

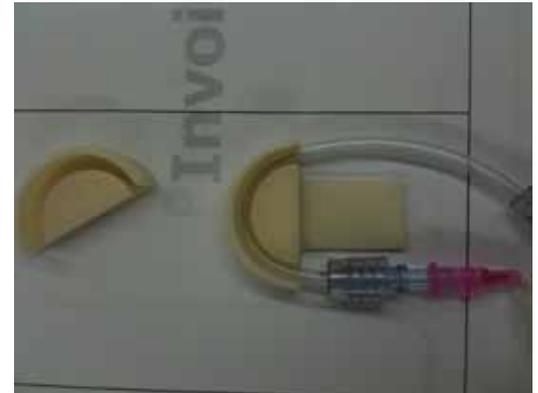
THE 180 IV TUBING SUPPORT SYSTEM

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Introduction: In modern medical practice up to 80% of hospitalized patients receive infusion therapy during their stay requiring the placement of an IV catheter.¹ Intravenous tube kinking has been a problem since the creation of the intravenous line in 1945.² Other than being an inconvenience, significant complication can result.

The 180 is an external plastic device designed to support and redirect intravenous line tubing. This device safely and effectively repositions the IV line 180 degrees so that it bends back proximally toward the patient. It consists of a semicircular arc with a groove designed to tightly fit around the IV tubing. It connects right up against the rigid distal end of an IV line safely securing the pliable plastic tubing. This enables securing the IV tubing line in a standardized fashion and minimizing the risk of kinking. Because it sits external to the tubing there is now concern for systemic reactions.



Method: To discover the incidence of kinking at in an academic institution, a study was conducted entitled Frequency and Outcomes of Peripheral IV Tube Kinking in an Academic Hospital. Researchers visited intensive care units, medicine floors, and operating rooms where IV's were being utilized. Nurses or physicians were asked how many patients under their care had IV's and if kinking, accidental removal, or IV failure occurred in the last 24 hours. For times where kinking had occurred, the location of the kink and any complications or delays that resulted were recorded. A second study was conducted utilizing an online survey to determine if healthcare providers found IV kinking to be a clinically significant problem.

Results: The observational study demonstrated an incidence of kinking of 10.2%. In the encounters recorded in this study, 17/167 revealed that IV kinking had been observed by the healthcare provider within the last 24 hours. In at least one instance, delay of medication administration occurred. The online survey had 144 responses and found that 47.5% of healthcare providers felt that kinking was a problem and 31.3% felt that they had insufficient tools to prevent kinking from occurring.

Conclusions: Intravenous line kinking is a fairly common phenomenon. Many practitioners believe that the incidence is related mostly to the way in which IV tubing is secured. Furthermore, IV tubing is secured in many different ways depending on the location of the IV catheter and on the preference of the provider that placed the IV. The goals of this device are to create a standardization of IV line securing, decrease IV rate failure, decrease delays from IV kinking, increase nurse/physician satisfaction, and most importantly increase patient satisfaction.

References

1. Waitt C., Waitt P., Pirmohammad M. "Intravenous therapy." *Postgrad Med J.* 2004; 80; 1-6.
2. Weinstein, Sharon, and Ada Lawrence. *Plumer. Plumer's Principles & Practice of Intravenous Therapy.* Philadelphia: Lippincott Williams & Wilkins, 2007. Print.