WHY?

- Quality of life issue
- Sexual problems are common
- Legitimizes patients rights
- Basic human right (WHO)
- Our responsibility
BARRIERS TO ASKING... THE LAST TABOO

- Embarrassment
- Inadequate knowledge
- Higher priorities
- Reimbursement is poor
- Time
HOW TO ASK

OPEN ENDED QUESTIONS

Many people have concerns/questions about their sexuality. What questions or issues would you like to discuss?

Many women, after menopause notice a change in their sexuality, have you noticed any?

Many women on hormonal contraception notice a change in their sexuality, have you noticed any?

Many women who have had cancer (diabetes, hypertension, heart disease) notice a change in their sexuality, have you noticed any changes?
- Be comfortable
- Maintain eye contact
- Appropriate language
“ALLOW” ALGORITHM

- A: Ask
- L: Legitimize
- L: Limitations – REFER
- O: Open up for further discussion and evaluation
- W: Work together to develop a treatment plan
SCREENING QUESTIONNAIRES

- Decreased Sexual Desire Screener (DSDS)

- Female Sexual Function Index (FSFI)
  - [www.fsfiqueuestionnaire.com](www.fsfiqueuestionnaire.com)
DEFINITIONS - HYPOACTIVE SEXUAL DESIRE DISORDER

- Manifests as any of the following:
  - Lack of motivation for sexual activity as manifested by either:
    - Reduced or absent spontaneous desire (thoughts or fantasies)
    - Reduced or absent responsive desire to erotic cues or stimulation or inability to maintain desire or interest through sexual activity
  - Loss of desire to initiate or participate in sexual activity including behavioral responses such as avoidance of situations that could lead to sexual activity, that is not secondary to sexual pain disorders
  - AND is combined with clinically significant personal distress that includes frustrations, grief, incompetence, loss sadness, sorrow, or worry.
DEFINITIONS: FEMALE GENITAL AROUSAL DISORDER

- Female genital arousal is a physical state arising from an interaction between genital response, CNS activity and information processing of sexual stimuli.
- Female genital arousal disorder (FGAD) is an inability to develop or maintain genital arousal and sub-categorized as related to:
  - Neurovascular injury or dysfunction
  - CNS activity (information processing of sexual stimuli)
- PGAD is a separate and distinct entity and should be classified as such.
- Traditional specifiers (generalized vs. situational) and causing significant intra or interpersonal distress apply.
- Subjective and genital arousal may not match
DEFINITIONS: FEMALE ORGASM DISORDERS

- Female orgasmic disorder (FOD) is characterized by persistent or recurrent, distressing compromise of orgasm, frequency, intensity, timing, and/or pleasure, associated with sexual activity for a minimum of 6 months.
- Frequency: reduced or absent (anorgasmia)
- Intensity: reduced intensity (muted)
- Timing: occurs too late (delayed orgasm) or too early (premature orgasm) than desired
- Pleasure: occurs with absent or reduced pleasure (anhedonic orgasm, pleasure dissociative orgasm disorder-PDOD)
DEFINITIONS: POST-ORGASMIC ILLNESS DISORDER (POID)

- Female Orgasmic Illness Syndrome (FOIS): Characterized by peripheral and/or central aversive symptoms that occur prior to, during or following orgasm.
- Central Aversive Symptoms: may include disorientation, confusion, impaired judgment, decreased verbal memory, anxiety, insomnia, depression, seizures, and/or headache (coital cephalagia)
- Peripheral Aversive Symptoms: diarrhea, constipation, muscle ache, abdominal pain, diaphoresis, chills, hot flashes, fatigue, akathesia and genital pain
- Symptoms may last for minutes, hours or days post orgasm
DEFINITIONS: PERSISTENT GENITAL AROUSAL DISORDER (PGAD)

- Persistent or recurrent, unwanted or intrusive, bothersome or distressing, genital dysesthesia that is unrelated to interest and may be associated with:
  - Symptoms leading to despair, frustrations, emotional lability, catastrophizing thoughts
  - Co-occurrence of OAB and RLS
  - Potential pelvic, spinal or pudendal neuropathy
  - Alterations in orgasm (spontaneous, recurrent, aversive, absent, delayed, muted or not associated with pleasure or satisfaction)
  - Limited or no resolution of symptoms, even with orgasm
DEFINITIONS: FEMALE GENITAL-PELVIC PAIN DYSFUNCTION

