



SUYASH

Uro Times

A Quarterly News Letter From Suyash Nursing Home

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UROLOGY

Dr Sharad Somani

From Greek *ourov* ouron “urine” and *logia*-logia “Study Of”

Urology, also known as **genitourinary surgery**, is a branch of medicine that deals with surgical and medical diseases of male and female urinary tract and male reproductive organs.

The urinary and reproductive tracts are closely linked and diseases of one often affect the other. Thus a majority of conditions managed in urology come under genitourinary disorders.

The **organs** under the domain of urology include kidneys, adrenal glands, ureters, urinary bladder, urethra and male reproductive organs testes, epididymis, vas deferens, seminal vesicles, prostate and penis.

Surgeons specialized in the field of urology are called **Urologist**.

Historically, the subject which clearly established the specialty of urology as being distinct from general surgery was the treatment of obstructive uropathy. This treatment ranges from the correction of obstructing posterior urethral valves or ureteropelvic junction obstruction in the infant to the correction of bladder outlet obstruction from benign prostatic hyperplasia in the older male.

Urology combines

- ▶ Management of medical conditions such as urinary tract infections
- ▶ Management of surgical conditions such as obstructive uropathy, urinary cancers, congenital abnormalities and traumatic injuries,
- ▶ Combined medical and surgical management for conditions such as BPH (Benign prostatic hyperplasia) and urinary calculus disease (Stone).

Urology has traditionally been on the cutting-edge of surgical technology in the field of medicine. Urologists are well trained in minimally invasive techniques like endoscopy and laparoscopy, employing real time ultrasound guidance, fiber optic endoscopic equipment, and various lasers in the treatment of multiple benign and malignant conditions. In addition, urologists are pioneers in the use of robotics in laparoscopic surgery.

A knowledge and association with medicine, pediatrics, gynecology, nephrology, endocrinology & gastroenterology is required by the urologist because of the wide variety of clinical problems encountered.

Continued Page...3

Suyash Team

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Consultants



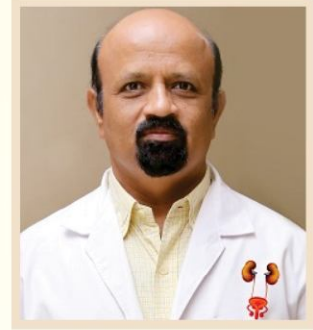
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Support Staff

Continued From Page...1

In consideration of wide scope, multiple **subspecialties** have emerged in urology.

- ▶ Endourology for stones and prostate
- ▶ General urology
- ▶ Pediatric urology
- ▶ Uro-oncology
- ▶ Renal Transplantation
- ▶ Male infertility and andrology
- ▶ Female Urology
- ▶ Neuro-Urology
- ▶ Reconstructive Urology
- ▶ Laparoscopy in Urology
- ▶ Lasers in Urology

Endourology

Endourology is a branch of urology that deals with closed manipulation of urinary tract. It has lately grown to include all urologic minimally invasive surgical procedures.

As opposed to open surgery, endourology is performed using small cameras and instruments inserted into the urinary tract. Transurethral surgery has been the cornerstone of endourology. Most of the urinary tract can be reached via urethra, enabling prostate surgery, surgery of tumors of urothelium, stone surgery, and urethral and ureteral procedures.

Recently, the addition of laparoscopy and robotics has further subdivided this branch of urology.

Stone disease of the urinary tract has always provided a substantial portion of urologic practice. The recent introduction of rigid and flexible ureteroscopy has greatly improved the capacity of urologist to deal with the problem while the management of stones in the kidney has been revolutionized twice in the immediate past: first with the introduction of percutaneous methods for stone disintegration and extraction, and secondly by the application of extracorporeal shockwave lithotripsy. Collectively these techniques have largely rendered open surgical procedures for dealing with kidney and ureteral stones obsolete.

In addition, advances in the diagnosis and metabolic management of recurrent nephrolithiasis allow urologists to reduce the risk of recurrent stone formation.

Diseases of prostate are common in geriatric age group. Benign enlargement of prostate need either medical management or surgical interventions in the form of transurethral resection of prostate (TURP) or most recent technology of laser treatment for prostate (HOLEP) making open surgery for prostate obsolete.

