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Department of Health Research

Ministry of Health and Family Welfare, Government of India

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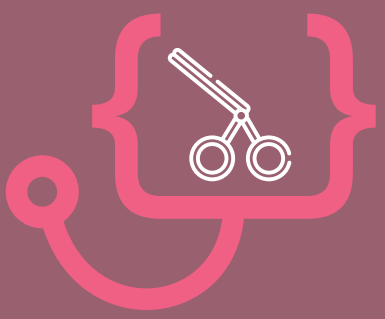

2019 Edition, Vol. I

STANDARD TREATMENT WORKFLOWS

of India

PARTNERS

national health authority

World Health Organization

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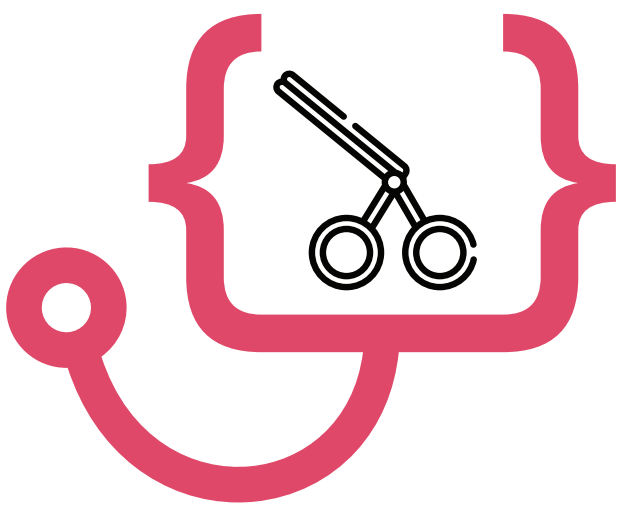

STANDARD TREATMENT WORKFLOWS of India

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INTRODUCTION

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GOAL

To empower the primary, secondary and tertiary care physicians/surgeons towards achieving the overall goal of Universal Health Coverage with disease management protocols and pre-defined referral mechanisms by decoding complex guidelines

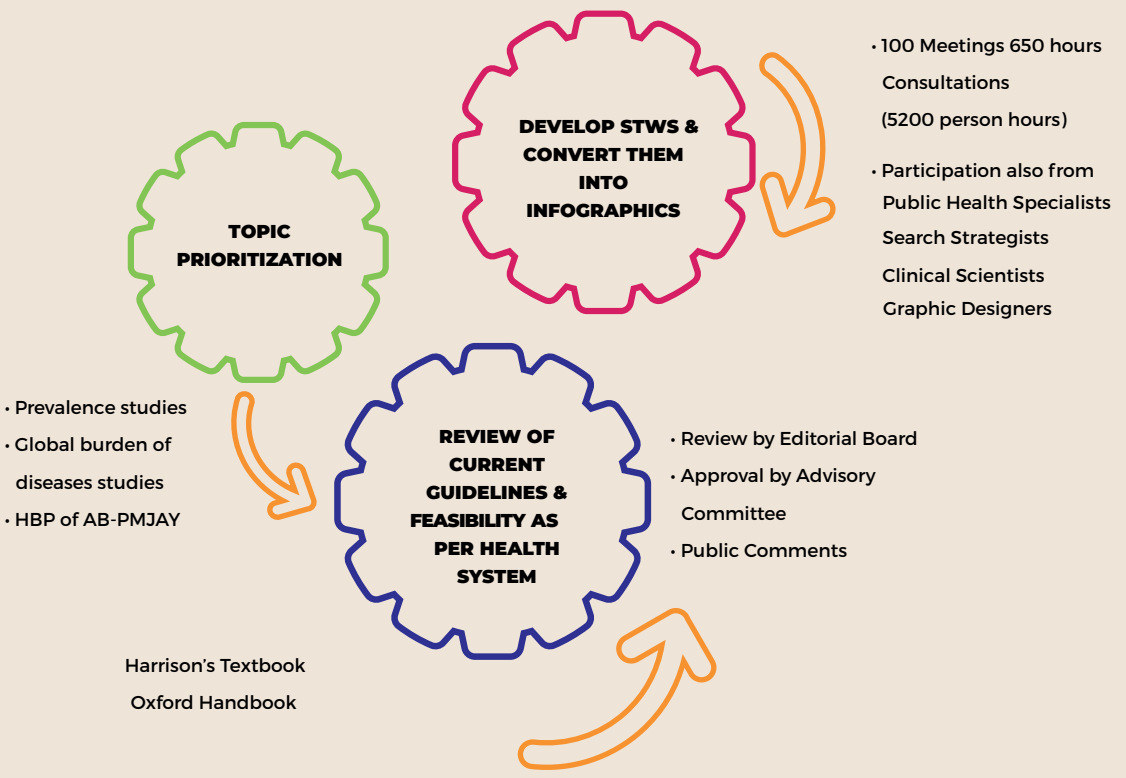
OBJECTIVES

Primary Objective:
To formulate clinical decision making protocols for common and serious medical/ surgical conditions for both OPD and IPD management at primary, secondary and tertiary levels of healthcare system for equitable access and delivery of health services which are locally contextual

Secondary Objective:
To facilitate PMJAY arm of Ayushman Bharat with secondary and tertiary level management of all surgical and medical conditions covered under the scheme.

METHODOLOGY

PROCESS OVERVIEW



UROLOGY

October/ 2019

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Standard Treatment Workflow (STW) for the Management of
ACUTE URINARY RETENTION IN MEN (AUR)
ICD-10-R33.9

DEFINITION:
Emergency condition characterized by a sudden and painful inability to void voluntarily despite having a full bladder

HISTORY
- Nature and duration of urinary symptoms prior to AUR
- Associated symptoms like fever, weight loss, sensory loss or weakness of lower limbs
- Past history of retentions
- Rule out precipitating causes like diabetes mellitus, alcohol consumption, recent surgery, UTI, constipation, cold exposure, prolonged travel and neurological conditions
- Medication history
- Look for risk factors

EXAMINATION
- Fever
- Enlarged tender palpable bladder dull on percussion
- Phimosis, meatal stenosis, urethral induration, stone, urethral discharge
- DRE for estimating prostatic size, consistency, tenderness ; exclude fecal impaction
- Focused neurological examination-anal tone, perianal sensation and bulbocavernous reflex

