Managing Sexual Dysfunction in Men

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Objectives
1. Explain the etiology, including pathophysiology and contributing factors, of male sexual dysfunction
2. Given a male patient, classify the type of sexual dysfunction he is experiencing
3. Discuss the adverse effects, role in therapy and significant drug-drug interactions associated with sexual dysfunction treatment options
4. Describe appropriate strategies to utilize in the male patient with erectile dysfunction who is not responding to traditional therapy recommendations

Objectives, cont’d
5. Explain characteristics that would make various sexual dysfunction treatment modalities inappropriate in men (i.e. contraindications)
6. Provide appropriate non-pharmacologic and pharmacologic recommendations for a given male patient with sexual dysfunction based on patient-specific parameters
7. Counsel a given patient on the appropriate administration and potential adverse effects of various sexual dysfunction treatment modalities
What is Sexual Dysfunction?¹

“A heterogeneous group of disorders that are typically characterized by a clinically significant disturbance in a person’s ability to respond sexually or to experience sexual pleasure”

Epidemiology²

- National Health and Social Life Survey (1999)
  - Prevalence of sexual dysfunction in U.S. men – 31%
  - Sexual dysfunction included:
    - Unpleasurable sexual activities
    - Lack of interest in sexual activities
    - Erectile dysfunction
    - Inability to achieve orgasm
    - Premature ejaculation
    - Anxiety about sexual performance

Epidemiology³

  - Overall prevalence of ED in US men ≥ 20 yo – 18.4%
  - ~18 million American men
  - Prevalence ↑ with age, diabetes, BPH, HTN, CVD
  - Prevalence of ED in men with diabetes was found to be 51.3%
  - Prevalence of ED in men with CVD was found to be 50.0%
**Physiology of an Erection**

- Erections involve the vascular, nervous and hormonal systems
- Penis contains 2 corpora cavernosae (CC)
  - Sponge-like erectile tissue connected by sinuses which engorge with blood when stimulated
  - Surrounded by tunica albuginea
- Penis contains 1 corpus spongiosum (CS)
  - Surrounds the urethra

**Physiology of an Erection, cont’d**

- Flaccidity: Arterial blood flow in = venous outflow
  - Sexual stimulation → Activation of parasympathetic system → Smooth muscle relaxation
  - Penile elongation & swelling = E R E C T I O N
  - ↓ arterial blood flow into corpora cavernosae
- Erection maintained by ↓ venous outflow due to compression of subtunical venules

**Adapted from References 4,5; Designed by presenter**
Physiology of an Erection, cont’d

Detumescence
- NE is released following ejaculation (sympathetic nervous system)
- ↑ in smooth muscle tone
- Leads to smooth muscle contractions
- ↓ blood flow into the corpora → FLACCIDITY
- Catabolism of cGMP by Type 5 phosphodiesterase contributes to flaccidity

Hormonal Influences

Testosterone → 5-alpha reductase → Dihydrotestosterone
- Testosterone’s effects on sexual function
  • Helps maintain libido
  • May help with vasodilation of arterioles through its effects on PDE5 and NO synthase
- Estrogen’s role is less clear

Contributing Factors – Lifestyle

Physical inactivity
- ↑ exercise has been linked to greater improvements in sexual activities, orgasms, and EF

Obesity
- Higher risk for ED (RR 1.3; 95% CI 1.2-1.4) for BMI > 28.7 kg/m²

Smoking
- Causes atherogenic changes and endothelial injury

Acute and chronic alcohol ingestion
- Can lead to ↓ sexual performance
- May ↓ testosterone production
**Contributing Factors – Medications**

**Libido**
- Beta blockers
- Thiazide diuretics
- Spironolactone
- Clonidine
- Selective serotonin reuptake inhibitors (SSRIs)
- Tricyclic antidepressants
- Benzodiazepines
- Niacin
- Phenobarbital
- Phenytoin
- Antipsychotics
  - Greater with typicals

