



Reproduction

Medico-legal Bases

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Introduction

Impotence must not be presumed and must be proven.

Impotence = inability to consummate marriage

Sterility = inability to procreate despite intercourse

Family Code Art. 45(5): Impotence as ground for annulment

Sterility not a ground for annulment

Leading case: Jimenez v. Cañizares (G.R. No. L-1967, 1951)

Medical Proof of Impotence & Sterility

Male impotence: penile Doppler, hormonal panels, nocturnal erection tests

Female incapacity: gynecological exams, imaging, psychiatric evaluation

Sterility workup: semen analysis, ovarian reserve, tubal patency studies

Absolute sterility is rare → infertility is often contextual



Male Impotence (Erectile Dysfunction)

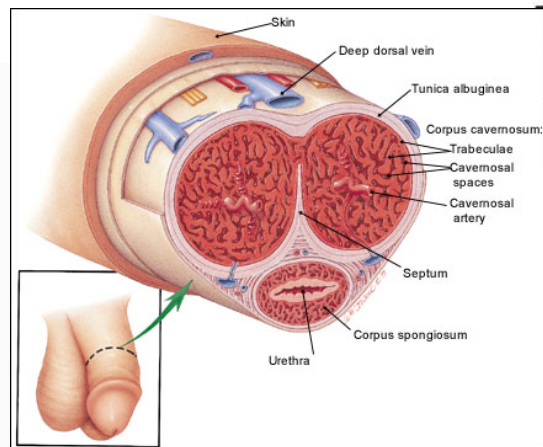
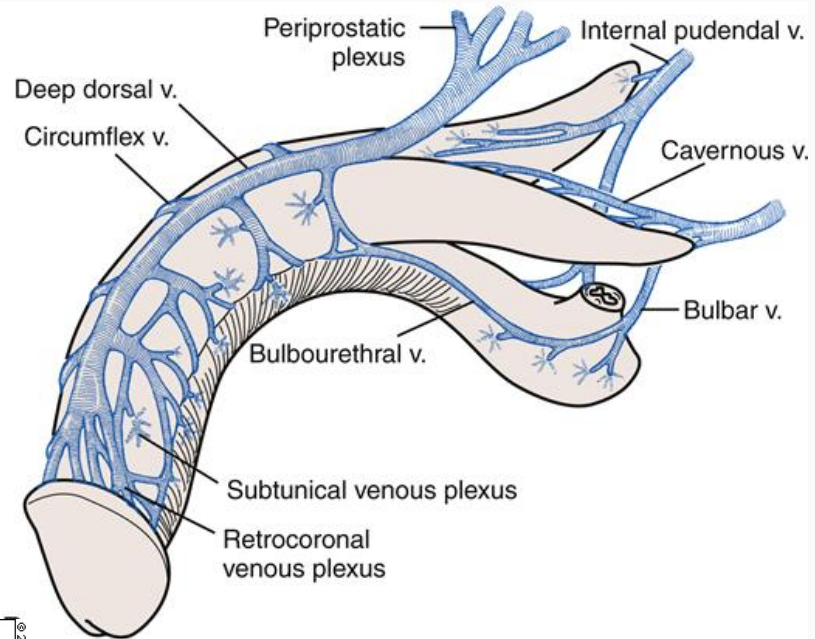
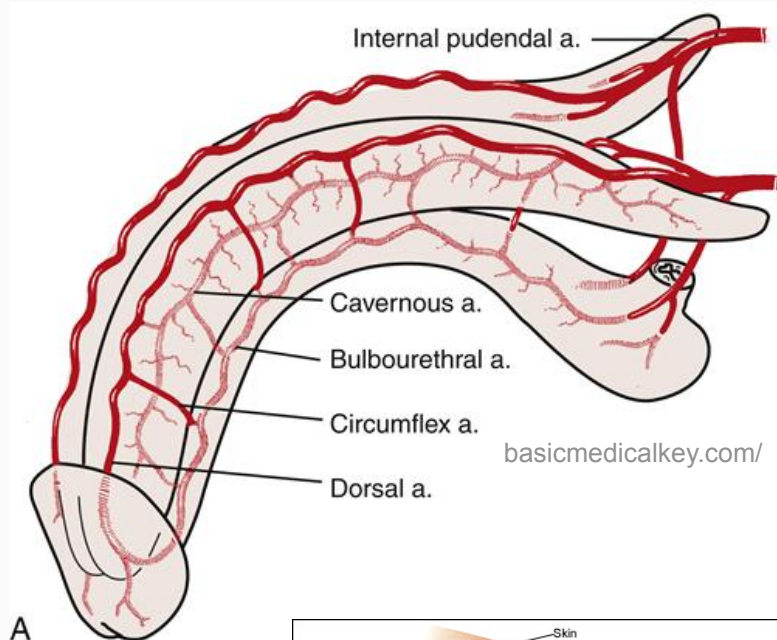
- vascular
- neurologic
- drugs/medicine
- psychological
- hormonal or
- lifestyle

Vascular Causes of Impotence in Men

Erection is a hemodynamic event—it requires:

- increased **arterial** blood inflow into the penile corpora cavernosa and
- decreased **venous** outflow to maintain rigidity.

Any condition that impairs this delicate vascular balance may result in **vasculogenic impotence**.





Vascular Causes of ED

Arterial insufficiency

Systemic Vascular Disorders

Venogenic impotence

Endothelial dysfunction

- Arterial insufficiency
- Systemic Vascular Disorders
- Venogenic impotence
- Endothelial dysfunction

Vascular Causes of Impotence in Men

Arterial Insufficiency (Arteriogenic ED)

Atherosclerosis – most common vascular cause; plaques in penile or pelvic arteries (internal pudendal, cavernosal, common iliac) limit blood inflow.

Hypertension – chronic high pressure damages arterial walls and reduces compliance.

Diabetes Mellitus – accelerates atherosclerosis and causes endothelial dysfunction.

Trauma or Pelvic Surgery – e.g., pelvic fractures, radical prostatectomy may injure the internal pudendal arteries.

Congenital malformations of penile or pelvic vasculature (rare).

Vascular Causes of Impotence in Men

Systemic Vascular Disorders

Peripheral arterial disease (PAD) – penile arteries are small (1–2 mm); ED often precedes leg claudication, making it an early marker of systemic atherosclerosis.

Coronary artery disease (CAD) – ED may occur 3–5 years before cardiac symptoms; both share common vascular pathology.

Vascular Causes of Impotence in Men

Venogenic Impotence (Venous Leak)

Inability to trap blood in the corpora cavernosa due to:

- Degeneration or fibrosis of the tunica albuginea.
- Trauma to penile tissues.
- Surgical complications.
- Age-related changes in cavernosal smooth muscle.

Leads to rapid detumescence despite adequate arterial inflow.

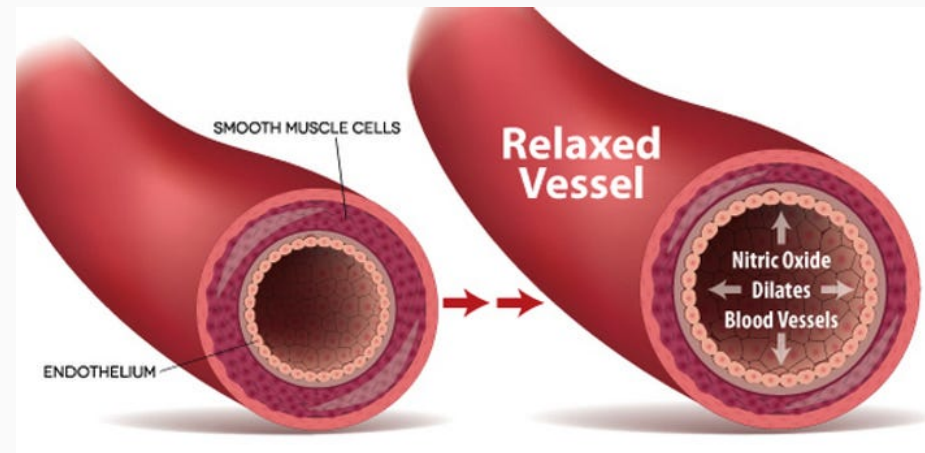
Vascular Causes of Impotence in Men

Endothelial Dysfunction

Endothelium (inner layer of arteries supplying the penis) regulates penile vascular tone by releasing nitric oxide (NO).

Conditions like smoking, hyperlipidemia, diabetes, and metabolic syndrome impair NO release.

Result: reduced vasodilation of penile arteries and poor erectile response.



seagertp.substack.com

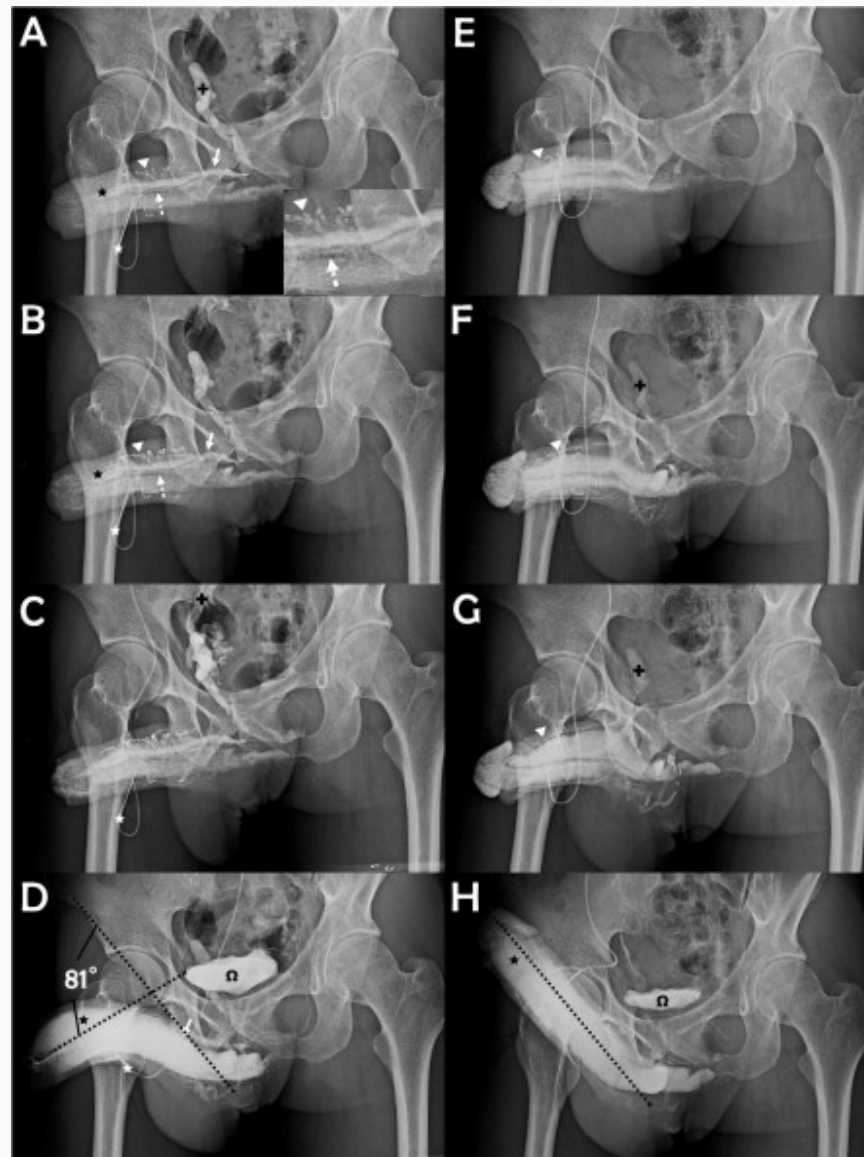
Vascular Causes of Impotence in Men

Diagnostic Evaluation

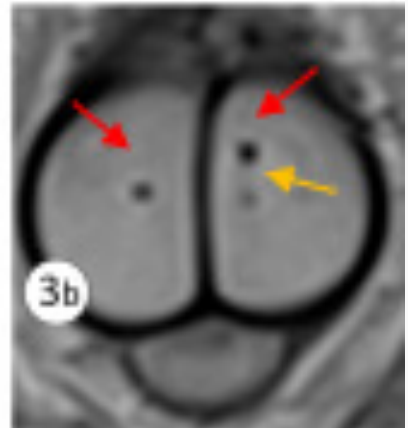
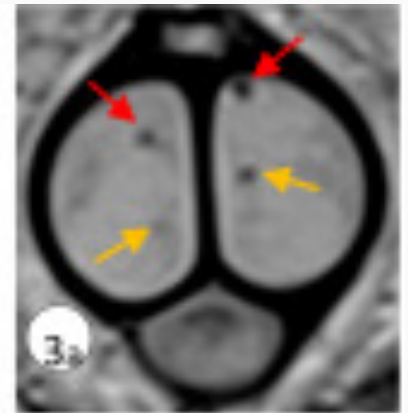
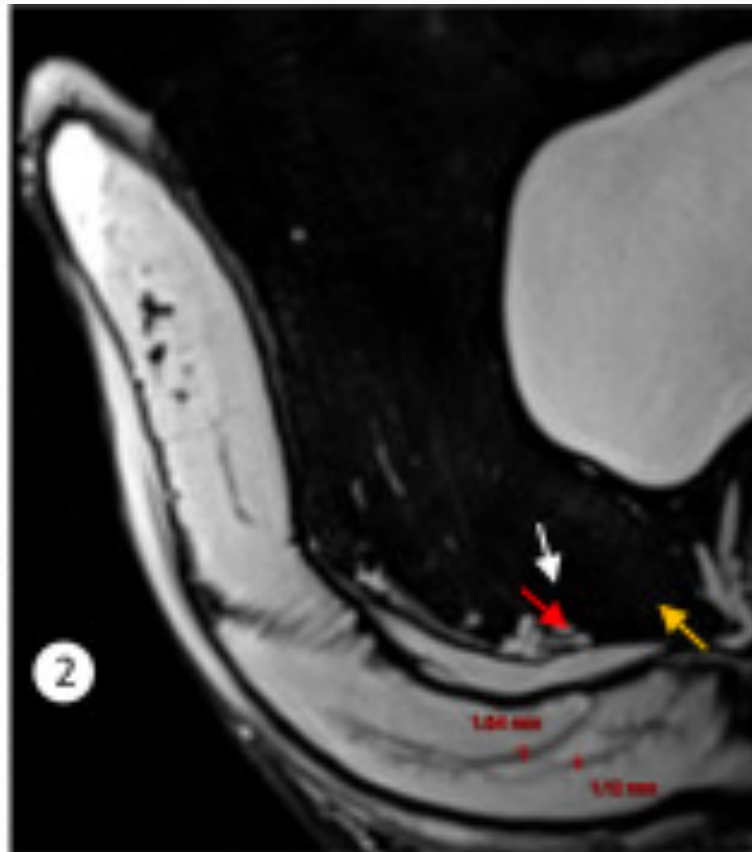
Penile Doppler Ultrasound with Intracavernosal Injection
– evaluates arterial inflow and veno-occlusive function.

