

Mens Sexual Health STI Prevention and Prep

Men's sexual health and STI prevention is frontline medicine: take a full sexual history every time, test on the right schedule, offer PrEP to anyone at risk for HIV, vaccinate against HPV and hepatitis B, and treat infections early before they silently wreck fertility, hearts, brains, and newborns.

THE ONE-LINE TRUTH

Sexual health is real medicine — ask about it, test for it, vaccinate, and prevent what you can before it spreads or breaks something downstream.

The chain — how it unfolds

1. Untreated gonorrhea (*Neisseria gonorrhoeae* bacteria) or chlamydia (*Chlamydia trachomatis* bacteria) in a man infects his sexual partner because bacteria living in his urethra (the tube inside the penis that carries semen and urine) transfer directly to the partner's cervix, vagina, or rectum during sex. — why: The urethra and the genital tract are open tubes lined with mucous membranes (moist tissue that secretes protective mucus). Bacteria living in one person's urethra coat the penis and semen. During intercourse, there is direct skin-to-mucous-membrane contact, and bacteria easily jump from infected discharge into the partner's genital tract because mucous membranes absorb fluid and germs can attach to and invade the cells lining the cervix and vagina.
2. In the female partner, gonorrhea or chlamydia bacteria travel up from the cervix (the opening of the uterus) through the uterus and into the fallopian tubes (the two narrow tubes, one on each side, that carry eggs from the ovaries to the uterus) — that upward spread is pelvic inflammatory disease, or PID. — why: The female genital tract is one continuous open pathway from the vagina through the cervix, across the uterine cavity, through the fallopian tubes, and out into the abdominal cavity near the ovaries. There is no barrier to stop bacteria from crawling upstream, especially during menstruation when the cervix is slightly open and blood flow helps carry bacteria higher. Gonorrhea and chlamydia are built to attach to and invade the cells lining these tubes.

3. The immune system fights the infection in the fallopian tubes by sending neutrophils (white blood cells that eat bacteria). The neutrophils release enzymes and inflammatory chemicals to kill the bacteria, but those same chemicals damage the delicate inner lining of the tubes and leave scar tissue that blocks or narrows the tube — that is tubal factor infertility. — why: The fallopian tubes are very narrow inside — about the diameter of a pencil lead, roughly one to two millimeters — and lined with tiny hair-like projections called cilia that sweep the egg gently toward the uterus. The lining is delicate and easily damaged. Even mild inflammation and scarring can glue the walls of the tube together or destroy the cilia, so the egg cannot travel through. If both tubes are blocked, sperm and egg never meet, and natural pregnancy cannot happen. If only one tube is blocked or partly blocked, the risk of ectopic pregnancy (egg getting stuck in the tube) skyrockets.
4. If the fallopian tube is only partly blocked by scar tissue, a fertilized egg (embryo) can get stuck in the tube instead of reaching the uterus — that is an ectopic pregnancy, which is life-threatening because the growing embryo will rupture the tube and cause massive internal bleeding. — why: A fertilized egg is a rapidly growing ball of cells that needs space and a rich blood supply to survive. The uterus is built for this — thick muscular walls, stretchy, filled with blood vessels. The fallopian tube is not. It is a narrow, thin-walled tube with a small blood supply. As the embryo grows over days to weeks, it stretches the tube wall until the wall tears. When the tube ruptures, blood vessels inside rip open and blood pours into the abdominal cavity. The woman suddenly feels severe, sharp abdominal pain (often one-sided), becomes dizzy and pale from blood loss, her blood pressure drops, and she can go into shock (not enough blood circulating to keep organs alive). This is a surgical emergency — she needs emergency surgery (often laparoscopy to remove the ruptured tube and stop the bleeding) or she will bleed to death.
5. A baby born to a mother with untreated gonorrhea or chlamydia passes through the infected birth canal during vaginal delivery, and bacteria coat the baby's face and get into the baby's eyes — that is neonatal conjunctivitis (also called ophthalmia neonatorum, a severe eye infection in newborns), which causes permanent blindness if not treated in the first hours to days of life. — why: The baby's eyelids are closed and protected in the womb, but open during and after birth. As the baby moves through the vagina (the birth canal), any bacteria, blood, or discharge present coat the baby's face, and bacteria enter the eyes. *Neisseria gonorrhoeae* (gonorrhea bacteria) is especially aggressive — it causes severe pus, swelling, and redness in the conjunctiva (the clear membrane covering the white of the eye and lining the eyelids) within 24 to 48 hours. If not treated immediately with antibiotics (usually IV or IM ceftriaxone plus eye irrigation and topical antibiotics), the infection eats through the cornea (the clear front window of the eye), leaving a permanent scar or hole that causes blindness. That is why every single newborn in the United States gets antibiotic eye ointment (erythromycin) squirted into both eyes within one hour of birth, no exceptions — it is a state-mandated public health intervention that has nearly eliminated neonatal blindness from gonorrhea.

