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## **Percutaneous nephrostomy, ureteral stent or primary ureteroscopy with stone removal for the treatment of hydronephrosis secondary to ureteric calculi: a prospective evaluation of the impact on complications, stone management and health-related quality of life**

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# Conflict of Interest Disclosure

**I have no potential conflict of interest to report**

## Objective

NPC vs. ureteral stent vs. URS

- stone management efficacy
- complications rate
- effect on patient's quality of life (QoL)

## Methodology

Prospective trial - 94 patients  
hydronephrosis secondary to ureteral  
stones

3 groups

- PCN (n=21)
- RUS (n=53)
- pURS (n=20)

	Nil %	Occasional %	Frequent %	Always %	p value
<b>Hematuria</b>					
RUS	30.2	34.0	26.4	9.4	< .001
PCN	85.7	14.3	0.0	0.0	
pURS	60.0	30.0	10.0	0.0	
<b>Dysuria</b>					
RUS	17.0	26.4	26.4	30.2	< .001
PCN	81.0	14.3	4.8	0.0	
pURS	45.0	40.0	10.0	5.0	
<b>Urgency</b>					
RUS	1.9	11.3	52.8	34.0	< .001
PCN	19.0	14.3	57.1	9.50	
pURS	35.0	25.0	25.0	15.0	
<b>Antibiotics need</b>					
RUS	77.4	13.2	7.5	1.9	0.005
PCN	66.7	9.5	14.3	9.5	
pURS	90.0	10.0	0.0	0.0	

Table: Proportion of urinary symptoms and complications

## Results

All pURS remove successfully the stone

PCN – higher spontaneous stone passage  
vs. RUS (OR=2,31) (after multivariable  
analysis )

Pre- vs. post-intervention QoL

RUS decrease (p<.001)

PCN no change (p = .092)

pURS increase (p=.011)

### pURS vs RUS

- less haematuria (p<.001)

- less dysuria (p<.001)

but more than PCN

### pURS vs. RUS and PCN

- less urgency (p<.001)

- less need of antibiotics use (p=.005)

## Discussion and Conclusions

**pURS** better chance of better efficacy of stone management  
- vs. PCN and RUS

**PCN** higher rate of spontaneous stone passage than RUS.

QoL

- Improved with **pURS**
- Decreased with **RUS**

**pURS** - less symptoms and complications  
vs. PCN and RUS

**RUS** higher level of patients with symptoms and complication rate

**The pURS appears to be a safe and optimal solution for treatment of patients with ureteral calculi with urinary drainage blockage requiring active treatment**