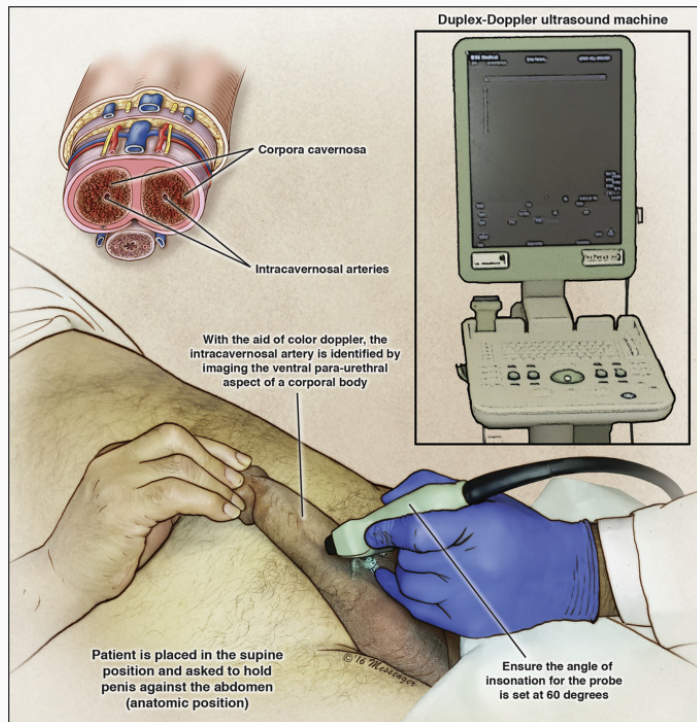
Dynamic Infusion Cavernosometry and Cavernosography (DICC) – assesses venous leak.

CT/MR Angiography – identifies pelvic arterial stenosis or occlusion.

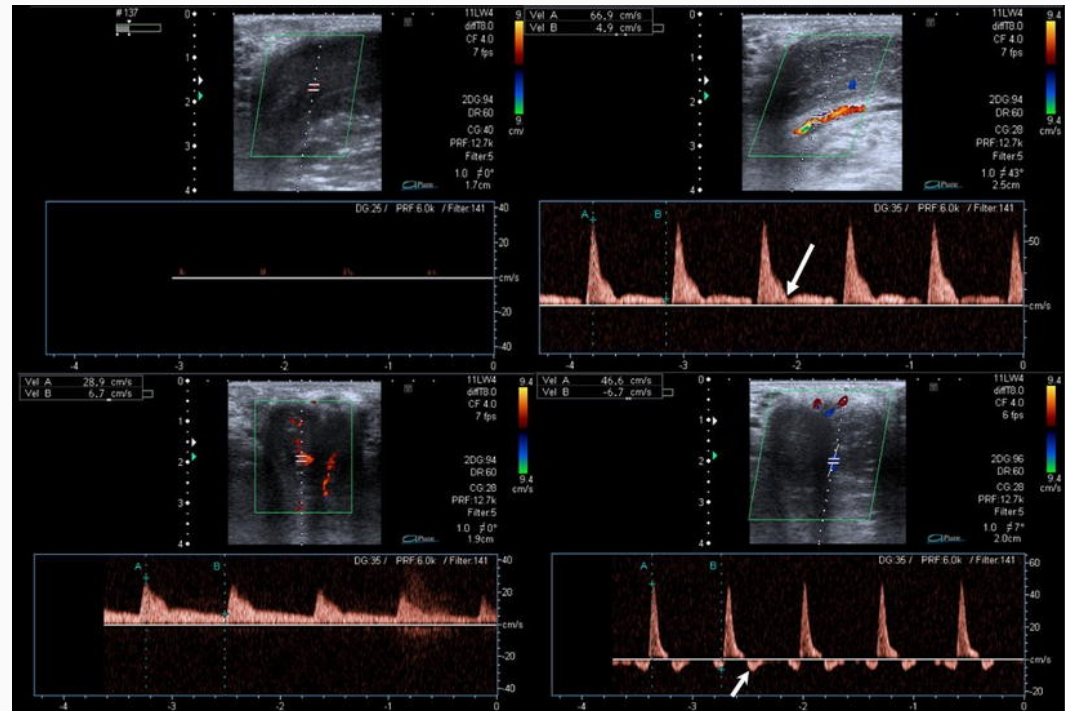


MRI





sciencedirect.com

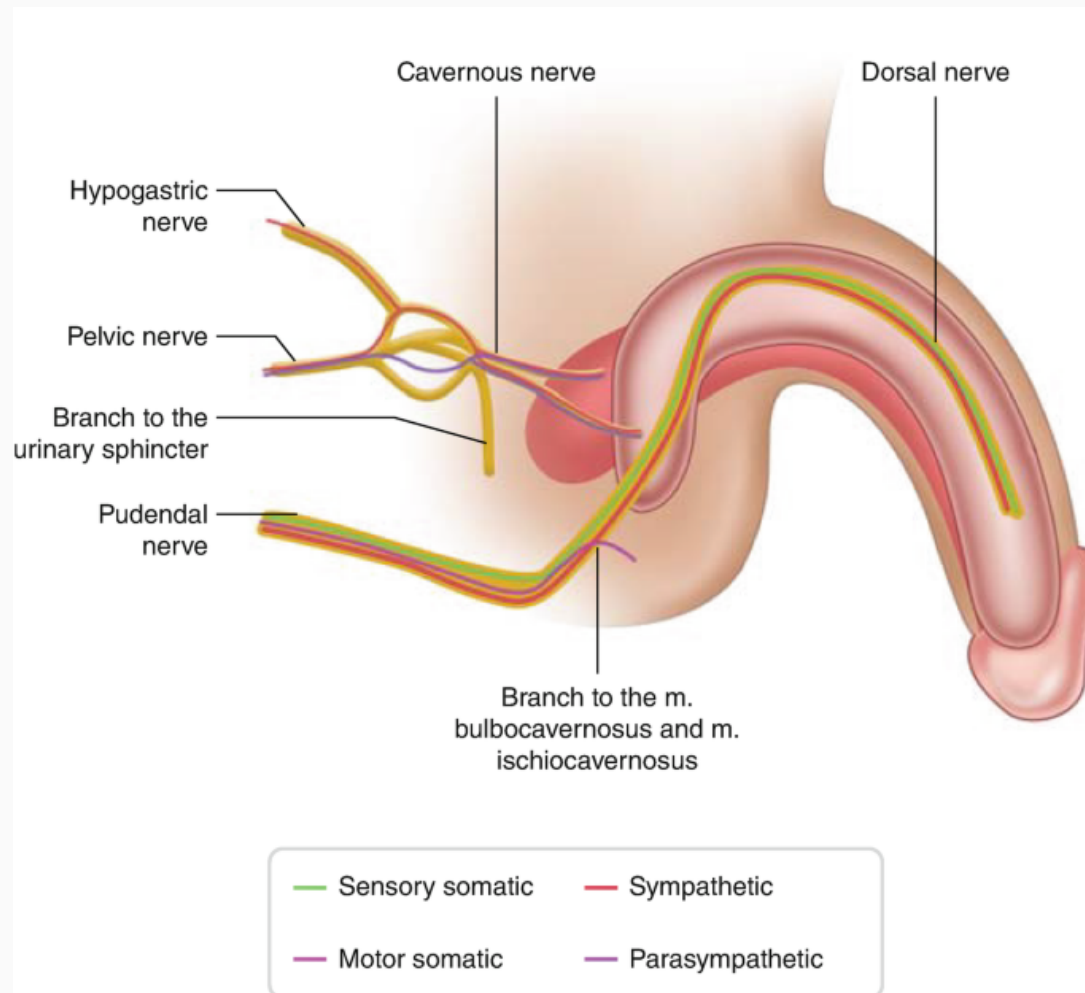


springer.com



Neurologic Causes of ED

- Central Nervous System (Brain and Spinal Cord) Disorders
- Peripheral Nervous System Disorders
- Autonomic Nervous System Disorders
- Congenital or Developmental Disorders



Neurologic Cause of ED: Central Nervous System (Brain and Spinal Cord) Disorders

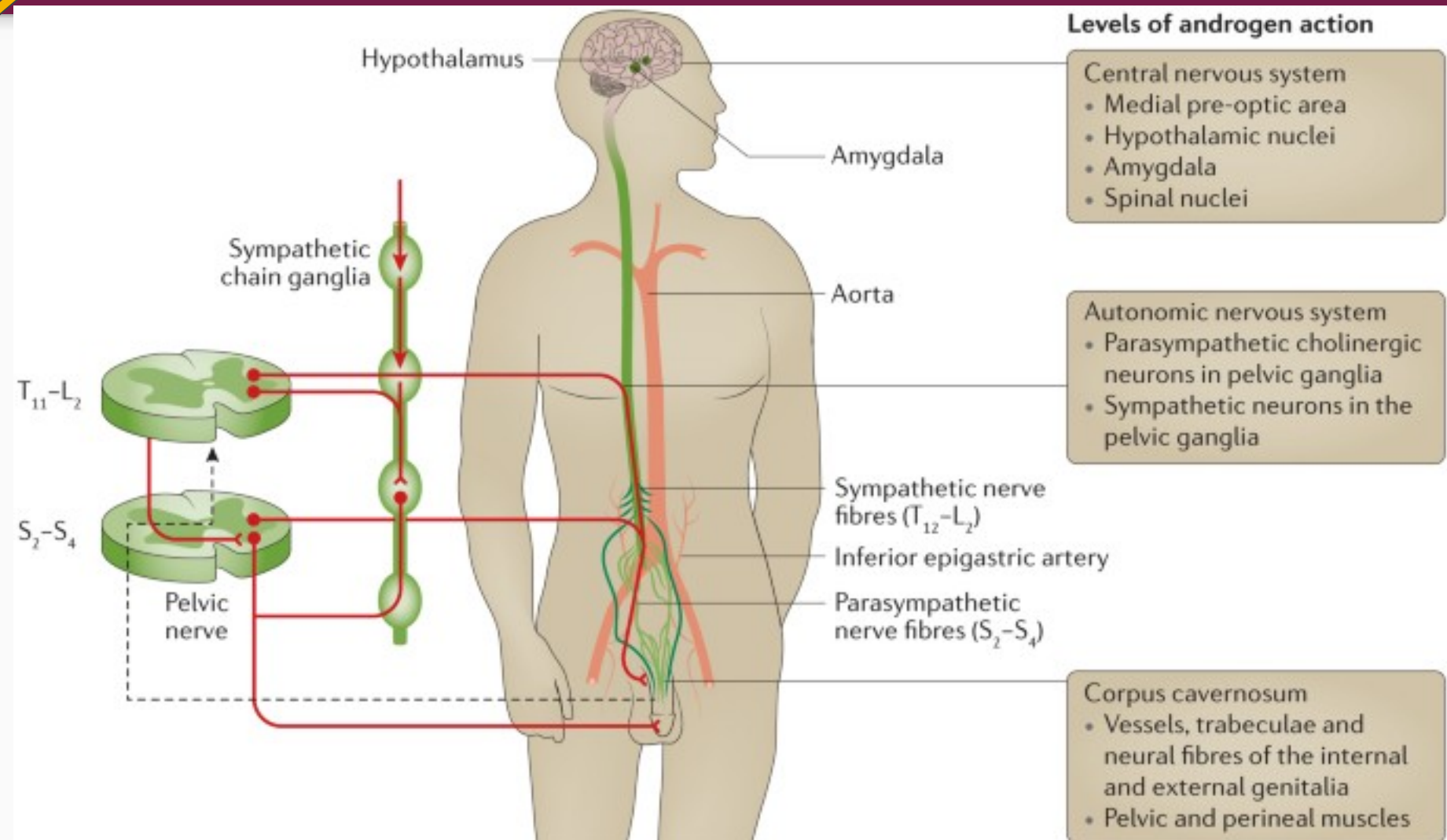
Stroke (Cerebrovascular accident) – can damage brain regions that regulate arousal.

Multiple Sclerosis (MS) – demyelination disrupts nerve transmission.

Parkinson's disease – affects dopaminergic pathways involved in sexual function.

