

# Current Indications for Open Stone Surgery in Singapore

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## Abstract

*A 3-year retrospective study (January 1995 to December 1997) of all treatment modalities for urinary stone disease done in the Department of Urology, Singapore General Hospital was documented, and open stone surgery identified. Patient's characteristics, stone burden, surgical factors, indications and outcome were reviewed for each patient.*

*Of the 2651 procedures performed for urinary stone disease, the majority had extracorporeal shockwave lithotripsy [78% (n = 2075)], while 11% (n = 298) had percutaneous nephrostolithotomy and 9% (n = 228) ureteroscopy. Open stone surgery rate was 2% (n = 50) which included 16 anatomic nephrolithotomies, 5 pyelolithotomies, 18 ureterolithotomies and 11 nephrectomies. There were 28 males and 22 females varying in age from 26 to 63 years (mean 48 years). The most common indications for open stone surgery were complex stone burden [38% (n = 19)], failure of minimally invasive modalities [16% (n = 8)], non-functioning kidneys [20% (n = 10)], concurrent open surgery [8% (n = 4)], co-morbid medical condition [4% (n = 2)], patient preference for open procedure [8% (n = 4)], anatomic abnormality [4% (n = 2)] and obesity [2% (n = 1)]. Stone free rate of 90% was achieved, morbidity of 8% (n = 4) mostly wound infections and a pneumothorax.*

*Majority of patients with urinary tract calculi can be treated with less invasive modalities. Complex stone burden, failure of less invasive modalities, non-functioning kidney, concurrent open surgery, co-morbid medical problems, patients' preference, anatomic abnormality and obesity are factors to be considered in a small cohort of patients who may still benefit from treatment using open surgical technique.*

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**Key words:** *Extracorporeal shockwave lithotripsy, Percutaneous nephrostolithotomy, Ureteroscopy*

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