RISK FACTORS OF SPONTANEOUS AUR DUE TO BPH
- Old age
- Severe lower urinary tract symptoms (LUTS)
- Low peak flow rate
- High postvoid residual urine (PVR)
- Enlarged prostate or large median lobe
- High serum PSA
- Symptom worsening
- Increasing PVR during medical therapy

RISK FACTORS OF PRECIPITATED AUR
- Surgical procedure with general or loco-regional anaesthesia
- Bladder over-distension (eg prolonged journey)
- Exposure to cold
- Medications with sympathomimetic or anticholinergic effects, diuretics, alcohol intake
- Feacal impaction

CAUSES

THAT BLOCK THE PASSAGE: BPH; Urethral Calculus; Urethral Stricture; Acute Prostatitis; Ca Prostate; Vesical Calculus; Faecal impaction

THAT PARALYSE DETRUSOR: Neurological diseases e.g. spinal cord compression, transverse myelitis, stroke, head injury; Drug induced eg. opiods, anticholinergics, anti-histaminics, anti-diarrhoeals, flavoxate

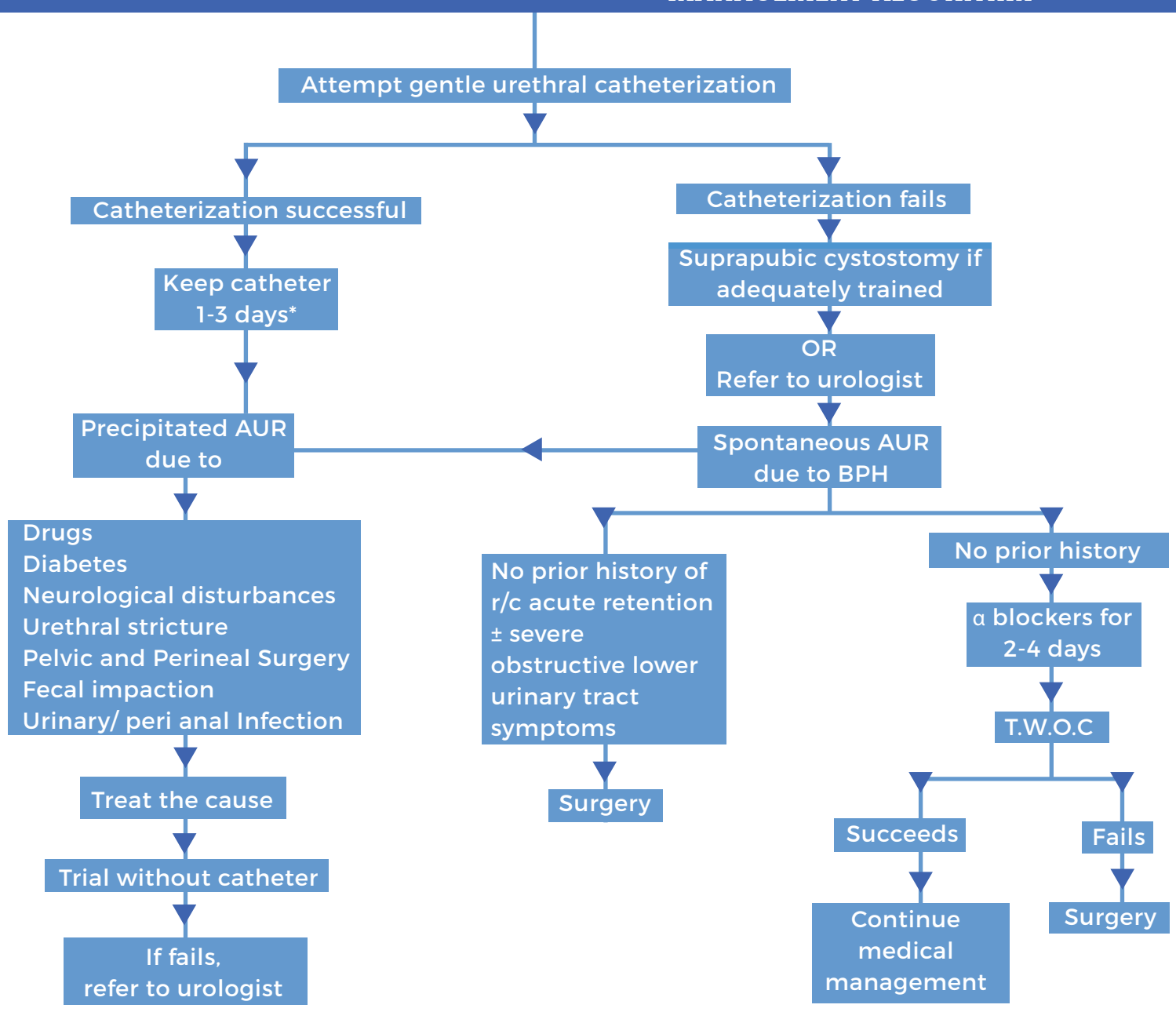
INVESTIGATIONS

As AUR is an acute emergency, no investigation is required before catheterization to relieve symptoms. The volume of urine drained should be documented.

DESIRABLE
CBC, S. Glucose,S. Creatinine and Electrolytes, USG KUB Urine analysis& Urine culture of the drained urine

OPTIONAL (ONLY BY SPECIALISTS)
NOT TO BE DONE ROUTINELY
- Cystoscopy,CT / MRI,RGU + MCU,Urodynamic studies

MANAGEMENT ALGORITHM



FOR CATHETERIZATION
- Use a 14 or 12 Fr Foley urethral catheter
- Do not remove catheter earlier than a day

COMPLICATIONS DUE TO AUR
- Urinary tract infection
- Acute kidney injury

COMPLICATIONS DUE TO CATHETERIZATION
- Post obstructive diuresis with dys-electrolytemia
- Transient decompression hematuria
- Urethral injury during catheterization

INDICATIONS FOR HOSPITALIZATION
- Patients of AUR with significant comorbidities
- Patient of AUR with complications listed above

ABBREVIATIONS

BPH: Benign Prostatic Hyperplasia
IPSS: International Prostate Symptom Score
TWOC: Trial Without Catheter
WW: Watchful waiting

KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES

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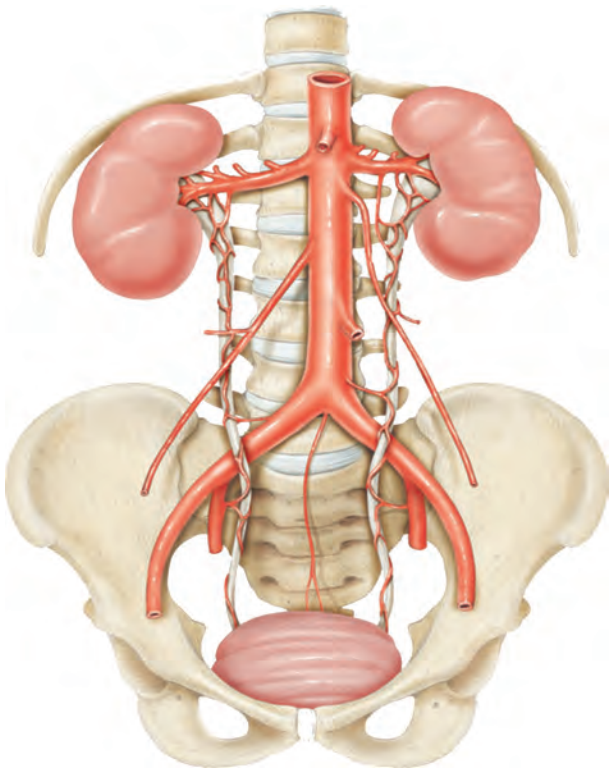
Standard Treatment Workflow (STW) for the Management of GROSS HAEMATURIA

ICD-10-R31.0

PERFORM THOROUGH CLINICAL EVALUATION

- Blood in urine - red coloured or dark coloured
- May be associated with pain:
  - Pain during voiding (urethra)
  - Pain in suprapubic region (bladder)
  - Pain in flank (kidney)
- Acute retention of urine due to clots
- Haematuria associated with clots (severe)



EXAMINATION

- Pulse, blood pressure
- Check for pallor
- Check for anasarca
- Per abdomen examination: Palpable bladder, flank mass
- Digital rectal examination: Enlarged prostate, hard nodular/ smooth surfaced prostate
- Rule out vaginal causes of bleeding

RED URINE BUT NOT HAEMATURIA

- Foods: beetroot, blackberry, rhubarb
- Medicines: rifampicin, pyridium

Even single episode of haematuria warrants complete evaluation

MAKE A CLINICAL DIAGNOSIS: IS HAEMATURIA

INITIAL

- Urethra: stone, urethritis, stricture
- Prostate: inflammation, benign hyperplasia, malignancy

TOTAL

- Kidney: stone, malignancy (renal parenchyma, pelvis/ ureter), genito-urinary tuberculosis
- Ureter: stone, malignancy, genito- urinary tuberculosis
- Bladder: infection, genitourinary tuberculosis, stone, malignancy

TERMINAL

- Bladder: stone, tumor at bladder neck
- Prostate: inflammation, benign hyperplasia, malignancy

HOW TO INVESTIGATE

ESSENTIAL

- Urine examination - routine, microscopy
- Hemoglobin estimation
- Kidney function tests (KFT)
- Ultrasonography of kidney urinary bladder and prostate region

DESIRABLE

- Contrast enhanced computed tomography of kidney urinary bladder region/ intravenous pyelography (if KFT normal)
- Magnetic resonance imaging of Kidney urinary bladder region (if KFT deranged)
- Urine cytology if > 40yrs or smoker
- Cystoscopy if > 40 years or smoker

OPTIONAL

- Urine culture
- Urine for active sediments(if nephrotic/ nephritic syndrome suspected)
- PT/INR (if bleeding disorder suspected)
- Serum prostate specific antigen (if required)
- Urine for acid fast bacilli - 3 samples (if tuberculosis suspected)

WHEN TO REFER (WARNING SIGNS)

- Deranged kidney functions
- Suspecting malignancy
- Haematuria with hypertension / albuminuria
- Persistent severe haematuria

HOW TO TREAT

GENERAL

- Start intravenous fluids if required (primary level)
- If Anaemia - may trans-fuse blood as required (primary level)
- Manage clot colic / flank pain with analge-sics (primary level)
- If Acute urinary reten-tion - catheterise with 20/22Fr 3 way Foley and may start continuous irrigation with normal saline (Primary level)
- Cystoscopic clot evacu-ation may be per-formed if feasible (ter-tiary level)
- If basic evaluation and management facilities are unavailable - refer (tertiary level)

SPECIFIC

- **Haematuria should be considered as a symptom of genitourinary malignancy in patients >40years old until proven otherwise**
- Suspected nephrotic/nephritic syndrome: cola coloured urine, proteinuria, anasarca, hypertension - Refer to nephrologist (tertiary level)
- Suspect urinary tract infection : presents with dysuria, increased frequency of voiding and other irritative lower urinary tract symptoms with/ without fever- treat with broad spectrum oral antibiotics (primary level)

DIFFERENTIAL DIAGNOSIS FOR CHRONIC CONDITIONS LEADING TO HAEMATURIA

	Stones	Renal cell cancer	Bladder tumor	Genito-urinary tuberculosis
Symptoms	Flank pain Ureteric colic Recurrent urinary tract infection Haemturia	Flank mass Flank pain Haematuria	Haematuria Urinary retention	Dysuria Frequency Nocturia Haematuria
Investiga-tions	Ultrasonography Xray KUB Intravenous pyelography or Computed tomography	Ultrasonography Computed tomography	Ultrasonography Computed tomography Urine cytology	Urine analysis Urine acid fast bacilli Urine tuberculosis culture Gene expert (optional) Intravenous pyelography or Computed tomography
Treatment	>5mm or symptomatic - refer to urologist	Mostly surgical treatment - refer to urologist	Mostly surgical treatment - refer to urologist	Oral Antitubercular treat-ment - 6months, refer to a urologist, close follow up

REFERENCES

1. Standard treatment guidelines in urology: Ministry of Health and Family selfare

KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES

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Standard Treatment Workflow (STW) for the Management of
MALE INFERTILITY
ICD-10-N46.9

WHEN TO SUSPECT?

Inability to conceive even after one year of regular unprotected intercourse.

Evaluation earlier than one year if female age is >35yrs, family history of infertility or very anxious couples. Infertility Incidence is 10-15%. Male factor-contributory in 50% cases.