Spinal cord injury – depending on the level and severity, may impair reflexogenic or psychogenic erections.

Brain tumors – may alter hormonal and neural control of erection.



Neurologic Cause of ED: Pelvic injuries

Pelvic surgery trauma – e.g., radical prostatectomy, cystectomy, colectomy may injure cavernous nerves (branches of the pelvic plexus).

Pelvic or perineal trauma – fractures or nerve compression can interrupt neural pathways to the penis.

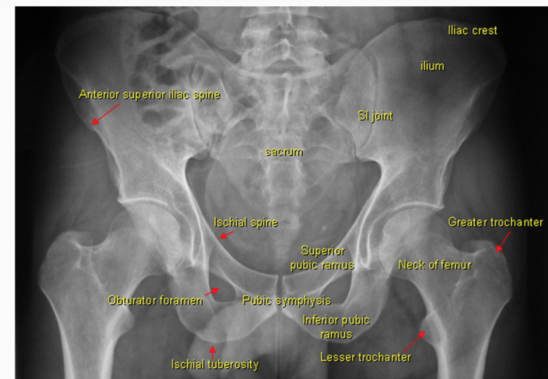


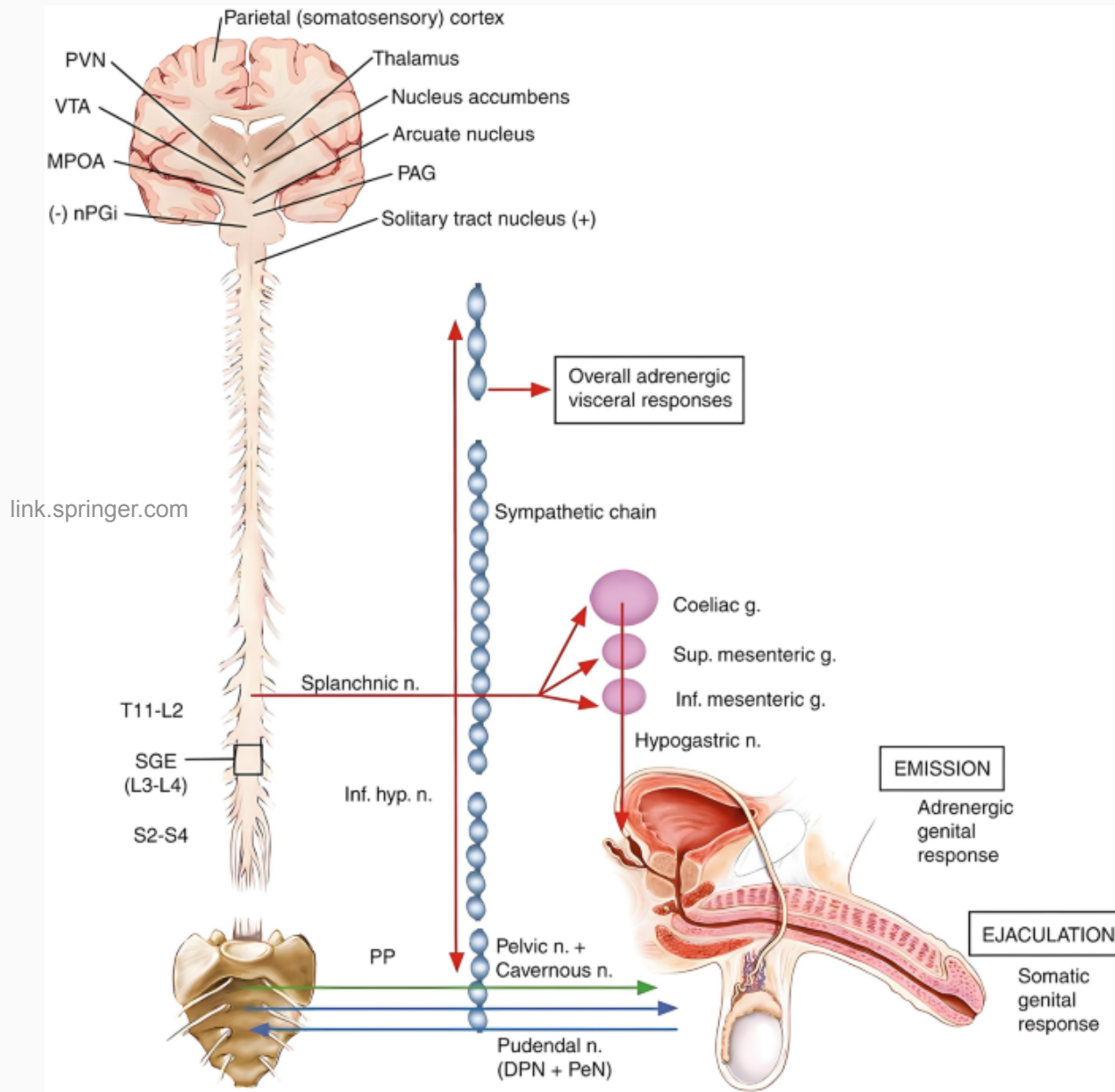
Figure 1. Anatomy of the Pelvis.²



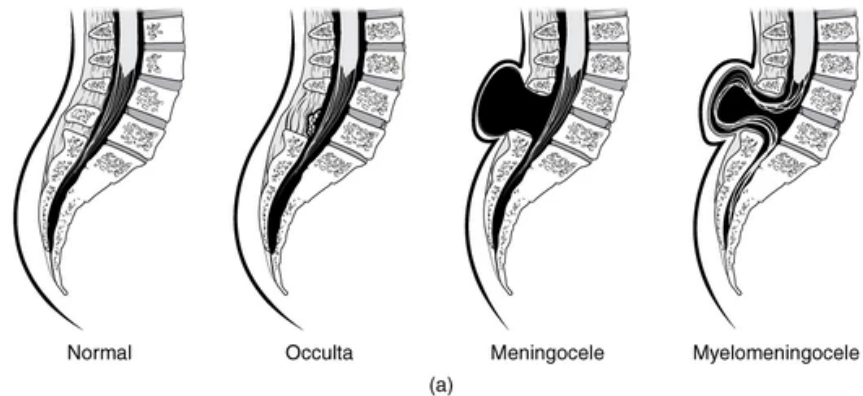
Figure 9. Open Book Pelvis⁸

emdocs.net/pelvic-fractures

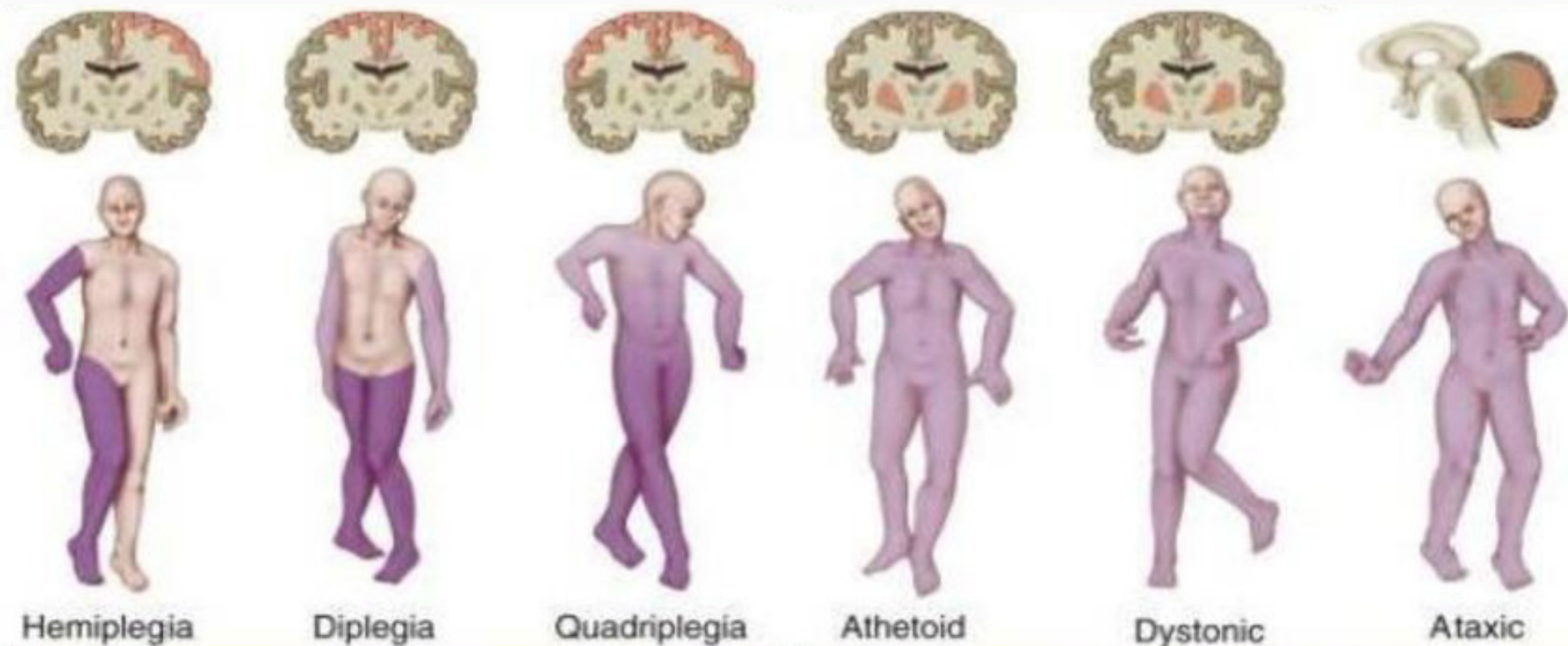
Neurologic Cause of ED: Spinal cord injuries



- **Spina bifida** and other **neural tube defects** – may impair spinal pathways controlling erection.



- **Cerebral palsy** (in some cases) – associated with neurologic deficits affecting erectile function.



Specialized Neurologic Tests

- Nocturnal penile tumescence test
- Penile nerve conduction studies, or
- Bulbocavernosus reflex latency

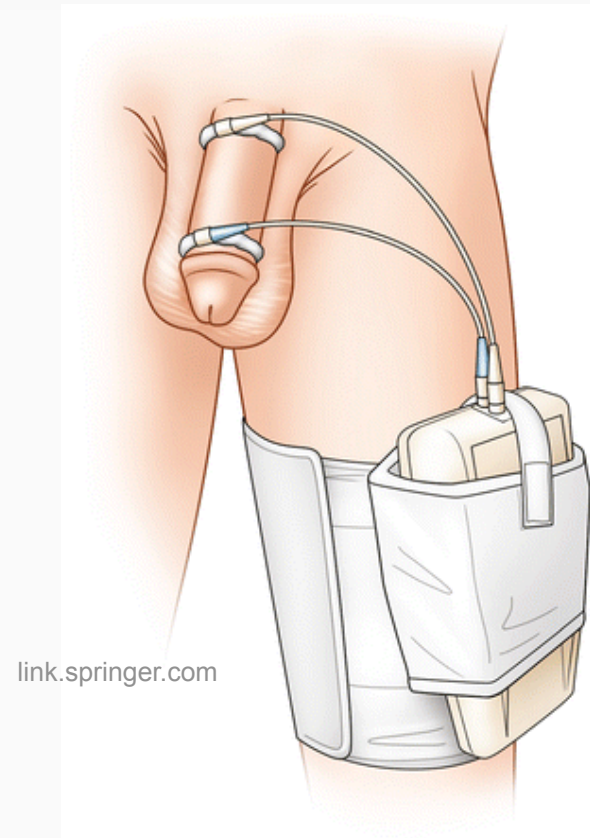
Specialized Neurologic Tests: Nocturnal penile tumescence test

Monitors erections during sleep

Normal men have 3–5 erections
at night

Absence suggests organic cause

Presence suggests psychological
cause



link.springer.com

Specialized Neurologic Tests:

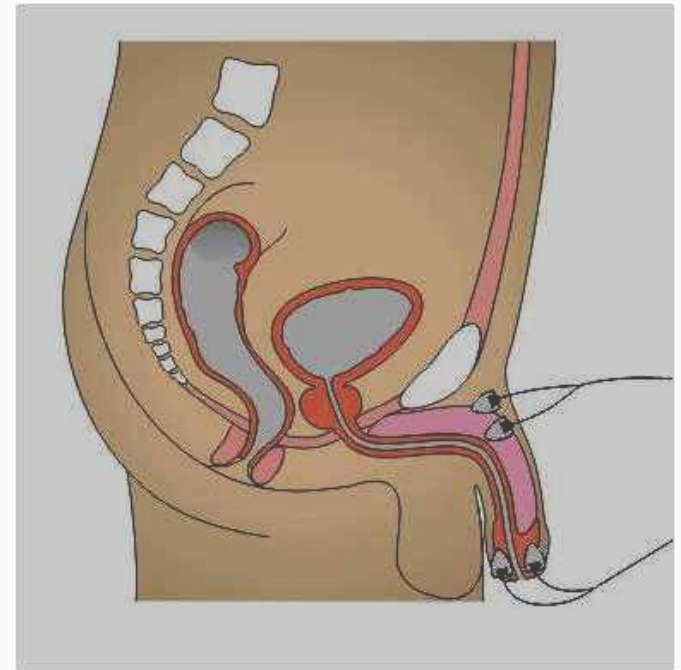
Penile nerve conduction studies

Measures sensory & motor nerve signals

Electrodes record speed and strength

Detects diabetic or surgical neuropathy

Helps confirm neurogenic ED



cppc.gr

Specialized Neurologic Tests:

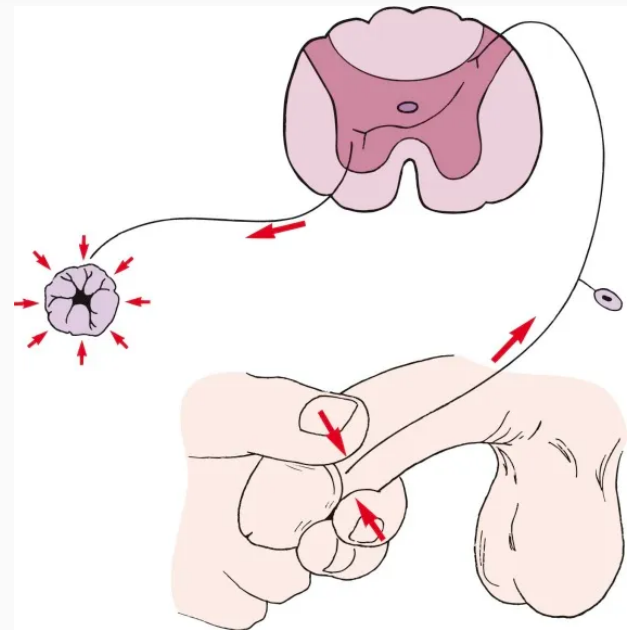
Bulbocavernosus Reflex Latency Test

Tests spinal reflex arc (S2–S4)

Squeeze glans → anal sphincter contracts

Measures time delay (latency)

Prolonged latency = nerve/spinal cord damage



musculoskeletalkey.com



Drug Classes Commonly Causing Erectile Dysfunction

- Anti-hypertensives
- Psychiatric drugs
- Hormonal medicines
- Cardiovascular, and
- Other medications

Drugs Causing ED: Anti-hypertensives

Beta-blockers (e.g., propranolol, atenolol, metoprolol)

Thiazide diuretics (e.g., hydrochlorothiazide, chlorthalidone)

Spironolactone (potassium-sparing diuretic)

Mechanism: Reduce penile blood flow or interfere with sympathetic tone.

