



April 2008 (updated May 2015)

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A program of the Hartford
Geriatric Nursing Initiative

Erectile Dysfunction in the Older Patient

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Erectile dysfunction or ED, the current terms for what used to be called “impotence,” is the inability to have or maintain an erection sufficient for sexual intercourse. A source of stress for many older adult men, erectile dysfunction - the prevalence, evaluation, and latest treatment options - is the subject of this newsletter.

Erectile dysfunction, while uncommon in young men, becomes more frequent with increasing age. At age 50, only about 5% of healthy men report ED. By age 70, however, ED is reported in 25% of healthy men, and at age 80 the rate is over 60%. Considerably higher rates are found in men with neurological and vascular problems.

Erectile dysfunction is most commonly traced to one of five etiologies: medication-related, neurological, vascular, hormonal, or psychological. Many medications have been linked to ED, and drugs are thought to be responsible for up to 20% of cases. Nerve damage from diabetes mellitus can cause ED, as can local damage to the pudendal nerve that sometimes occurs with chronic pressure from activities such as long-distance bicycle riding. Decreased arterial flow from vascular illness can also lead to ED, as can hormonal imbalance, and an array of psychological issues.

Evaluation

History A routine medical history should determine if the patient has cardiovascular disease or a disease causing neuropathy (e.g. diabetes). Loss of libido can suggest either androgen deficiency or a psychological cause. Asking about nocturnal erections provides important information. The ability to develop a nocturnal erection suggests that the neurovascular function is intact and that the inability to have erections for intercourse may be psychological.

Physical Examination Look for signs of vascular disease (check peripheral pulses and pedal hair), androgen deficiency (testicular atrophy or loss of secondary sex characteristics), or abnormal neurological function (poor rectal tone or an abnormal bulbocavernosus reflex). Also check for fibrous plaques in the penile shaft (Peyronie’s Disease), as these may contribute to erectile dysfunction.

Blood Tests Most experts recommend measuring thyroid function tests plus testosterone and prolactin levels. If the testosterone level is low, LH and FSH should be checked to determine if low testosterone is due to a pituitary or primary gonadal cause. If a pituitary cause is suspected (low FSH/LH levels, or high prolactin levels), neuroimaging is indicated.

Other Tests To assess for the occurrence of erections during sleep, a nocturnal penile tumescence (NPT) monitor can be used. Although testosterone-deficient men sometimes have erections during NPT monitoring, the ability to have an erection during sleep, but not with sexual arousal, suggests a psychological rather than a physical cause.

Treatment

After a complete evaluation and medication review, several therapeutic modalities can be considered for treatment. Specific therapy should be directed at the cause of the ED. See the reverse for a review of therapeutic choices. Treatments include both oral and injectable medications, and also external devices. Drug-drug interactions can preclude some pharmaceutical options, however, and careful medication histories should always be obtained. Certain co-morbidities may also affect medication choice. If drug therapy is contraindicated, external devices are available.

TIPS FOR DIAGNOSING AND TREATING ERECTILE DYSFUNCTION

- Many older men have some degree of ED, so remember to include sexual function in your review of systems.
- Up to 20% of cases of ED are due to medication side effects – ask for a complete medication list.
- Remember to assess for prostate cancer prior to prescribing testosterone to men with ED and low testosterone levels.
- Do not prescribe PDE-5 inhibitors to men who take nitrates, have active coronary ischemia, or have retinal disease.
- Consider alprostadil therapy or vacuum devices for men whose ED does not respond to PDE-5 inhibitors.

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Approach to Treatment by Etiology

Medication Review See box for a list of substances commonly associated with ED.

Thyroid or Testosterone Deficiency Work up and replace as needed. Testosterone replacement is available via injection, gels, or patches. Measure PSA and perform a rectal exam prior to starting testosterone therapy, to assess for prostate cancer.

Vascular ED Surgical procedures exist to correct vascular abnormalities causing ED; success rates, however, are poor. Most cases of vascular ED are treated with phosphodiesterase-5 (PDE-5) inhibitors, alprostadil, or vacuum devices (see below).

Neuropathic ED Neuropathic ED, common in diabetics, is usually treated with alprostadil, PDE-5 inhibitors, or vacuum devices (see below).

Psychological ED Depression, common in the elderly, can often be a cause of ED. SSRIs can be used in treatment, but keep in mind that SSRIs can themselves cause ED. Psychological ED can be treated successfully with PDE-5 inhibitors.

Treatments - Oral Medications

PDE-5 Inhibitors include sildenafil, vardenafil, and tadalafil. All three are equally effective, but tadalafil has a longer duration of action than the others. PDE-5 inhibitors successfully treat more than 50% of ED.

PDE-5 medications are contraindicated in patients taking nitrates. They also should be avoided in men with hypotension, recent MI, or active coronary ischemia. They are considered safe for men with stable coronary disease not on nitrates. Ischemic optic neuropathy can occur rarely with PDE-5 inhibitors, and many experts recommend that patients with retinal disorders avoid these drugs. Finally, PDE-5 inhibitors have many drug-drug interactions, so always remember to review current medication lists.

Treatments - Targeted Therapy

Alprostadil (prostaglandin E₁) can be self-injected into the corpus cavernosa of the penis or inserted into the urethra. Success rates are good, exceeding 80% in some studies. But, because oral PDE-5 inhibitors are so much easier to use, alprostadil has become a second-line therapy. The main risk of this treatment is priapism, which occurs in about 5% of patients.

Vacuum Devices create suction that engorges blood into the penis, thereby creating an erection. Blood is then held in the penis with a constricting band at the base of the penis; the band is removed after intercourse. These devices have success rates of 80-90%.

Main Causes of Erectile Dysfunction

Medications*

Hormonal Imbalance

- Androgen Deficiency
- Hypothyroidism
- Prolactin excess

Vascular

- Poor blood flow into penis
- Venous leakage of blood from penis

Neurological

- Neuropathic disorders (e.g., DM)

Psychological

- Depression
- Performance anxiety

*Common Substances Associated with ED

Anti-depressant

- SSRIs
- Tricyclics

Anti-hypertensive

- Clonidine
- Thiazides

Anti-androgenic

- Ketoconazole
- Cimetidine
- Spironolactone

Alcohol

Smoking

Asking About Erectile Dysfunction

Because erectile dysfunction is so common, it is important to include in the review of systems for all older adult men. For patients who are sexually active and have risk factors for ED, you can say: "Many men with [your medical problem] experience problems getting erections. Has this happened to you?" Another approach is to simply ask as part of a routine history "Are you sexually active?" - and if you get a yes, ask, "Have you or your partner experienced any sexual problems?" It is also important to learn about the various cultures of your patient population, in order to successfully approach this sensitive topic.

References and Resources

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Supported by: Donald W. Reynolds Foundation, Arizona Geriatric Education Center and Arizona Center on Aging

This project was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number UB4HP19047, Arizona Geriatric Education Center. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.