HOW TO PROCEED?

Both partners examined simultaneously*

Ensure marriage is consummated, couple has frequent timed intercourse with the knowledge of ovulatory cycle.

Male factor is an under recognised problem and the failure to recognise often leads to social and psychological adverse effects. Often the male is evaluated once the female has been examined thoroughly and this delays the treatment . Greater the duration of infertility lesser the chance of success.

AIM

- To ascertain contributory male factor
- Identify potentially correctable conditions
- Identify incorrectable condtions that may or may not be amenable to Assisted Reproductive Technique (ART)
- Identify underlying medical conditions responsible for infertility

PHYSICAL EXAMINATION

- Body habitus (obesity, Klinefelter's). Secondary sexual characters, gynecomastia
- Penis: hypospadias, epispadiasis, chordee,
- Testes: volume, consistency, masses, contours
- Epididymis: flat, turgid, nodularity. Vas deferens –present/absent thickened or beaded
- Cords-presence of varicocele. Inguinal or scrotal scar.
- Rectal examination: cyst, dilated seminal vesicles.

HISTORY

- Age of partners and duration of infertility.
- Use of contraception and lubricants.
- Knowledge of sexual cycle, technique, frequency.
- Sexual and ejaculatory dysfunction, volume of ejaculate
- Medical illness: STD, diabetes, recent fever, chronic bronchitis and any debilitating medical conditions
- H/o Chemotherapy, Radiotherapy
- Congenital anomalies, cryptorchidism, hypospadias, Chordee
- Testicular torsion, drug history, trauma and swelling
- H/o past surgeries(hernia repair, orchiopexy, retroperitoneal surgery)
- Family history (infertility,consanguinity,genetic disorders),
- Exposure to environmental toxins (pesticides,herbicides, chronic heat and radiation (sauna bath, tight non cotton undergarments, laptops & mobile)
- Partner history: Any menstrual abnormality, infertility evaluation till date

INVESTIGATIONS

SEMEN ANALYSIS (ESSENTIAL)

- At least two- samples 1-2 months apart ; Abstinence of 1-3 days.; Collected in sterile, medical grade plastic wide mouth containers.
- Provided within the lab or transported within an hour at room temperature and examined immediately
- WHO 2010 criteria for normal report. Volume: >1.5, ml, Sperm conc.: >15 million/ ml, Sperm motility: >40% , Progressive > 32%, Sperm morphology: >4% normal forms, Leukocyte density: <1 million/mL

DIAGNOSTIC CATEGORIES ACCORDING TO SEMEN ANALYSIS REPORT

Normal Semen Analysis: Rule out sexual dysfunctions, Anatomic abnormalities, Female factor and unexplained

Low volume semen: Incomplete Collection, Retrograde ejaculation, Ejac. duct obstruction, Cong. Absence of VasDeferens, Hypogonadism

- **Azoospermia:** Obstructive (Epididymal,vasal)
- **Nonobstructive:** (Genetic, Chromosomal, Hormonal, CT/RT, Post torsion testes, orchitis, Cryptorchidism, Idiopathic)

- **Oligo-astheno-teratospermia:** Isolated Asthenospermia: Antisperm antibodies, Sperm structural defect, Hypogonadism
- **Multiple defects:** Varicocele, Cryptorchidism, Genital tract infection, Systemic illness, Prolonged abstinence, Drugs (Sulfasalazine, NFT, Colchicine, Chemotherapy, GnRh analogs, Spironolactone, Ketokonazole, Anabolic steroids, cocaine, alcohol. Chemicals: heavy metals, herbicides, organic solvents, fungicides, pesticides)

Note: If a patient is unable to produce semen consider retrograde ejaculation and anejaculation. Need further evaluation.

OPTIONAL INVESTIGATIONS

- Hormonal assay: Serum FSH, LH, Prolactin, Testosterone, Estradiol, T/E ratio
- Culture: Urine, Semen, Prostatic fluid, Antisperm antibodies, Viability assay, Sperm function tests, Scrotal USG & doppler, TRUS, Genetic studies,
- Testicular biopsy (Multiple bilateral preferable)

MANAGEMENT

PHC/CHC

- History and Physical examination(PE)
- Proper Semen analysis

Normal Semen report: (Rule out unconsummation, sexual dysfunction, anatomic abnormailities)
Abnormal Semen report:

- Refer to Urologist/ infertility centre
- Preventive measures: Avoid gonadotoxins, gonadotoxic drugs, smoking, tobacco, chronic heat , excess use of mobiles; Encouraging healthy life style: Nutritious diet, regular physical exercise, avoid stress, use of antioxidants and vitamins(Vit. C, Vit E , Zinc)
- Female partner to be evaluated by gynecologist
- Management of reversible nonsurgical causes (Infections etc.) and surgical cause i.e. varicocoele if surgeon available.
- For further evaluation refer to district/ tertiary hospital.

DISTRICT HOSPITAL

- Hormonal assay and Testicular biopsy
- Management of sexual and ejaculatory dysfunction
- Management of Varicocele and Hypogonadotropic hypogonadism
- ART: AIH/AID and counselling for adoption.

TERTIARY LEVEL

- Additional testing:TRUS, Genetic, ASA, Sperm function tests
- Advanced surgery: Microsurgical VVA,VEA, Varicocelectomy, TURED, Sperm retreival techniques, Cryopreservation and sperm banking
- Advanced ART: IVF-ET/IVF ICSI

TREATMENT ALGORITHM

AZOOSPERMIA

(Low volume, ↓pH, Fructose -ve)

Retrograde ejaculation ruled out

Examine Vas

- Not palpable
  - CABVD
    - CFTR Gene Mutation → ICSI
    - DI/ Adoption → Counselling
- Palpable
  - E.D.O.
  - TRUS
    - Cystic SV & ED → TURED, Vasography guided TRUS guided
    - Fibrous → Non-operable → PESA + ICSI

AZOOSPERMIA

(Normal volume, Fructose +ve)

Clinical Examination & FSH

- Obstructive (FSH-N, Epid, turgid) → Normal testes → Exploration, check vasal patency, Needle biopsy (if required) → Microsurgical VEA
- Equivocal (N-FSH, N-testes) → B/L Multiple testicular biopsy
  - Normal → VEA/ ICSI
  - No Sperms → DI/ Adoption
  - Focal Sperms → TESE-ICSI
- P.T.F. (Testes small, FSH>2N) → Discuss options
  - DI/ Adoption
  - Considering ICSI → Genetic study → Multiple testicular biopsy
    - Sperms absent
    - Sperms present → Cryo preservation → ICSI

