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# ELDER CARE

## A Resource for Interprofessional Providers

### Erectile Dysfunction in the Older Patient

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Erectile dysfunction (ED) is the inability to have or maintain an erection sufficient for sexual intercourse. While uncommon in young men, ED becomes more frequent with increasing age. At age 50, only about 5% of healthy men report ED. By age 70, ED is reported in 25% of healthy men, and at age 80 the rate is over 60%. While the prevalence and severity of ED increases with age, sexual desire often remains unchanged. ED is a source of stress for many older adult men and can have negative effects on mood, depression, and overall quality of life. Despite the high prevalence, it often goes unrecognized. Studies show more than half of men do not discuss ED with their health care provider and an even higher percentage do not receive treatment. The health care provider's role in facilitating this conversation is crucial.

Considerably higher rates of ED are found in men with neurological and vascular problems. ED is most commonly traced to one of five etiologies: medication-related, neurological, vascular, hormonal, or psychological (Table 1). Many medications have been linked to ED, and drug side-effects 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 including anxiety, stress, depression, mental illness, or dementia.

#### Evaluation

**History** A thorough medical, sexual, and psychosocial history should be performed, aimed at identifying any modifiable risk factors. These include cardiovascular disease, diabetes, hypertension, hypothyroidism, cigarette smoking, alcohol, obesity, sedentary lifestyle. Medication lists should be reviewed and updated, as ED can often be related to medication side effects (Table 2). 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 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, lipid panel, 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

Specific therapy should be directed at any modifiable risk factors, such as improved diabetic control, smoking cessation, weight loss, or changing home medications. There are also a variety of more targeted therapeutic interventions for ED which include both oral and injectable medications, and 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.

## Phosphodiesterase Type 5 (PDE-5) Inhibitors

are recommended as first-line therapy, and include sildenafil, vardenafil, tadalafil, and avanafil. All are equally effective, but tadalafil has a longer duration of action. PDE-5 inhibitors successfully treat more than 50% of ED. They are contraindicated in patients taking nitrates, as the combination can lead to severe hypotension. They should be avoided in men with hypotension, recent myocardial infarction, 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.

**Alprostadil** (prostaglandin E1), a synthetic vasodilator, can be self-injected into the

corpus cavernosa of the penis or inserted as a transurethral suppository. Success rates are good, exceeding 80% in some studies. But, because oral PDE-5 inhibitors are so much easier to use, alprostadil is recommended as 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. The patient operates the device manually. Blood is held in the penis with a constricting band at the base of the penis; the band should generally be removed within 30 minutes to avoid complications such as skin necrosis and is, of course, removed after intercourse. These devices have success rates of 80-90%.

**Surgical implantation** of a penile prosthesis can be considered in men with ED who have either failed, or declined to try, pharmacologic therapy or vacuum devices.

## Table 1. 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

## Table 2. Common Substances Associated with Erectile Dysfunction

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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