Introduction: Flexible nephroscopy is performed at the end of percutaneous nephrolithotomy (PCNL) to confirm stone clearance. Flexible cystoscopes are commonly used to perform nephroscopy through the PCNL tract, however reusable scopes can provide limited optics due to procedural factors such as renal bleeding and scope factors such as fibre-optic damage. The Ambu® aScope™ 4 Cysto (AmbuScope) is a single-use disposable, video flexible cystoscope which has been solely used in the outpatient setting for bladder visualisation. We describe the first experience of the single use scope in nephroscopy during PCNL.

Method: Retrospective data was collected and analysed in a 6-month period from 13 consecutive patients undergoing PCNL using the AmbuScope for flexible nephroscopy. Stone free rates on nephroscopy, post-op complications, surgeons’ useability scores and theatre staff opinions were collated.

Results: All procedures were completed without complication or scope malfunctions. One patient died 27 days post operatively from urosepsis and osteomyelitis: unrelated to the single use scope. All other cases had an uncomplicated recovery. Surgeon useability scores rated the scope as easy (40%) or very easy (60%) to access, very user friendly (100%) and had good (20%) and very good (80%) image quality. 60% of respondents preferred to use the Ambu® aScope™ over the reusable scope. The single scope was found to be more cost-effective at £135 compared to £166 for reusable scopes.

Conclusions: This study is the first to show that single use scopes are safe, user friendly and cost effectively used during percutaneous nephroscopy.