OLIGO-ASTHENO-TERATOSPERMIA

(↓ count, ↓ motility, poor morphology)

- ↑ FSH, Severe Germ epith damage
- ↑ASA → Steroids ±
- Varicocele → Varicocelectomy
- Infection → Antibiotics
- Idiopathic → Empirical Medical Rx

→ Refer for Assisted Reproductive Technique (IUI/IVF/ICSI)

KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES

ABBREVIATIONS

FSH: Follicle Stimulating Hormone
EDO: Ejaculatory Duct Obstruction
CABVD: Congenital Absence of Bilateral Vas deferens
VVA: Vaso Vasostomy
PTF: Primary Testicular Failure
VEA: Vasoepididymal Anastomosis
TRUS: Trans Rectal Ultrasonography
PESA: Percutaneous Epididymal Sperm Aspiration
ASA: Anti Sperm Antibodies
DI: Donor Insemination
TESE: Testicular Sperm Extraction
SV & ED: Seminal Vesicle & Ejaculatory Duct
TURED: Trans Urethral Resection of Ejaculatory Duct
ART: Assited Reproductive Technique
AIH: Artificial Insemination Husband
AID: Artificial Insemination Donor
ICSI: Intra Cytoplasmic Sperm Injection
IVF-ET: Invitro Fertiliztion - Embryo Transfer
GUTB: Genito Urinary Tuberculosis

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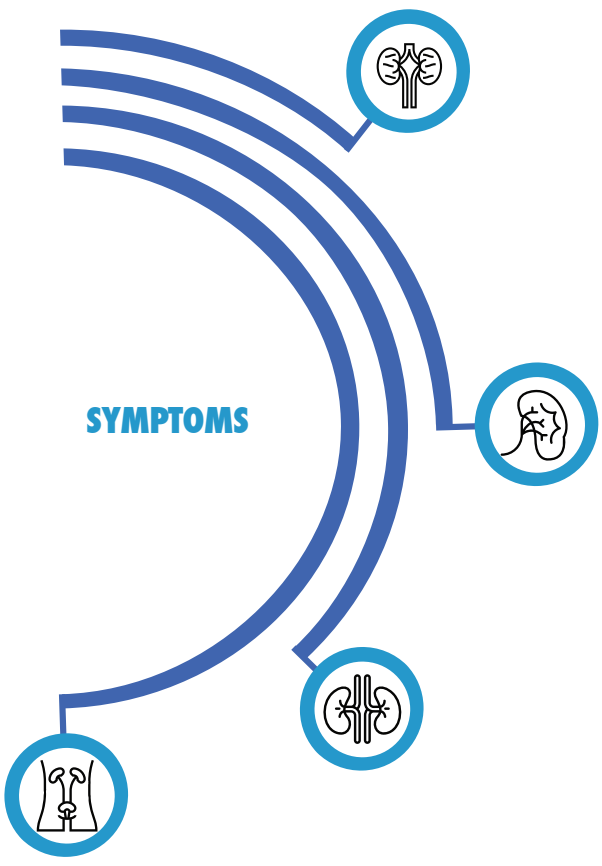
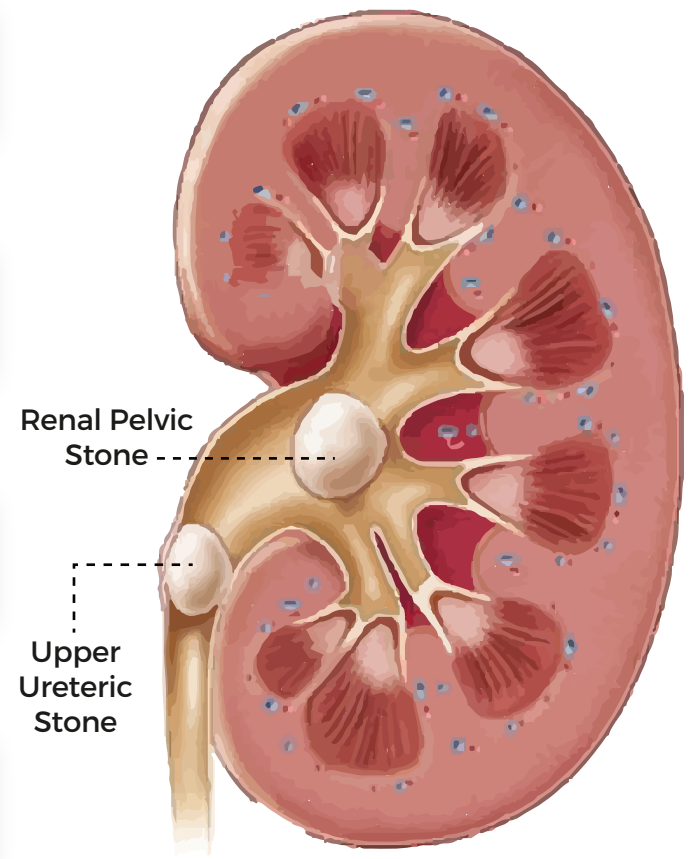
Standard Treatment Workflow (STW) for the Management of
RENAL AND URETERIC STONES
ICD N20.0

HOW WILL YOUR PATIENT PRESENT AND WHAT TO SUSPECT



CLINICAL SCENARIO	SUSPECT
Flank pain	Renal Stone
Colicky pain starting from back and radiating to front	Upper ureteric stone
Colicky pain starting from back & radiating upto groin	Mid ureteric stone
Colicky pain starting from back & radiating to upper thigh & scrotum/ vulva	Lower ureteric stone



- Haematuria may be present with stone at any location
- Lower ureteric stones may also present with difficulty in passing urine

- Colics may be associated with nausea and vomiting
- Can present as anuria in bilateral ureteric stones, ureteric stone in a solitary kidney

History of site & type of pain, associated symptoms hint towards possible site of stones. Remember to take past history of stone diseases, medications, family history etc

