

# **DISORDERS OF GENITO URINARY SYSTEM**

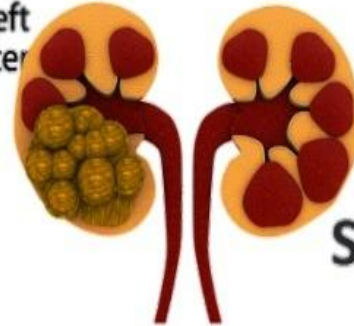
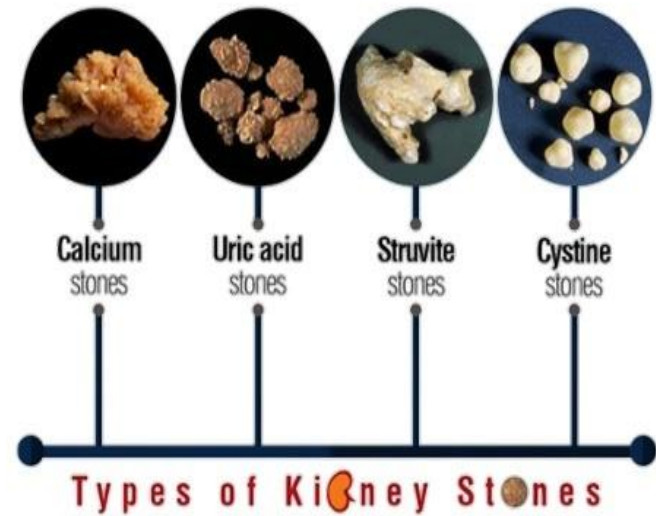
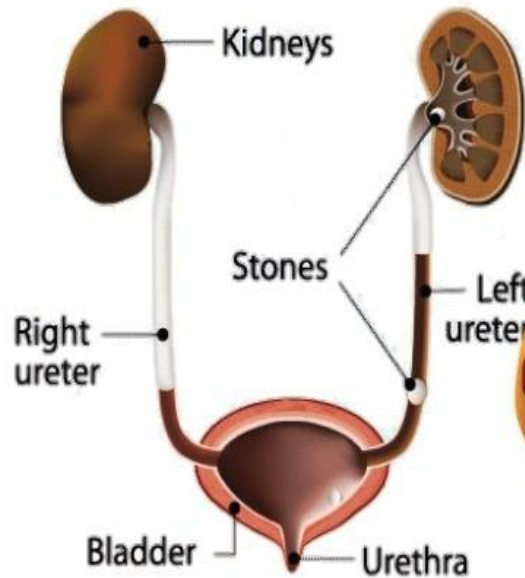
**M.S.N.-1**

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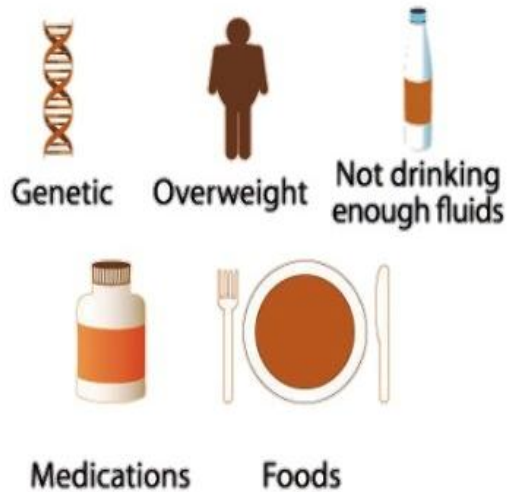
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# Kidney Stones



