




XIX. Diseases of the Urinary System

Renal Calculus (oxalate stone)	
Kidney:	<ul style="list-style-type: none"> Evidence of pyonephrosis: Atrophied renal tissue Dilated calyces and pelvis Suppurative lining Shows a calculus
	<p>The calculus:</p> <ul style="list-style-type: none"> Single Moderately-large Mulberry in appearance, Spiny or/and mamillated Prickly external surface Laminated cut surface (but not so well-defined) Dark reddish-brown (blood-stained) Hard in consistence
<p>N.B.:</p> <ul style="list-style-type: none"> Oxalate stone is a common renal calculus which is characterized by colicky pains and haematuria. Occasionally, it is part of a condition called "oxalosis" which is due to disturbance in oxalate metabolism so that calcium oxalate is deposited in the kidney and some other tissues. 	
Urolithiasis	Calculi:
Three calculi are seen	
1. Uric acid calculus:	
	Cut surface:
	Consistence:
2. Oxalate calculus:	
External surface:	
	Consistence:
3. Phosphatic calculus:	
External surface:	
	Cut surface:
	Consistence:

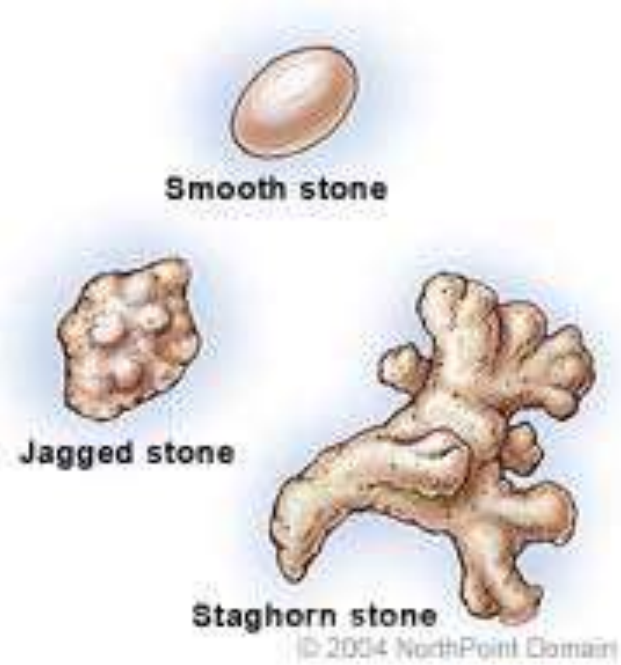
<ul style="list-style-type: none"> Moderate in size Light-to-dark brown in colour
<ul style="list-style-type: none"> Shows characteristic lamination around a central nucleus Wavy concentric rings
<ul style="list-style-type: none"> Moderately-hard
<ul style="list-style-type: none"> Nodular Prickly, irregular outline Dark brown in colour altered blood pigment)
<ul style="list-style-type: none"> Very hard
<ul style="list-style-type: none"> Moderate in size Smooth White and chalky
<ul style="list-style-type: none"> Soft and friable

N.B.:

- Common sites of urinary stones are the renal pelvis, ureter and urinary bladder; a stone formed in the kidney may remain in it or may pass down into the bladder.
- Stones may be single, multiple or coralline.
- Clinically, colicky pains (violent spasmodic contractions of ureter) during stone-passage and haematuria.

