

## Percutaneous Nephrolithotomy in the Management of Complex Upper Urinary Tract Calculi: The Singapore General Hospital Experience

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### Abstract

**Introduction and Objectives:** Presently, percutaneous nephrolithotomy (PCNL) is a well-established and effective method of treating upper urinary tract stones at our institution. The aim of this paper was to evaluate a single surgeon's four-year experience of PCNL in the Singapore General Hospital. **Materials and Methods:** Between January 1996 and December 2000, 300 PCNLs were performed on 280 renal units. The mean age was 53.7 years. PCNL was performed on 57 complete staghorn calculi (20.4%), 83 partial staghorn calculi (29.6%), 66 large pelvic calculi (23.6%), 60 impacted uretero-pelvic junction (UPJ) and upper ureteric stones (21.4%) that failed extracorporeal shock wave lithotripsy (ESWL) and 14 symptomatic lower pole calculi (5%). **Results:** The stone-free rate on discharge was 88.2% (n = 247). At 3 months and 1-year post PCNL, the stone-free rate was 91.1% (n = 255) and 95.7% (n = 268), respectively. The average postoperative stay was 4.5 days. Complications included 1 urosepsis post-PCNL (0.4%) and 2 arterio-venous fistulae (0.7%). Only 1 patient (0.4%) required blood transfusion. Thirty-four patients (12.1%) required ESWL and 4 needed ureteroscopy (1.3%). **Conclusion:** In experienced hands, the use of PCNL for upper urinary tract calculi is safe and effective.

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**Key words:** Percutaneous nephrolithotomy, Staghorn calculi

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