**ED**
- Beta blockers
- Thiazide diuretics
- Spironolactone
- Clonidine
- Alpha blockers
- Reserpine
- SSRIs
- Phenobarbital
- Phenytoin
- 5-alpha reductase inhibitors

**Contributing Factors – CVD**

- Both ED and CVD are indicators of the SAME disease state process
- Impaired endothelial function leading to the inhibition of vasodilation
- ED often precedes the development of heart disease by 2-5 years
- Patients with ED who do not have a history of CVD or symptoms of CVD should be considered at risk for CVD until it can be ruled out

**Contributing Factors – CVD, cont’d**

**ED**
Represents Erectile Dysfunction AND Endothelial Dysfunction
Contributing Factors – Other Diseases\textsuperscript{4,7,12,13}

- Diabetes
- Benign prostatic hyperplasia
- Hypogonadism
- Chronic kidney disease
- Sleep apnea
- Neurogenic conditions
  - Stroke
  - Multiple sclerosis
  - Parkinson’s disease
  - Dementias
  - Spinal cord injury
- Psychological conditions
  - Depression
  - Anxiety
  - Stress

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### Quiz Question #1

Activation of the sympathetic nervous system ultimately leads to the occurrence of an erection.

A. True  
B. False

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### Quiz Question #2

Catabolism of cGMP by \underline{________________} is responsible for promoting flaccidity once ejaculation has occurred?

A. 5-α-reductase  
B. Alpha antagonism  
C. Dihydrotestosterone  
D. Type 5 phosphodiesterase
Classifications of Sexual Dysfunction¹

- 4 types in men are recognized
  - Erectile disorder (or dysfunction)
  - Male hypoactive sexual desire disorder
  - Premature ejaculation
  - Delayed ejaculation

Subtypes of Sexual Dysfunction¹

- Provide insight on the TIMING of symptoms
  - ACQUIRED
    - Appears after a period of normal sexual function
  - LIFELONG
    - Has been present since first sexual attempt
  - GENERALIZED
    - Difficulties occurring despite the stimulation, situation or partner
  - SITUATIONAL
    - Difficulties occurring and are dependent on the stimulation, situation and/or partner

Other Qualifiers¹

- Symptoms MUST be present for at least 6 months
- Symptoms MUST cause significant patient distress and cannot be explained by any nonsexual mental condition or stressors
- Premature ejaculation, delayed ejaculation and ED must occur 75-100% of the time with sexual attempts
Clinical Assessment\textsuperscript{4,7,14,15}

1. Physical exam, sexual history, and medical history
2. Medication list
3. Lab Values
   - Blood glucose/hemoglobin A1c
   - Lipid profile
   - Thyroxine level
   - Testosterone level in men >50yo or ≤ 50 with complaints of ↓ libido
     - Total testosterone then free testosterone, prolactin and LH

Erectile Disorder or Dysfunction (ED)\textsuperscript{1,14}

\textbullet AUA
  \textit{“The inability to achieve or maintain an erection sufficient for satisfactory sexual performance”}

\textbullet DSM-V (any or all of the following criteria)
  - Difficulty achieving an erection for sexual activities
  - Difficulty maintaining an erection for the completion of sexual activities
  - Reduction in penile rigidity

Types of ED\textsuperscript{4,7,14,15}

\textbullet Organic
  - ED resulting from a physical cause
    - Lifestyle factors
    - Diseases
    - Medications
    - Gradual onset

\textbullet Psychogenic
  - ED resulting from high-stress situations
    - Sudden onset
    - Often manifests episodically

\textbullet Mixed
  - Organic + psychogenic factors
**ED Management Options⁴,¹⁴,¹⁵,¹⁶**

1. Non-pharmacologic options

2. Pharmacotherapy
   - First & second generation PDE5 inhibitors
   - Prostaglandin agents

3. Medical devices
   - Vacuum erection devices

4. Surgery
   - Penile prosthesis

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**Non-Pharmacologic Options⁴,¹⁶**