General Urology

Urinary tract infections : affecting every age group in both sexes comprise a significant fraction of urological practice. While urinary tract infection may be the obvious and definitive clinical symptom at presentation, it may also reflect other disorders of the urinary tract such as stone or obstructive uropathy. Much recent interest has been focused on the characterization of pathogenic bacteria that are particularly prone to cause persistent urinary tract infections, specifically pyelonephritis. Bacteriuria is such a common clinical problem that there is inevitably a large cross-disciplinary approach to this problem. Urologists often interact with physician, pediatricians and gynecologists in the management of patients with bacteriuria.

Trauma to the genitourinary system involves the urologist as one member of the trauma team during initial evaluation of multiply injured patient. Recent improvements in imaging techniques for the evaluation of renal trauma and standardization of approaches to the problem of lower urinary tract trauma have significantly improved the care of such patients. There are a vast number of operative approaches to the problem of late correction of injuries to the lower urinary tract which fall under the general heading of reconstructive surgery.

Pediatric urology

Pediatric urology concerns urologic disorders in children. Major portion of pediatric urologic diseases are **congenital anomalies**. The urinary tract is affected by congenital anomalies more often than any other organ system. The congenital urological abnormalities include relatively common problem of phimosis, undescended testes (cryptorchidism), pelviureteric junction obstruction, vesicoureteric reflux to the complex area of intersexuality. Other urological diseases in children requiring care are urinary tract infections and nocturnal enuresis.

Urology

Urologic oncology

Urologic oncology concerns the surgical treatment of malignant diseases of genitourinary tract. It includes cancer of prostate, adrenal glands, bladder, kidneys, ureter, testicles, and penis. The treatment of malignant disease is a very large portion of urologic practice.

The treatment of genitourinary cancer is managed by either urologist alone or with medical oncologist, depending on the treatment type (Surgical or medical). Some of the most encouraging results in the medical and surgical management of solid tumors have involved genitourinary tumors, namely testis tumors and Wilms' tumor.

The development of multimodal therapy in which chemotherapy, radiation therapy and surgical treatment are used in conjunction, will hopefully improve the results of treatment of other genitourinary malignancies.

Most uro-oncologists use minimally invasive techniques (laparoscopy or endourology, robotic-assisted surgery) to manage urologic cancers amenable to surgical management. Newer diagnostic methods for the detection of prostate cancer have recently emerged and currently the diagnosis and treatment of prostate cancer occupies much of many urologists time.

Renal transplantation

Involvement of urologist in the problems of renal insufficiency and end-stage renal disease (ESRD-CKD) has been necessitated by an enormous increase in the number of patients on dialysis and requiring transplantation. Urologist is an important member of surgical team of renal transplantation.

Andrology

Andrology focuses on the male reproductive system. It is mainly concerned with **male infertility, erectile dysfunction and ejaculatory disorders**. Since male sexuality is largely controlled by hormones, andrology overlaps with endocrinology.

Surgery in this field includes fertilization procedure, vasectomy reversals, and the implantation of penile prostheses. The management of impotence has been revolutionized first and foremost by the introduction of prosthetic devices in urology. The area of prosthetics in

urology has gradually expanded to encompass various forms of penile prostheses.

The management of infertility in the male has generally focused on the surgical correction of various acquired and congenital obstructions within the genital system, and increasingly sophisticated efforts to diagnose and treat the problem of coexisting male subfertility and varicocele. Continued improvements in the medical management of male infertility require a high level of expertise in the area of reproductive physiology and endocrinology.

Female Urology

Female Urology, also known as Uro gynecology, is a branch of urology dealing with urological problems in females. There is a significant overlap of this branch with neuro-urology and reconstructive urology.

Common urological diseases in female are urinary tract infections, overactive bladder, pelvic organ prolapse and urinary incontinence.

The diagnosis and therapy of **urinary incontinence** constitute a significant portion of most urology practices. Thorough knowledge of the female pelvic floor together with intimate understanding of the physiology and pathology of voiding are necessary to diagnose and treat these disorders.

Depending on the cause of the individual problem, a medical or surgical treatment can be the solution.

Neuro-Urology

Neuro-urology concerns nervous system control of the genitourinary system and of conditions causing abnormal urination.

Neurological diseases and disorders such as a stroke, multiple sclerosis, Parkinson's disease and spinal cord injury can disrupt the lower urinary tract and result in conditions such as urinary incontinence, detrusor overactivity, Urinary retention and detrusor sphincter dys-synergia.

Urodynamic studies play an important diagnostic role in neuro urology. Therapy for nervous system disorders includes clean intermittent self-catheterization of the bladder, anticholinergic drugs, injection of Botulinum toxin into the bladder wall and advanced and less commonly used therapies such as sacral neuromodulation. Less marked neurological

Urology

abnormalities can cause urological disorders as well, for example, abnormalities of the sensory nervous system are thought by many researchers to play a role in disorders of painful or frequent urination (painful bladder syndrome also known as interstitial cystitis)

Reconstructive Urology

Reconstructive urology is a highly specialized field of urology that restores both structure and function to the genitourinary tract.

The common reconstructive procedures are pyeloplasty, ureteric reimplantation or reconstruction of urethra for either stricture urethra both traumatic and inflammatory or hypospadias.

Laparoscopy in Urology

Laparoscopy is a rapidly evolving branch of urology and has replaced many open urological procedures. Laparoscopy is useful for both ablative and reconstructive urological procedures.

Urological procedures performed by laparoscopy include adrenalectomy, nephrectomy, partial nephrectomy, donor nephrectomy, radical nephrectomy, radical prostatectomy, pyelolithotomy and ureterolithotomy in special situations. Robot assisted surgery of the prostate, kidney, and ureter has been expanding this field. This has created controversy, as robotics greatly increase the cost of surgery and the benefit for the patient may or may not be proportional to the extra cost.

Lasers in Urology

Laser stands for light amplification by stimulated Emission of Radiation. Four types of lasers are used in Urology. These are Nd-YAG, KTP or Green light laser, Holmium laser and diode laser. Of all these, **holmium laser** is most versatile having indications in prostate (HOLEP), Stone (URS, RIRS, UMP), tumor and stricture (Laser VIU). Use of lasers is the most happening thing in urology in recent times.

The specialty of urology is constantly changing. Much of this change has been the result of improved technology. Refinements in the area of ureteral and renal endoscopic

surgery have already revolutionized the therapy of urinary tract stones and working in conjunction with the new generation of extracorporeal lithotripters many of the traditional open surgical approaches to the problems of renal and ureteral calculi are now largely obsolete. Other traditional urologic procedures, specifically vasovasostomy and hypospadias repair have improved results in selected cases with the use of surgical microscope. Skill and experience using the surgical microscope will undoubtedly be an important part of urologic practice in the future. Laser is the most happening thing in urology in recent times. Much recent research effort has evolved in the area of laparoscopic surgery. Many urologic operations which have been done by open surgery in the past can now be performed through the laparoscope. The development of new cancer chemotherapeutic agents has significantly altered therapy for some urologic cancers. In summary, Urology is a rapidly changing and exciting area of medicine which requires practicing urologists to be actively involved in continuing education.

Common urological diseases are

- ▶ Urinary stones- Kidney, ureter, bladder
- ▶ Benign Prostatic Hyperplasia (Enlarged Prostate - BPH)
- ▶ Urinary Cancer- Adrenal, Kidney, Ureter, Bladder, Prostate, Penis, Testes
- ▶ Erectile Dysfunction
- ▶ Male infertility
- ▶ Incontinence of urine (SUI, OAB, etc)
- ▶ Interstitial Cystitis/Painful Bladder Syndrome
- ▶ CKD / ESRD requiring Kidney Transplantation
- ▶ Congenital anomalies- Hypospadias, Undescended Testes, Ureteropelvic junction Obstruction, Vesicoureteral Reflux (VUR)
- ▶ Peyronie's Disease
- ▶ Urethral Stricture
- ▶ Urinary Tract infection- Pyelonephritis, Cystitis, Prostatitis and Epididymo orchitis
- ▶ Nocturnal enuresis

Priapism

Dr Nagesh Nagapurkar

The name comes from the Greek god "Priapus" a fertility god often represented with disproportionately large and permanent erection.

