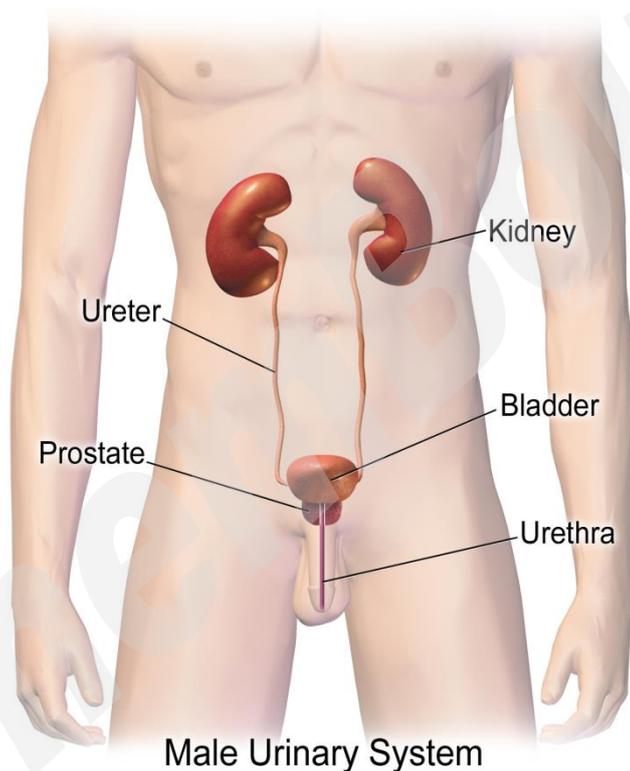


*“Kidney stones are hard deposits made of minerals and salt that form inside your kidney...”*

**Kidney stones** have many causes and can affect any part of your urinary system – from your kidneys to your bladder. Stones form when the urine becomes concentrated, allowing minerals to crystallize and stick together.



## Glossary

**Crystallize:** form crystals, a solid material

**Ultrasound:** Produces pictures of the inside of the body using sound waves.

**X-ray:** a form of electromagnetic radiation that able to create pictures of the insider of your body.

**Extracorporeal:** situated or occurring outside the body

**Lithotripsy:** a technique for treating stones in the kidney and ureter that does not require surgery. Instead, high energy shock waves are passed through the body and used to break stones into pieces as small as grains of sand.

There are **four types** of kidney stone:

**i. Calcium stone**

- Calcium stone is the most common type of kidney stone
- It is caused by an abundance of calcium in the urine which combines with oxalic acid to form calcium oxalate or combines with phosphoric acid to form calcium phosphate



**ii. Struvite stone**

- It is an infection stone which made up of magnesium, ammonium and phosphate which are created in the body by bacteria
  - This stone can be very huge and form staghorn stone



**iii. Uric acid stone**

- It is a red or orange in colour and it is formed due to high amount of uric acid in the urine



**iv. Cystine stone**

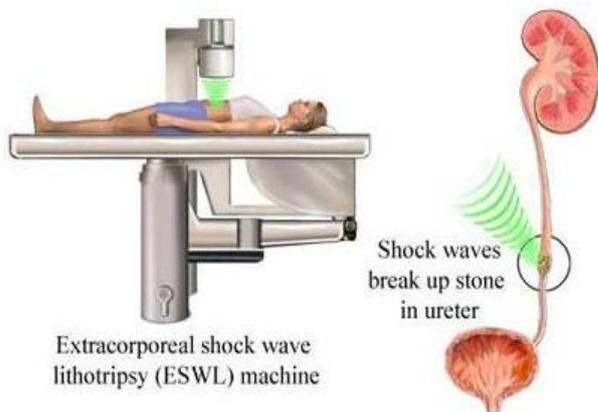
- They are relegated to those who are born with a kidney disorder called cystinuria (abnormal amounts of cystine in the urine)