## Symptoms of Kidney Stones

### Risk Factors of Kidney Stones



### Severe Pain



### Vomiting



### Fever

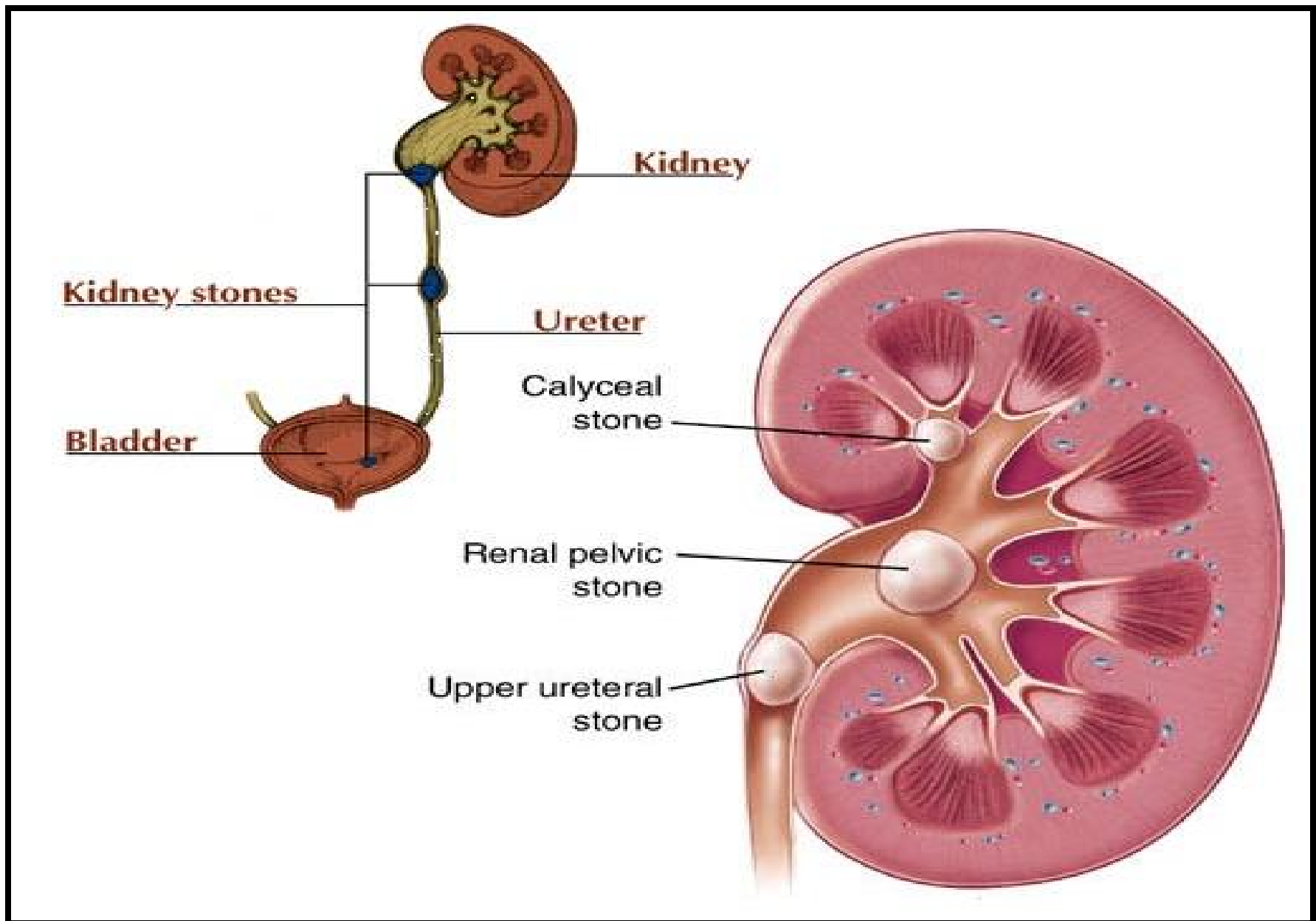


### Urination

- Painful Urination
- Urinary Infection
- Blood in urine
- Frequent urge
- Passing small amounts



# UROLITHIASIS / NEPHROLITHIASIS



q DEFINITION:-

“THE PROCESS OF FORMING STONES WHICH MADE OF MINERALS AND SALTS (SUCH AS CALCIUM OXALATE, CALCIUM PHOSPHATE, AND URIC ACID) IN THE KIDNEY, BLADDER, AND/OR URETHRA (URINARY TRACT).”

