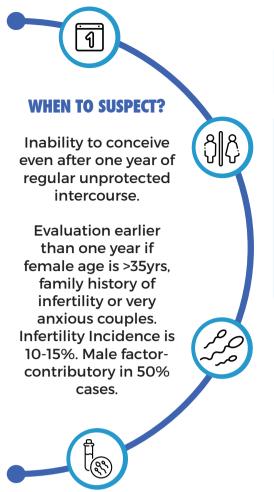


Department of Health Research
Ministry of Health and Family Welfare, Government of India



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



HOW TO PROCEED?

Both partners examined simultaneously*

Ensure
marriage is
consummated,
couple has
frequent
timed
intercourse
with the
knowledge of
ovulatary 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
- 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
- Klinefelter's). Secondary sexua 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.
- technique, frequency.
 Sexual and ejaculatory dysfunction,
- volume of ejaculate
 Medical illness: STD, diabetes, recent fever, chronic bronchitis and
- any debilitating medical conditionsH/o Chemotherapy, RadiotherapyCongenital 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

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

- 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)

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 abnormallities)
 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.)
- 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.

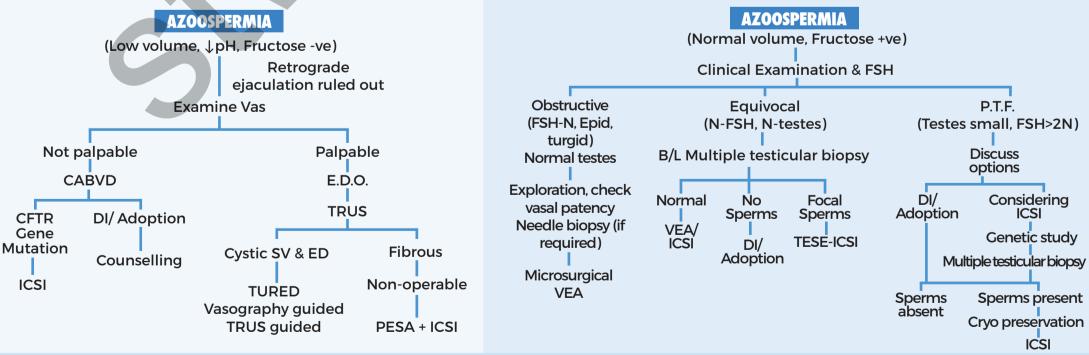
DISTRICT HOSPITAL

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

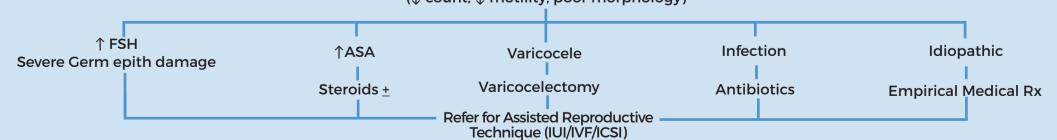
TERTIARY LEVEL

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

TREATMENT ALGORITHM







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

ASA: Anti Sperm Antibodies

TRUS: Trans Rectal Ultrasonography
PESA: Percutaneous Epididymal
Sperm Aspiration

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

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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