Drugs Causing ED: Psychiatric Medications

Antidepressants

SSRIs (e.g., fluoxetine, sertraline, paroxetine)

Tricyclic antidepressants (e.g., amitriptyline, imipramine)

Antipsychotics (e.g., haloperidol, risperidone, olanzapine)

Mechanism: Alter neurotransmitters (serotonin, dopamine) affecting libido and erection.

Drugs Causing ED: Hormonal Medications

Antiandrogens (e.g., cyproterone, flutamide, spironolactone in high doses)

GnRH agonists (e.g., leuprolide)

Corticosteroids (long-term use)

Mechanism: Reduce testosterone or interfere with hormonal balance.

Drugs Causing ED: Cardiovascular Drugs

Digoxin (used in heart failure)

Some statins and fibrates (rarely reported)

Mechanism: Possible interference with vascular or hormonal function.

Drugs Causing ED: Other Medications

H2 receptor blockers (e.g., cimetidine) – anti-ulcer drug with antiandrogenic effect.

Opioids (morphine, methadone) – suppress testosterone production.

Recreational drugs (alcohol, cannabis, cocaine) – impair neural and vascular function.



Psychological Causes of Erectile Dysfunction

Performance Anxiety
Stress
Depression
Relationship issues
Other mental health disorders

- Performance Anxiety
- Stress
- Depression
- Relationship issues
- Other mental health disorders

Psychological Causes of Erectile Dysfunction: Performance Anxiety

- Fear of not being able to perform sexually.
- Often seen in young men during early sexual experiences.
- Can cause a cycle: anxiety → ED → more anxiety.

Psychological Causes of Erectile Dysfunction: Stress

- Work, financial, or personal stress distracts from sexual arousal.
- Stress hormones (like cortisol) interfere with the erectile response.

Psychological Causes of Erectile Dysfunction: Depression

- Reduces libido and interest in sex.
- Alters brain chemicals (dopamine, serotonin) linked to arousal.
- Often worsened by **antidepressant medications**.

Psychological Causes of Erectile Dysfunction: Relationship Issues

- Marital conflict, lack of intimacy, or unresolved disputes.
- Emotional distance reduces sexual desire and erectile capacity.

Psychological Causes of Erectile Dysfunction:

Other mental health disorders

- **Generalized anxiety disorder** – constant worry impairs focus on arousal.
- **Post-traumatic stress disorder (PTSD)** – especially with past sexual trauma.
- **Low self-esteem or body image issues** – feelings of inadequacy can block sexual response.



Hormonal Causes of ED

Smoking
Excessive alcohol use
Obesity and poor diet
Physical inactivity
Substance abuse
Chronic stress and poor sleep

- Low Testosterone (Hypogonadism)
- Hyperprolactinemia
- Thyroid Disorders
- Cushing's Syndrome
- Diabetes Mellitus

Hormonal Causes of ED:

Low Testosterone (Hypogonadism)

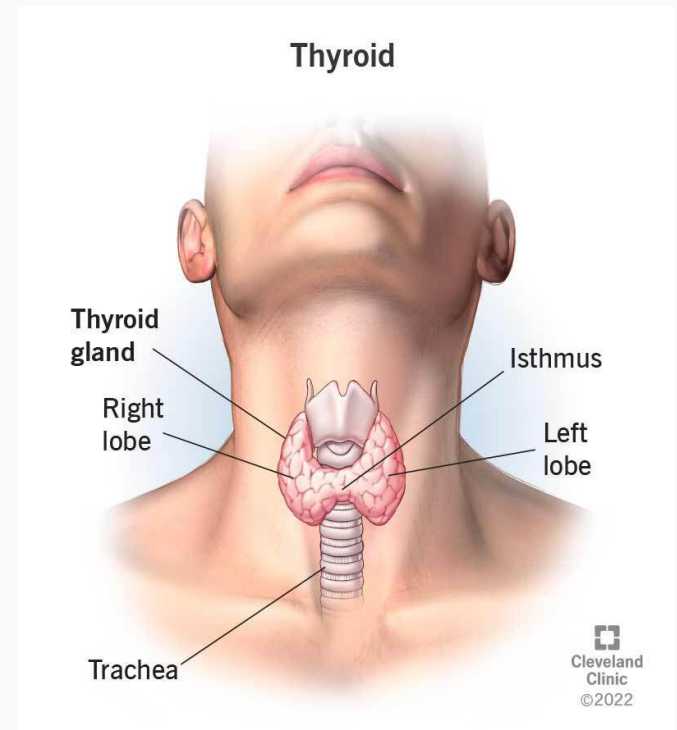
- Most common hormonal (endocrine) cause.
- Symptoms: reduced libido, fatigue, decreased muscle mass, ED.
- Causes: aging (andropause), testicular failure, pituitary disease.

Hormonal Causes of ED: Hyperprolactinemia

- Elevated prolactin suppresses gonadotropins (LH, FSH) → lowers testosterone.
- Causes: pituitary adenoma, medications (e.g., antipsychotics).
- Leads to decreased libido and ED.

Hormonal Causes of ED: Thyroid Disorders

- **Hypothyroidism:** decreases libido and causes ED via low testosterone and depression.
- **Hyperthyroidism:** increases **sex hormone-binding globulin (SHBG)**, lowering free testosterone and impairing erectile function.

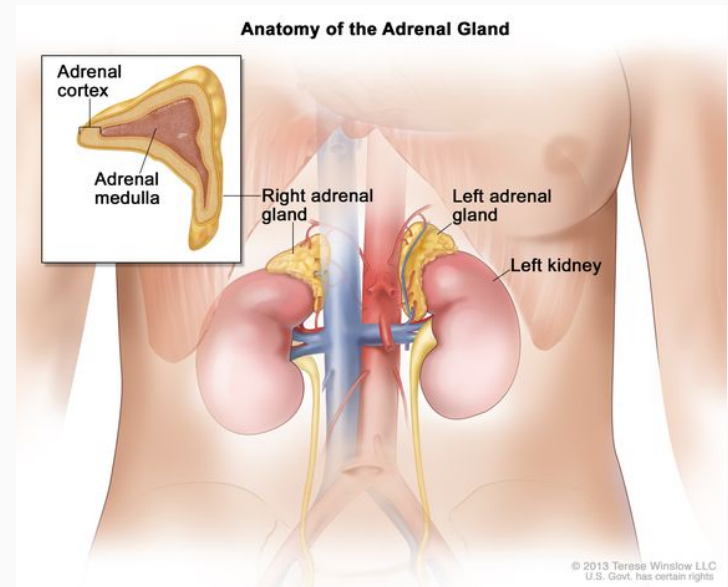


Hormonal Causes of ED:

Cushing's Syndrome (excess cortisol)

Stress (increased cortisol)

- High **cortisol** suppresses gonadotropin secretion.
- Leads to **hypogonadism**, loss of **libido**, and erectile dysfunction.



cancer.gov

Hormonal Causes of ED: Diabetes Mellitus

- Primarily vascular and neurologic in origin, but also has endocrine impact:
 - Insulin resistance lowers testosterone.
 - Alters nitric oxide production.
- Common cause of combined vascular, neurologic, and hormonal ED.

Hormonal Panel Tests

Total Testosterone – low levels (hypogonadism) can reduce libido and erectile function.

Free Testosterone – more accurate in some cases, since it measures the biologically active fraction.

Luteinizing Hormone (LH) – high LH with low testosterone suggests testicular failure; low LH with low testosterone suggests pituitary/hypothalamic dysfunction.

Hormonal Panel Tests

Follicle-Stimulating Hormone (FSH) – evaluates spermatogenesis and gonadal function.

Prolactin – high levels can suppress testosterone and cause impotence.

Thyroid Hormones (TSH, T4) – hyperthyroidism and hypothyroidism can both affect libido and erections.

Cortisol (sometimes) – adrenal issues may contribute indirectly.

Lifestyle Causes of Erectile Dysfunction

Smoking
Excessive alcohol use
Obesity and poor diet
Physical inactivity
Substance abuse
Chronic stress and poor sleep

- Smoking
- Excessive alcohol use
- Obesity and poor diet
- Physical inactivity
- Substance abuse
- Chronic stress and poor sleep

Lifestyle Causes of ED: Smoking

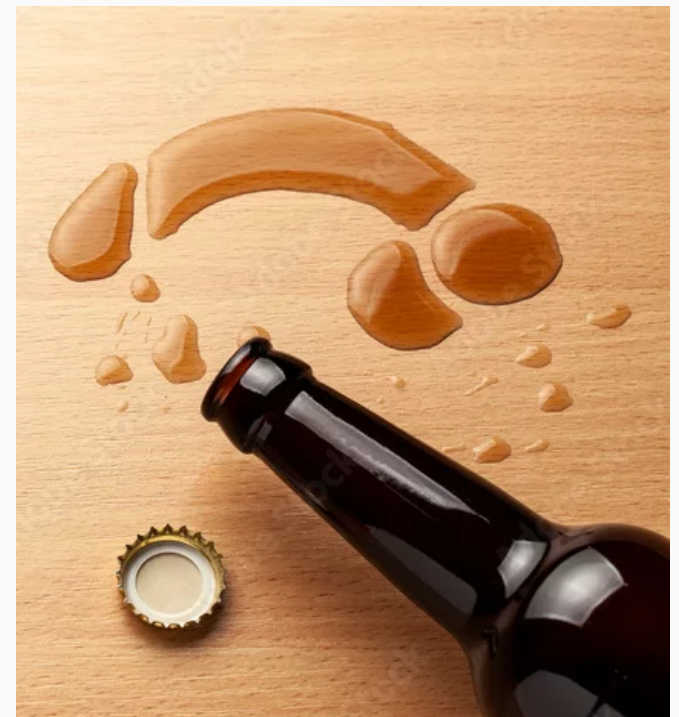
- Nicotine and other chemicals damage blood vessels.
- Reduces nitric oxide (NO) availability, limiting penile blood flow.
- Strongly associated with vascular ED.



tobaccolabels.ca

Lifestyle Causes of ED: Excessive Alcohol Use

- Chronic alcohol use damages the liver → lowers testosterone.
- Impairs the nervous system → weakens erection signals.
- “Whiskey dick” (acute alcohol intoxication) can cause temporary ED.



stock.adobe.com

Lifestyle Causes of ED:

Obesity and poor diet

- **Increases risk of hypertension, diabetes, and atherosclerosis.**
- **Associated with low testosterone and metabolic syndrome.**
- **Excess abdominal fat alters hormones and vascular function.**

Lifestyle Causes of ED:

Physical inactivity

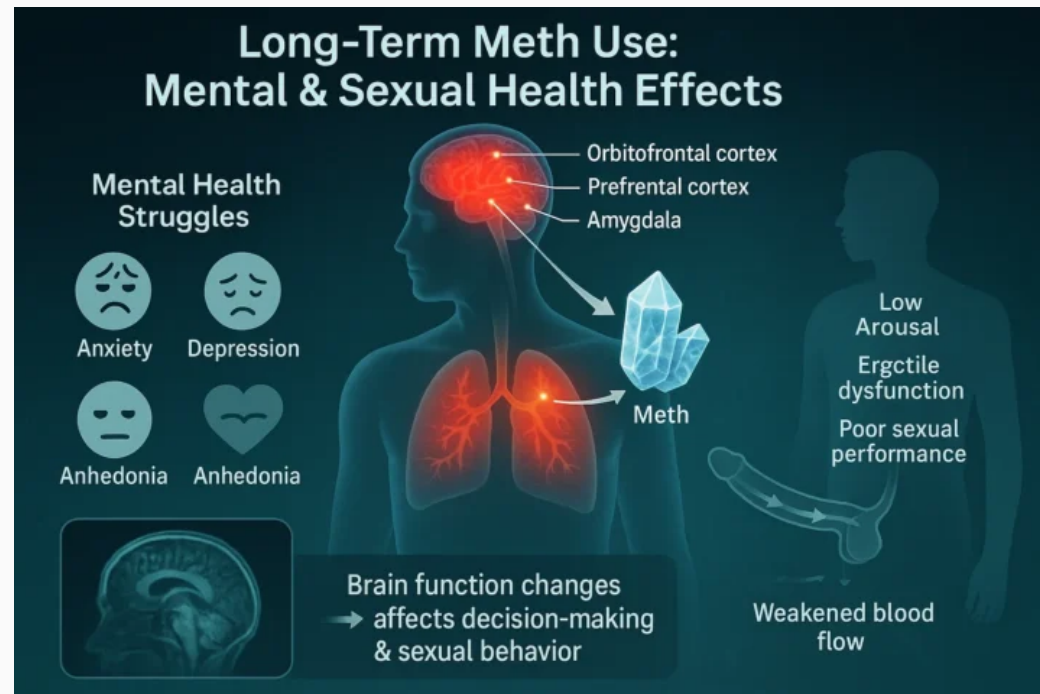
- Associated with low testosterone and metabolic syndrome.
- Poor circulation impairs penile blood flow.
- Excess abdominal fat alters hormones and vascular function.



istockphoto.com

Lifestyle Causes of ED: Substance abuse

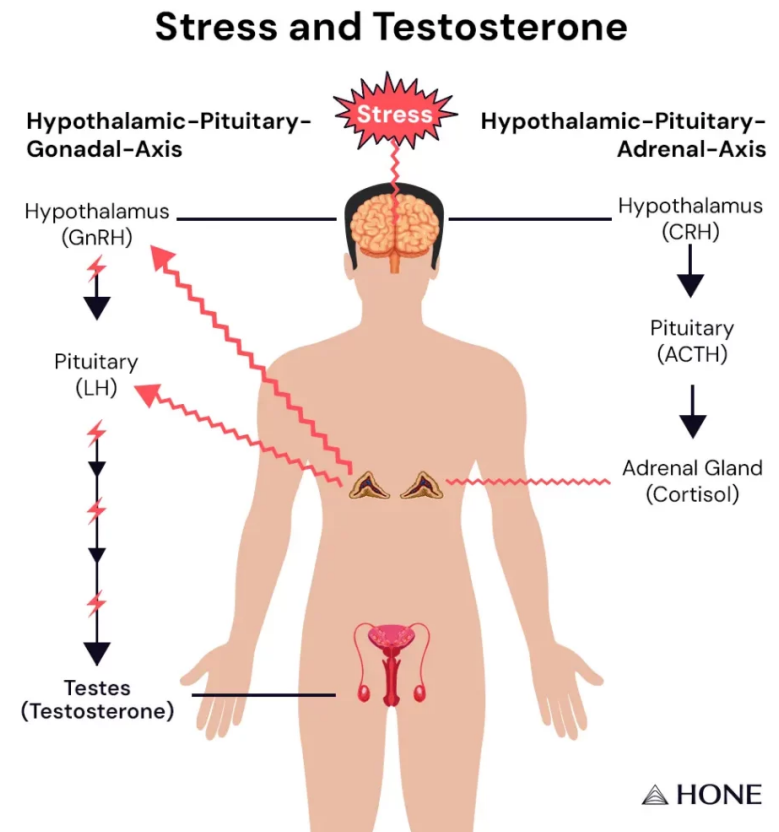
- Cocaine, methamphetamines, and other drugs impair vascular and neurological function.
- Long-term use damages dopamine pathways needed for arousal.



.allohealth.com

Lifestyle Causes of ED: Chronic stress and poor sleep

- Elevates cortisol and adrenaline → suppresses sexual response.
- Sleep apnea and insomnia reduce testosterone production.



Porn-Induced Erectile Dysfunction (PIED)



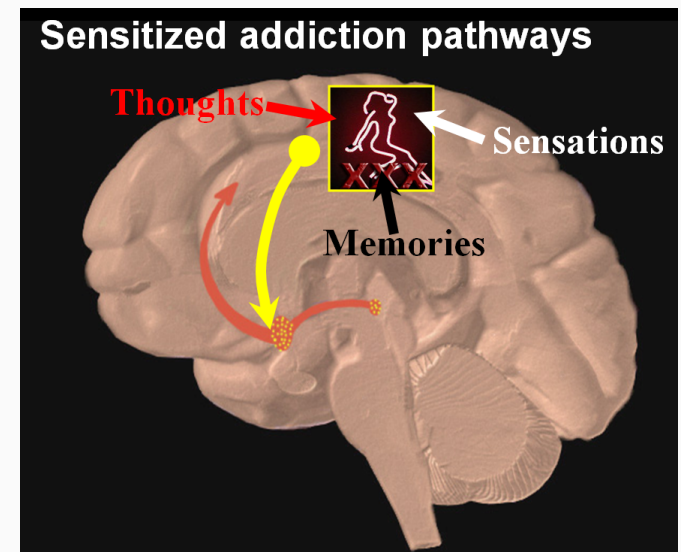
freepik.com/

- Desensitization of the Brain's Reward System
- Altered Sexual Expectations
- Psychological Dependence
- Associated Mental Health Issues

Porn-induced ED

Desensitization of the Brain's Reward System

- Overexposure to highly stimulating pornography can blunt the brain's dopamine response.
- The brain becomes conditioned to extreme visual stimuli, making normal sexual activity less arousing.

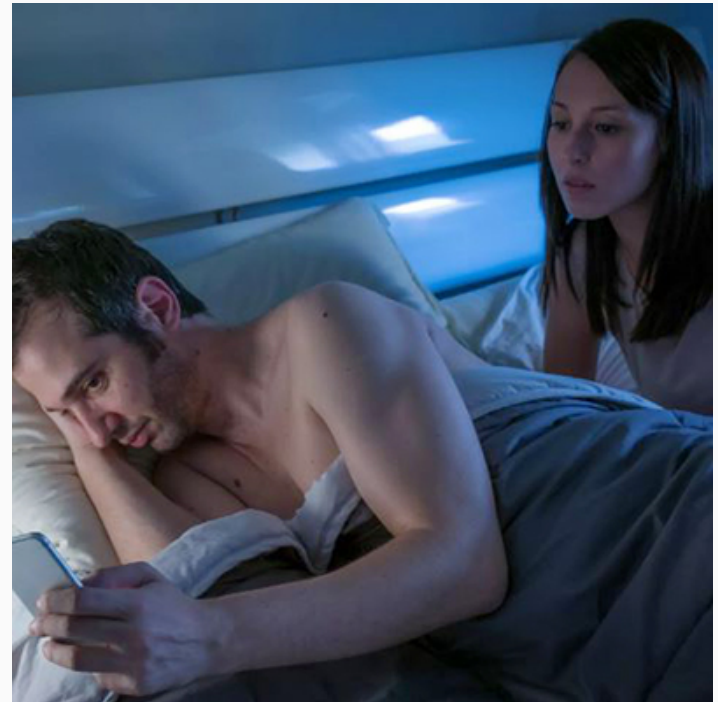


yourbrainonporn.com

Porn-induced ED

Altered Sexual Expectations

- Frequent porn use may create unrealistic standards about sex.
- Men may struggle to respond to real-life intimacy, leading to performance anxiety and ED.



lastingloveconnection.com

Porn-induced ED

Psychological Dependence

- Porn can become the main source of arousal, replacing partner intimacy.
- This reliance reduces natural sexual desire and responsiveness.



fightthenewdrug.org

Porn-induced ED

Associated Mental Health Issues

- Guilt, shame, or relationship conflict from excessive porn use may further worsen erectile difficulties.
- Links to anxiety and depression reinforce the cycle of ED.



athenaluxus.com



Male Fertility (Semen Analysis)

What is Semen Analysis?

- Laboratory test of male fertility potential
- Examines quality and health of sperm
- First-line test in infertility evaluation
- Also used in medico-legal cases

Key Parameters Measured

Volume – 1.5–6.0 mL per ejaculation

Concentration (Count) – ≥ 15 million sperm/mL

Motility – % of sperm that swim forward ($\geq 32\%$)

Morphology – Shape and structure of sperm

Vitality – % of live sperm

pH – Normally alkaline (7.2–8.0)

Liquefaction/Viscosity – Should liquefy within 60 min

White Blood Cells – May indicate infection

Procedure

Collected usually by
masturbation into sterile
container

Must be delivered to lab within 1
hour

Sample analyzed under
microscope by trained
professional



[alibaba.com/product](https://www.alibaba.com/product)



Color



Volume

exseedhealth.com



Viscosity



pH

Normospermia (Normal Sperm)



Hypospermia

Low volume (<1.5ml)



Azospemia

No Sperm at all



Oligospermia

Low amount of sperm <15m/ml



Asthenozoospermia

Low motility <32% moving



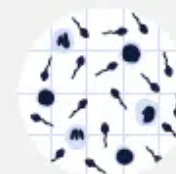
Tetrazoospermia

Bad morphology



Leukospermia

Infiltration or normal round cells
White blood cells

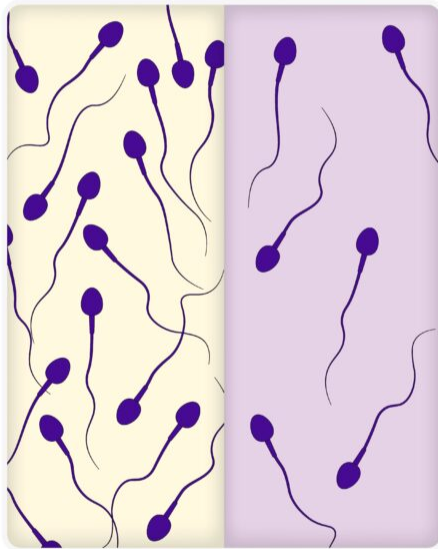


Necrospermia

Dead cells



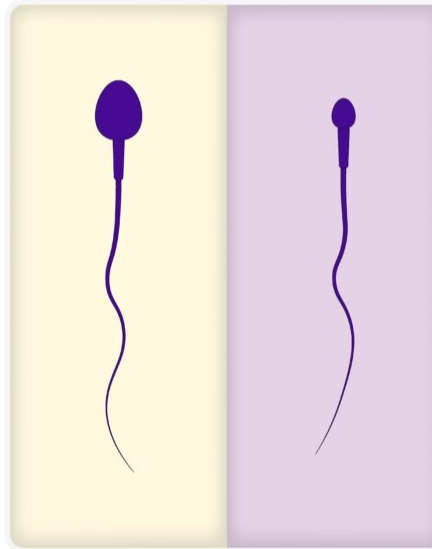
SPERM COUNT



Normal sperm count

Low sperm count

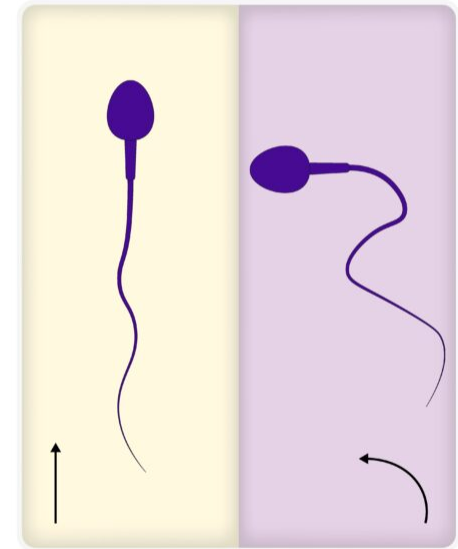
SPERM MORPHOLOGY



Normal sperm

Abnormal sperm

SPERM MOTILITY



Normal forward progression

Abnormal Motility

fcionline.com



Normal Sperm

Abnormal Sperm

novaivffertility.com

© jdcgumpal

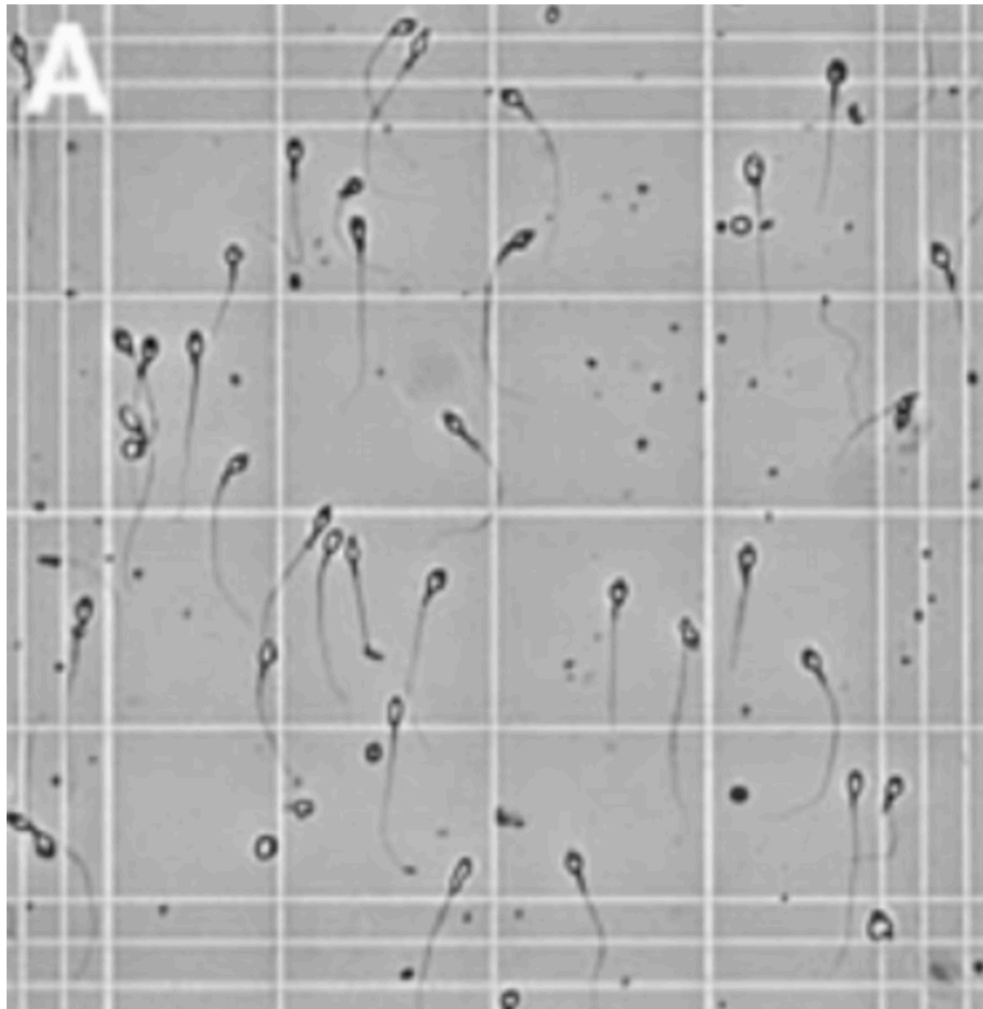


Figure 2. Sperm cells as seen in an Neubauer-improved counting chamber (Jackson Kirkman-Brown, [source](#))

