

DRS100: Dressings and Dressing Changes for VADs

Study Guide

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Completion education. No accredited nursing contact hours awarded.

Course Description

Describe the clinical significance of the dressing, select the correct dressing type, identify benefits/limitations and change frequency, perform sterile dressing-change technique, prevent medical adhesive-related skin injury (MARSI), and execute comprehensive site assessment and documentation per INS 2024.

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
Site	redness, swelling, tenderness, warmth, induration, drainage (character and amount), and any leakage.
Device	integrity of the catheter and hub, patency, and external catheter length (a change in external length signals migration or dislodgement).
Patient	pain score, tolerance, and understanding of self-care.
Grade findings	with a standardized phlebitis and infiltration/extravasation scale so trends are comparable across clinicians and shifts.

High-Yield Points

- **Learning Objectives** On completion you will be able to: Explain why the dressing is an infection-control intervention rather than a cosmetic covering. Select the appropriate dressing type for a given site and patient condition. State evidence-based routine change intervals and the triggers for unscheduled change. Perform a sterile dressing change using sterile technique. Recognize, prevent, and grade medical adhesive-related skin injury (MARSI). Complete a structured site assessment and documentation set at every change.
- **Central Principle** The dressing is infection control, securement, and monitoring in one. If any of those three functions is compromised, the dressing has failed and must be replaced regardless of the calendar.

- Clinical Pearl Gauze placed under a transparent dressing — even a single 2×2 folded to support a hub — reclassifies the whole dressing as a gauze dressing for change-frequency purposes. Time it as gauze, not as TSM.
- Never Do Never apply a dressing over a wet antiseptic, never re-tension a lifted dressing edge instead of changing it, and never remove a dressing by pulling away from the insertion site.
- Key Take-aways The dressing is infection control, securement, and surveillance — not cosmetic. TSM every 5–7 days; gauze every 2 days; ANY dressing immediately when compromised. CHG-impregnated dressings reduce CLABSI for central catheters. Remove old dressings toward the insertion site; use ANTT; let antiseptic dry fully. Prevent MARSI with barrier film, tension-free application, and low-and-slow removal. Document external catheter length at every change to catch silent migration.

Quick-Reference Tables

Dressing type	Best used for	Advantages	Limitations
Transparent semipermeable membrane (TSM)	Most sites; the default choice	Continuous visual inspection; breathable (moisture-vapor permeable); longer wear time; waterproof barrier	Not ideal over actively bleeding or heavily exudating sites; adhesive may injure fragile skin
Sterile gauze & tape	Bleeding, oozing, or diaphoretic sites; TSM adhesive sensitivity	Absorbs drainage; gentle option for compromised skin	Obscures the site (no continuous visualization); requires more frequent change
CHG-impregnated dressing	Central catheters (and select high-risk peripheral)	Chlorhexidine suppresses skin organisms at the site; reduces CLABSI	Cost; watch for contact dermatitis, especially in neonates and fragile skin
Tissue adhesive (cyanoacrylate)	Adjunct at insertion to seal the site and reduce bleeding/micromotion	Reduces oozing and bacterial ingress at the puncture; supports securement	Adjunct only, per IFU; does not replace the primary dressing

Situation	Routine interval
TSM / transparent dressing	Every 5–7 days
Gauze dressing (or gauze under TSM)	Every 2 days (48 hours)
CHG-impregnated dressing	Per manufacturer IFU, generally aligned with the TSM interval (up to 7 days)
ANY dressing — damp, loose, soiled, non-intact, or drainage present	Change immediately

Finding at the site	What it may indicate	Immediate action
Erythema, warmth, a palpable cord along the vein	Phlebitis (mechanical, chemical, or infective)	Grade with a standardized scale; consider removal per policy; notify the provider for grade 2+
Swelling, coolness, taut or blanched skin, leaking	Infiltration or extravasation	Stop the infusion, disconnect, follow the extravasation protocol; do not flush the device
Purulent drainage, spreading redness, fever	Local or bloodstream infection	Culture per policy, notify the provider, escalate promptly; the device likely requires removal
Increased external catheter length, dressing lifted at the hub	Migration or partial dislodgement	Do not advance the catheter; secure, assess function, notify the provider, obtain tip confirmation for central lines
Bleeding or oozing at the puncture	Recent insertion, anticoagulation, or trauma	Apply a gauze dressing, hold gentle pressure, reassess; escalate persistent bleeding

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.

Dressings and Dressing Changes for VADs

Estimated time ~1 hour | Completion education; no accredited contact hours | Aligned to the Infusion Nurses Society Infusion Therapy Standards of Practice , 9th edition (2024)

1. Why the dressing is a clinical intervention

The dressing is the sterile barrier between the patient's bloodstream and the outside environment. It performs three jobs simultaneously: it protects the insertion site from extraluminal microbial contamination, it secures the device to prevent micromotion and dislodgement, and it permits surveillance of the site.

Extraluminal microbial migration from the skin is the dominant mechanism of catheter-related infection in the first 7–10 days after insertion, which is precisely why insertion-site skin antisepsis and dressing integrity carry such weight in every CLABSI-prevention bundle. A large share of the microorganisms that cause short-term catheter-related bloodstream infection originate at the skin insertion site.