6. Untreated syphilis (*Treponema pallidum* bacteria) hides in the bloodstream and tissues for years after the initial chancre (painless sore) heals. One to three decades later, the bacteria attack the wall of the aorta (the body's largest artery, which carries oxygen-rich blood from the left ventricle of the heart to the rest of the body) — that is cardiovascular syphilis, or syphilitic aortitis — weakening the aortic wall and causing an aortic aneurysm (a bulge in the artery that can rupture and cause sudden death) or aortic regurgitation (the aortic valve at the base of the aorta leaks backward, overworking the heart and causing heart failure). — why: The aorta is under constant high pressure — 120 millimeters of mercury or more with each heartbeat. The aortic wall has three layers: a thin inner lining (intima), a thick middle layer of smooth muscle and elastic fibers (media), and an outer protective layer (adventitia) fed by tiny blood vessels called the vasa vasorum. *Treponema pallidum* bacteria travel through the bloodstream, invade the vasa vasorum, and trigger chronic inflammation (an ongoing immune attack that releases enzymes and inflammatory chemicals). That inflammation destroys the elastic fibers and smooth muscle in the media, replacing them with scar tissue. The wall becomes weak, stiff, and unable to handle the pressure. The weakened section bulges out like a balloon (aneurysm). If the aneurysm ruptures, blood explodes into the chest cavity and the patient bleeds to death in minutes. If the base of the aorta (the ascending aorta, right above the heart) stretches, the aortic valve ring widens, the three leaflets of the valve cannot meet in the middle anymore, and blood leaks backward into the left ventricle with every heartbeat (aortic regurgitation). The left ventricle has to pump harder to make up for the leak, the heart muscle thickens and stretches (dilates), and eventually the ventricle fails — that is heart failure, causing shortness of breath, leg swelling, and death if untreated.

7. A man under 50 with chest pain, especially if he already has erectile dysfunction, may have coronary artery disease (blockage in the arteries that feed the heart muscle) because the same vascular damage — endothelial dysfunction (damaged artery lining), atherosclerosis (plaque buildup), and reduced nitric oxide (the signal that tells arteries to relax) — that blocks blood flow to the penis also blocks blood flow to the heart. — why: The arteries in the penis (the dorsal and cavernosal arteries) are very small, about one to two millimeters in diameter. The coronary arteries (the vessels that wrap around the heart and supply oxygen to the heart muscle) are larger, about three to four millimeters. When you have cardiovascular risk factors — diabetes (high blood sugar damages the endothelium and nerves), high cholesterol (LDL particles burrow into the artery wall and form plaques), high blood pressure (constant high pressure injures the endothelium), smoking (toxins damage endothelial cells and make blood clot more easily) — atherosclerotic plaque (a mixture of cholesterol, calcium, immune cells, and scar tissue) builds up inside artery walls throughout the body. Because the penile arteries are smaller, they get clogged first. That is why erectile dysfunction often appears three to five years before a heart attack or stroke. When the coronary arteries narrow from plaque, the heart muscle does not get enough oxygen during exertion (exercise, sex, stress) — that oxygen shortage is starved blood flow (ischemia), and it causes chest pain or pressure (angina). If a plaque ruptures, the rough surface triggers a blood clot (thrombus) that blocks the artery completely, cutting off all blood flow to a section of heart muscle — that is a heart attack (myocardial infarction) (heart attack). The muscle cells die within minutes to hours, the heart rhythm can go haywire (ventricular fibrillation), and the patient can die suddenly or be left with permanent heart damage and heart failure.
8. Untreated low testosterone (hypogonadism) quietly weakens bones over months to years because testosterone is needed to maintain bone mineral density. Men with chronic low testosterone lose bone density and develop osteoporosis (porous, brittle bones), raising the risk of fractures — especially hip fractures, spine fractures, and wrist fractures — from minor trauma or even normal activity. — why: Bone is living tissue that constantly remodels itself. Osteoclasts (cells that dissolve old bone) and osteoblasts (cells that build new bone) work in balance to keep bones strong. Osteoblasts need testosterone (and estrogen, which men make by converting some testosterone) to function efficiently. When testosterone is low, osteoblast activity slows down, but osteoclasts keep dissolving bone at the normal rate. The balance tips: bone breaks down faster than it rebuilds. Over time — usually years — bones lose mineral density, becoming porous and weak (osteoporosis). A minor fall, lifting something heavy, or even coughing can cause a fracture. Hip fractures are especially dangerous in older men: up to 30 percent die within one year from complications like pneumonia (from being bedridden and unable to cough and clear the lungs), a clot in a deep leg vein (deep vein thrombosis) and pulmonary embolism (a clot lodging in a lung artery) (blood clots in the legs that break off and travel to the lungs), and loss of independence (unable to walk, needing nursing home care, depression, giving up).

