

## UROLITHIASIS

### Two Aspects

Management of clinical stone  
Metabolic evaluation/prevention (medical Rx)

### Types of stones

Ca oxalate 75-80%  
Ca phosphate 5-10%  
Uric acid 5%  
Struvite 5%  
Cystine

## STONE MANAGEMENT

### Presentation

Pain  
Hematuria  
Bladder symptoms- suggests stone at UV junction or associated UTI  
Fever- with or without infection

### Evaluation

Urinalysis  
KUB  
IVP vs "CT-IVP" Latter costs more but is faster, safer, & shows non-opaque stones  
Ultrasound Of no value for ureteral stones, limited for renal stones

### Ureteral stones (80+% of clinical stones)

<4 mm 80-90% pass spontaneously  
4-6 mm 50% pass  
>6 mm 20% pass

### Indications for intervention

Stone too large to pass  
Intractable pain or vomiting  
Fever  
Prolonged obstruction or lack of progress  
Socio-economic\*\*\*

### Treatment Modalities

Ureterscopic with ablation( EHL, laser etc.) and/or extraction- ureter and kidney  
ESWL- stone burden under 2 cms.  
Open surgery

Treatment for kidney stones same plus PCNL, esp stones over 2 cm diameter

ESWL= extracorporeal shock wave lithotripsy

PCNL= percutaneous nephrostolithotomy