Abstract:

In the pediatric population, vascular access is often challenging to secure and to maintain, especially for long-term intravenous (IV) treatment. The traditional approach for patients who require long-term IV antibiotics is placement of a peripherally inserted central catheter (PICC). The challenge in the pediatric population is the high risk of dislodgement after PICC placement, as these patients tend to pull their line out accidentally or purposefully. Current bedside options to prevent catheter dislodgement include adhesive securement devices, subcutaneous securement devices, sutures, and wrapping the site in gauze. However, these modalities often fail, leading to delay in administration of IV therapies, including life-saving antibiotics. A novel approach to this very common and serious issue is to tunnel the catheter subcutaneously, thereby placing the exit site in a location difficult for the patient to reach. Tunneled catheters generally are placed in children for long-term vascular access and insertion has primarily been reserved for surgeons in the operating room or by interventional radiologists. The following case report describes a central venous access catheter placed in the internal jugular vein and tunneled to the medial dorsal thoracic region successfully at the bedside, using intracavitary electrocardiogram (ECG) navigation under moderate sedation. Although a novel exit site, the technique of tunneling and use of the jugular vein is no different than traditional tunneling techniques therefore it was not deemed necessary to seek internal review board approval.

Reference: