Sexual Assessment, Diagnosis, & Treatment
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Objectives
- Rationale for thorough assessment
- Define sexual dysfunction and its prevalence
  - Define Vascular vs. Psychosomatic Erectile Disorder
  - Define Hypogonadism
  - Define Hypoactive Sexual Disorders
  - Define Female Arousal/Desire Disorders
    - Hypoactive Sexual Desire Disorder
  - Define Female Pain/Penetration Disorders
    - Dyspareunia
    - Vaginismus

Objectives continued...
- Discuss assessment strategies
- Increase familiarity with screening tools and treatment algorithm
- Develop common treatment plans for each disorder
- Establish diagnostic criteria with ICD 10 code

Background
John and Alice were a couple I met in my first clinical rotation at a family practice site in a small rural town. They were both 80 years old, and were presenting for their annual wellness visits. John had a history of a radical prostatectomy at age 63. My very astute preceptor asked both John and Alice if they had a sexual relationship since that surgery. While both admitted their relationship was a loving one, they also admitted they were no longer able to have intercourse.

Neither John nor Alice batted an eye when the doctor asked this question, which was surprising to me, furthermore, they shared with me that...

We were the first people to ever ask!
Rationale for thorough assessment...

Assessment vs. Diagnosis

Assessment
- Assessment is the key to understanding patterns of sexual function and dysfunction, prescribing the most effective treatments, and providing patients with an understanding of both disorders and likely outcomes. Assessment implies a framework that guides the examination of the patient.

Diagnosis
- Diagnosis is the assignment of a medical or psychological conditions that describes the patient’s situation, is only one goal of an assessment.

Why do we care?
- Sexual problems can often be the first symptoms of a disease, and many diseases and drug therapies can increase the prevalence of sexual problems
- Sexual health is important to people
- Patients want to talk about their sexual function, and prefer that we initiate the conversation
  - 80.33% in one study reported they would like to be asked.
  - Only 19.67% of women preferred not to be asked

Has anyone ever used any of these?
- PHQ-9
- GAD-7
- CT Scans
- DEXA Scans
- Hgb A1c
- CHADS II Score
- BP Readings

Has anyone heard of ...
- SFQ – 28
- FSFI
- IIEF
- DISF/DISF-SR
- SDI
- BISE-W
- GRISS
- PFSF
- FSDS

Sexual Dysfunction affects more people than depression, anxiety, and diabetes combined, however we screen for these disease processes regularly, and at regular intervals.
Prevalence of Sexual Dysfunction:

- **Sexual Dysfunction** affects up to 28-50% of men and up to 47% of women over the course of their lifetimes.
- Patients with a history of cancer have a 40-100% prevalence of sexual dysfunction following treatment depending on treatment strategies.

- Sexual Dysfunction has a higher prevalence than:
  - Anxiety (15%)
  - Depression (7.6%)
  - Diabetes (9.4% - diagnosed/23.8% undiagnosed)
  - Osteoporosis (5.1% men, 24.5% women)
  - Lung Cancer (.04% general population)
  - Hyperlipidemia (12.1%)
  - Hypertension (33.5%)

Choose a method of assessment...

- Validated screening tools like those mentioned above have been proven to be effective
- Mail before an appointment
- Mail after an appointment after educating patient
- Administer while waiting

Algorithm for Decision-Making and Treatment

**Use your therapeutic interviewing skills!**

- Ask pointed questions that will help with decision-making and diagnoses
  - “Are you able to achieve and maintain an erection suitable for penetration?”
  - “Do you have sexual experiences that are satisfying to you?”
  - “Do you experience pain, dryness, or inability to orgasm?”

Consider a medication reconciliation, for common medications that have potential effects on sexual function.

Consider reducing polypharmacy, substituting medications with fewer side effects – e.g. bupropion vs. sertraline.

Manage chronic diseases effectively prior to beginning therapy for sexual dysfunction.
Common Male Sexual Disorders

Erectile Dysfunction
Vascular
Psychosomatic
Hypogonadism
Hypoactive Sexual Arousal Disorder

Erectile Dysfunction:
The most commonly studied sexual dysfunction to date

Vascular ED (~ 80%)
- Benefits from PDE-5 medications (covered later)
- Can be sequelae of CAD, Diabetes, Hypertension
- Can be a presenting sign of any of these underlying conditions

Psychosomatic ED
- Does not arise from biological cause
- Can be sequelae of anxiety, depression, addiction, or relationship stressors
- Can be a presenting sign of mental illness

Diagnostic Criteria for Either Form

DSM-5 criteria indicates condition must be present for greater than 6 months, and on at least 75% of attempts to achieve/maintain an erection

ICD 10 Code: 302.72 (male erectile disorder)

Key Terms

Tumescence: The amount of swelling in a region (in this case, the penis)
Rigidity: State of firmness of the erection
Organic/Pathological: Attributable to a disease process
Functional/Psychosomatic: A direct or indirect result of a disease process, or a psychosomatic basis

Anatomy of the Penis

Figure 1: https://www.healthexpress.co.uk/erectile-dysfunction

Figure 2: http://atvb.ahajournals.org/content/32/4/845
Etiology of ED

Consider medication changes:
- Known culprits: beta-blockers, androgen blockers, finasteride, narcotics, sedatives/anxiolytics, and depressants (Rodriguez, 2016)

Diagnose and treat chronic health conditions:

“If it’s good for the heart, it’s good for the penis”

International Index of Erectile Function

<table>
<thead>
<tr>
<th>Function</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 When you attempt sexual intercourse, did you have any thoughts of not being able to get an erection?</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 If yes, how long did you have erections?</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 How long did your erections last?</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 How was your ability to achieve penetration?</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 How was your partner’s satisfaction?</td>
<td>No</td>
<td>Yes</td>
<td></td>
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</tbody>
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Was ED Identified?

Consider options:

- Medication trial
- Penile pump
- Penile ring
- Penile suppositories (Muse)
- Injection therapy (refer to urology)
- New data: low-wave shockwave therapy

Common ED Medications

**Viagra®/Revatio® sildenafil**
- Will become generic in December 2017
- Approximately $34-44/pill; split pills for appropriate dose
- Originally developed to treat heart disease, but during trials ED was noted to improve
- “Blue diamond” shape is Viagra®
- Over 80% of men report improvement in ED symptoms while taking Viagra®
- Available in 25 mg/50 mg/100 mg tablets
- Tablets are taken as needed with anticipated sexual activity
- Genital option makes this more affordable

**Cialis®/Adcirca® tadalafil**
- Not generic yet
- Average cost $26.52/pill
- Not FDA approved for women
- Take one hour prior to sexual activity
- Available in 2.5 mg/5/10/20 mg tablets
- Oral disintegrating tablet = Staxyn®

**Levitra®/Staxyn® vardenafill**
- Not generic yet
- Average cost $23.25/pill
- Not FDA approved for women
- Take one hour prior to sexual activity
- Available in 2.5 mg/5/10/20 mg tablets
- Oral disintegrating tablet = Staxyn®

**Stendra® avanafil**
- PRN dosing
- Average cost $23.25/pill
- 100 mg 30 minutes prior to sexual activity – titrable from 50 mg – 200 mg MAX/day
- Start at 50 mg with concurrent CYP3A4 inhibitor
Pharmacology of PDE-5 Inhibitors

- Phosphodiesterase-5 inhibitors prevent the destruction of cyclic guanosine monophosphate (cGMP) that relaxes smooth muscle, which results in an increase of blood flow. With the presence of sexual stimulation, an erection can occur.
- Have largely replaced phentolamine (40-80 mg)
- Contraindications
  - Concurrent use of nitrates – can cause dangerously low BP levels
  - Peyronie’s disease
  - Erections that last longer than 4 hours
  - Blood abnormalities
  - Heart irregularities (chest pain, MI, CHF)
  - Stomach ulcers
  - Vision problems
  - Strokes
  - Concurrent management of pulmonary hypertension

Alternatives to oral medications

- Appliances to facilitate erection:
  - Penile implant
  - Penile ring
  - Inexpensive, available OTC, no side effects
  - Penile pump/Vacuum device
  - Medicare will pay for one/lifetime

- Injections (alprostadil)
  - Onset of erection 5-20 minutes
  - Intraurethral pellet (Muse®)
  - 125-1000 mcg pellets
  - $178 for a supply of 6
  - Intracavernosal injection (Caverject®)
  - 10/20/40 mcg injections
  - 10/20 mcg (Caverject Impulse®)

Complementary and Alternative Medical Therapies

- Diet and exercise
- Smoking cessation
- Counseling/Marital counseling
- Acupuncture

- L-Arginine (amino acid)
  - 5 grams daily
  - Can be supplemented with 40 mg of Pycnogenol three times daily
  - Pine Bark Extract – enhances NO production
  - DHEA (only helpful if testosterone is confirmed to be low)
  - Icarin (ICA) (>98.8% purity) elevates intracavernosal pressure (ICP) (studied in rabbits and mice)