- Reduce stress or anxiety
- Lose weight
  - Mediterranean diet?
- Increase physical activity
- Stop smoking
- Moderate alcohol intake

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**ED Algorithm¹⁴,¹⁵**

Patient with ED

Drugs-Induced ED

- Discontinue offending agent
- Reduce dose of agent

Organic ED

Psychogenic ED

1. Psychotherapy
2. Behavioral modifications

Oral PDE5 Inhibitor

Vacuum Erection Device

If effective, continue
If ineffective, continue

Intracavernosal Therapy

If effective, continue
If ineffective, continue

Penile Prosthesis
PDE5 Inhibitors\textsuperscript{4,14,15,17}

\textbf{MOA:} Inhibit Type 5 phosphodiesterase to \textdown catabolism of cGMP yielding NO-induced vasodilation

\textbf{Examples:}
- \textit{First generation:}
  - Sildenafil (Viagra*)
- \textit{Second generation:}
  - Tadalafil (Cialis*)
  - Vardenafil (Levitra*)
  - Avanafil (Stendra*)

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PDE5 Inhibitors, cont’d\textsuperscript{4,14,15,17,18}

\textbf{First Generation:} Sildenafil
- Dose: 50mg (25-100mg)
- Take 1 hr before sexual activity
- Fatty meals \textdown absorption – Do not take within 2 hrs of meals
- No more than 1 dose/day
- t\textsubscript{1/2} \sim 4 hours
- Effects last \sim 4-5 hrs

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PDE5 Inhibitors, cont’d\textsuperscript{4,14,15,17,19}

\textbf{Second Generation:} Vardenafil
- MOA same as sildenafil
- Dose: 10mg (2.5-20mg) 25-60 min before sexual activity
- No more than 1 dose per day
- Fatty meals \textdown absorption –Do not take within 3 hrs of meals
- t\textsubscript{1/2} \sim 4 hours
- Effects last \sim 4-5 hrs
**PDE5 Inhibitors, cont’d**

**Second Generation: Tadalafil**
- MOA same as sildenafil
- Dose: 10mg (2.5-20mg) ~30 min before sexual activity
- No more than 1 dose per day
- Begins working in ~30 minutes
- Food does NOT affect absorption
- t1/2 ~ 17.5 hours
- Effects last ~ 36hrs ("Weekend Viagra")

**PDE5 Inhibitors, cont’d**

**Second Generation: Avanafil**
- MOA same as sildenafil
- Dose:
  - PRN: 100mg (50-200mg) ~30 min before sexual activity
  - Do not use with strong CYP 3A4 inhibitors
  - 50 mg dose with moderate CYP 3A4 inhibitors
- No more than 1 dose per day
- Food does NOT affect absorption

**Adverse Effects**
- Headache
- Facial flushing
- Nasal congestion
- Dyspepsia
- Dizziness
- Priapism > 4 hours
- Sensitivity to light, blurred vision, loss of blue-green color discrimination (sildenafil only)
- Back & muscle pain (tadalafil only)
- CV effects: Ventricular arrhythmia, cerebrovascular hemorrhage, TIA, MI, hypotension, sudden cardiac death
**Adverse Effects, cont’d**

- Vision loss in 1 or both eyes
  - Non-arteritic anterior ischemic optic neuropathy (NAION)
  - Potentially linked to ↓ blood flow to optic nerve
  - Risk ↑ in patients with a history of MI & HTN
- Hearing loss in 1 or both ears
  - Accompanied by tinnitus, vertigo
  - ~1/3 of cases had temporary hearing loss

**Precautions & Contraindications**

- CV history
  - Recent MI/stroke
  - Life-threatening arrhythmia
  - Uncontrolled HTN
  - Hypotension
  - Hx of unstable angina
  - Cardiac failure
  - Multiple antihypertensives

**MAYBE**

**DEFINITELY NOT**

- Retinitis pigmentosa (sildenafil only)
- Severe liver impairment
- ESRD requiring dialysis

**Drug Interactions**

- Nitrates
  - Causes severe hypotension
  - Avoid this combination!!!
- α-adrenergic antagonists
  - Produce systemic hypotension
  - Ensure stable dose of α-adrenergic antagonist before initiation of low dose PDE5 inhibitor (vice versa)
Patient Counseling

- PDE5 inhibitors do NOT prevent STD transmission
- Appropriate counseling regarding fatty food ingestion & administration of drug
- Alcohol can impair sexual activities, especially if the patient is dehydrated
- Seek medical assistance with an erection lasting longer than 4 hours
- Don’t forget ADRs!

