

## EDITORIAL COMMENT

Re: Percutaneous nephrolithotomy: critical analysis of unfavorable results

The authors are to be commended for presenting and critically analyzing their technique for percutaneous nephrolithotomy, stratifying their outcomes as favorable and unfavorable. Unfavorable outcomes included patients who had residual stones on 3 month follow up, patients who had major intraoperative or postoperative complications, and patients who needed further procedures to clear their stones. Multivariate analysis showed that staghorn stones, multiple stones or large stone burdens are more susceptible to unfavorable outcomes.

Many urologists, including the authors, consider additional procedures as an unfavorable outcome although many patients need multiple procedures to definitively clear their stone burden. Additional procedures to clear complex stones should not be considered as an unfavorable outcome; whereas additional procedures for simple stones in uncomplicated patients or due to perioperative complications would clearly classify as unfavorable.

Moreover, the authors consider second look nephroscopy through the same tract more morbid than performing additional punctures in the same session. Multiple studies have shown that multiple tracts are associated with higher bleeding and transfusion rates. The authors did not include patients who had multiple tracts in the unfavorable group. Also, the authors did not evaluate the impact of having multiple tracts during percutaneous nephrolithotomy on the overall outcomes.

Certainly, the current study evaluates a large series of percutaneous stone surgery with realistic and honest outcomes recorded. This further emphasizes the need for multi-center studies to develop predictive models that can be used by urologists pre-operatively to help predict outcomes.

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