivered. Infusion pump settings must be confirmed to match the medication order exactly.

5. Adverse Reaction Recognition

Nurses must maintain vigilant observation for adverse drug reactions during and after IV medication administration. Mild reactions include rash, itching, or mild nausea.

6. Infiltration Monitoring & Response

Infiltration occurs when IV fluid leaks into surrounding tissue instead of flowing through the vein. This can result from catheter displacement, perforation of the vessel wall, or inadequate securement.

7. Patient Education & Empowerment

Patient education is an important component of safe IV care. Patients should understand why they have an IV catheter, what medications are being administered, what side effects to expect, and what symptoms require immediate reporting.

8. Safe Transport & Fall Prevention

Patients with IV therapy require special considerations during transport to other departments or areas. The IV line must remain visible and protected during movement.

9. Documentation & Accountability

Safe IV care requires comprehensive documentation that provides a record of care provided and outcomes achieved. Documentation should include the time medications were administered, the dose and route, verification of the patient identifiers used, assessment of the IV site before and after administration, patient response to the medication, and any adverse reactions or complications.

- Relies on room number or patient verbal confirmation
- Skips verification steps to save time
- Assumes medications are compatible
- Manual calculation without verification
- Does not assess line before use
- Minimal monitoring during infusion
- Delays recognition of problems
- Hides or minimizes reactions
- Incomplete or delayed documentation
- Assumes patient knows what to do

Key Terms

- Two Patient Identifiers : two independent identifiers, such as name and medical record number, verified before every administration.
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- Drug Compatibility : verification that co-administered medications and solutions will not react, precipitate, or inactivate each other.
- Smart Pump : an infusion pump with dose-error-reduction software that checks programmed rates against preset safety limits.
- Infiltration : leakage of a non-vesicant fluid into surrounding tissue, detected by swelling, coolness, and discomfort.
- Adverse Reaction : an unintended, harmful response to a medication that requires early recognition and prompt response.
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- Patient Education : teaching the patient to report pain, swelling, or wetness as an active partner in safety.

Concepts Tested on the Post-Test

Each item is a topic the post-test probes. Exact wording may differ; the underlying concept is what you must be able to reason through. If any feels unfamiliar, revisit that section above.

1. What are the two required patient identifiers before IV medication administration?
2. Why should room number NEVER be used as a patient identifier?
3. What is the most important first action if an adverse medication reaction is suspected?
4. Which of the following is a sign of infiltration?
5. What is a critical element of drug compatibility checking?
6. What is the benefit of smart pump technology in safe IV medication administration?
7. What should be done if two medications ordered are incompatible and must be given?
8. Which vital sign change would be of most concern during IV medication administration?
9. What is the primary purpose of the right medication verification?
10. How should the right dose be verified?
11. What is infiltration and what causes it?
12. Why is early detection of infiltration critical?
13. What should be included in patient education about IV therapy?
14. What is a major fall risk for patients with IV therapy?
15. If infiltration is suspected, what is the initial assessment needed?
16. What is the relationship between right route verification and medication safety?
17. How does right time verification relate to medication effectiveness?
18. What should be documented after IV medication administration?
19. Why should medications never be assumed compatible based on prior experience?
20. What patient safety goal is achieved by using two patient identifiers?
21. How do you determine if an infiltration is severe enough to warrant physician notification?
22. What is the role of saline flushing in preventing medication incompatibilities?
23. Why is maintaining a patent IV line critical during adverse reactions?
24. How should IV tubing be managed during patient transport or ambulation?
25. What is the significance of documenting medication administration?

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