Other type of rare stones

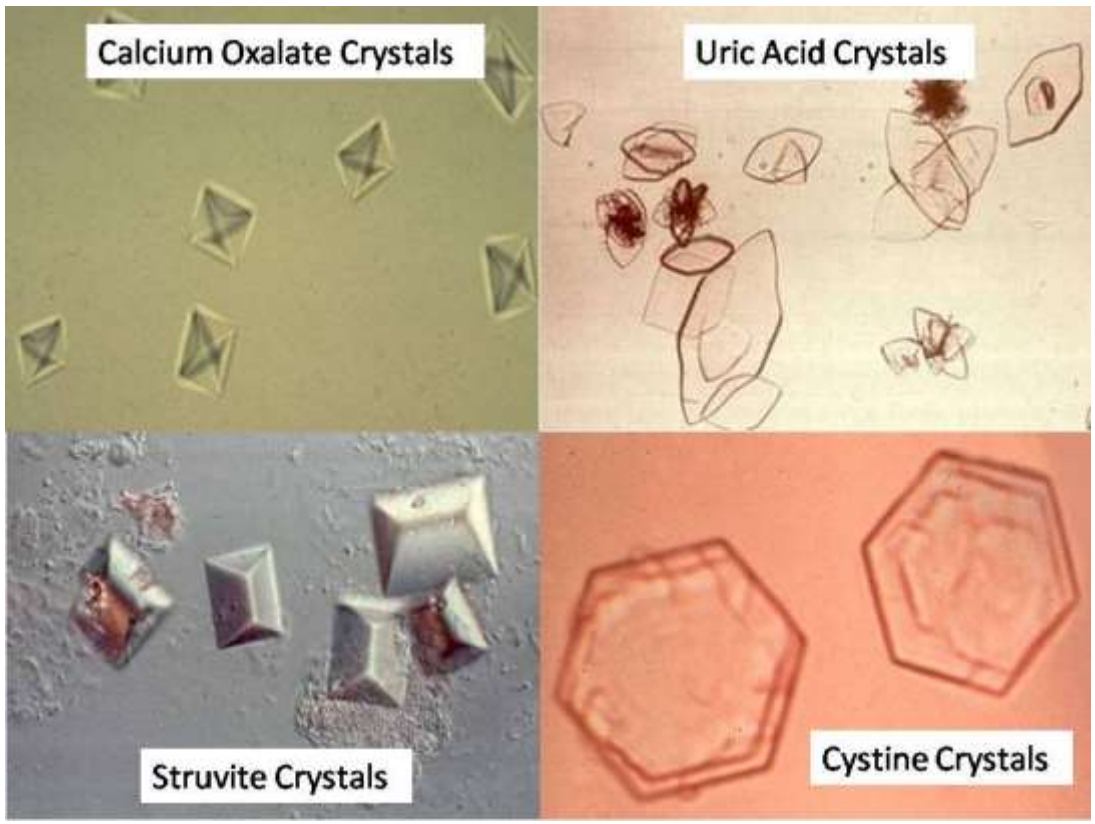
			
Uric Acid	Brushite	Carbonate Apatite	Calcium Oxalate Monohydrate deposited over Silica
			
Silica (Canine)	Struvite	Uric Acid	Calcium Oxalate Monohydrate
			
Struvite with staple	Calcium Oxalate Monohydrate with superficial Dihydrate	Calcium Oxalate Monohydrate	Calcium Oxalate Dihydrate
			
Calcium Oxalate Monohydrate (coated with Triamterene)	Xanthine	Brushite	Struvite (Ferret)
			
Tricalcium Phosphate & Apatites	Calcium Carbonate	Uric Acid Dihydrate	Struvite (Feline)
			
Calcium Oxalate Monohydrate deposited over Apatite	Calcium Oxalate Monohydrate partially encrusted w/ Dihydrate	Struvite	Carbonate Apatite
			
Calcium Oxalate Monohydrate	Cholesterol (Biliary)	Cystine	Struvite



Staghorn calculus



A vertical section of the kidney containing a large staghorn calculus.





Calcium Oxalate Monohydrate
Kidney Stone



Calcium Oxalate Kidney Stones



Uric Acid Kidney Stone



Calcium Oxalate Dihydrate/Calcium
Oxalate Monohydrate Kidney Stone



Struvite/Apatite Kidney Stone



Uric Acid Kidney Stone



Calcium Oxalate
Monohydrate/Apatite Kidney Stone



Struvite Kidney Stone



Cystine Kidney Stone



"Stone Shower" of Mixed Types of
Kidney Stones



Uric Acid/Calcium Oxalate
Monohydrate Kidney Stone



Uric Acid/Calcium Oxalate
Monohydrate Kidney Stone



Cross-Section of Uric Acid/Apatite
Kidney Stones



Cross-Section of Brushite/Apatite
Kidney Stone



Struvite Kidney Stone



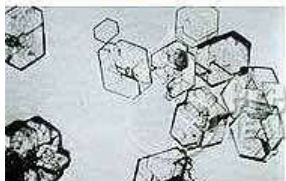
"Staghorn" Calcium Oxalate Kidney
Stone



Calcium Oxalate Kidney Stone with
Uric Acid Nidus



Brushite Crystals



Cystine Crystals



Calcium Oxalate Dihydrate Crystals



Calcium Oxalate Monohydrate
Crystals

