Infusion Therapy – Intravenous Therapy: Assessment and Management of Infiltration and Phlebitis

SECTION: 25.25

PURPOSE:
To recognize and treat infiltration and phlebitis in a safe, effective manner.

CONSIDERATIONS:
1. The peripheral intravenous (IV) cannula is to be removed by a nurse for any signs of infiltration, phlebitis, infection or drainage from the insertion site. When drainage is present, obtain culture and notify physician for orders. A specific order will be obtained from the physician at the time of referral to "remove and restart every 72 hours, and PRN for signs of complications."

2. A nurse may remove ONLY peripherally inserted central catheters and subclavian catheters with a specific order from the patient's physician. Removal of tunneled catheters, e.g., Hickman, Groshong, and implanted ports is not permitted.

3. Infiltration is defined as inadvertent administration of solution or medication into surrounding tissue.

4. Per Joint Commission recommendations, all tubes and catheters should be labeled to prevent the possibility of tubing misconnections. Staff should emphasize to all patients the importance of contacting a clinical staff member for assistance when there is an identified need to disconnect or reconnect devices.

5. Phlebitis is defined as the inflammation of a vein used for IV infusion. There are four types of phlebitis:
   a. Chemical = involving drugs or solutions.
   b. Mechanical = involving the catheter body, i.e., insertion.
   c. Bacterial = involving bacteria.
   d. "Post-infusion" phlebitis (Homecare nurses are more apt to see this after a patient is discharged to home. Phlebitis is noted 24 to 72 hours after the catheter is removed.)

6. Signs and symptoms associated with phlebitis are:
   a. Redness, streak formation.
   b. Site warm to touch.
   c. Local swelling.
   d. Palpable cord along vein.
   e. Sluggish infusion rate.
   f. Increase in basal temperature.
   g. Pain.


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<thead>
<tr>
<th>Severity</th>
<th>Assessment of Findings</th>
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<tbody>
<tr>
<td>0</td>
<td>No clinical symptoms</td>
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<tr>
<td>1+</td>
<td>Erythema with or without pain</td>
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<tr>
<td></td>
<td>Edema may or may not be present</td>
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<tr>
<td></td>
<td>No streak formation</td>
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<td>No palpable cord</td>
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<tr>
<td>2+</td>
<td>Erythema with or without pain</td>
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<td></td>
<td>Edema may or may not be present</td>
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<td></td>
<td>Streak formation</td>
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<td>No palpable cord</td>
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<tr>
<td>3+</td>
<td>Erythema with or without pain</td>
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<td></td>
<td>Edema may or may not be present</td>
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<td>Streak formation</td>
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<tr>
<td></td>
<td>Palpable cord</td>
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<tr>
<td>4+</td>
<td>All of the above plus purulent drainage from site</td>
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8. Preventive measures:
   a. Refrain from using veins in the lower extremities. Consult with physician if this is the only avenue available.
   b. Select veins with ample blood volume when infusing irritating substances.
   c. Avoid veins in areas over joint flexion; use an arm board if the vein must be located in an area of flexion.
   d. Anchor cannulas securely to prevent motion.

9. To prevent injury to the wall of the vein, the cannula should be removed at an angle nearly flush with the skin.

10. When dealing with a vesicant medication, orders for specific treatment of an extravasation should be ordered and should be obtained at the time of referral before initiation of therapy.

EQUIPMENT:

Gloves
2x2 gauze sponge, sterile
Puncture-proof container
Impervious trash bag
Disposable apron (optional)
Protective eye wear (optional)
PROCEDURE:
The following procedural steps are designated according to the size of an infiltrated area or the stage of phlebitis involved.

1. Adhere to Standard Precautions.
2. For an IV infiltration that measures less than 5 cm or stage 1+ or 2+ phlebitis:
   a. Stop the infusion.
   b. Remove the IV cannula.
   c. Apply warm, moist compresses to site.
   d. Elevate the extremity.
   e. Restart IV in opposite extremity, if possible, and resume therapy.
3. For an IV infiltration that measures greater than 5 cm or stage 3+ or 4+ phlebitis:
   a. Stop the infusion.
   b. Remove the IV cannula.
   c. Apply warm, moist compresses to site.
   d. Elevate the extremity.
   e. Notify physician of complication and obtain treatment orders.
   f. Restart IV in opposite extremity, if possible, and resume therapy.
4. For signs of phlebitis, infiltration or drainage from the insertion site or exit site of a central venous catheter:
   a. Stop the infusion.
   b. Apply warm, moist compresses to site.
   c. Notify physician IMMEDIATELY for further treatment and therapy orders.
5. Discard soiled supplies in appropriate containers.

AFTER CARE:
1. Instruct patient/caregiver to continue intermittent warm, moist compresses to site and keep extremity elevated for 24 hours.
2. Document in patient's record:
   a. Presence and severity of infiltrate or phlebitis.
   b. Type of infusate.
   c. Treatment provided.
   e. Instructions given to patient/caregiver.
   f. Communication with physician.
3. Complete appropriate form to report incident to agency personnel, if indicated.