The Barts "flank-free" modified supine position for percutaneous nephrolithotomy (PCNL)

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Objective: The last decade has seen the emergence of a variety of supine positions for carrying out PCNL. These all differ in regard to ease of puncture under fluoroscopy, operative field availability, ability to make and dilate multiple tracts and ease of combining retrograde intra-renal surgery (RIRS). All the described positions have limitations regarding the above important parameters. Therefore there is a need for a supine position, which addresses these difficulties.

Methods: We present a first case series with our new flank-free modified supine position for PCNL.

Results: We present results of the initial 37 cases (48 tracts) (25 male, 12 females; mean age 53 years). The mean BMI was 29.5 (20-46) with a mean stone burden of 465mm^2 (47 – 3500). We carried out 5, 19 and 24 upper, mid and lower pole punctures respectively. The stone free rate was 86.5% (with fluoroscopic and visual images). The mean operative time was 74.4 minutes (41-130). 20.6% of patients had simultaneous RIRS. 2 complications were noted (sepsis and one peri-operative hemorrhage, both treated conservatively).

Conclusions: These results are comparable favorably with published series on prone and various supine positions. The Barts "flank-free" modified supine position allows easy access under fluoroscopy, space for placing and dilating multiple tracts, a fairly horizontal tract allowing low intra-renal pressures and easy washout of fragments and allows RIRS in a position of familiarity. The lesser torso rotation compared with other positions means it is more comfortable. We would like to highlight the Barts "flank-free" modified supine position as one of the standard positions for carrying out supine PCNL.