Medico-Legal Relevance

Used in annulment cases (alleging sterility)

Supports legitimacy disputes if paternity is questioned

Courts require expert interpretation of results

Test may need to be repeated due to variability

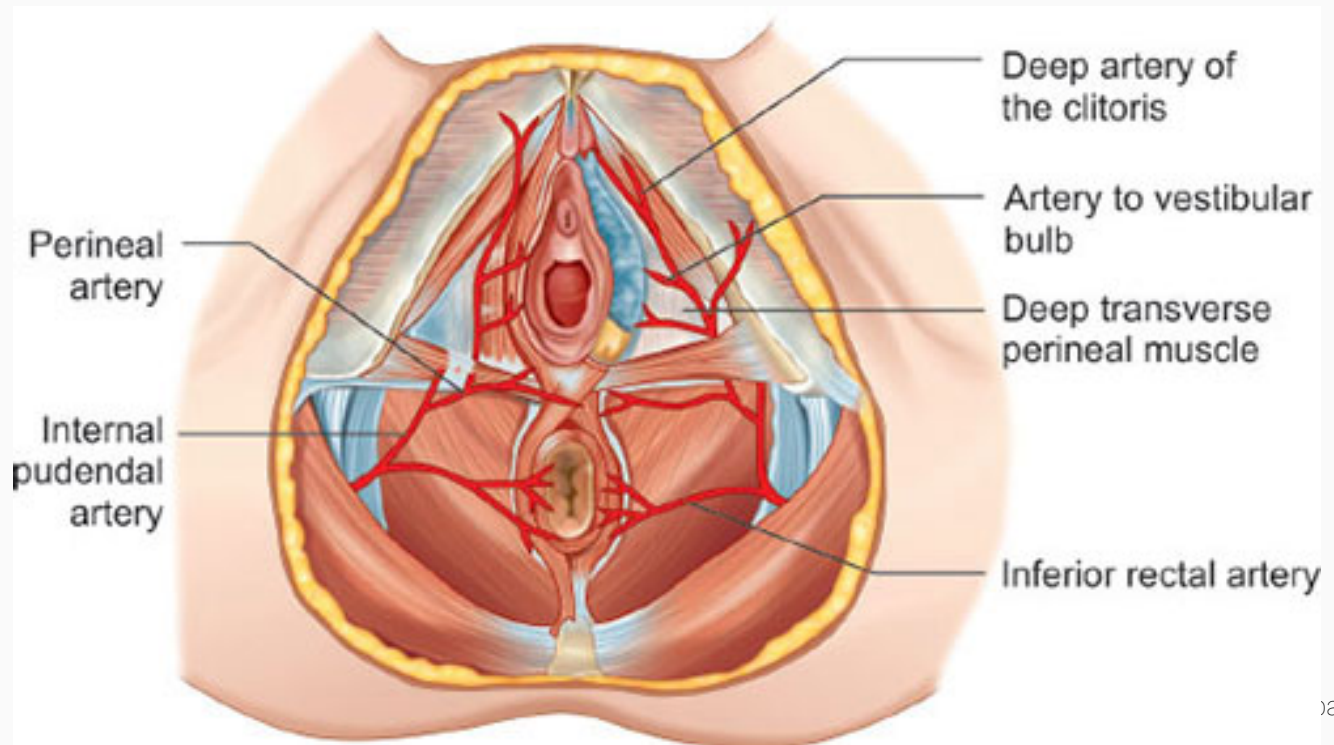


Female Impotence (Female Sexual Arousal Disorder) FSAD

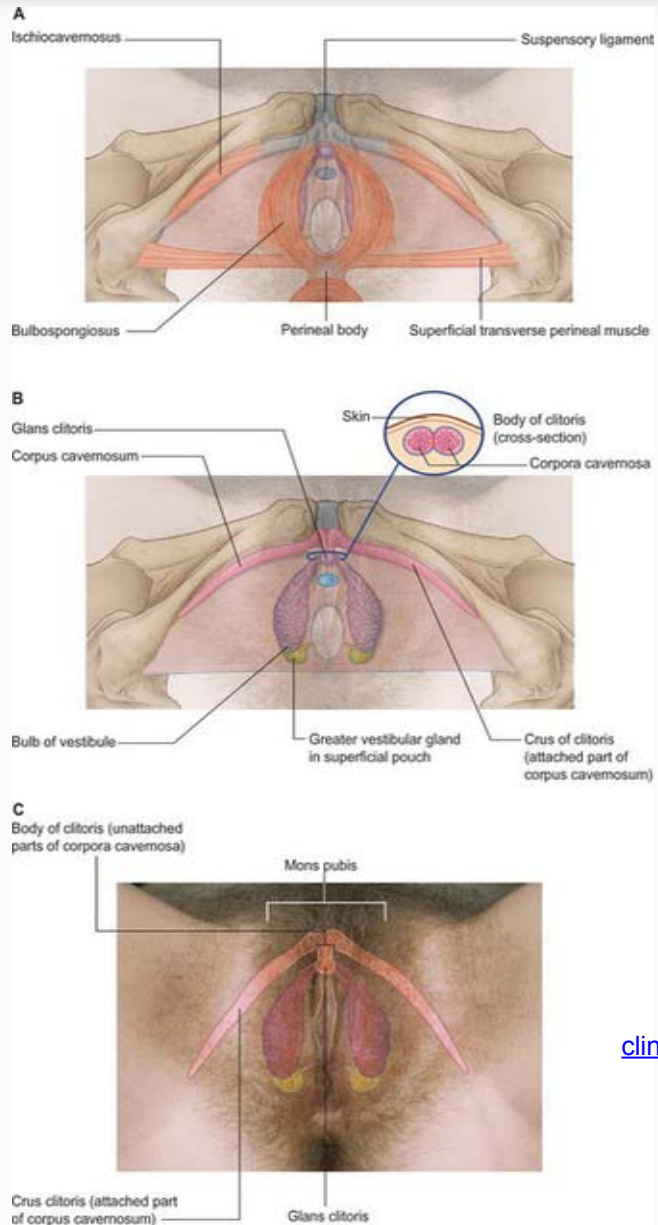
- Vascular
- Neurologic
- Medical
- Hormonal
- Lifestyle

Female Sexual Arousal Disorder: Vascular Causes

- Just like in men, sexual arousal in women depends on increased genital **blood flow**.
- Atherosclerosis, hypertension, diabetes, or smoking may impair clitoral and vaginal engorgement.



Female Sexual Arousal Disorder: Neurologic causes



clinicalgate.com

- Reduced lubrication and impaired swelling of **erectile tissues** result in FSAD.
- Spinal cord injury, multiple sclerosis, diabetic neuropathy, pelvic nerve damage (e.g., after hysterectomy or pelvic surgery).
- These conditions impair the neural pathways that mediate arousal and genital sensation.

Female Sexual Arousal Disorder: Hormonal causes

- Low estrogen (menopause, oophorectomy) → vaginal dryness and thinning.
- Low androgens/ testosterone reduce libido.
- Thyroid and prolactin disorders may also contribute.



\web.facebook.com

Female Sexual Arousal Disorder: Drug-induced causes

- Antidepressants, antipsychotics, antihypertensives
- chemotherapy or hormonal therapies (that reduce estrogen/testosterone).



cancercenter.com

Female Sexual Arousal Disorder: Psychological causes

- Past trauma (e.g., rape or sexual abuse)
- Depression, anxiety
- Body image issues
- relationship conflict.



sciencemediacentre.es

Female Sexual Arousal Disorder: Lifestyle causes

- Smoking, alcohol, obesity, stress, poor sleep—contributing to vascular and hormonal imbalance.



istockphoto.com



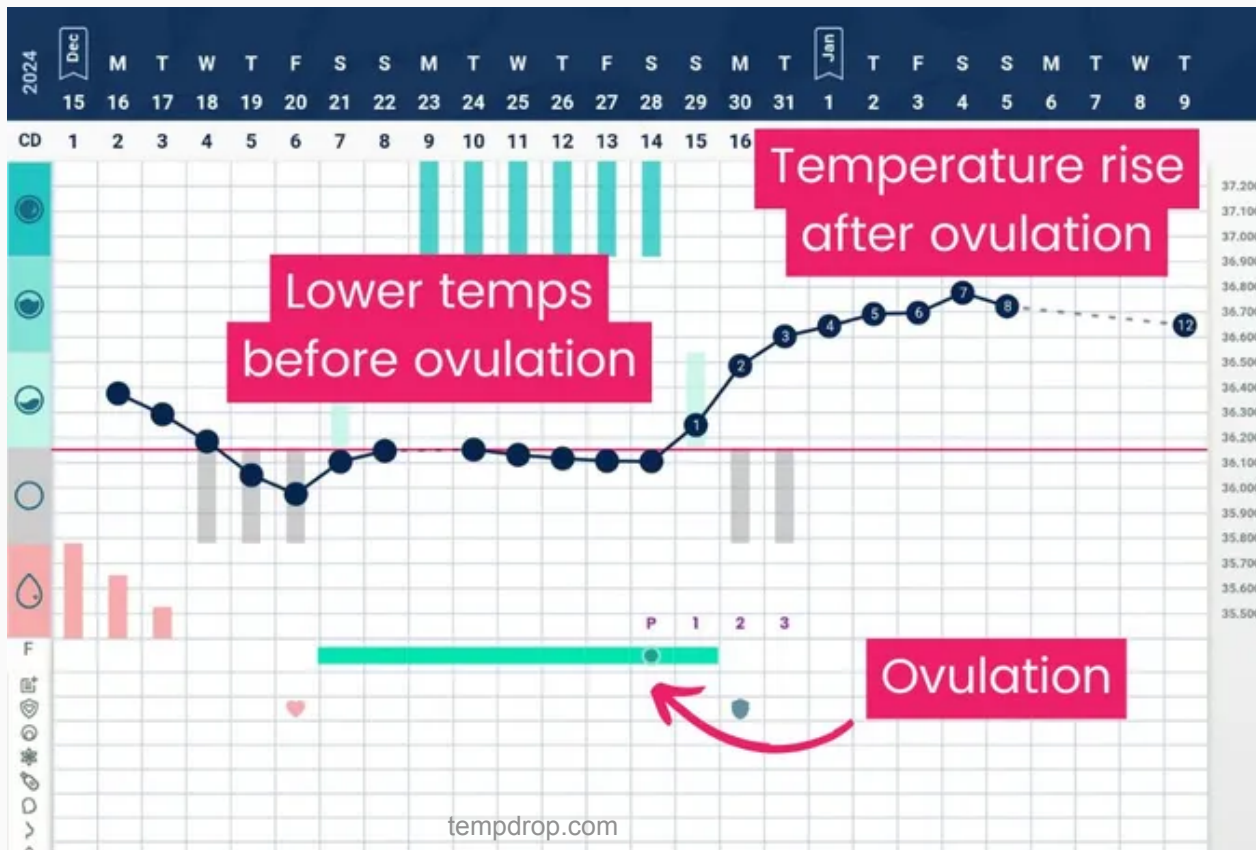
dreamstime.com/



Female Fertility Tests

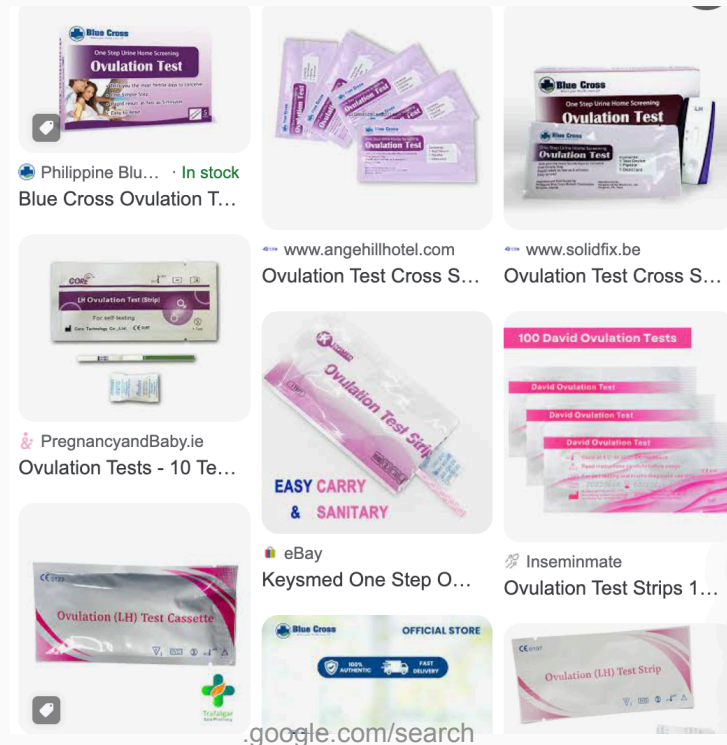
- Ovulation Assessment
- Ovarian Reserve Testing
- Structural & Anatomical Evaluation
- Hormonal Profile
- Biomarkers
- General Health & Systemic Factors

Basal Body Temperature (BBT) charting – detects post-ovulation rise in progesterone.