INVESTIGATION

RADIOLOGY

NAME	ADVANTAGES AND DISADVANTAGES
X-KUB	Readily available, inexpensive, minimal radiation but needs preparation hence may not be the preferred test in emergency settings
USG	Readily available, no radiation, **safe test in pregnancy**, detects radiolucent stones, high sensitivity for hydronephrosis. Can miss a ureteric calulus
IVP	Anatomical and functional imaging, aids in planning surgery but high radiation and needs preparation. Not useful in poor renal function
CT Scan	No contrast required, highly sensitive and specific, detect radiolucent stones, detect other causes of flank pain, but risks higher radiation and cost

TIPS FOR ORDERING INVESTIGATIONS

- Order X-KUB and Ultrasound in all patients of suspected renal stones (90% of renal stones are radio-opaque).
- In acute colic NCCT should be preferred if available
- Once the stone is detected, get Intravenous pyelography if stone is seen on X-ray
- CT urography if stone is radiolucent to aid further treatment

METABOLIC EVALUATION

Initial biochemical evaluation in all stone formers

Urine analysis, serum creatinine, electrolytes namely calcium, phosphorous and uric acid. Intact parathyroid hormone and stone analysis are preferrable.

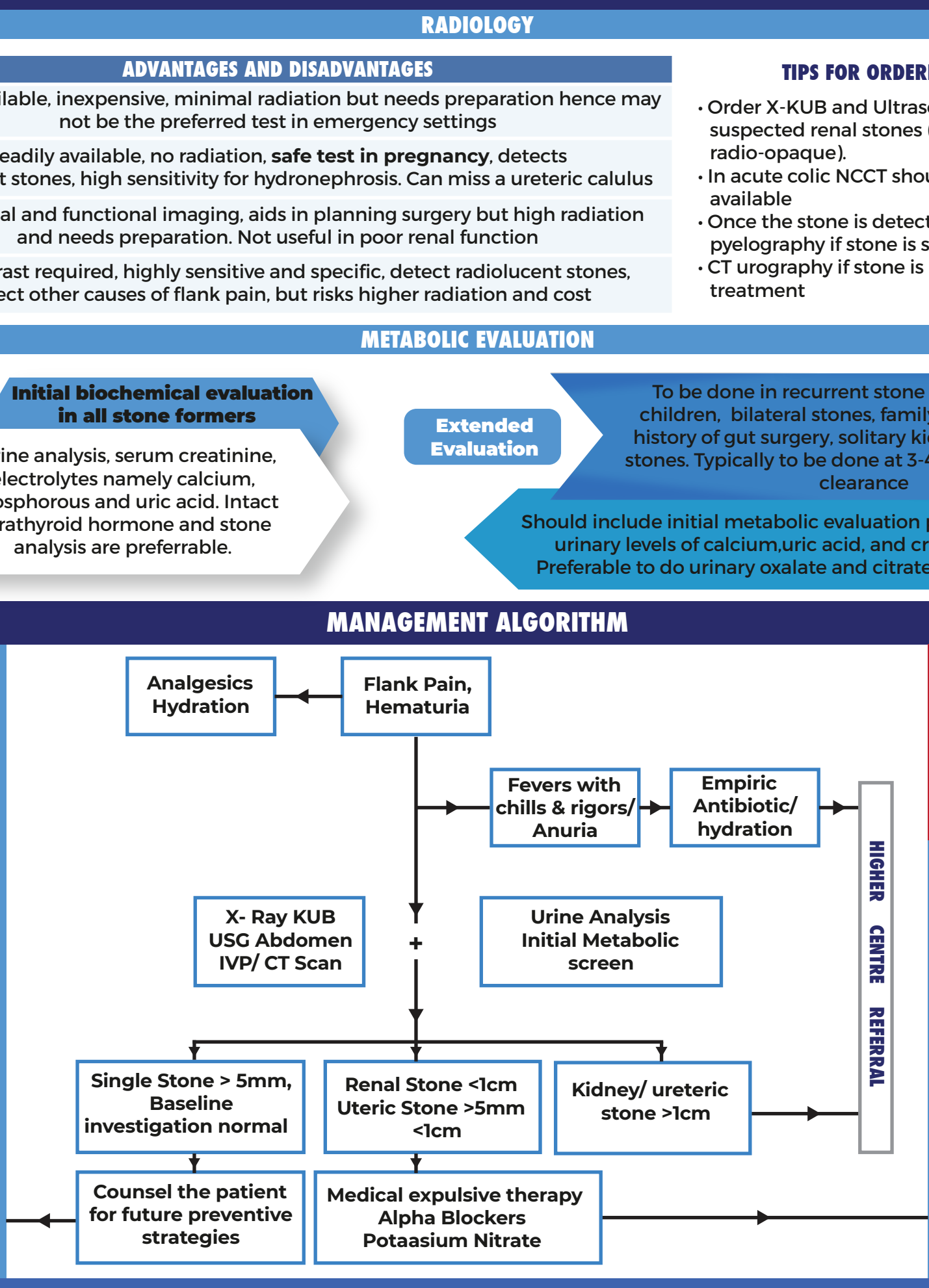
Extended Evaluation

To be done in recurrent stone former, stone in children, bilateral stones, family history of stone, history of gut surgery, solitary kidney and cysteine stones. Typically to be done at 3-4 weeks after stone clearance

Should include initial metabolic evaluation plus 24-hour urinary levels of calcium,uric acid, and creatinine. Preferable to do urinary oxalate and citrate levels too.

MANAGEMENT ALGORITHM

- Increase daily fluid intake to ensure a urine output >2 lit/day
- Restrict extra salt intake and increase dietary fibre.
- Do not restrict calcium intake.
- Increase citrate rich food such as lemon, orange juice etc.
- Decrease consumption of food rich in oxalates like spinach, nuts, beet root, potato chips, French fries.
- Avoid purine rich foods like animal protein, alcoholic drinks like beer



Warning signs for immediate referral

- Anuria
- Fever with chills and rigors
- Suspected renal failure
- Persistent haematuria

Medical Expulsive Therapy (MET)

- Alpha blockers such as Tamsulosin(0.4mg/day); Alfuzocin(10mg/day); Doxazocin(4mg/day); Silodocin(8mg/day)
- MET should be offered
  - In Ureteric stones <10mm
  - In the absence of infection, obstruction or deranged renal function.
- MET can be tried for upto 4 weeks

