



<b>Title</b>	<b>PCNL trajectory to predict success in supine PCNL: a novel concept</b>
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### MP23-13 PCNL TRAJECTORY TO PREDICT SUCCESS IN SUPINE PCNL: A NOVEL CONCEPT

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**Introduction** Supine PCNL confers certain advantages over prone. Access parameters change with positioning. Supine position limits maneuverability of instruments, limiting access to upper & mid-pole stones. We aim to determine predictive factors for success of supine PCNL through road-mapping of PCNL trajectory. Material & method Consecutive patients undergoing PCNL from July-Dec 2010 were recruited. Choice of position was made by surgeon. Tracts were performed under USG & fluoroscopy. Distances and angles were measured intra-operatively with rigid and flexible nephroscope, and correlated with pre-operative imaging. Results 19 patients underwent PCNL (13 supine, 6 prone) Stone load was comparable in both groups. Overall stone clearance after single PCNL was 74%. Regardless of abdominal thickness and approach, all lower pole and renal pelvic stones were reached with mean-excision of 140 mm in supine & 105 mm in prone position. Mean-entry angle was 59 for supine, and 35 for prone. In supine PCNL, the upper pole was reached in 4 of 11 tracts, with mean-excision of 172mm & entry angle of 33. Similarly, 2 of 11 supine PCNL reached middle pole. Conversely, all prone PCNL tracts reached upper & middle pole with decreased excursion & angle. Conclusion PCNL in prone position can reach renal pelvis and 3 poles via lower pole puncture. PCNL trajectory may be a tool to predict success in supine PCNL by estimating chance of reaching mid & upper pole. Skin to upper pole distance larger than 185mm and entry angle more than 48 degrees decrease chance of upper pole access.

### MP23-14 CONVENTIONAL-PNL VS MINI-PNL: COMPLICATION CLASSIFICATION ACCORDING TO A MODIFIED CLAVIEN GRADING SYSTEM.

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**Introduction:** Percutaneous Nephrolithotomy (PNL) is an effective minimal-invasive therapy of kidney stones. However, major complications are reported on a regular basis. The significance of miniaturized PNL (Mini-PNL) regarding a reduced complication rate is controversially debated. Diversity in interpretation of perioperative morbidity complicates the comparison of studies. Aim of this study was the comparison of our PNL- and Mini-PNL-cases by means of a modified Clavien grading system.

**Material and methods:** We reevaluated the data of our prospective collected PNL database. All PNL- and Mini-PNL-interventions since 01/1998 were included, matching a total of 386 cases with complete documentation (308 conventional PNL vs 78 Mini-PNL). Excluded were complex surgeries, as in case of anatomical malformation, concomitant ureter stones or after urinary diversion. We used the modified Clavien grading system according to Sarikaya et al., J Urol 2011. All patients received a perioperative antibiotic prophylaxis beginning on the preoperative day, respectively an antibiotic treatment according to test results. Tract diameter was 26F for PNL and 18F for Mini-PNL. At the end of the procedure, a nephrostomy tube of 22 respectively 14 Fr was inserted, or an antegrade 6 Fr DJ was placed.

#### Results:

**Conclusion:** Our study confirms the low morbidity of percutaneous stone therapy.

### MP23-15 TREATMENT OF CALYCEAL DIVERTICULAR CALCULI ON MINIMALLY INVASIVE PERCUTANEOUS NEPHROLITHOTOMY: A REPORT OF 24 CASES

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	PNL	Mini-PNL
<b>Grade I:</b>		
• Urinary fistula <12 h	98/308 (29.2%)	1/78 (1.2%)
• Fever <24 h	55/308 (17.9%)	4/78 (9.0%)
<b>Grade II:</b>		
• Fever >24h	85/308 (27.6%)	9/78 (11.5%)
• Blood transfusion or perirenal hematoma	4/308 (1.3%)	0/78 (0%)
<b>Grade III</b>		
• DJ insertion/PCN	17/308 (5.5%)	6/78 (7.7%)
• Drainage hydrothorax	0/308 (0%)	0/78 (0%)
<b>Grade IV</b>		
• Major complications with need of intensive care	7/308 (2.3%)	0/78 (0%)
• (Multi)-organ failure (e.g. dialysis)	1/308 (0.3%)	0/78 (0%)
<b>Grade V</b>		
• Death	0/308 (0%)	0/78 (0%)