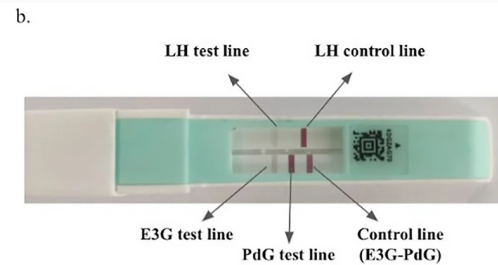
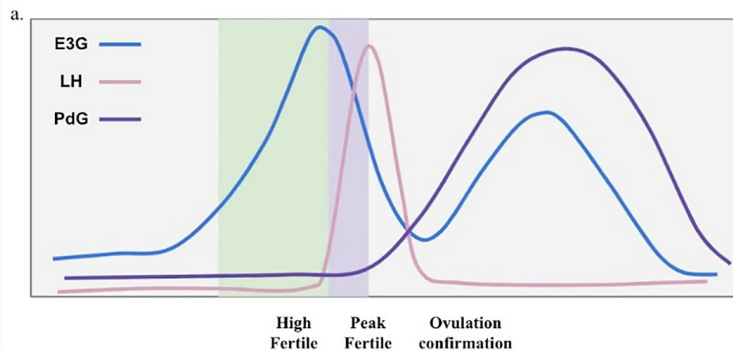
Female Fertility Tests: Ovulation Assessment

Urinary LH kits
(Ovulation Predictor
Kits) – detect LH surge
that precedes ovulation.



Female Fertility Tests: Ovulation Assessment

- Serum Progesterone – mid-luteal phase test (around day 21 in a 28-day cycle) confirms ovulation

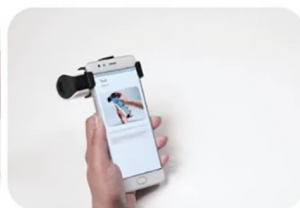


[nature.com/](https://www.nature.com/)

c.



Dip test strip in urine



Attach Inito Fertility Monitor to your phone



Insert test strip into the device



Get results on the app

Female Fertility Tests:

Ovarian Reserve

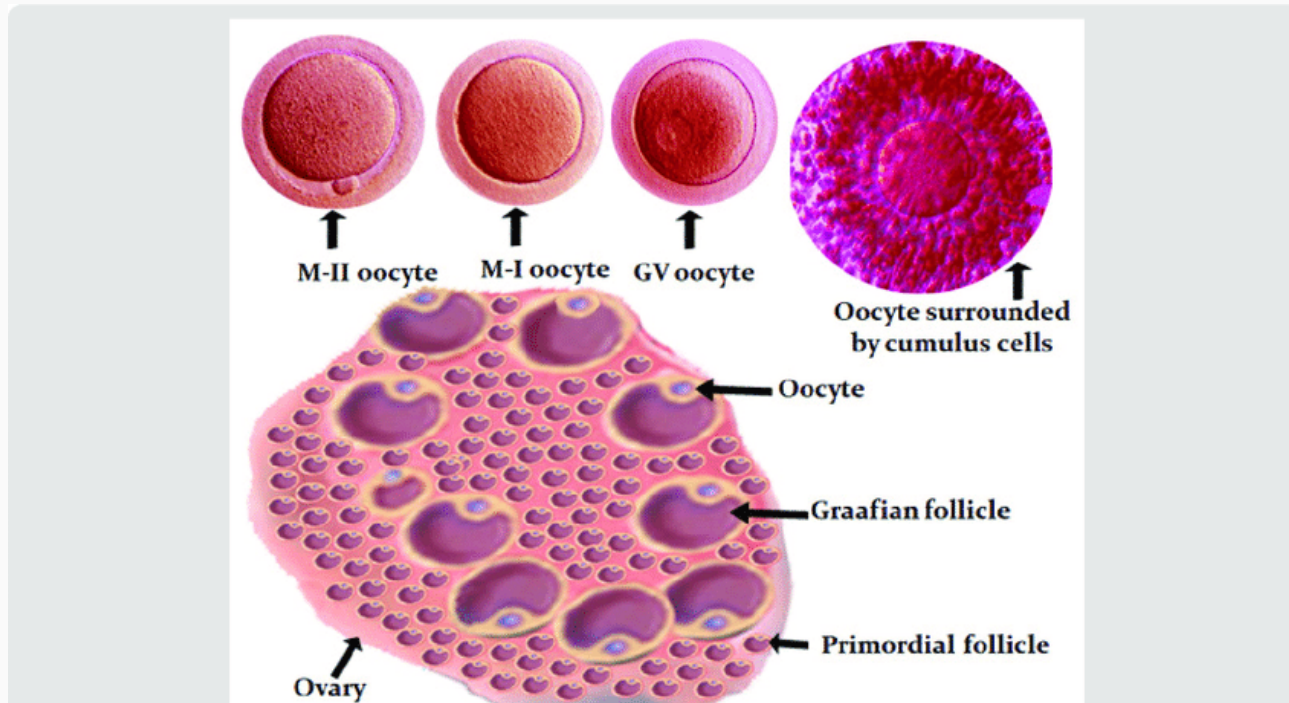
- Refers to the quantity and quality of remaining eggs (oocytes)
- Determined at birth; declines with age
- Indicator of reproductive potential
- Decline accelerates after mid-30s

Female Fertility Tests:

Ovarian Reserve

- **Day 3 FSH and Estradiol** – high FSH may indicate low ovarian reserve.
- **Anti-Müllerian Hormone (AMH)** – reflects quantity of remaining follicles; stable throughout the cycle.
- **Antral Follicle Count (AFC)** – transvaginal ultrasound counts small follicles in early cycle.

Oocytes (eggs) in Ovary



<https://www.researchgate.net/>

Medical Basis

Finite number of oocytes at birth (~1–2 million)

Decline to ~300,000 by puberty

Only ~400–500 ovulated in a lifetime

Remaining undergo natural atresia (degeneration)

How Ovarian Reserve is Measured

Blood Tests

AMH (Anti-Müllerian Hormone): higher = better reserve

FSH (Follicle-Stimulating Hormone): high early-cycle = poor reserve

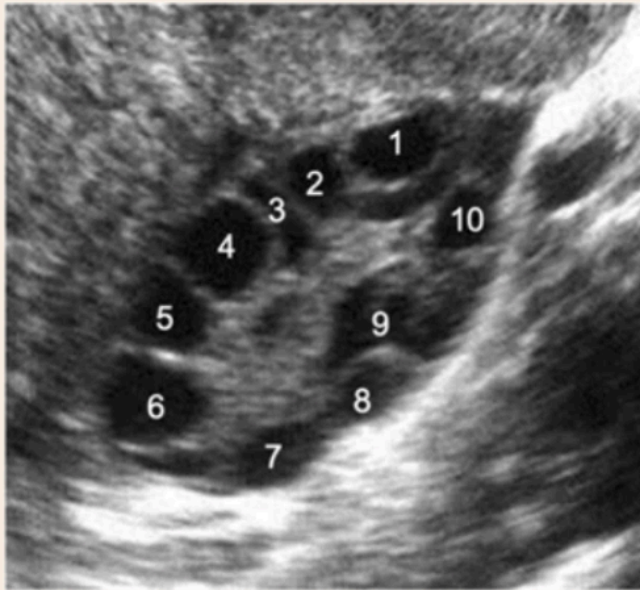
Estradiol (E2): interprets FSH levels

Ultrasound

Antral Follicle Count (AFC): counts small follicles

Higher count = stronger reserve

Antral Follicle Count using Ultrasound



High AFC with 10 follicles



Low AFC with 2 follicles

Medico-Legal Relevance

Used in infertility evaluation

Supports claims of sterility in annulment or legitimacy cases

Courts require expert testimony to interpret results

Tests alone are not conclusive; context is critical

Female Fertility Tests:

Structural & Anatomical Evaluation

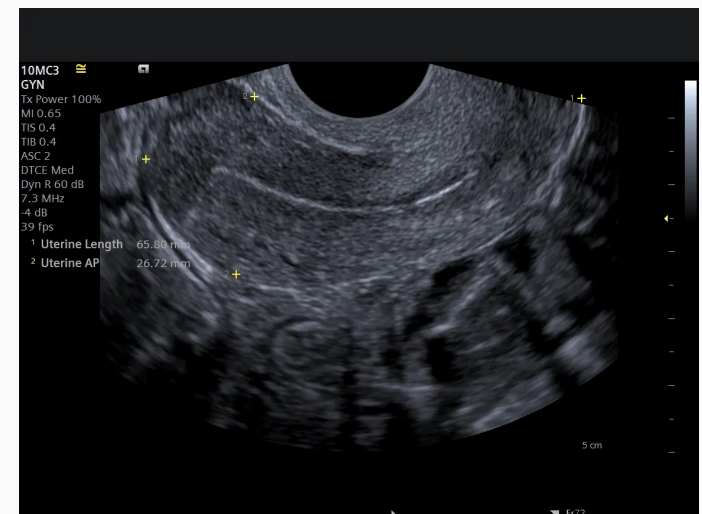
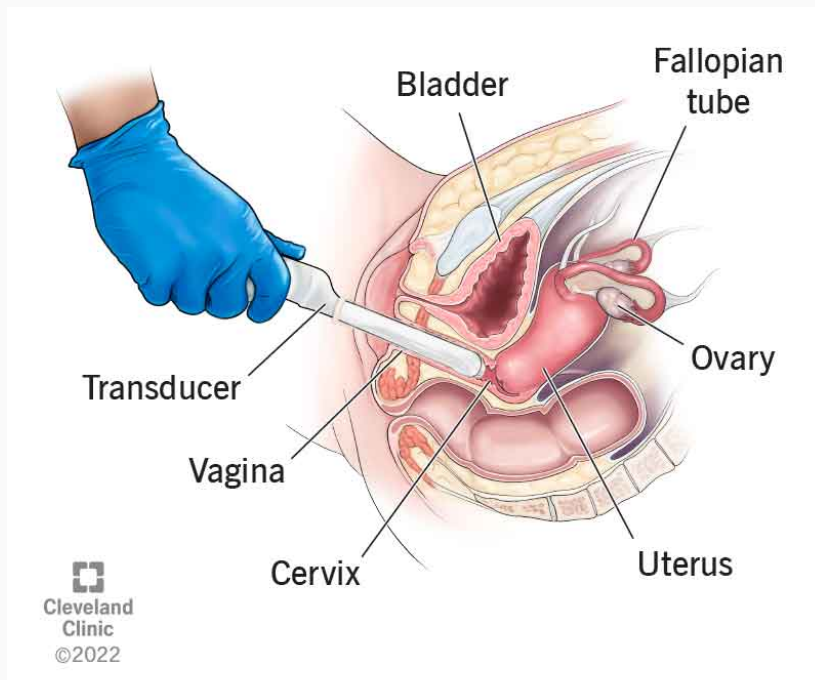
- **Transvaginal Ultrasound** – evaluates ovaries, uterus, endometrium.
- **Hysterosalpingography (HSG)** – X-ray with contrast to check fallopian tube patency and uterine cavity.
- **Sonohysterography** (Saline Infusion Sonography) – ultrasound with saline to check uterine cavity.
- **Hysteroscopy/Laparoscopy** – direct visualization of uterus and pelvis for polyps, fibroids, adhesions, endometriosis.

