

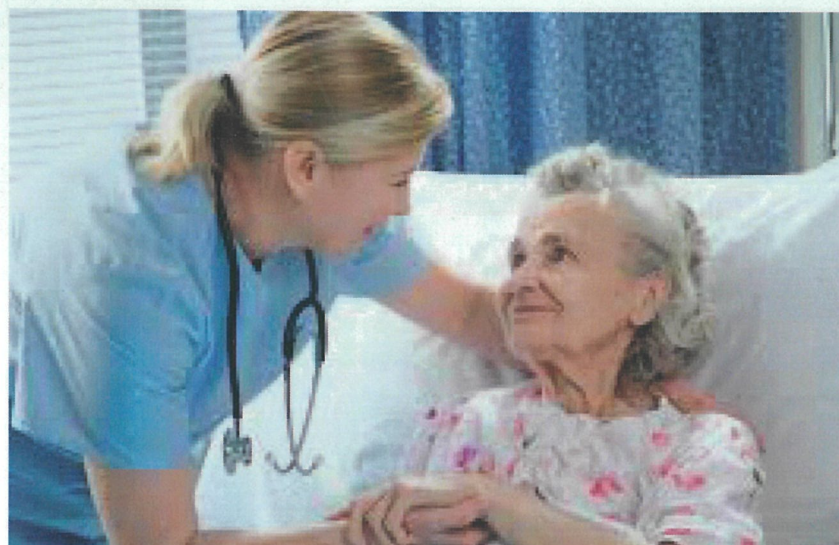
What is Best Practice for Preventing Catheter Related Blood Stream Infections in neutropenic patients with PICC Lines?

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Introduction

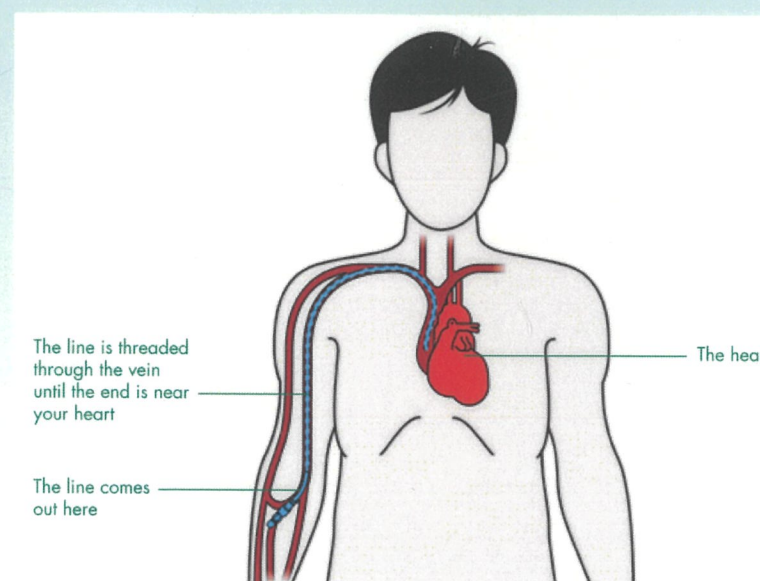
Oncology and hematology patients often require long term Central Venous Access Devices (CVADs) to allow constant intravenous access for frequent chemotherapy, fluids, blood transfusions and blood tests, with minimal discomfort to the patient. Chemotherapy drugs kill healthy cells alongside the malignant cells, weakening the body's defence systems. Most patients undergoing chemotherapy treatments will experience some level of neutropenia defined as an 'abnormal fall in the number of neutrophils in the blood'. With a lower immune system, neutropenic patients are at a higher risk of developing Catheter Related Blood Stream Infections (CRBSIs), After caring for some of these patients I became interested in the best practice guidelines for preventing CRBSIs in neutropenic patients with Peripherally Inserted Central Catheters (PICC).



The Research

Both local and international research show similar school of thought on best practice guidelines on preventing CRBSIs in patients with PICC lines. The use of certain dressings and antimicrobial cleansers have evolved in the newer research with the use of transparent moisture vapour permeable now preferable over insertion sites with sterile gauze and tape. The use of 2% chlorhexidine and 70% isopropyl alcohol is now preferable to the use of iodine solution as a skin cleanser.

PICC LINE INSERTED INTO ANTECUBITAL FOSSA



References

Moran, A. & Camp-Sorrell, D. (2001) Maintenance of Venous Access Devices in Patients with Neutropenia. *Clinical Journal of Oncology Nursing*. 6(3)1-5.
Otago District Health Board. (2010) Intravenous Fluid and Medication Manual. Dunedin, NZ:Otago District Health Board.
O'Grady, N.P., Alexander, M., Dellinger, D.P., Gerbingding, J.L., Heard, S.O., Maki, D.G.,... Weinstein, R.A. (2002) Guidelines for the Prevention of Intravascular Catheter-Related Infections. *Recommendations & Reports: National Centre of Infectious Diseases*. 51(1)
Poole, D. (2010) Minimizing the risk of infection in patients with central venous catheters. *British Journal of Cardiac Nursing*. 5(10) 477-481
Pratt, R.J., Pellowe, C.M., Wilson, J.A., Loveday, H.P., Harper, P.J., Jones, S.R.L.J., ... Wilcox, M.H. (2007) National Evidence-Based Guideline for

Conclusion

International studies have shown that simply by having a set of best practice guidelines which are followed exactly by certified, competent healthcare staff can significantly reduce the risk of CRBSIs in patients with PICC lines.

Best practice guidelines for preventing CRBSIs include but are not limited to:

- Maintaining meticulous hand hygiene, including hand washing every time before entering the patients room
- Unless medically contraindicated, insertion into the antecubital fossa in the upper arm is preferred
- Performing 'cluster cares' to minimise how often the line is being manipulated, reducing infection risk
- The use of 2% chlorhexidine and 70% isopropyl alcohol solution for site and catheter cleansing
- The use of transparent moisture vapour permeable dressing on the insertion sight, changed every 7days unless indicated earlier
- Daily IV tubing changes, bed linen changes and careful oral and personal hygiene cares, and limiting exposure to colds and sore throats.