Def:- Priapism is involuntary Prolonged persistent/ Painful erection unrelated to sexual stimulation and unrelieved by ejaculation.

Patho Physiology :- Physical or psychological stimulation increase in arterial blood flow of spongy tissue & increase trapping of venous flow in to spongy tissue gives erection.

Ejaculation or end of stimuli increase Venous flow and return. Decrease of arterial flow give flaccid state In priapism No stimulation & No flaccid state due to stagnation of blood.

TWO TYPES :

1st Type - Low Flow

1. 80 to 90% common
2. Accumulation of blood into Penis
3. More Painful
4. Erect Penis with rigid penile shaft & soft glance.
5. Dark black blood on penile aspiration
6. It is called Ischemic priapism
7. Abnormal Cavornosal blood gases

2nd Type - High Flow

1. 10 to 15% incidence
2. Too much blood flow in to penis
3. Less Painful
4. Erect but penile shaft is not rigid
5. Due to rapture of artery to penis or due to A-V fistule
6. Non Ischemic priapim

Diagnosis : History - Age of Patient

Length of time patient had erection which is very important factor in deciding Treatment protocol.

How long erection last H/o medication of drugs legal/illegal

H/o Blunt Trauma

O/E

GE : Anemia / Edema over face

P/A- Rule out tumor/lump or growth that indicate malignancy.

L/E:= Rigidity & sensitivity of penis Identify the cause See for any injection mark, necrosis of skin etc.

Investigation :

- 1) CBC/Microscopic test of RBC,WBC
- 2) Blood gas analysis of aspirated blood from penis, (Hypoxic,Hypercarbic & Acidotic cavernous blood gas)
- 3) PT-INR if required.
- 4) USG of penis with Doppler study which can measure blood flow Also differentiate ischemic from non ischemic Urine & blood sample for illegal doping of drugs like cocaine, morphine etc

Causes :

- 1) Blood disorders:
 - A) Sickle cell anemia – Abnormal RBC.
 - B) Leukemia.
- 2) Drugs :
 - A) Sildenafil citrate (Viagra)
 - B) Antidepressants- Flavoxitine, Depoxitine
 - C) Local Inj drug Papaverine

- D) Antipsycotic-Risperdal
 - E) Blood thinner- warfarrin & heparin
- 3) Drinking of too much alcohol.
 - 4) Illegal drug doping (cocaine/morphine)
 - 5) Injury & trauma to genitals (between penis & anus)
 - 6) Spinal cord injury
 - 7) Blood clots
 - 8) Poisonous venous of Scorpios or black spider

Treatment :

A) Ischemic : It is an medical emergency

0-2 hr : Encourage patient to urinate, increase fluid intake, exercise, oral analgesic.

2-4 hr : emergency IV fluids/hydration, IV analgesic, Anxiolytics (Midazolam/Dizepam), O2 Inhalation.

4-12 hr : Intra cavernosal aspiration decrease local anesthesia, Inj Phenylephrine, IV fluid hydration O2 inhalation.

More than 12 hr : Shunt procedure.

Drugs used are A) Oral or IV

- 1) Dopamine 2-4 mg/kg IV dilute slowly.
 - 2) Terbutaline sulphate 5 mg orally
 - 3) Ketamine hydrochloride 1mg/kg IV/IM
- B) Intra cavernous-Epinephrine 0.03 to 0.05 mg
Phenylephrine 0.1 to 1 mg

Shunt Procedure :

- (1) Distal shunt
 - A) Percutaneous distal shunt
- 1) Winter (corporoglandular)-Large biopsy needle inserted glans to corpora to create fistula
- 2) Ebbehoj (corporoglandular)- 14 no scalp used
- 3) T shunt corporoglandular)- 10 no blade T shape opening.
 - B) Open distal shunt :
 - (1) Al Ghorab : Excision of core segment of corporal body on both side.
 - (2) Burnett : Hegar dilator to evacuate blood.
 - (2) Proximal Shunt
 - 1) Open prodermal shunt: Sacher corporo-spongiosal shunt
 - 2) Grahjee shunt: saphanous vein anastomosis to corpora
 - 3) Barry shunt: superficial & deep dorsal vein anastomos corpora.

