



Nursing Management of
Venous Access Devices:

*Tunneled Central
Catheters*

(Hickman ® / Broviac ® /
Small Bore / Groshong®)

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Tunneled catheter

- Types: Hickman[®], Broviac[®], Groshong[®], Small bore
- Groshong not normally used in pediatrics
- Features: Dacron cuff lies under the skin near the exit site. Adhesions form around the cuff to stabilize the catheter as well as provide a mechanical barrier to microorganisms, thereby minimizing the risk of ascending infection.
- Refer to MGH Nursing Policies and Procedures in Ellucid

Retrieved from *Images.MD* at
Treadwell Library 12/11/09



Dacron cuff which is placed along the tunnel above the exit site

HICKMAN



Tunneled Catheters

Benefits:

long-term access

Infusion Guidelines:

SMALL LUMEN: Designated for TPN or if no TPN anticipated, use for meds and fluid

LARGE LUMEN: blood, high-volume or viscous fluids, meds, and blood sampling

Contraindications/Risks

Infection

Invasive procedure

Thrombosis

Tunneled Catheters: Flushing

- **Adults:**
 - 10-20ml of 0.9% saline following an infusion
 - 20-30ml of 0.9% saline following blood draw or transfusion
 - flushed at least every 24 hours when in use
 - When not in use (e.g. at home):
 - *5 ml (10 units/ml) heparin = 50 units at least 1-2 times a week*
- **Adolescents:**
 - 5ml (10 units/ml) heparin = 50 units (Hickman and Broviac)
 - 10-20ml of 0.9% saline (Groshong)
 - Flushed once a week when not in use

Tunneled Catheters: Flushing

- **Toddlers/Infants:**

- 2ml (10 units/ml) heparin = 20 units
- Flushed daily when not in use

- **Neonates/NICU:**

- 1ml (10 units/ml) heparin = 10 units
- Flushed after completion of any infusion or blood sampling every 12 hours

Flushing Groshong[®] Catheters

- Valved catheter
- Heparin not required
- 20 ml saline flush after every use
- Flushed with 10 ml saline every seven days, when not in use, as routine flush
- Not generally used in pediatrics



Three-way valve reduces risk of air embolism, blood reflux and clotting

Tip-first placement allows measurement of catheter to size during implantation for more accurate tip placement

Unique design virtually eliminates use of heparin, minimizes nursing time required for maintenance and improves cost-effectiveness of therapy

Silicone material offers superior biocompatibility to improve indwelling and catheter time



Please note...

All information provided is subject to review and revision. Please continue to refer to MGH Policies and Procedures in Ellucid as your primary resource



References

- Original power point 2011: Bartholomay, Dreher, Theresa Evans, Susan Finn, Deb Guthrie, Hannah Lyons, Janet Mulligan, Carol Tyksienski
- MGH Ellucid-Central Line flushing policy