**Cystine stone**

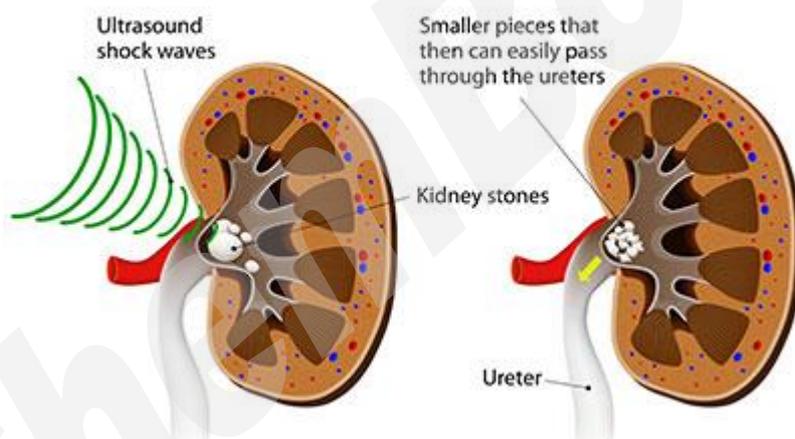


**What is extracorporeal shock wave lithotripsy (ESWL)?**

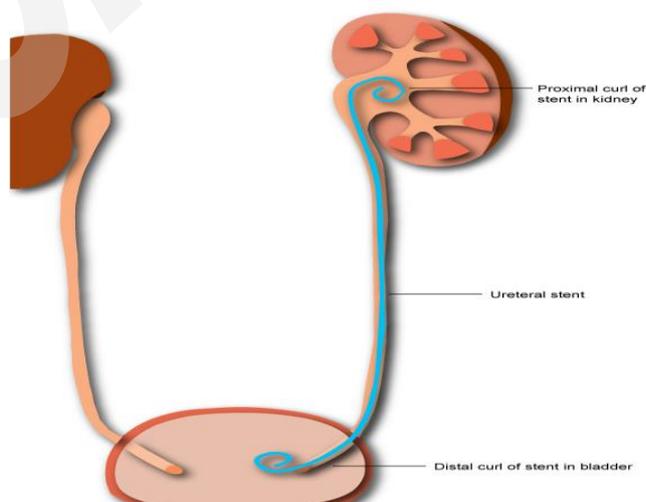
Kidney stone can be treated with ESWL – uses sound waves to break up large kidney stones into smaller pieces. The procedures of ESWL:

**Extracorporeal Shockwave Lithotripsy**

Patients lie on a water-filled cushion, and the surgeon uses ultrasound or x-ray to precisely locate the stone.

**LITHOTRIPSY**

High energy sound waves pass through patient's body without injuring it and break the stone into small pieces. These small pieces move through the urinary tract and out of the body more easily than a large stone.



The surgeon may use a stent if the patient has large stone. A stent is a small, short tube of flexible plastic mesh that holds the ureter open. This helps the small stone pieces to pass without blocking the ureter.

**If you found this article interesting, you are interested in Urology!**

Urologists diagnose and treat diseases of the urinary tract in both men and women. They also diagnose and treat anything involving the reproductive tract in men. In some cases, they may perform surgery, e.g. remove tumour or open up a blockage in the urinary tract. Urology is the field of medicine that focuses on diseases of the urinary tract and male reproductive tract.

**What are the entry requirements for Medicine degrees?**

Minimum of AAA/AAB/AAC/ABC in A-Level:

- Chemistry
- Biology
- Physics
- Mathematics

**What are the course structure and assessment methods?**

It is divided into 2 parts:

- (i) **Part I:** it relates to **pre-clinical training** which involves the learning of basic medical sciences, for instance anatomy, biochemistry, microbiology, pathology and pharmacology.
- (ii) **Part II:** it relates to **clinical training** in hospitals, rotating various clinical disciplines such as general medicine, surgery paediatrics and internal medicine.

### Top Ten Urology Medical Schools (2017)

1. Johns Hopkins School of Medicine
2. Washington University School of Medicine
3. University of California (San Diego) School of Medicine
4. Yale School of Medicine
5. Pittsburgh School of Medicine
6. Vanderbilt School of Medicine
7. Pritzker School of Medicine
8. Duke School of Medicine
9. Emory University School of Medicine
10. UNC School of Medicine



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Prepared by,

24<sup>th</sup> December 2017

**Dr Catherine Tan**

PhD in Pharmacology & Toxicology, UPM Malaysia

Member of Royal Chemistry Society, United Kingdom

Principal Consultant in Chemistry Boutique Consultancy