► Recurrent/stuttering/intermittent priapism & its Prevention : It is recurrent form of Ischemic in which unwanted painful erection occur repeatedly with intervening periods of detemusement.

Prevention :

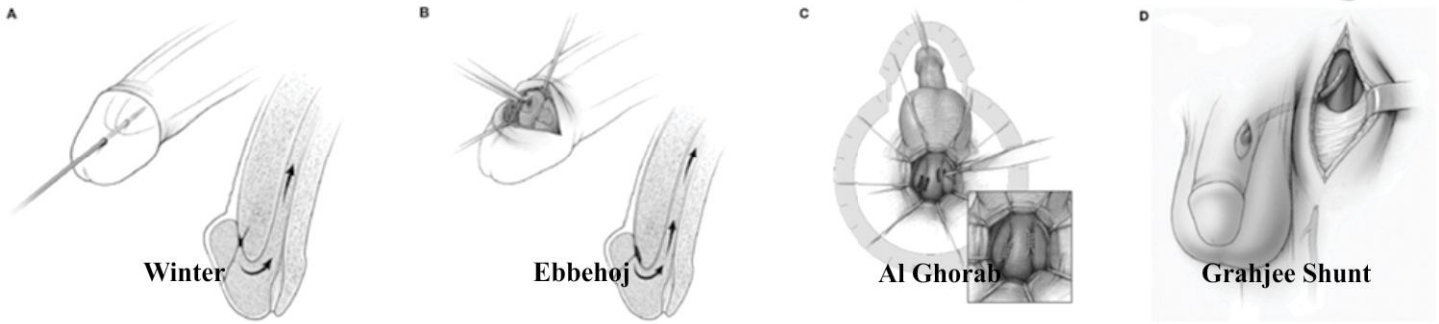
- 1) Treatment the underlying disease for long time
- 2) Changes of drugs
- 3) Constant follow up & observation.
- 4) Avoiding triggers such as alcohol or illegal drugs
- 5) Self irj of phenylepinphrine
- 6) Hormonal blocking agents for adult

Complications:

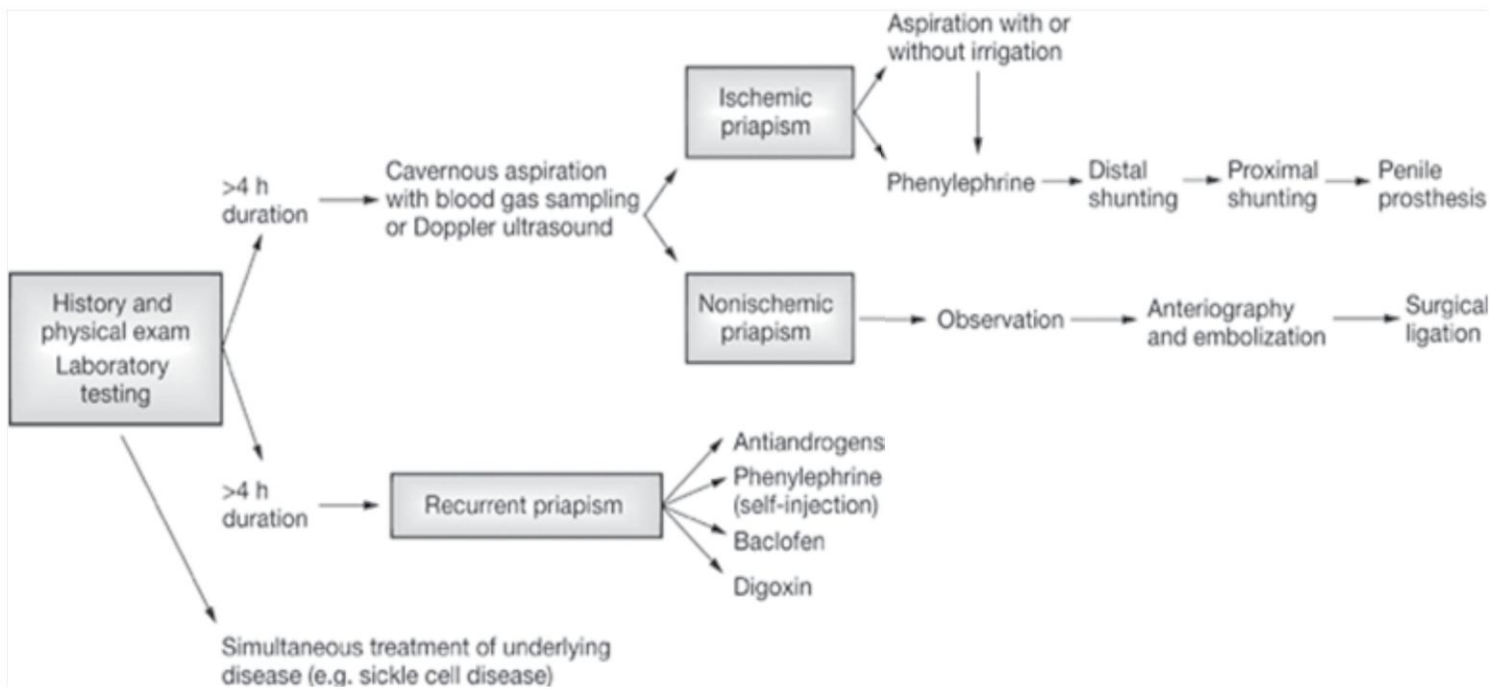
- 1) Erectile dysfunction
- 2) Disfigurement of penis

