Abstract:

Background: A number of mechanical complications can occur during the insertion of a central venous catheter (CVC), including breakage or loss of the wire and unrecognized failure to remove the wire. Complications related to retention of a guidewire can be serious or fatal.

Methods: Incident reports on retained CVC guidewires entered into the University HealthSystem Consortium (UHC) Safety Intelligence Patient Safety Organization (PSO) database (Chicago, IL) over a 5-year period were reviewed to improve our understanding of their circumstances, causes, and related patient outcomes.

Findings: A total of 42 events that involved retention of a whole guidewire or a fragment of a wire were found in the UHC Safety Intelligence PSO database from 2008 through 2012. Although one-third of these events were discovered during or at the end of the CVC insertion procedure, retained CVC guidewires were commonly discovered days to years after the procedure and on imaging tests performed for unrelated reasons or during other subsequent care. Managers who reviewed the events commonly recommended education and training to prevent retained CVC guidewires, but factors contributing to these events such as
distractions and emergency situations also suggest the need for a device design that prevents the occurrence.

Conclusions: Efforts to prevent the loss of CVC guidewires should include clinician education and the development of a device design that prevents inadvertent guidewire loss and alerts clinicians when the end of the guidewire is near.

Other intravenous and vascular access resources that may be of interest (External links – IVTEAM has no responsibility for content).