Spot it — what you see, and why

- Discharge from the penis (clear, white, yellow, or green): Bacteria such as *Neisseria gonorrhoeae* (the germ that causes gonorrhea) or *Chlamydia trachomatis* infect the urethra (the tube inside the penis that carries urine and semen out). The infection makes the lining swell and leak fluid—a mix of dead cells, immune fighters, and bacteria—that shows up as discharge at the tip.
- Burning or pain when you pee: When bacteria inflame the inside of the urethra, the lining becomes raw and swollen. Urine passing over that irritated tissue stings sharply—like pouring lemon juice on a cut.
- Sores, blisters, or ulcers on or around the penis, scrotum, or anus: Viruses like herpes simplex (HSV-1 or HSV-2) or bacteria like *Treponema pallidum* (which causes syphilis) attack and kill skin cells, forming open wounds. Herpes typically creates clusters of small, painful blisters that burst into sores. Syphilis often causes a single, firm, painless ulcer called a chancre. Both are the body's visible proof that infection is damaging tissue.
- Itching or tingling around the genitals or anus: Nerve endings in the skin pick up signals from nearby inflammation—swelling and chemical messengers released by immune cells. In herpes, the virus hides in nerve roots and can irritate them directly, sending tingling or itching signals to the brain hours or days before blisters appear.
- Swollen, tender lymph nodes in the groin: Lymph nodes are small bean-shaped glands that filter germs from nearby tissue. When bacteria or viruses from an STI drain into these nodes, immune cells flood in to attack the invaders. The node swells and becomes tender as it works overtime to stop the infection from spreading through the body.
- Pain or swelling in one or both testicles: Bacteria from the urethra—usually gonorrhea or chlamydia—can travel backward up the vas deferens (the tube that carries sperm) and infect the epididymis (the coiled storage tube on top of the testicle). This causes epididymitis: painful swelling of the testicle and the tube. If untreated, scar tissue can block sperm flow and harm fertility.

Red flags — act now

- Sores or ulcers on the genitals—may be syphilis (a single painless firm sore) or herpes (grouped painful blisters). Both need immediate testing and treatment to stop spread, prevent complications, and protect partners.
- Swollen, painful testicle—signals epididymitis, meaning infection has climbed into the reproductive tubes. Without fast antibiotic treatment, scarring can block sperm flow and threaten fertility.

- Fever plus genital symptoms—means the infection may be spreading into the bloodstream or deeper organs (disseminated gonorrhea, secondary syphilis, or acute HIV). Requires urgent evaluation and antibiotics.
- Severe belly pain in a partner—if a female partner develops pelvic or lower belly pain, it may be pelvic inflammatory disease (PID) from gonorrhea or chlamydia you passed on. She needs urgent care, and you need testing and treatment to stop further transmission.
- Acute HIV infection signs (fever, rash, swollen glands, sore throat within 2–4 weeks of exposure)—early antiretroviral treatment started during this window dramatically lowers the amount of virus in the body and improves long-term health.