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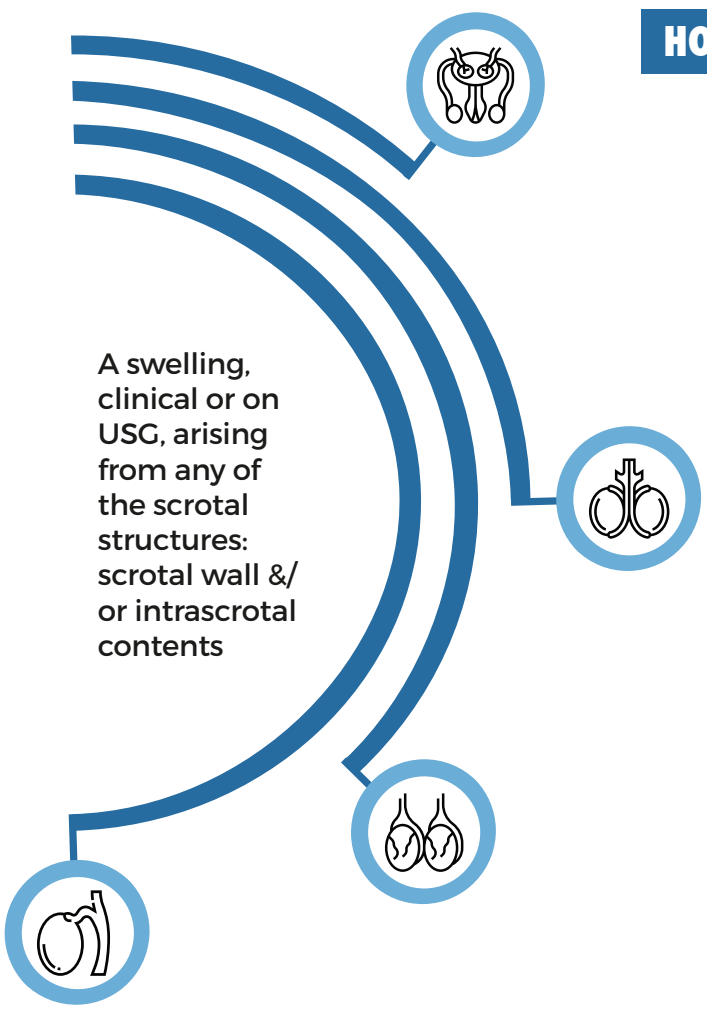
Standard Treatment Workflow (STW) for the Management of
SCROTAL SWELLING
ICD-10-N50.89



A swelling, clinical or on USG, arising from any of the scrotal structures: scrotal wall &/ or intrascrotal contents

HOW TO MAKE A CLINICAL DIAGNOSIS?

AS PER SITE — **DIAGNOSE THE SITE OF SWELLING?**

Are you able to reach above the swelling?
- YES → Scrotal swelling → Scrotal wall involved in swelling → **PARIETAL SWELLING**
- NO → **INGUINOSCROTAL SWELLING** Scrotal wall normal & can be pinched off the swelling

INTRASCROTAL SWELLING
- Testis palpated separately → Swelling located well above testis → **SPERMATIC CORD SWELLING**
- Testis not palpable normally → Swelling located just above &/or behind testis → **EPIDIDYMAL SWELLING**
- → **TESTICULAR SWELLING**

AS PER NATURE — **DIAGNOSE THE NATURE OF SWELLING?**

- PAINFUL → Fever Present → Acute infection
- PAINFUL → Fever Absent → • Traumatic • Ischaemic (e.g. torsion)
- PAINLESS
  - Cystic → Fluid accumulation, (e.g. Hydrocele,epididymal cyst)
  - Solid → • Ch. inflammatory, (e.g. Filariasis, TB) • Tumors

MAKE A CINICAL DIAGNOSIS

PARIETAL (SCROTAL WALL) SWELLINGS

	BILATERAL	UNILATERAL
Ac. Inflammation	• Cellulitis • Fournier gangrene	• Reactionary to epididymo- orchitis • Furuncle Abscess
Traumatic	Contusional	Blunt trauma
Ch. Inflammation	Filarial Elephantiasis	
Fluid Accumulation	• Edema in anasarca, IVC thrombosis • Urinary extravasation	Scrotal wall cysts
Neoplasm		Melanoma, Scrotal Carcinoma Dermatofibroma;

INTRASCROTAL SWELLINGS

	Testicular	Epididymal	Spermatic cord
Cystic	Hydrocele	• Epididymal cyst • Spermatocele	Varicocele
Solid	**Painless** • Testicular tumor **Painful** • Torsion testis • Orchitis	**Painless** • Ch. Filarial epididymitis • Ch. Tuberculous Epididymitis • Adenomatoid tumor **Painful** • Ac. Epididymitis	**Painless** • Lipoma cord **Painful** • Funiculitis

RED FLAG SIGNS

PAINFUL SWELLING
- Sudden onset
- O/E tender enlarged testis, pain increases on elevating testis
- Severe pain
- Vomiting
- No fever

→ **TORTION TESTIS** (More common in adolescents)

→ **CONFIRM BY**
- Scrotal doppler

ATTEMPT
- Manual detorsion if patient reports early

→ **REFER URGENTLY FOR EXPERT CONSULTATION**

PAINLESS SWELLING
- Solid testicular swelling is felt

→ **TORTION TESTIS** (Testicular Tumor)

→ **CONFIRM BY**
- Scrotal USG
- Serum tumor markers

→ **REFER ALL CASES FOR EXPERT CONSULTATION**

INVESTIGATIONS

SUSPECTING AC. INFLAM DISEASE

Essential	Desirable
• TLC/DLC • Blood sugar	• Anti filarial antibody

SUSPECTING CH. INFLAMMATORY DIS.

Essential	Desirable
• TLC/DLC • ESR	• Anti filarial Ab • TB Gold test • Scrotal USG

SUSPECTING TESTICULAR TUMOR

Essential	Desirable
• Beta hCG • Alfa feto protein • Serum LDH	• Scrotal USG • Abdomino - Pelvic CECT Scan

SUSPECTING TORSION

Essential	Desirable
• TLC/DLC	• Scrotal doppler

SUSPECTING VARICOCELE

Essential	Desirable
• TLC/DLC	• Scrotal doppler

HOW TO TREAT COMMON CONDITIONS?