Female Fertility Tests:

Structural & Anatomical Evaluation

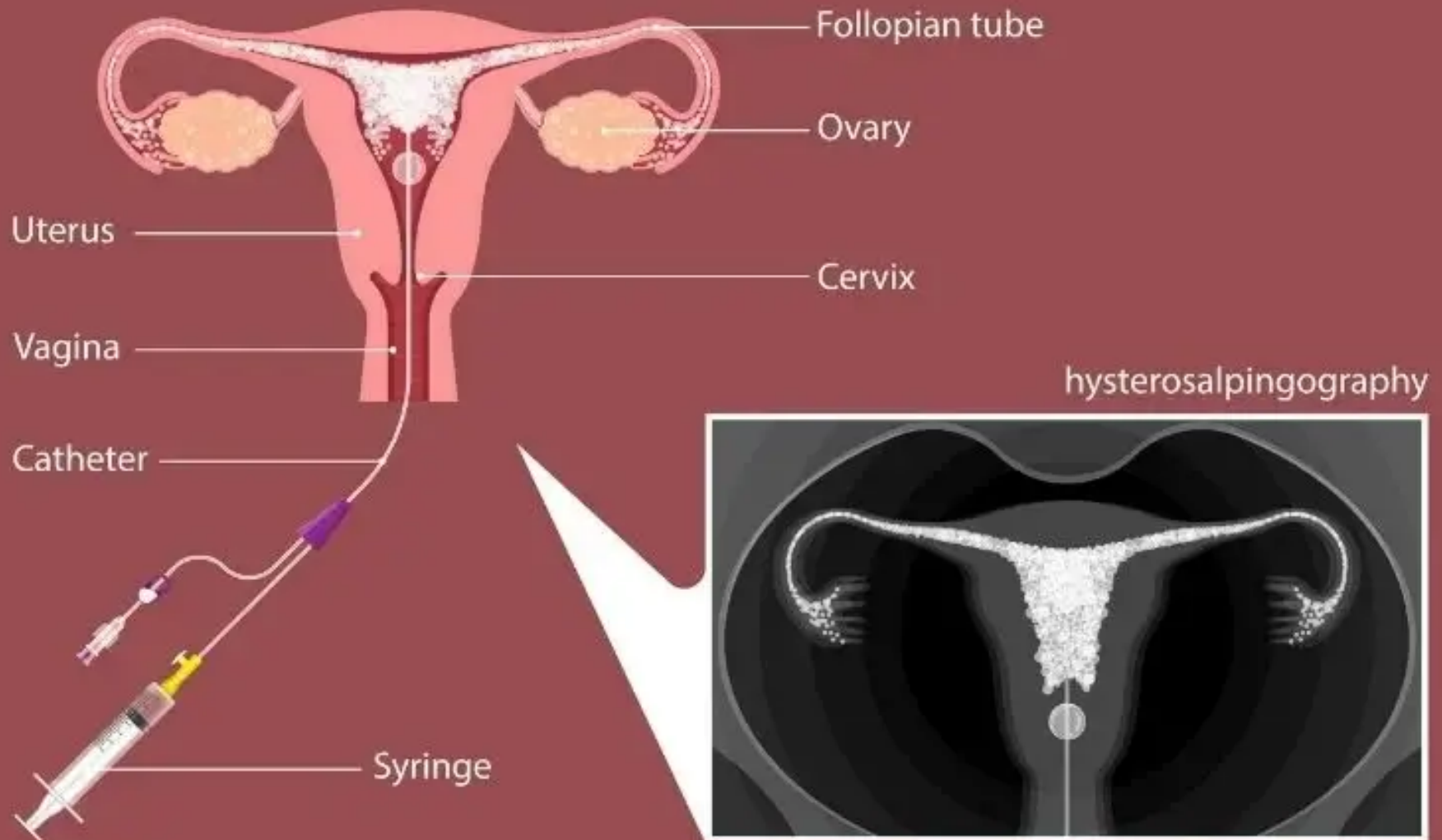
- Used in infertility evaluation
- Supports claims of sterility in annulment or legitimacy cases
- Courts require expert testimony to interpret results
- Tests alone are not conclusive; context is critical

Female Fertility Tests: Transvaginal Ultrasound



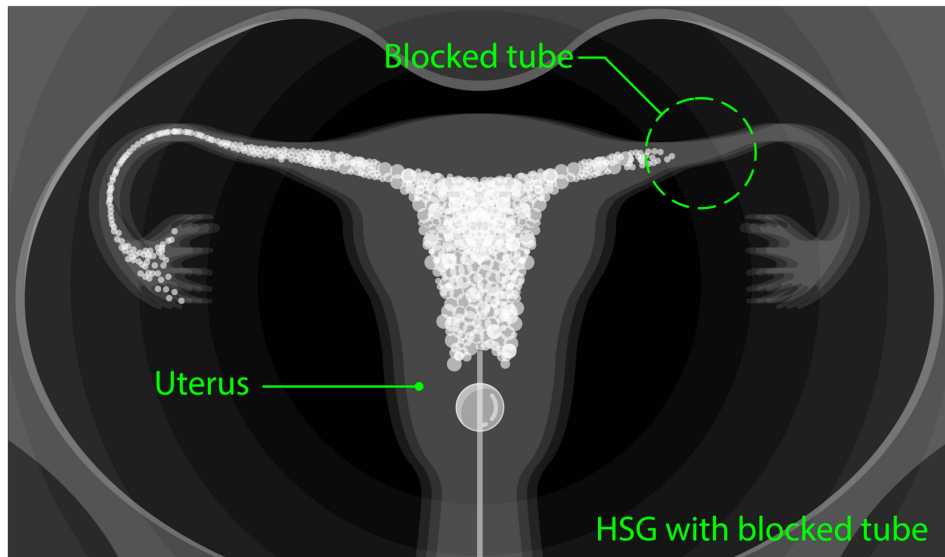
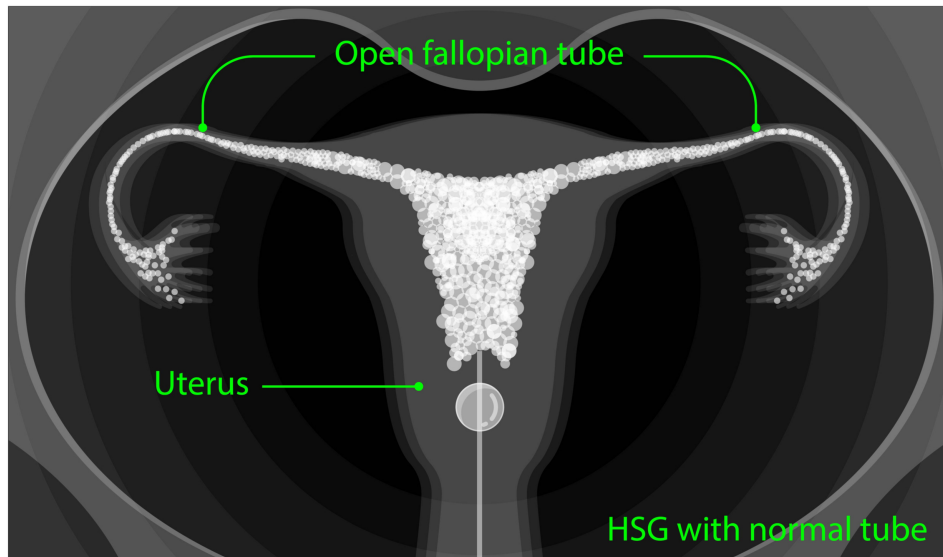
.iuslondon.co.uk

Hysterosalpingogram (HSG)



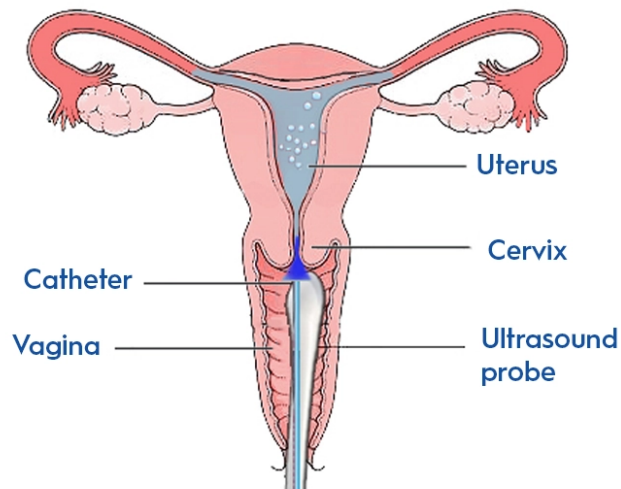
Female Fertility Tests:

Hysterosalpingography (HSG)



Cloudnine Fertility

Female Fertility Tests: Sonohysterography



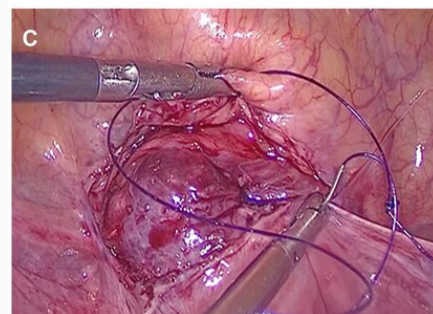
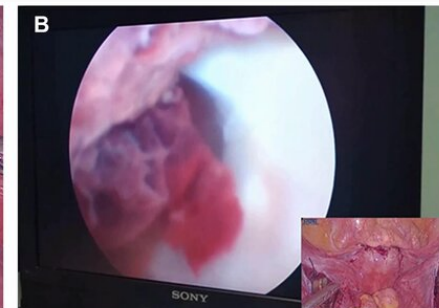
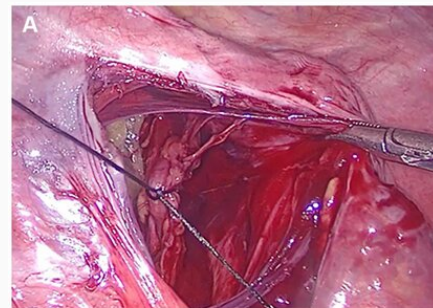
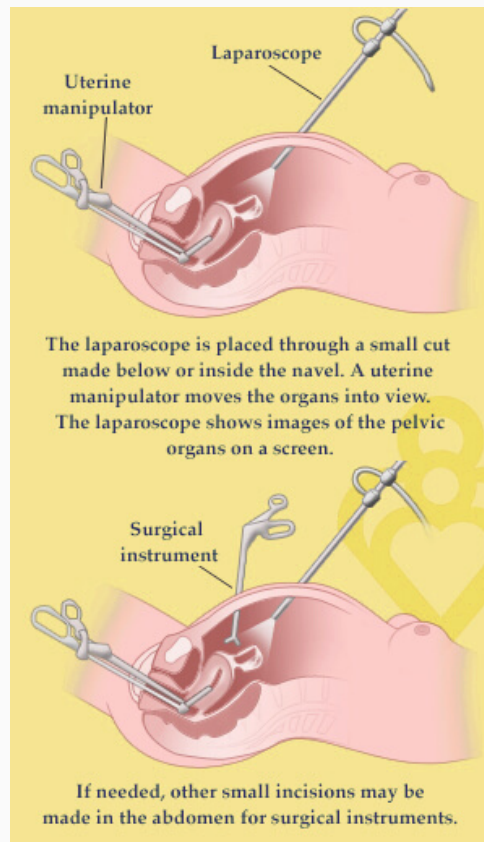
Sonohysterography

Sonohysterography, also known as a saline infusion sonogram (SIS) or sonohysterogram, is a procedure that scans the inside of a uterus.



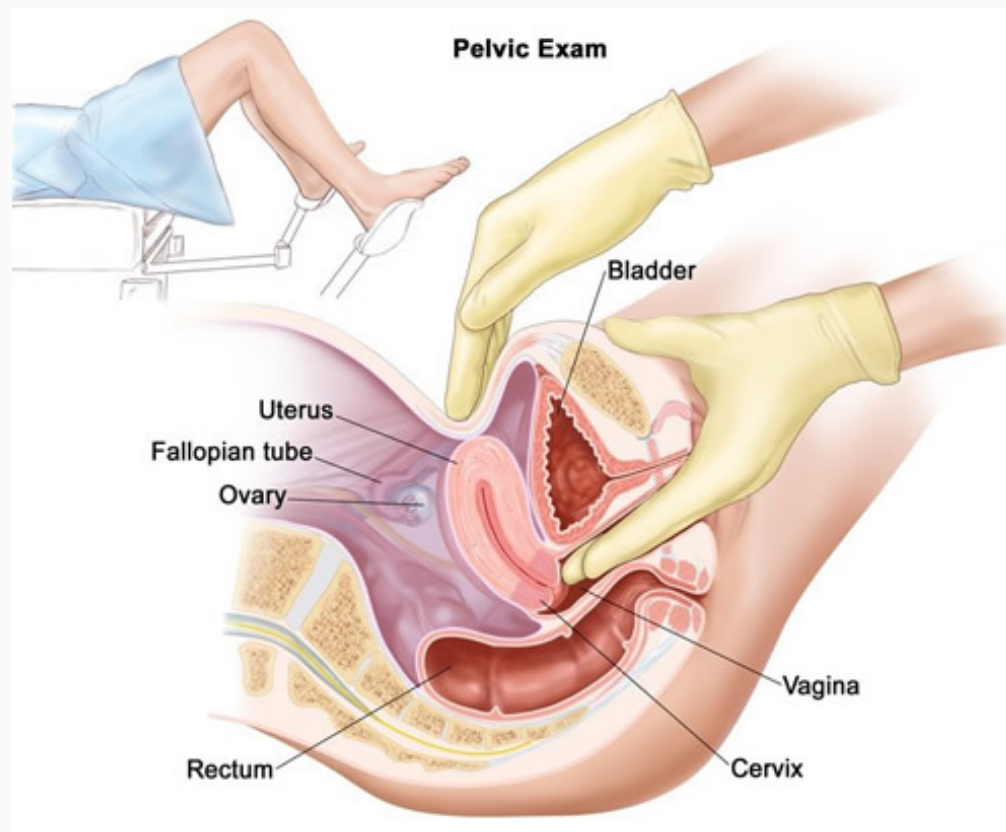
fertilityanswers.com

Female Fertility Tests: Hysteroscopy/Laparoscopy



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Structural & Anatomical Evaluation: Pelvic Exam



Conclusion

Impotence: valid annulment ground if proven

Sterility: not annulment ground, but relevant in legitimacy disputes

Strong medical and expert evidence essential

High evidentiary threshold protects marriage sanctity

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