Treatment Strategies for Non-Responders

1. Patient education
   - Follow-up
   - Adjustment of administration time
   - Sexual stimulation
   - Titration to the maximum tolerated dose
2. Improvement in disease state management and other lifestyle factors

Treatment Strategies for Non-Responders, cont’d

3. Normalization of testosterone levels
4. Switch PDE5 inhibitors
5. Daily use of PDE5 inhibitor
   - Tadalafil 2.5 mg (up to 5 mg) PO Qdaily
   - Concerns about tachyphylaxis
6. Psychosexual counseling
   - In combination with PDE5 inhibitor therapy
Comparison Between PDE5 Inhibitors\textsuperscript{26}

- All three agents are efficacious

- A systematic review and meta-analysis found:
  - PDE5 inhibitors were more effective than placebo
    - 69\% vs 35\%, respectively
  - Improved erections were greater with PDE5 inhibitors (range 67-89\%) vs placebo (27-35\%)
  - High placebo responses

Comparison Between PDE5 Inhibitors, cont’d\textsuperscript{27}

- Findings from another systematic review

Comparison Between PDE5 Inhibitors, cont’d\textsuperscript{28}

- Open-label, randomized, crossover study
  - Sildenafil X 12 weeks \(\rightarrow\) Tadalafil X 12 weeks
  - OR
  - Tadalafil X 12 weeks \(\rightarrow\) Sildenafil X 12 weeks
  - THEN
  - Patient selection of drug X 8 weeks

- Efficacy measured with IIEF & SEP diaries
Comparison Between PDE5 Inhibitors, cont’d

Results
- 291 of 367 men completed both treatments
- 29% chose sildenafil and 71% chose tadalafil (p<0.001)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Sildenafil</th>
<th>Tadalafil</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIEF Score</td>
<td>14.2</td>
<td>23.9</td>
<td>24.3</td>
<td>0.08</td>
</tr>
<tr>
<td>SEP2 (penetration)</td>
<td>46%</td>
<td>82%</td>
<td>85%</td>
<td>0.06</td>
</tr>
<tr>
<td>SEP3 (successful sex)</td>
<td>19%</td>
<td>72%</td>
<td>77%</td>
<td>0.003</td>
</tr>
</tbody>
</table>

* sildenafil vs. tadalafil

Quiz Question #3
Blue-green color discrimination is a potential side effect to counsel a patient receiving avanafil (Stendra®).

A. True
B. False

Quiz Question #4
Which patient listed below can safely receive treatment with sildenafil (Viagra®)?

A. 61yo male on dialysis
B. 51yo male who had a MI 1 mo ago
C. 67yo male with Type 2 DM
D. 70yo male with uncontrolled HTN
**Quiz Question #5**

KK is receiving atenolol, isosorbide dinitrate, aspirin, tamsulosin, and simvastatin. His physician asks you about starting vardenafil. Which medication that KK is receiving is a contraindication to treatment with vardenafil?

A. Atenolol  
B. Isosorbide dinitrate  
C. Simvastatin  
D. Tamsulosin

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**Quiz Question #6**

Johnny is a 67 yo male receiving sildenafil 100 mg PO 60 minutes prior to sexual activities. He shares with you today that his sildenafil does not seem to be working anymore. He has a history of type 2 diabetes, hypertension and dyslipidemia. Which of the following is/are a/an appropriate recommendation[s] for Johnny?

