Etiology

- Common causes of erectile dysfunction (ED) include: diabetes, cardiac and peripheral vascular disease, medications (including substance abuse and cigarette smoking), psychogenic (including anxiety or depressive disorder, concern about poor sexual function, previous traumatic sexual experience.)

**Testosterone deficiency is an uncommon cause of ED.**

- Diseases with a high prevalence of ED include: renal failure, liver disease, multiple sclerosis, spinal cord injuries, penile anomalies or disease (Peyronie’s Disease), pelvic surgery, pelvic trauma, prostate cancer treatment, hypogonadism.

### Medications Linked to ED

<table>
<thead>
<tr>
<th>Antiandrogens</th>
<th>Histamine H₂ receptor antagonists</th>
<th>Antihypertensives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood stabilizers</td>
<td>Antidepressants</td>
<td>Barbiturates</td>
</tr>
<tr>
<td>Estrogens</td>
<td>Narcotics</td>
<td>Diuretics</td>
</tr>
<tr>
<td>Cytotoxic drugs</td>
<td>Lipid lowering medications</td>
<td>Ketoconazole</td>
</tr>
<tr>
<td>Antiarrhythmics</td>
<td>Nonsteroidal anti-inflammatory drugs</td>
<td>Beta-blockers</td>
</tr>
<tr>
<td>- Digoxin</td>
<td></td>
<td>Anticonvulsants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Antipsychotics</td>
</tr>
</tbody>
</table>

Assessment

- Detailed medical, sexual, and social history to:
  - Rule out decreased libido, ejaculatory disorders, performance anxiety, depression, and other psychological disorders.
  - Identify reversible causes (e.g., recently prescribed medications such as antidepressants or anti-hypertensives.)
- Consider evaluation for diseases associated with ED.
- Perform focused physical examination for signs of hypogonadism including: gynecomastia, decreased male hair distribution, small testes.
- Perform focused examination for signs of vascular disease and diabetic complications (including blood pressure, ankle brachial index and peripheral pulses.)
- Perform laboratory evaluation to screen for unrecognized systemic disease (e.g., diabetes, hypogonadism.)

Management

- Treat associated medical conditions.  **Note: This alone may not reverse ED.**
  - Modify medication regimen.
  - If laboratory test abnormal: hormonal cause suspected:
    - If testosterone low and LH and FSH high: consider testosterone replacement therapy.
    - If prolactin high: consider pituitary imaging and referral.
  - If psychogenic cause suspected consider:
    - Sex therapy/psychiatric referral.
  - Trial of therapy (education, oral medications, intraurethral medications, vacuum constriction device, etc.)
  - If neurogenic cause suspected consider:
    - Trial of therapy (education, oral medications, intraurethral medications, vacuum constriction device, etc.)
  - If vasculogenic cause suspected a trial of medication or referral is warranted.

Referral

- Common indications for referral include: failed medical therapy, significant penile anatomic disease, younger patient with a history of pelvic or perineal trauma, cases requiring vascular or neurological assessment, complicated endocrinopathies, complicated psychiatric or psychosocial problems, patient or physician desire for further evaluation.

Follow-up

- Patients should be seen after initiation of treatment to evaluate progress and monitor therapy (e.g., testosterone).
Investigation and Management of Erectile Dysfunction

- Detailed medical, sexual, and social history
- Focused physical examination
- Laboratory evaluation screening for:
  - Unrecognized systemic diseases
  - Testosterone

- Treat associated medical conditions
- Modify medication regimen

Persistent erectile dysfunction?

- Psychogenic cause likely
- Neurogenic or Vasculogenic cause likely

Trial of therapy (education, oral medications, intraurethral medications, vacuum constriction device, etc.)

&/OR

- Consider sex therapy/psychiatric referral
- Referral - Patient requests more extensive evaluation. Refractory to primary care therapy.

ABNORMAL

Hormonal cause likely

- Measure LH, Prolactin

Low

- ↑ LH

Testicular failure

Normal

- No further endocrine testing required
- Consider non-endocrine causes

Causes may include:
- Primary Hypothyroidism
- Drugs
- Renal failure
- Pituitary Hypothalamic Disease e.g., pituitary tumour