- UROLITHIASIS ALSO CALLED KIDNEY STONES, RENAL CALCULI, OR NEPHROLITHIASIS.
- OFTEN, STONES FORM WHEN THE URINE BECOMES CONCENTRATED, ALLOWING MINERALS TO CRYSTALLIZE AND STICK TOGETHER.
- PASSING KIDNEY STONES CAN BE QUITE PAINFUL, BUT THE STONES USUALLY CAUSE NO PERMANENT DAMAGE IF THEY'RE RECOGNIZED IN A TIMELY

## q ETIOLOGY / R.F.:-

- DIET (HIGH SODIUM - TOO MUCH SALT IN YOUR DIET INCREASES THE AMOUNT OF CALCIUM YOUR KIDNEYS MUST FILTER AND SIGNIFICANTLY INCREASES YOUR RISK OF KIDNEY STONES)
- DIET (HIGH CALCIUM, VIT-D, MILK)
- LESS WATER INTAKE
- DEHYDRATION
- FAMILY HISTORY
- OBESITY
- GOUT (FORM OF ARTHRITIS - INCREASED URIC ACID)
- USE OF MORE DIURETICS (CAUSE VOLUME DEPLETION)

## q TYPES:-

- **CALCIUM STONE** (CALCIUM STONES OCCUR IN THE FORM OF CALCIUM PHOSPHATE & CALCIUM OXALATE)
- **OXALATE STONE** (OXALATE IS A SUBSTANCE MADE DAILY BY YOUR LIVER OR ABSORBED FROM YOUR DIET. CERTAIN FRUITS AND VEGETABLES, AS WELL AS NUTS AND CHOCOLATE, HAVE HIGH OXALATE CONTENT.)
- **STRUVITE STONE** (STRUVITE IS A MINERAL THAT'S PRODUCED BY BACTERIA IN YOUR URINARY TRACT)
- **URIC ACID STONE** (URIC ACID STONES CAN FORM IN PEOPLE WHO LOSE TOO MUCH FLUID BECAUSE OF CHRONIC DIARRHEA OR MALABSORPTION)
- **CYSTINE STONE** (THESE STONES FORM IN PEOPLE WITH A HEREDITARY DISORDER CALLED CYSTINURIA THAT CAUSES THE KIDNEYS TO EXCRETE TOO MUCH OF A SPECIFIC AMINO ACID.)

q P.P.:-

DUE TO ETIOLOGY



DECREASED WATER VOLUME



INCREASED CONCENTRATION OF MINERALS & SALTS



MINERALS CRYSTALLIZE & STICK TOGETHER



STONE FORMATION



STONE ATTACH TO EPITHELIUM TISSUE

## q C.M.:-

- **SIGNS AND SYMPTOMS OF STONES IN THE URINARY TRACT DEPEND ON OBSTRUCTION**
- **SEVERE, SHARP PAIN IN THE SIDE AND BACK, BELOW THE RIBS**
- **PAIN THAT RADIATES TO THE LOWER ABDOMEN AND GROIN**
- **PAIN THAT COMES IN WAVES AND FLUCTUATES IN INTENSITY**
- **PAIN OR BURNING SENSATION WHILE URINATING**
- **PINK, RED OR BROWN COLOR URINE**
- **CLOUDY OR FOUL-SMELLING URINE**
- **NAUSEA AND VOMITING**
- **FEVER AND CHILLS IF AN INFECTION IS PRESENT**



### q D.E.:-

- H.C. & P.E.
- X-RAY, USG, CT-SCAN, MRI

### q TREATMENT:-

- DRINKING WATER (DRINKING AS MUCH AS 1.8 TO 3.6 LITERS A DAY)
- ANALGESICS (IBUPROFEN)
- ALPHA BLOCKERS (RELAXES THE MUSCLES IN YOUR URETERS - EG. ALFUZOSIN, DOXAZOSIN, TAMSULOSIN)
- ANTIBIOTICS
- DIET (LOW SODIUM, LOW CALCIUM, LOW OXALATE)

## Ø SURGICAL MANAGEMENT:-

- URETEROSCOPY (FIRST VISUALIZING THE STONE AND THEN DESTROYING IT WITH URETEROSCOPE.)
- EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY (ESWL):- ESWL IS A NONINVASIVE PROCEDURE USED TO BREAK UP STONES IN THE CALYX OF THE KIDNEY. IN ESWL, A HIGH-ENERGY AMPLITUDE OF PRESSURE, OR SHOCK WAVE ARE USED.
- A PERCUTANEOUS NEPHROSTOMY OR A PERCUTANEOUS NEPHROLITHOTOMY
- LASER THERAPY :- A HIGH-ENERGY LASER DESTROYS OR REMOVES STONE.