A. Switch Johnny from sildenafil to tadalafil  
B. Ensure Johnny’s blood pressure, cholesterol, and diabetes are at guideline targeted goals  
C. Consider administering sildenafil daily  
D. All of the above

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**Prostaglandin Analogs**

MOA: Acts like prostaglandin E₁ to ↑ cAMP which ↑ blood flow into the corpora

- Alprostadil (PGE₁ analogue) → Adenylate Cyclase → Intracellular calcium → Smooth Muscle Tone & Arterial Vasodilation
  
- Example: Alprostadil (MUSE®, Caverject Impulse®)
Prostaglandin Analogs$^{14,15,29}$

**Medication Urethral System for Erections**

- Urethral insert
- Used via insertion of a pellet into the urethra
- Dose: 125-1000mcg IU 5-10 minutes before sexual activities (no more than 2 systems/24hrs)
  - Urinate before insertion

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Proper use of MUSE®$^{29}$

- Hold penis with 1 hand and insert drug with other hand into urethra
- Push drug into urethra using plunger and rock back and forth gently
- Massage penis to ↑ absorption

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MUSE®, cont’d$^{14,15,29}$

- Effects last for ~30-60 minutes
- Efficacy rate is 43-60%
- Adverse effects:
  - Urethral bleeding
  - Urethral pain
  - Priapism > 4-6 hours
  - Dizziness & syncope

***Female partners can experience vaginal burning, irritation, itching or pain***
Caverject Impulse®14,15,30

- Intracavernosal injection
- Used via injection into the corpora
- Dose: 2.5-60mcg IC given 5-10 min before sexual activities (no more than 1 dose/24hrs AND 3 doses/week)
- SLOWLY titrate dose to effect
- Effects last no more than 1 hour
- Efficacy rate is 70%-90%

Proper Use of Caverject Impulse®30

- MULTIPLE steps to use properly
- Must select dose on injection device
- Inject into SPONGY tissue on 1 side of penis
- Never inject into dorsal or ventral surfaces
- Avoid injecting into visible veins
- Apply pressure to injection site X 5 min

Caverject Impulse Adverse Effects®30

- Corporal fibrosis
- Penile pain
- Priapism > 4-6 hours
- Injection site hematoma
- Dizziness & hypotension
Contraindications to Prostaglandin Analogs\textsuperscript{29,30}

- Sickle cell anemia
- Multiple myeloma
- Thrombocythemia
- Penile abnormalities
- Not for use in intercourse with a pregnant female unless condom is used (MUSE\textsuperscript{\textregistered} only)

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**Quiz Question #7**

Patients receiving Caverject Impulse\textsuperscript{\textregistered} should be counseled to inject on both sides of the penis to increase efficacy.

A. True
B. False

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**Quiz Question #8**

A potential adverse effect associated with alprostadil is:

A. Dizziness
B. Dyspepsia
C. Hearing loss
D. NAION
Vacuum Erection Devices (VEDs)\textsuperscript{4,14,15}

- Creates a vacuum-like chamber around the penis which draws blood in \( \rightarrow \) ERECTION
  - Contains 3 parts: Cylinder where the penis is placed
  - Pump to generate negative pressure
  - Elastic band to maintain erection
- Caution in patients on anticoagulant therapy

Surgery\textsuperscript{4,14,15}

- Penile prostheses
  - Most invasive treatment for ED
  - Malleable vs inflatable
  - Inserted under anesthesia
  - >90% patient satisfaction
  - Adverse effects:
    - Infection
    - Mechanical failure

Male Hypoactive Sexual Desire Disorder\textsuperscript{1}

- DSM-V criteria
  - Deficient or absent sexual or erotic thoughts or fantasies
  - Deficient or absent desire for sexual activity
    - Clinical judgment takes into consideration age, general, socio-cultural contexts of a patient's life
  - Can be somewhat subjective
  - The association between mood and sexual desire is not always linear
Male Hypoactive Sexual Desire Disorder, cont’d