- Ginseng (data has shown efficacy) – 1000 mg TID of Korean Red Ginseng was statistically significant compared to a placebo (Andrade, et al., 2007)
- Maca (lepidium meyenii) shown to enhance libido and sperm count – also affected libido in WOMEN
- Yohimbe (effective for anti-depressant related ED, and patients with diabetes) (Ho & Tan, 2011). (15 mg daily)
  - Can be used with Trazodone 50 mg daily to treat psychogenic impotence (Ho & Tan, 2011)

Supplements

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Other common male sexual dysfunction

- Hypoactive Sexual Arousal Disorder
  - Prevalence ranges from 14-17% based on studies crossing cultures
  - Diagnostic criteria: persistent or recurrent lack of interest in sex, including lack of sexual thoughts, fantasies, and desire for sexual activity”. Duration > 6 months and cause distress.
  - Cultural demand for men to be highly sexualized
  - “Locker room” talk
Etiology/Treatment

- Low testosterone (3-7% men) – testosterone supplementation refer to endocrinology
- Hypothyroidism – treat with levothyroxine
- Hyperprolactinemia – refer to Endocrinology: bromocriptine and cabergoline
- Antidepressant medications – Can attempt Yohimbe, or switch to buproprion, nefazodone, and vilazodone
- Psychosocial issues – refer to counseling (marital/single)
- Chronic conditions:
  - Neurological syndromes (MS)
  - IBD (30-50% of men with IBD report low libido)

Summary of Male Sexual Dysfunction

- Most common sexual disorders in men:
  - Vasculogenic ED
  - Psychosomatic ED
  - Hypoactive Sexual Disorder
  - Hypogonadism

Assess, Diagnose, Treat, Follow up

Questions???
**Women's Sexual Desire and Arousal Disorders**

**Female Sexual Interest/Arousal Disorder (FSAD)**

- **Formerly known as** Hypoactive Sexual Disorder
- **Constant debate on the definition**
- **Currently is defined in DSM-IV as**
- "the persistent or recurrent inability to attain, or to maintain until completion of the sexual activity, an adequate lubrication-swelling response of sexual excitement"
- Coupled with marked distress or interpersonal difficulty

**Diagnostic criteria (DSM-V criteria)**

- At least 3/6 symptoms
  - Absent/decreased sexual interest
  - Absence of sexual fantasies/thoughts
  - Absent or decreased sexual activity
  - Lack of initiation of sexual contact or responsiveness to partner
  - Lack of bodily response to arousal (lubrication)
  - Lack of pleasurable sensation during sex
- ICD 9: 302.72
- ICD 10: F52.2
- > 6 months' duration
- Occurs on 75-100% of all sexual encounters
- Experiences distress as a result of decreased arousal
- Affects approximately 20-45% of women

**Biological response**

- The theory of female sexual arousal mirrors the nitric oxide-cyclic guanosine monophosphate pathway that occurs during male erections.
- Findings of PDE5 (the enzyme responsible for cyclic guanosine monophosphate catabolism) in human clitoral and vaginal tissue supports this theory
- If circulatory processes are impeded, or there is another physiologic origin for FSAD, sildenafil may be effective
Possible medication treatments of FSAD

- Sildenafil
  - Sildenafil (a PDE5 inhibitor) causes relaxation of vaginal smooth muscle, which leads to clitoral engorgement in women with FSAD
  - In a study by Berman, Berman, Toler, Gills, and Haugie in 2003, women had an increase in ratings in domains of 5/6 categories
  - Administration of 50 mg (adjustable from 25-100mg) of sildenafil compared with placebo
  - In SSRI & SRI-related sexual dysfunction, sildenafil was statistically significant in improving the adverse effects on sexual function that are associated with antidepressants.

- Women are prescribed anti-depressants 2:1 over men
- 80% of women do not mention the sexual side effects they experience
- Sexual side effects are dose dependent
- Occur early in treatment
- Rarely remit spontaneously
- Still not approved by FDA for women
- 50 mg was shown to increase clitoral amplitude response

New Medication on the market

- Flibanserin (ADDYI®)
  - 100 mg QHS
  - Non-hormonal, multifunctional serotonin agonist antagonist
  - Flibanserin is a post-synaptic 5HT1A receptor agonist and 5HT2A receptor antagonist
  - FDA approved for the treatment of FSAD in 2015
  - Pre- and postmenopausal women
  - Resulted in one half more sexually satisfying events, but adverse effects like nausea and dizziness increased.

Medications continued...

