



## High Energy LASER fragmentation in RIRS, a Unique Way of dealing Large Renal Stones

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### Abstract:

**Introduction:** Percutaneous Nephrolithotomy is considered the gold standard treatment for the large renal stones. Retrograde intrarenal surgery (RIRS) is considered an option for the small renal stones only and even that with very low energy laser lithotripsy. Low energy laser lithotripsy in RIRS is a slow process. High energy laser is thought to be dangerous and difficult to handle. Over the period of a year we gradually adopted high energy laser (10-100watts) fragmentation in RIRS. This procedure was way faster than low energy dusting and we started treating bigger and bigger stones with this modality. We present our experience with high energy laser fragmentation in RIRS in large renal calculi in adults above 14years.

**Methods:** All patients undergoing high energy laser fragmentation for renal calculi at our institution from August 2018 to October 2019 were reviewed. Demographics, surgical details and post-operative follow-up information were obtained to identify stone clearance rates and complications.

**Results:** High energy laser fragmentation in RIRS was performed in 58 renal units, 54 patients (Mean age: 23.8years). The mean stone diameter was 22mm (Range: 15-32mm). Bilateral RIRS was done in 8 patients. Overall, 26 multiple calyceal stones and 32 single stones were treated. Pre-stenting was done in 53 patients. The mean anaesthesia duration for the procedure was 40minutes (Range: 25-123minutes). Out of 54 patients, 52 (96.3%) were completely stone free after 2 weeks. Only 2 patient had residual stone fragments and needed extracorporeal shock wave lithotripsy. Both of them became stone free



after single session of ESWL. There was no significant bleeding or sepsis encountered either during the operation or in the post-operative setting. No visual difficulty was experienced with high energy laser on fragmentation settings.

**Conclusion:** High energy laser fragmentation in RIRS is a safe and fast procedure for large renal stones. It may challenge PCNL in near future.

### Biography:

Jo Sanders is a critical care registered nurse, with expertise in the coordination and facilitation of organ and tissue donation in Victoria, Australia. She has a passion for quality improvement strategies in critical care nursing and developing a clinical governance framework, to delivery safe, high quality services and care. She is currently working as a clinical nurse specialist in the intensive care unit, caring for the complex and critical ill patients, whilst empowering fellow clinicians to challenge and improve clinical care delivery.

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