Study involved 919 heterosexual, white men
- 9.4% reported an ↑ and 42% reported a ↓ in sexual interest when depressed
- 20.6% reported an ↑ and 28.3% reported a ↓ in sexual interest when stressed/anxious

From this cohort, 43 participants were asked why interest would ↑ when stressed/depressed
- Sex could serve as means of self-validation
- Sex provides a calming effect
- Sex allows for an “excitation transfer”

Male Hypoactive Sexual Desire Disorder Management Options

1. Disease State/Lifestyle/Medication Management
2. Pharmacotherapy
   - Testosterone
   - Antidepressants
3. Behavioral/Sex Therapy

Disease/Lifestyle/Medication Management

- Consider changing therapies or using lowest possible doses of medications that can ↓ libido
- Work to control diseases such as diabetes, depression, and anxiety
- Healthy eating and physical activity to improve body image and self-esteem
Testosterone

- Indicated for men with hypogonadism
- Do NOT use in eugonadal men
- Goal – normalize testosterone levels
- Several formulations available
- Screen for prostate cancer and BPH
- Adverse effects: Weight gain, exacerbation of HTN, gynecomastia, CHF, edema

Antidepressants

- Most SSRIs and TCAs cause sexual dysfunction
- SOME can be used in men with ↓ libido AND depression

<table>
<thead>
<tr>
<th>Antidepressant</th>
<th>Effect on Libido</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoxetine, paroxetine, citalopram, sertraline</td>
<td>↓</td>
</tr>
<tr>
<td>Imipramine</td>
<td>↓</td>
</tr>
<tr>
<td>Bupropion</td>
<td>↑</td>
</tr>
<tr>
<td>Trazodone</td>
<td>↑</td>
</tr>
<tr>
<td>Nefazodone</td>
<td>Neutral</td>
</tr>
</tbody>
</table>

Treatment of Reduced Sexual Desire in Men With Depression

- Transgender counseling
- Transgender hormone treatment
- Treatment of depression
- Nefazodone, 200 mg, or venlafaxine, 75 mg, 1-2 times/day
Antidepressants, cont’d

- **Adverse Effects**
  - Specific for each antidepressant
  - Bupropion – seizures
  - Nefazodone hepatotoxicity
  - Serotonin syndrome

- **Drug-Drug Interactions**
  - Specific for each antidepressant
  - Numerous interactions through the CYP450 system

Behavioral/Sex Therapy

- Can be beneficial for men with depression to discuss their concerns
- Sex therapy includes both the patient and his partner to help improve
  - Communication
  - Comfort with physical intimacy
  - Concerns about sexual activities
  - Familiarity with the body via sensate focus activities

Premature (Early) Ejaculation

- DSM-V criteria
  - Ejaculation occurring within ~1 minute after vaginal penetration BEFORE the male wishes to do so
    - Mild – occurring within 30 sec to 1 minute
    - Moderate – occurring within 15 to 30 seconds
    - Severe – occurring at the start of sexual activities up to 15 seconds
  - May be applied to early ejaculation occurring with nonvaginal sexual activities
  - Specific duration of time has not been established
Premature Ejaculation, cont’d

International Society for Sexual Medicine criteria
- Ejaculation occurring within 1 minute of vaginal penetration on almost or all occasions
  or
- ↓ time to ejaculation, usually < 3 minutes
  and
- Patient is unable to delay ejaculation upon penetration
  and
- Produces negative consequences for the patient (i.e. frustration, distress, avoidance)

Premature Ejaculation Management Options

- Desensitizing creams
  - Example – lidocaine/prilocaine cream
  - Applied topically 20-30 minutes before sexual activities
  - Use of product for prolong periods of time (i.e. 30-45 min) has been associated with loss of erection
  - Can be used with or without a condom
  - Female partner may experience vaginal numbness and dulling of sensation