PARIETAL SWELLINGS

FURUNCLE/ABSCESS
- Broad Spectrum Antibiotic Amoxy + Clavulinic acid
- Consider drainage if fluctuations+ or impending rupture

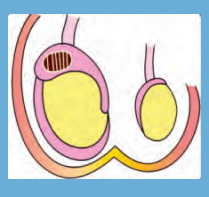
REFER
- If abscess appears part of underlying disease
- Nonresponders
- Immunocompromised patient

FILARIAL ELEPHANTIASIS
- DEC 100 mg TDS x 20 days
- Doxycycline 100 mg BD x 20 days
- Scrotal Elevation/support

REFER
- Non responders
- Huge size

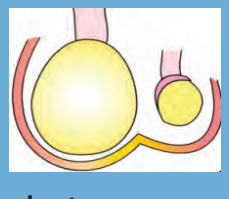
INTRASCROTAL SWELLINGS

AC. EPIDIDYMO-ORCHITIS
- If patient had a urinary tract instrumentation or dysuria - suspect bacterial type, treat by - antibiotic and support



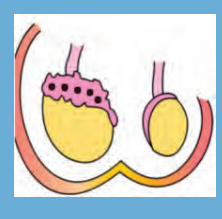
REFER If no response in 48 hrs
- Treat all other cases as filarial by - DEC 100 mg x TDS x20 days
- Doxycycline 100 mg x BD x 20 days
- Give anti inflammatory drugs to all

HYDROCELE
- Small size - no treatment
- Moderate to large -Do hydrocelectomy
- Aspiration can be performed under asceptic precautions in select cases



REFER if not trained to do the surgery

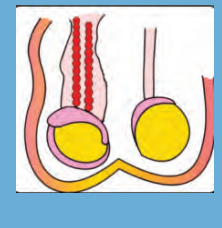
CHRONIC EPIDIDYMO-ORCHITIS
- Mostly filarial in origin but if -
- Patient has had H/O UTI or urethral catheterization, suspect bacterial
- Patient has H/O TB, suspect tuberculosis
- Treat by DEC 100 mg TDS + Doxycycline 100 mg BD for 20 days



REFER if
- No response to treatment
- Epididymal abscess or local sinus discharging syrup like pus

VARICOCELE
- Counsel for semen analysis (2-3 times)

REFER if 'discrepancy in size of testis' and/or 'abnormal semen parameters present'
- Rest all cases be given symptomatic treatment



KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES

This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit our web portal (**stw.icmr.org.in**) for more information.

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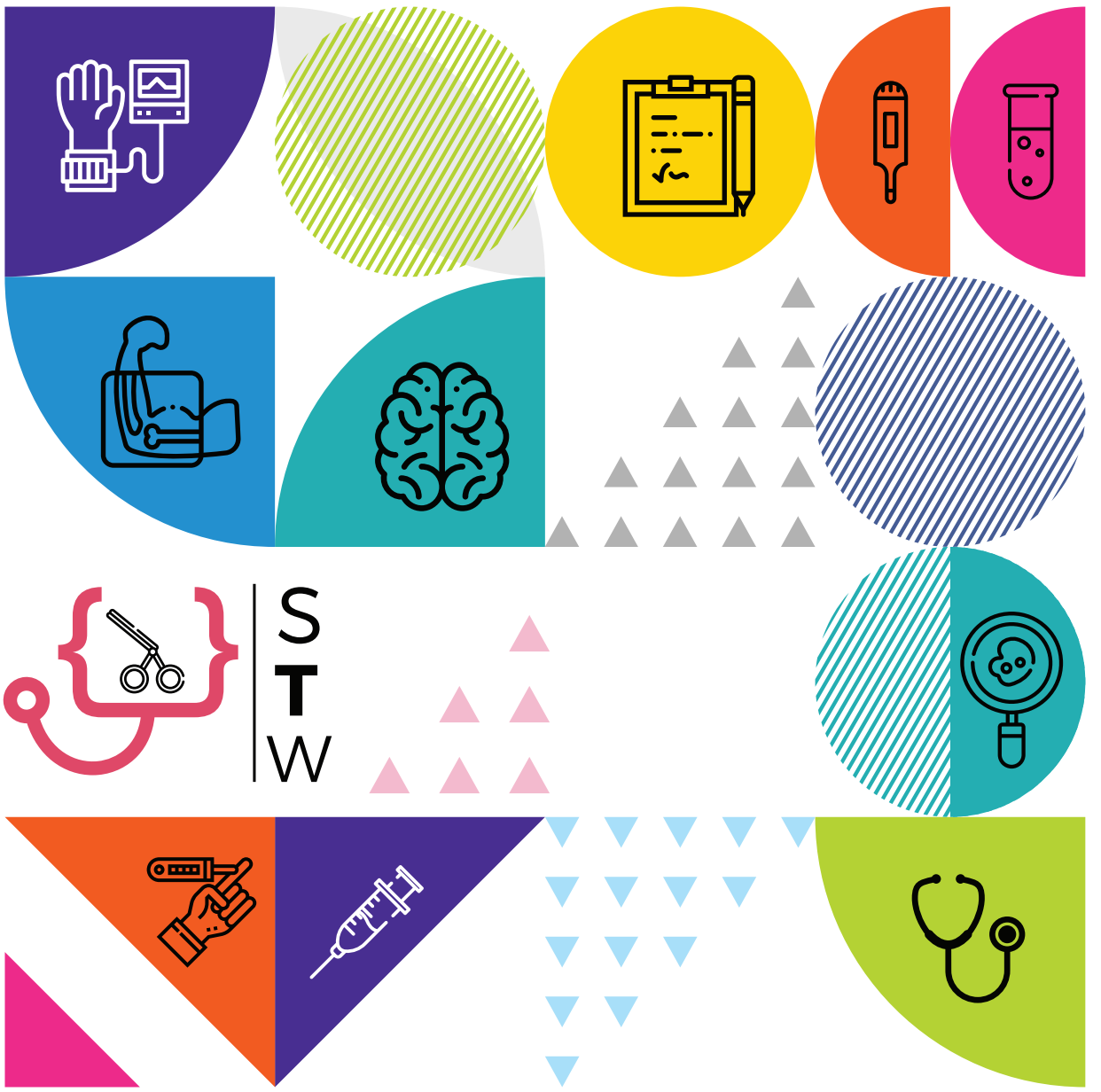
STANDARD TREATMENT WORKFLOWS *of India*



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