Priapism

Different Shunt Procedures for Priapism



Flow chart for treatment of Priapism



First time in India with OCDS Technology
Oral Controlled Delivery System

World's First Combination of
Tamsulosin (0.4 mg) & Dutasteride (0.5 mg)

For Symptomatic BPH
Clinically Uroselective Alpha_{1A}- Blocker

Superior Solution & Tabs For Urinary Stones

Newly Introduced,
ECOPACK
Assuring 30 days
of max control
Economic Pack

Once Daily
Urimax
Also available in 15's Strips

Once Daily
Urimax D
Tamsulosin Hydrochloride 0.4 + Dutasteride 0.5
Relax, it works like a charm.
For Symptomatic BPH
Patients with Enlarged Prostate

Once Daily
Alfusin
Alfuzosin Hydrochloride 10 mg Extended Release Tablets
Be in full flow.
Reduces PVR, Effective in the Management of AUR
Improve success rate of TWOC in Patient with AUR
for Sexually Active BPH Patients

STON 1B6
Potassium Citrate,
Magnesium Citrate & Vit B6
85% Reduction in Recurrence of Urinary Stones
Superior Efficacy Than Potassium Citrate



New Addition :

Installed Flexible ureterorenoscope (Flex X 2 - Karl Storz, Germany)

With this Suyash Nursing Home, Aurangabad is now equipped with all available instruments and accessories presently in use world wide for endoscopic treatment of urinary Stone disease and BPH



For renal calculus

(1) PCNL (2)Mini Perc (3) UMP (4) RIRS (5) Laparoscopic pyelolithotomy

For ureteric calculus

(1) URS (2) Flexible ureteroscopy (3) Laparoscopic ureterolithotomy



For BPH

(1) TURP (2) HoLEP(Holmium Laser Enucleation of Prostate)

50 W Auriga Holmium Laser Unit

FACILITIES AVAILABLE

- ▶ Endoscopic Treatment Of Stone
In Kindey, Ureter and Bladder
- ▶ Endoscopic Treatment Of Prostate (TURP)
- ▶ LASER - 50 Watt, German Technology
Auriga XL excellent energy source for
all Urology applications
- ▶ Female Urology
- ▶ Paediatric Urology (Endoscopy, LASER)
- ▶ Male Infertility
- ▶ Kidney Transplant
- ▶ Laparoscopy
- ▶ Video Endoscopy
- ▶ Well equipped Operation Theatre
- ▶ Multipara monitor, defibrillator
- ▶ C - arm X - Ray machine
- ▶ Lithotripsy
- ▶ Central oxygen & monitoring system
- ▶ Uroflometry
- ▶ Ultra sonography Department
- ▶ Pathology Laboratory
- ▶ Digital X-Ray Machine
- ▶ Lift & Generator facility
- ▶ Cashless Insurance facility
- ▶ 24 hrs Pharmacy

Rajeev Gandhi Jeevandayee Aarogya Yojna

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