Premature Ejaculation Management Options

- SSRIs/TCAs
  - Situational versus continuous dosing

<table>
<thead>
<tr>
<th>Antidepressant</th>
<th>Dosing Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clomipramine</td>
<td>25-50 mg/day OR 25 mg 4-24 hours before sex</td>
</tr>
<tr>
<td>Trazodone</td>
<td>50-200 mg/day or 50 mg 4-8 hours before sex</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>10-40 mg/day OR 20 mg 3-4 hours before sex</td>
</tr>
<tr>
<td>Sertraline</td>
<td>25.200 mg/day OR 50 mg 4-8 hours before sex</td>
</tr>
</tbody>
</table>
Premature Ejaculation Management Options\textsuperscript{36,37,38}

- SSRI + PDE5 inhibitor
  - Exact reason for efficacy is unknown
  - Possibly effective due to improved erection from PDE5 inhibitor which ultimately down regulates receptors involved with latency

- Tramadol
  - 50 mg PO PRN
  - Poorly understood but may be a link between central opioid receptors and control of ejaculation

Delayed Ejaculation\textsuperscript{1}

- DSM-V criteria
  - Ejaculation that is:
    - Markedly delayed
    - OR
    - Infrequent or absent
  - Occurs when the individual does not desire a delay
  - Subjectivity involved with the term \textit{delayed}
  - Patient and partner may report fatigue and genital pain which cause them to avoid sexual activities

Delayed Ejaculation Management Options\textsuperscript{39,40}

- Delayed ejaculation is difficult to treat
- Pharmacotherapy for delayed ejaculation has
  - Limited efficacy
  - Numerous, unwanted side effects
  - Typically been used experimentally
- Drugs used to treat delayed ejaculation do so through the following effects:
  - Dopaminergic
  - Anti-serotonergic
  - Oxytocinergic
### Delayed Ejaculation Management Options

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dosing Regimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabergoline</td>
<td>0.25 – 2 mg twice weekly</td>
</tr>
<tr>
<td>Amantadine</td>
<td>100-400 mg/day for 2 days prior to sex OR 100-200 mg BID</td>
</tr>
<tr>
<td>Bupropion</td>
<td>150 mg Qdaily or BID</td>
</tr>
<tr>
<td>Buspirone</td>
<td>5-15 mg BID</td>
</tr>
<tr>
<td>Cyproheptadine</td>
<td>4-12 mg given 3-4 hours prior to sex</td>
</tr>
</tbody>
</table>

Most reports focus on use in men with SSRI-induced delayed ejaculation

### Delayed Ejaculation Management Options

- Behavioral/Non-pharmacologic interventions
  - Use of vibrators to stimulate sexual arousal
  - Encourage fantasizing to help with stimulation
  - Encourage to focus on genital stimulation
  - Use of male-superior position during sexual activities
  - Sex therapy to manage any underlying self or partner issues
  - Adjust medications that might be contributing to sexual dysfunction

### Quiz Question #9

Testosterone replacement therapy is recommended in first line in all men with ED because it is an endogenously produced hormone.

A. True
B. False
Quiz Question #10
Bob is a 51 yo male who shares with you that he is unable to ejaculate with almost every attempt at sexual activities. This is very frustrating for both him and his wife as it often leads to painful, tiring intercourse. He maintains his libido and does not have difficulty achieving or maintaining an erection. Which type of sexual dysfunction is Bob likely experiencing?
A. Delayed ejaculation
B. Erectile disorder
C. Male Hypoactive Sexual Desire Disorder
D. Premature ejaculation

Quiz Question #11
Thomas is a 44 yo male reporting ejaculation occurring within about a minute following vaginal penetration in which he does not desire. He has a history of hypertension, GERD, and depression. His current medications include:
Bupropion SR 150 mg PO BID
Lisinopril 10 mg PO Qdaily
Ranitidine 150 mg PO BID

Quiz Question #11, cont’d
Which of the following treatment options should be recommended to manage Thomas’ premature ejaculation?
A. Initiate lidocaine/prilocaine cream applied an hour before sexual activities
B. D/C bupropion and initiate sertraline
C. Add cyproheptadine 4 mg PO 3-4 hours prior to sexual activities
D. All of the above are plausible options