## Ø SURGICAL MANAGEMENT:-

- **CHEMOLYSIS:-** STONE DISSOLUTION USING INFUSIONS OF CHEMICAL SOLUTIONS SUCH AS (Eg, ALKYLATING AGENTS, ACIDIFYING AGENTS) FOR THE PURPOSE OF DISSOLVING THE STONE.
  
- **ELECTROHYDRAULIC LITHOTRIPSY:-** IN THIS METHOD AN ELECTRICAL DISCHARGE IS USED TO CREATE A HYDRAULIC SHOCK WAVE TO BREAK UP THE STONE.

## q NEPHROSCLEROSIS

- NEPHROSCLEROSIS IS HARDENING, OR SCLEROSIS, OF THE ARTERIES OF THE KIDNEY DUE TO PROLONGED HYPERTENSION.
- THIS CAUSES DECREASED BLOOD FLOW TO THE KIDNEY AND PATCHY NECROSIS OF THE RENAL PARENCHYMA.

### q ETIOLOGY:-

- HYPERTENSION

### q TYPES:-

- BENIGN (OLDER PEOPLE WITH HIGH SYSTOLIC)
- MALIGNANT (YOUNG PEOPLE WITH HIGH DIASTOLIC)

q C.M.:- SYMPTOMS ARE RARE EARLY IN THE DISEASE  
RENAL INSUFFICIENCY & ASSOCIATED SYMPTOMS.