Treat it — in this order

1. Ceftriaxone 500 mg intramuscular (IM) single dose (use 1 gram IM if weight is 150 kg or more) PLUS doxycycline 100 mg by mouth twice daily for 7 days → Ceftriaxone is a third-generation cephalosporin that kills *Neisseria gonorrhoeae* (the gonorrhea bacterium) by binding to proteins in the bacterial cell wall and breaking it open, like popping a balloon. Doxycycline is a tetracycline that kills *Chlamydia trachomatis* by sitting on the bacterial ribosome (the protein factory) and stopping it from making new proteins the bacteria need to survive. Together they cure over 95 percent of urethral, rectal, and pharyngeal infections and stop you from spreading gonorrhea and chlamydia to partners. This is CDC first-line therapy, 2021 STI guidelines.
2. Daily oral PrEP: tenofovir disoproxil fumarate 300 mg plus emtricitabine 200 mg (Truvada or generic) by mouth once daily, OR tenofovir alafenamide 25 mg plus emtricitabine 200 mg (Descovy) once daily, for cisgender men and transgender women at high HIV risk → Tenofovir and emtricitabine are nucleoside reverse-transcriptase inhibitors, or NRTIs. They sit inside your CD4 T-cells (the immune cells HIV attacks) disguised as building blocks. When HIV tries to copy its RNA into DNA using the reverse transcriptase enzyme, the fake blocks get incorporated and stop the chain, like a broken zipper, so the virus cannot multiply even if it enters your blood during sex. When taken 7 days a week, PrEP reduces HIV infection risk by more than 99 percent, following CDC PrEP guidelines and the iPrEx trial. You must test HIV-negative before starting and retest every 3 months.
3. Long-acting injectable PrEP: cabotegravir 600 mg intramuscular (IM) every 2 months (after two initial loading doses 1 month apart) for cisgender men and transgender women at high HIV risk → Cabotegravir is an integrase strand-transfer inhibitor, or INSTI. It blocks HIV integrase, the enzyme that splices the virus's DNA into your cell's chromosomes. Without integrase, the virus cannot establish a permanent infection. The HPTN 083 trial showed cabotegravir shots cut HIV infection risk 69 percent more than daily tenofovir-emtricitabine pills, mainly because you do not have to remember a pill every day — you get a shot in the clinic every 2 months.

4. Doxycycline post-exposure prevention (prophylaxis) (doxy-PEP): doxycycline 200 mg by mouth as a single dose within 24 to 72 hours after condomless sex → Doxycycline stops bacterial ribosomes (the protein factories) from working, which kills *Chlamydia trachomatis* and *Treponema pallidum* (syphilis) before they multiply enough to cause symptoms. The DoxyPEP trial in men who have sex with men showed doxy-PEP cut chlamydia infections by 66 percent and syphilis by 73 percent, but gonorrhea by only 55 percent because many gonorrhea strains are now doxycycline-resistant. CDC issued interim guidance in 2024 supporting doxy-PEP for men who have sex with men and transgender women at high STI risk.
5. Expedited partner therapy (EPT): give the patient a prescription or a medication pack — ceftriaxone 500 mg IM plus doxycycline 100 mg twice daily for 7 days — to deliver directly to their sexual partner(s) without the partner seeing a clinician first → Treats the partner's gonorrhea and chlamydia immediately so they cannot reinfect the patient (the ping-pong effect, where partners keep passing the infection back and forth) and cannot develop complications like epididymitis in men or pelvic inflammatory disease (infection of the uterus, fallopian tubes, and ovaries) in women. EPT cuts reinfection rates by about 50 percent, following Cochrane review and CDC STI guidelines. It is legal in most US states and recommended by CDC when the partner is unlikely to seek care quickly.

Your top priorities at the bedside

1. Screen for HIV, syphilis (a bacterial infection spread by sex), hepatitis B, and hepatitis C with blood tests before starting PrEP (pre-exposure prevention (prophylaxis), medicine to prevent HIV) — why: PrEP only works if the person does not already have HIV; giving PrEP to someone with undiagnosed HIV can cause drug resistance (the virus stops responding to medicine) and missing syphilis or hepatitis means lost chances to cure or treat serious infections
2. Check kidney function with creatinine (a waste product the kidneys filter) and calculate eGFR (estimated glomerular filtration rate, how well kidneys clean blood) before tenofovir and every 3 to 6 months during use — why: Tenofovir can damage kidney tubules (the tiny tubes inside kidneys that filter waste) and cause the kidneys to stop working properly, especially in people who already have kidney disease or take other medicines that hurt kidneys
3. Give ceftriaxone 500 mg as an intramuscular injection (shot into muscle) in the upper outer buttock or thigh, not the arm, for gonorrhea (a bacterial STI) — why: The gluteal or vastus lateralis muscle can hold the full 500 mg volume better than the deltoid (shoulder muscle) and reduces pain; ceftriaxone kills *Neisseria gonorrhoeae* bacteria that now resist most other antibiotics