An integrated guidewire Urethral Catheterisation Device (UCD®) for Difficult Urethral Catheterisation in the Emergency department

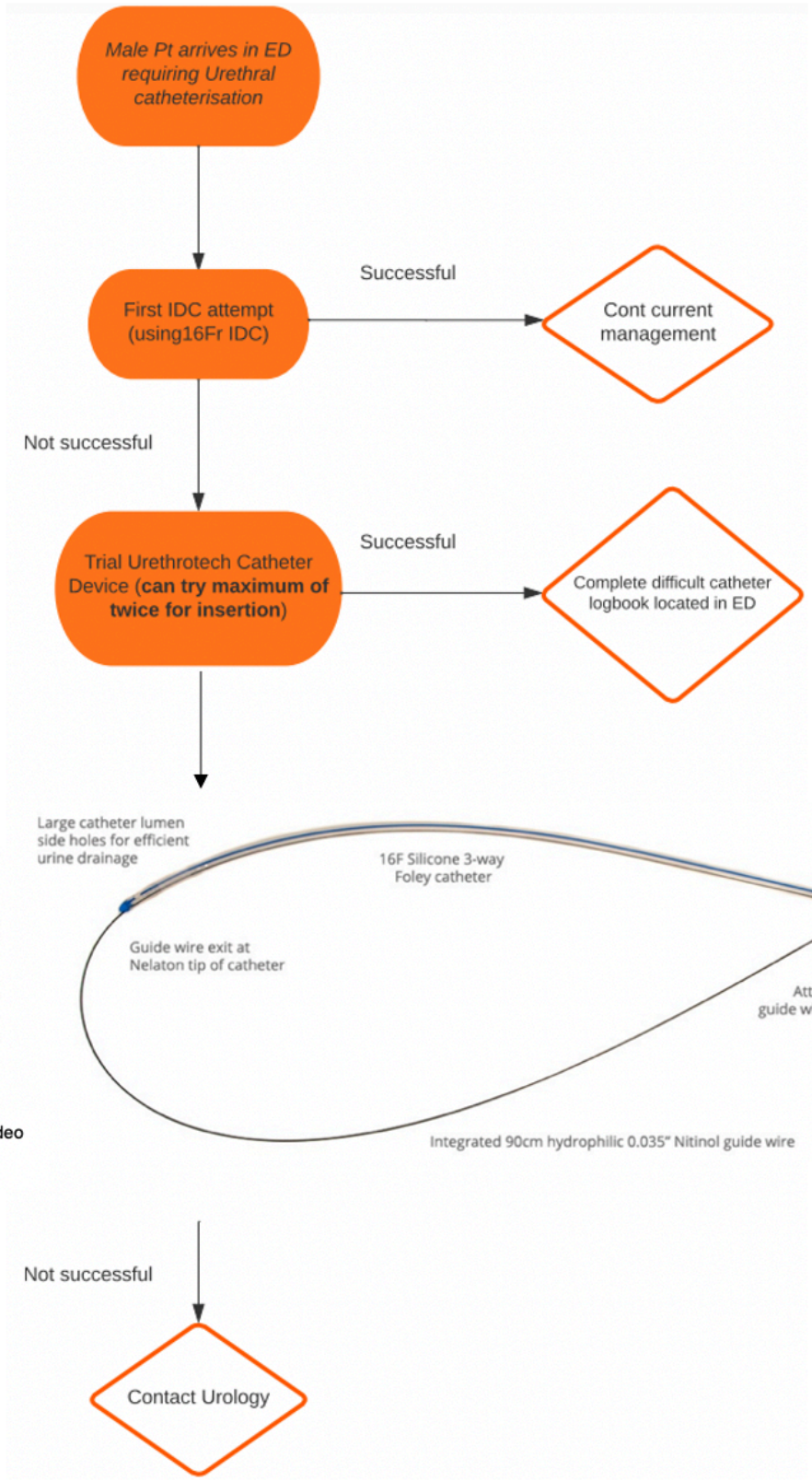
Introduction & Objectives:
Urethral Catheterisation (UC) is performed in approximately 25% of hospitalised patients. Catheter Associated Urethral Injury (CAUI) occurs in 13.4 per 1000 male UCs, leading to patient morbidity and incurring large financial costs. This study assessed the use and cost-effectiveness of an integrated guidewire urethral catheterization device (UCD®, Urethrotech Ltd) in male patients with Difficult Urethral Catheterisation (DUC) in the Emergency Department (ED).

Methods:
A prospective, multicenter study of adult male patients who failed first line UC was conducted in ED at a tertiary referral hospital and a regional hospital (1 hr from on-site urology service). A DUC protocol was implemented, and ED nurses and doctors were trained in use of the UCD® (Figure 1). The UCD® is a TGA approved device that makes the Seldinger technique for DUC accessible to non-urologist frontline workers.

Results:
UCD® was required in 20 patients with DUC and was successful in 13 patients (65%). Of the 7 remaining patients (35%), 2 required a flexible cystoscopy, identifying urethral strictures and 1 underwent emergency suprapubic catheter insertion prior to UC by Urology (Figure 2). Immediate costs required for urgent UC by urology was approximately $2500 per patient, including cost of inter-hospital transfer ($800 - $1300) and urology call-back ($540). The UCD® avoided urology call-back in 4 patients and avoided inter-hospital transfer in 4 patients.

Conclusions:
The UCD® is an effective technique for DUC and can reduce the complications and costs of CAUI. It fills a particular niche in Australian regional hospitals without on-site urology, to prevent patient care delays and costs associated with inter-hospital transfer.

Figure 1: Difficult Urethral Catheter Insertion Protocol



QR code – link to instructional video

Figure 2: Urethral Catheterisation Device Outcomes: A) Initial UCD attempt. B) Catheterisation method post unsuccessful catheterisation