
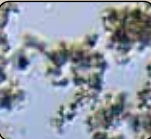



Differential Diagnosis by Shape


Amorphous Granules





- phosphates
- urates


Hexagons



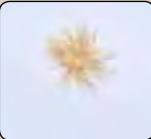

- cystine
- uric acid (rare)
- hippuric acid (narrow)
- primidone*
- pyridoxylate

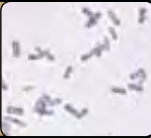
Needles




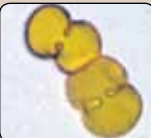
- bilirubin
- hippuric acid
- tyrosine
- acyclovir
- amoxicillin
- ampicillin
- epivir
- indinavir
- sulfadiazine
- 6-mercaptopurine


Dumbbells





- calcium carbonate (tiny)
- calcium oxalate monohydrate (seen on edge)


Fans/Besoms (Brooms)





- amoxicillin
- sulfadiazine


Sheaves





- uric acid
- tyrosine
- ampicillin (after refrigeration)
- epivir
- indinavir
- sulfadiazine
- 6-mercaptopurine

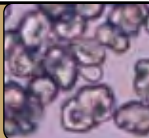
Spheres




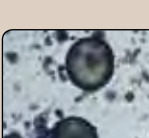
- ammonium biurate
- bilirubin (tiny)
- leucine
- sulfadiazine
- sulfamethoxazole
- triamterene


Dimpled Spheres



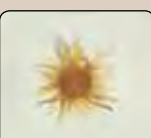

- APRT deficiency
- sulfamethoxazole

Spheres With Spikes




- ammonium biurate
- bilirubin
- sulfamethoxazole


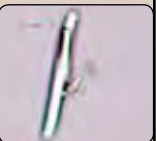



Differential Diagnosis by Shape


Rods




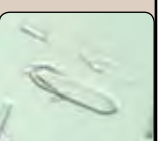
- calcium phosphate
- calcium oxalate monohydrate
- acyclovir
- ampicillin
- 6-mercaptopurine


Hexagonal Rods





- uric acid
- hippuric acid
- calcium oxalate monohydrate


Stars/Rosettes




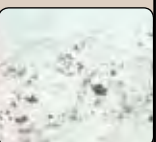
- uric acid (rare)
- calcium phosphate
- 6-mercaptopurine


Irregular Plates





- talc
- calcium phosphate


Notched Plates



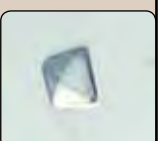
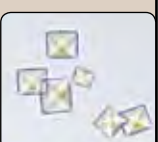
- cholesterol


Envelopes





- calcium oxalate dihydrate


Rhombic/Rhomboid Plates




- uric acid
- hippuric acid (rare)

Squares



- uric acid




Cubes





- bilirubin (tiny)
- uric acid

Differential Diagnosis by Shape


Prisms



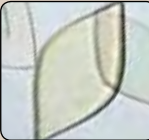

- triple phosphate (coffin lids)
- calcium phosphate
- uric acid


Lemons





- uric acid

Ovals



- calcium oxalate monohydrate (seen lying flat)





Rolling Pins




- uric acid

World War I Grenades




- uric acid

Barrels





- uric acid


Polyhedrons



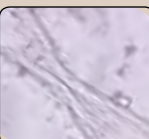

- starch
- sulfamethoxazole

Feathers/Ferns




- triple phosphate (going into solution)

Unusual Shapes



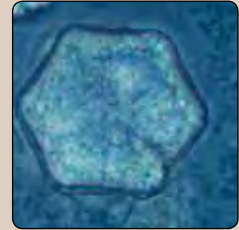
- probably drug



Differential Diagnosis by Birefringence

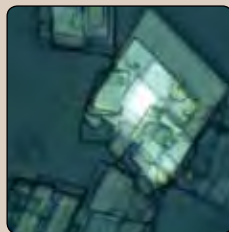
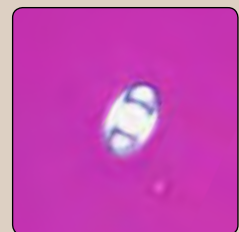
Negative

- cystine (unless stacked)
- calcium phosphate (plates)
- bilirubin (may be very weakly positive)



Positive

- | | |
|---|---|
| <ul style="list-style-type: none"> ■ calcium phosphates
(prisms and stars/rosettes) ■ acyclovir (strong) ■ indinavir (strong) ■ hippuric acid (strong) ■ calcium carbonate (strong) ■ tyrosine (strong) ■ ampicillin (strong) ■ sulfamethoxazole (strong) | <ul style="list-style-type: none"> ■ leucine (strong) ■ Whewellite (strong) ■ stacked cystine (weak) ■ Weddellite
(weak, unless clustered) ■ ammonium biurate (strong) ■ triple phosphate (moderate) ■ cholesterol
(weak or moderate if stacked) |
|---|---|



Positive With Polychromatism

- uric acid
- renografin (no longer in use)

