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Introduction & Objectives: Ureteral stents encrustation is a well-known complication related to the use of these devices. Though more common onto stents left in place for a long time, it is not strictly related to the dwelling time. Herein we report our experience in the management of severely encrusted/retained double-J stents.

Materials & Methods: Our prospectively maintained Internal Review Board approved percutaneous nephrolithotomy (PCNL) database was queried. A total of 34 patients with severely encrusted/retained double-J stents were identified and eligible for evaluation. Preoperatively, all patients underwent urine culture as well as abdominal computed tomography scanning to assess stent encrustation and concomitant stones in the urinary tract. All procedures were carried out in supine antero-lateral position or in the Galdakao-modified supine position. Renal collecting system was punctured under fluoroscopic guidance and the tract was dilated to 17.5F (mini-PCNL) or to 26-30F (standard PCNL). The distal part of the stent was cleared from encrustation using holmium laser, cut at the level of the ureteral orifice and removed transurethrally. The proximal part was simultaneously cleared using holmium laser and the stent removed anterogradely after having checked/cleared its ureteral portion by antegrade or retrograde ureteroscopy. Outcomes of interest included operative time, hospital stay, stone clearance, postoperative complications and stone free rate assessed by abdomen X-ray and renal ultrasound at 1 month postoperatively.

Results: Stents dwelling time was <6mo in 5 patients, <12mo in 15, <24mo in 2, and unknown in 12. Patients' characteristics and outcomes are summarized in Table 1.

Conclusions: This experience demonstrates that ECRAS represented an effective means of dealing with severely encrusted/retained double-J stents in a single session.

Tab 1	
	Patients with Encrusted Stent (N=34)
Age, years	53.0 (34.4, 60.0)
Female Gender, n (%)	15 (44.1%)
BMI	24.8 (23.0, 26.0)
ASA score, n (%)	
1	6 (20.7%)

2	21 (72.4%)
3	2 (6.9%)
Solitary kidney	1 (2.9%)
Positive preop. Urine culture, n (%)	6 (17.6%)
Stone features, n (%)	
Single	15 (44.2%)
multiple	13 (38.2%)
stanghorn	6 (17.6%)
Stone size', mm	20.0 (15.0, 30.0)
Bladder stone or encrusted distal stent, n (%)	18 (52.9%)
Mini [®] Amplatz sheath, n (%)	31 (91.2%)
Surgical time, min	90.0 (67.5, 110.0)
Tubeless, n (%)	30 (88.2%)
Positive stone culture, n (%)	4 (11.8%)
Minor complication (Clavien0-1-2)	28
Major complication (Clavien>3)	6
Median Postop. Hosp Stay, day	3.0 (2.0, 4.0)
HB change g/dl	0.3 (0.0, 1.4)
Transfusion, n (%)	1 (3%)
Infective complications, n (%)	3 (10.0%)
stone free, n (%)	23 (76.7%)