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## Active guidewire technique. A new way to approach endoscopic treatment for ureteral stones and tumors

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**Aim of the Study:** Growing of technological progress has led to a more frequent use of minimally invasive techniques like semirigid ureteroscopy and Retrograde IntraRenal Surgery (RIRS). All these operating techniques use irrigation for improve endoscopic vision and safety maneuvers to minimize the risk of complications. The keys are vision quality, low operating time and complications like sepsis, ureteral perforation, ureteral disruption, residual stone fragment, bleeding management. Most important safety maneuvers are the positioning of a safety guidewire, the use of low pressure and delicate advancement of the scope. During semirigid ureteroscopy the quality of vision is conditioned by the medium in which the camera is immersed. The cleaner the liquid is, the better we see and the better is the result. Semirigid scope does not have a continuous flow so we have to stop the treatment at repeated intervals, to discharge, every time the excretory route is filled up, avoiding excessive intrarenal pressure. This is very important for infections prevention.

**Materials and methods:** In this video we show the case of a 64-years-old female patient suffering from multiple left ureter stones for a total length of 2.5 cm treated with semirigid laser ureteroscopy with the active guidewire technique. The traditional safety guidewire will be replaced by a Pollack ureteral catheter (Cook Medical®) becoming an active, and

no longer passive, element. This 5 ch catheter with a soft tip is positioned in place of the safety guide wire connecting renal pelvis with the outside giving us a continuous flow.

**Results:** With the Active Guidewire the quality of vision during laser lithotripsy is better, the generated powder is immediately expelled through the catheter thanks to the constant flow. Risk of ureter injury is lower. Having a continuous flow reduces surgical time. Decrease of intrarenal pressure gives a reduction of sepsis risk. Function of safety guidewire remains in case of emergency.

**Conclusion:** Kidney is a closed system. We must consider that during this procedure 50% of operating time is active (anterograde flow, good vision and therefore lithotripsy) and 50% is passive (discharge of the kidney and temporary interruption of the procedure). This technique greatly reduces surgical time and risk of complications. The technique is safe and easy. 5ch size of the catheter and the use of small semirigid scope is mandatory. Scope is a Storz® 7ch. We believe that this technique is to be preferred whenever the ureter accepts the catheter and the scope (12ch tot.). This size is lower than sheaths with larger diameters (14ch) that are widely used. The risk of complications related to high pressures is much lower. Operating time is lower, as well as a better treatment quality thanks to the cleaner view.

### Biography

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