q D.E.:- H.C. & P.E.,

- URINE TEST
- USG,
- BLOOD TEST,
- X-RAY, CT-SCAN & MRI

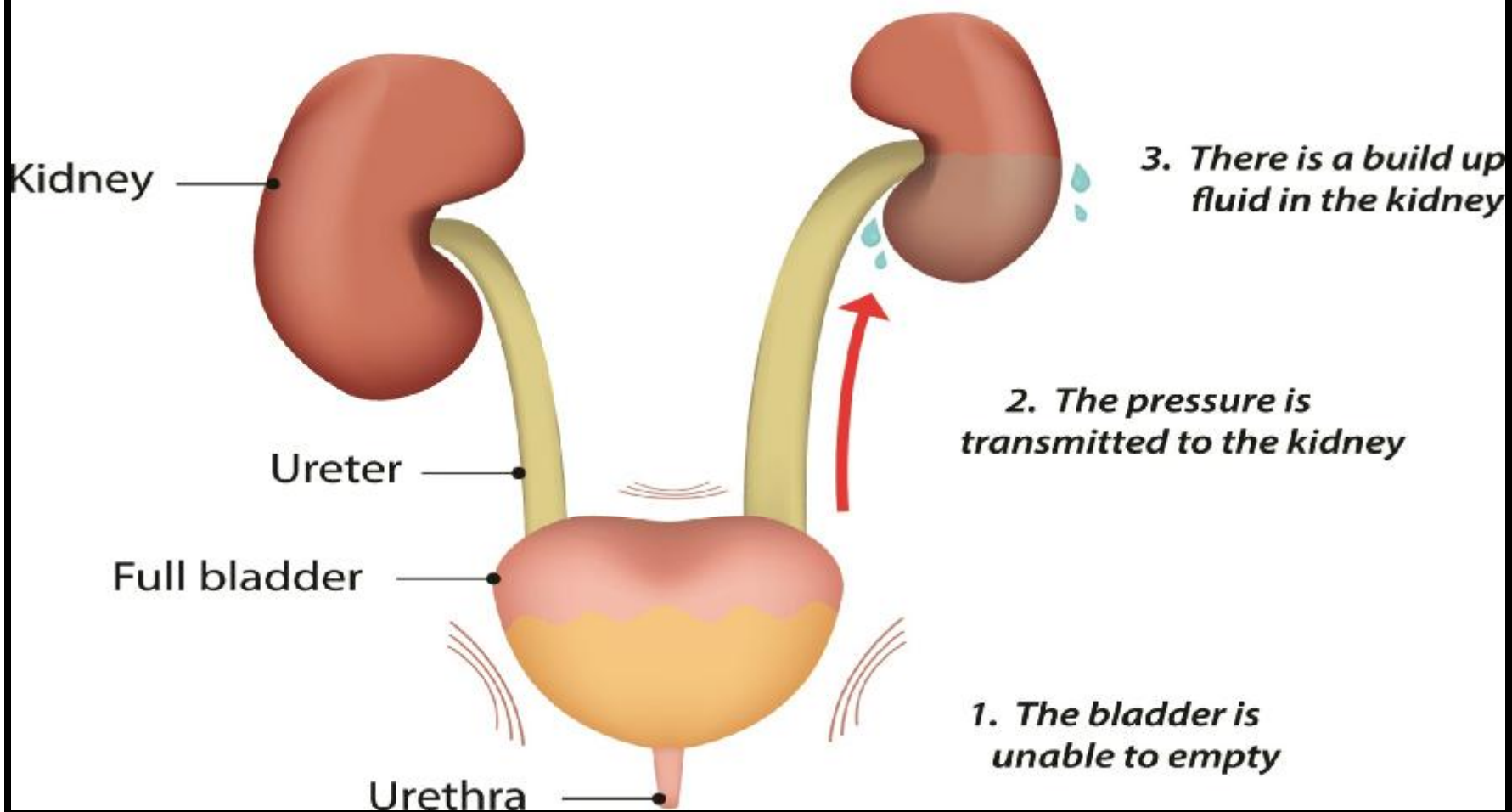
q TREATMENT:-

- ANTIHYPERTENSIVE DRUGS OR
- ALONE ACE INHIBITORS

# Hydronephrosis

## Healthy Kidney

## Hydronephrosis



## q **HYDRONEPHROSIS**

- HYDRONEPHROSIS IS SWELLING OF ONE OR BOTH KIDNEYS.
- KIDNEY SWELLING HAPPENS WHEN URINE CAN'T DRAIN FROM A KIDNEY AND BUILDS UP IN THE KIDNEY AS A RESULT.
- THIS CAN OCCUR FROM A BLOCKAGE IN THE TUBES THAT DRAIN URINE FROM THE KIDNEYS (URETERS) OR FROM AN ANATOMICAL DEFECT THAT DOESN'T ALLOW URINE TO DRAIN PROPERLY.

### q **ETIOLOGY:-**

- PARTIAL BLOCKAGE IN THE URINARY TRACT

### q C.M.:-

- URINARY PROBLEMS, SUCH AS PAIN WITH URINATION OR FEELING AN URGENT OR FREQUENT NEED TO URINATE
- NAUSEA AND VOMITING

### q D.E.:- H.C., P.E.

- USG, X-RAY, CT-SCAN & MRI

### q TREATMENT:-

- ANTIBIOTICS
- SURGICAL CORRECTION FOR BLOCKAGE



## q RENAL ABSCESS:-

RENAL ABSCESS IS DEFINED AS A LOCALISED PUS COLLECTION IN KIDNEY.

### qETIOLOGY:-

- BACTERIAL INFECTIONS TO KIDNEY LIKE STAPHYLOCOCCUS, STREPTOCOCCUS, E.COLI

### qC.M.:-

- FEVER
- PUS IN URINE
- BURNING SENSATION WHILE URINATION
- FLANK PAIN OR GROIN PAIN

q D.E.:- H.C. & P.E.,

- URINE TEST
- USG,
- BLOOD TEST,
- X-RAY, CT-SCAN & MRI

q TREATMENT:-

- ANTIBIOTICS (I.V. OR ORALLY)
- ANTIPYRETICS
- ANALGESICS

## q URETHRAL STRICTURES

- A URETHRAL STRICTURE IS A NARROWING OF THE LUMEN OF THE URETHRA AS A RESULT OF SCAR TISSUE AND INJURY.

### q ETIOLOGY:-

- INJURY
- INJURY DURING PERFORMING TRANSURETHRAL SURGERY
- INJURY BY INDWELLING CATHETER

### q C.M.:-

- THE PATIENT REPORTS THAT THE FORCE AND VOLUME OF THE URINARY STREAM ARE DIMINISHED

q D.E.:- H.C., P.E.

- USG, X-RAY, CT-SCAN & MRI

q TREATMENT:-

- URETHRAL DILATATION WITH DILATING INSTRUMENTS
- URETHROPLASTY
- URETHRAL STENT IMPLANTATION