2. Dressing types: benefits and limitations

3. Change frequency

Routine intervals are ceilings, not targets. Facility policy and device instructions for use (IFU) may specify shorter intervals, and the clinical condition of the site always overrides the schedule.

4. Sterile dressing-change technique (central line, step by step)

Step 1 Perform hand hygiene. Gather all sterile supplies and open the central-line dressing-change kit onto a clean field.

Step 2 Don clean gloves. Stabilize the catheter and remove the old dressing by lifting the edges toward the insertion site (never away from it) to avoid catching and dislodging the device.

Step 3 Assess the site as it is exposed. Remove clean gloves and perform hand hygiene again.

Step 4 Don sterile gloves. Apply skin antisepsis with >0.5% chlorhexidine gluconate in alcohol using a back-and-forth friction scrub for the labeled time, then allow it to fully air dry — do not fan, blot, or blow on it.

Step 5 Apply the new dressing and engineered securement using strict sterile technique. Position a CHG dressing so the gel pad is centered over the insertion site per IFU.

Step 6 Label the dressing with date, time, and your initials. Perform hand hygiene.

5. Securement — the second job of the dressing

Catheter micromotion at the insertion site enlarges the tract, promotes bacterial ingress, and is a leading contributor to phlebitis and unplanned removal. INS 2024 prioritizes engineered stabilization over improvised taping.

6. Preventing medical adhesive-related skin injury (MARSI)

MARSI occurs when the bond between adhesive and skin is stronger than the bond between skin layers, so removal tears the epidermis. It presents as skin stripping, tension blisters, skin tears, irritant or allergic dermatitis, or maceration.

- Use a skin barrier/protectant film compatible with the antiseptic and let it dry before applying the dressing.

- Apply the dressing without tension or stretching; never "frame" the dressing tightly.
- Remove low and slow, horizontal to the skin, supporting the skin with the opposite hand; use a medical adhesive remover for fragile skin.
- Identify at-risk patients early: neonates, older adults, patients on steroids or anticoagulants, and those with edema, dehydration, or prior adhesive reactions.

7. Site assessment & documentation

Assess at every dressing change and at least once per shift for inpatients (per policy for home and long-term care). A complete assessment covers the site, the device, and the patient.

Site: redness, swelling, tenderness, warmth, induration, drainage (character and amount), and any leakage.

Device: integrity of the catheter and hub, patency, and external catheter length (a change in external length signals migration or dislodgement).

Patient: pain score, tolerance, and understanding of self-care.

Grade findings with a standardized phlebitis and infiltration/extravasation scale so trends are comparable across clinicians and shifts.

Document date and time, dressing type applied, skin and site findings, external catheter length, patient tolerance, and any education provided. Consistent external-length documentation is the single most useful data point for catching silent migration before it becomes a tip malposition or an infiltration event.

8. Patient & caregiver education (home and LTC)

- Keep the dressing clean, dry, and intact; protect it during bathing per instructions.
- Do not pull, tug, or trim the line, and keep scissors away from the catheter.
- Report promptly: redness, swelling, drainage, pain, fever or chills, a loose or wet dressing, or a change in the external length of the line.
- Know who to call and when — provide the after-hours contact in writing.

9. Complications you catch at the dressing change

The dressing change is the single most reliable scheduled opportunity to inspect the site, and many complications are first detected here rather than during a crisis. Train yourself to look for a defined set of findings every time and to act on them before they escalate.

Because these findings are only useful if they are communicated, every abnormal result should be graded, documented, and handed off. A phlebitis score charted at each shift lets the next clinician see whether the site is improving or trending toward removal, and a rising external-length measurement gives objective evidence of migration that a subjective "looks fine" note never will.

10. Special populations and settings

The principles are constant, but the technique flexes with the patient. In neonates and infants, skin is thin and permeable, so use the smallest effective dressing, apply CHG products cautiously per manufacturer age limits, and favor gentle silicone-based adhesives and removers to prevent MARSIs.

Reference Infusion Nurses Society. Infusion Therapy Standards of Practice, 9th ed.

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. The primary clinical purpose of a VAD dressing is to:
2. Most short-term catheter-related bloodstream infections originate from:
3. A transparent semipermeable membrane (TSM) dressing is routinely changed every:
4. A gauze dressing is routinely changed every:
5. A single folded gauze placed under a transparent dressing to support the hub means the dressing should now be timed as:
6. A dressing that is damp, loose, or soiled should be changed:
7. CHG-impregnated dressings are recommended primarily to:
8. When is a gauze-and-tape dressing preferred over TSM?
9. When removing an old dressing, you should lift it:
10. During a central line dressing change, which gloves are required after skin antisepsis?
11. After applying skin antiseptic during the change, you must:
12. MARS (medical adhesive-related skin injury) is best prevented by:
13. For routine catheter securement, INS 2024 prioritizes:
14. Which finding at a dressing change most reliably signals silent catheter migration?
15. Appropriate patient education for home VAD dressing care includes:

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