- Phentolamine 40 mg
  - Effective in women who are currently taking estrogen
  - Not available in US
- Testosterone (300 mcg patch)
  - Concurrent use of estrogen
  - Increased libido and sexual response
  - Post-menopausal women
  - Side effects:
    - Chromomopathy
    - Hematoma
    - Acne
    - Alopecia
    - Lower HDL
    - Higher cholesterol
    - Hepatic toxicity

Medications continued...

- Bupropion
  - In non-depressed women (and no current treatment) was found to significantly improve sexual arousal and orgasm, but not desire
  - In depressed women, who are being treated for depression, 4 weeks of treatment with addition of bupropion led to significant increase of self-reported feelings of desire and sexual activity

Hormone therapies...

- Tibolone (2.5 mg) – Not approved in the US
  - Immigrants have requested it and often import it. Used widely in MANY other countries
  - Synthetic hormone derived from Mexican Yam
  - Statistically significant improvement in:
    - Arousalability
    - Higher desire
    - Higher excitement level
    - Vaginal Pulse Amplitude
    - Intercourse frequency
    - Vaginal Dryness (increased lubrication)
    - POST-MENOPAUSAL
    - 1.6-1.7% likely to than placebo to provoke DVT

Hormones continued...

- DHEA
  - Supplement vs. Intra-vaginal
  - DHEA is produced naturally by the ovaries and adrenal glands, but declines with age – leading to the theory that it contributes largely to cognition decline, lower libido, and decrease in overall well-being. (5% DHEA in ovaries, DHEAS in adrenals)
  - Research limitations
  - HOWEVER, studies did produce evidence that suggest DHEA affects overall well being, which has a correlative effect on improved sexual function
Intravaginal DHEA - prasterone
- 6.5 mg suppository/ovule
- N=435 aged 40-74 post-menopausal women, >1 year since last menses – studied for one year
- Dyspareunia, dryness, irritation/itching
  - Desire +28.0% over baseline
  - Arousal +49.5% over baseline
  - Lubrication +115% over baseline
  - Orgasm +51.5% over baseline
  - Satisfaction +40.6% over baseline
  - Pain +108% over baseline

Hormones
- Conjugated estrogen
  - 0.625 mg estrogen
- 1.25 methyltestosterone
- Had +41% improvement in FSFI scores
  - 17.3+/-6.2 up to 26.5+/-5.3

Alternative Therapies
- Consider psychosocial therapy
- Trauma
- Interpersonal issues
- Consider strategies to increase blood flow
  - Fiera
    - Quiz online to determine if the product is a good adjunct to sexual activity
    - Helps with arousal, not orgasm

Supplements and complementary medicine
- L-Arginine (Argin-Max) 6 grams
- Ginseng
  - Supports sexual function by increasing blood circulation
- Gingko Biloba
  - Improves microvascular blood flow
  - Anti-depressant induced sexual dysfunction
- B6 Vitamin
  - Decreases risk for peripheral vascular disease
  - Increasing sexual function
- Zestra (massage oil)
  - Can be used within 5 minutes of intercourse
  - Use only with latex condoms
- DHEA replacement (300 mg 60 minutes before sexual stimulation)
  - Doses have been studied from 50-1600 mg
- Yohimbe 6 grams
  - More effective in combination with L-arginine
  - Administration 60 minutes prior to sexual activity

Pain/Penetration Disorders
- Physical Causes
  - Vaginal atrophy (leading to pain)
    - OTC Lubricants – water soluble (KY Jelly)
  - Intravaginal suppositories DHEA
  - Osphena (non-hormonal) – Ospemifene
  - 60 mg tablets daily with food
  - AFTER MENOPAUSE
  - Works like estrogen on the vaginal tissues
  - Increased risk of endometrial cancers

Dyspareunia
Pain/Penetration Disorders
- Lubrication/Dryness
- Vaginismus
- Vaginal Atrophy
Psychosomatic causes...

- PTSD
- Depression
- Anxiety
  - Vaginismus
    - Treated with vaginal dilators – Amielle
    - Dilate using smallest size for 5 minutes three times daily, up to bigger sizes
    - Gently insert/withdraw once tolerated
    - Can use mild muscle relaxants in conjunction

Questions?

References

- Know your resources and referral sources.
- What is important to your patients should be important to you.

References continued...

- Doi, W.A., & Doi, W.A. (2008). Initial treatments often involve a patient-centered decision-making process in the primary care setting.” Know your resources and referral sources. What is important to your patients should be important to you.”
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Conclusion

- Sexual dysfunction is a highly prevalent process that affects millions of people.
- Assessing, diagnosing, and treating it should be part of any wellness exam in an adult.
- Initial treatments often involve a patient-centered decision-making process in the primary care setting.
- Know your resources and referral sources.
- What is important to your patients should be important to you.