- Persistent or recurrent difficulties with at least one of the following:
  - Vaginal penetration during intercourse
  - Marked vulvovaginal or pelvic pain during genital contact
  - Marked fear or anxiety about vulvovaginal or pelvic pain in anticipation of, during, or as a result of genital contact
  - Marked hypertonicity or over-activity of pelvic floor muscles with or without genital contact
DEFINITIONS

- ISSWSH and the International Consultation of Sexual Medicine Committee on Definitions reached a consensus:
  - Important to characterize the assessment of each disorder while understanding there is overlap
  - Treatment is based on the primary disorder identified by the woman
Q1
### PREVALENCE OF FEMALE SEXUAL DYSFUNCTION

- **PRESIDE STUDY** (Prevalence of Female Sexual Problems associated with Distress and Determinants of Treatment Seeking)

<table>
<thead>
<tr>
<th>Sexual Complaint</th>
<th>Sexual Problem</th>
<th>Sexual Problem + Distress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desire</td>
<td>38.7%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Arousal</td>
<td>26.1%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Orgasm</td>
<td>20.5%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Any Dysfunction</td>
<td>44.2%</td>
<td>12.0%</td>
</tr>
</tbody>
</table>
## DISTRESSING SEXUAL PROBLEMS: AGE STRATIFIED

<table>
<thead>
<tr>
<th>Age</th>
<th>Desire</th>
<th>Arousal</th>
<th>Orgasm</th>
<th>Any</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2863/20,447</td>
<td>1556/28,461</td>
<td>1315/27,854</td>
<td>3456/28403</td>
</tr>
<tr>
<td>18-44 yrs.</td>
<td>8.9 %</td>
<td>3.3%</td>
<td>3.4%</td>
<td>10.8%</td>
</tr>
<tr>
<td>45-64 yrs.</td>
<td>12.3%</td>
<td>7.5%</td>
<td>5.7%</td>
<td>14.8%</td>
</tr>
<tr>
<td>&gt;65 yrs.</td>
<td>7.4%</td>
<td>6.0%</td>
<td>5.8%</td>
<td>8.9%</td>
</tr>
</tbody>
</table>
INCIDENCE OF HSDD: MENOPAUSAL WOMEN

<table>
<thead>
<tr>
<th>Menopausal Status Age</th>
<th>Surgical 20-49 yrs.</th>
<th>Surgical 50-70 yrs.</th>
<th>Natural 50-70 yrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>low desire</td>
<td>36%</td>
<td>33%</td>
<td>29%</td>
</tr>
<tr>
<td>low desire + distress</td>
<td>72%</td>
<td>44%</td>
<td>33%</td>
</tr>
<tr>
<td>total population with HSDD</td>
<td>26%</td>
<td>15%</td>
<td>10%</td>
</tr>
</tbody>
</table>
PRESIDE STUDY

- Low desire is the most common of the three sexual problems among women of all ages (desire, arousal, and orgasm)
- When stratified by age, the 45-64 year old women have the most distress associated with sexual complaints
- When looking at HSDD and menopause, both surgical and natural, the highest incidence is among the youngest women undergoing a surgical menopause
Only one third of women with distressing sexual problems seek care

Majority of women sought help from PCP’S (38.5%) and gynecologists (46.7%)

Over half of the women asked during a routine exam
FEMALE SEXUAL RESPONSE CYCLE

- MASTERS AND JOHNSON: Based on physiologic observations. Linear 4 stage model of excitement, plateau, orgasm and resolution

- KAPLAN AND SINGER: Linear 3 phase model of desire, arousal and orgasm
FEMALE SEXUAL RESPONSE CYCLE

- **BASSON:**
  - Circular, more complex model that integrates emotional intimacy and sexual satisfaction
  - Linear models not applicable to women
  - Start from position of neutrality
  - Multiple reasons for sex
  - Desire follows objective arousal
BASSON MODEL OF SEXUAL RESPONSE CYCLE

1. Emotional and Physical Satisfaction
2. Arousal and Sexual Desire
3. Sexual Arousal
4. Spontaneous Sexual Drive
5. Intimacy
6. Sexual Stimuli

Factors:
- Biologic
- Psychological
Q2
MULTIFACTORIAL NATURE OF SEXUAL BEHAVIOR

PSYCHOLOGICAL FACTORS
- Depression, anxiety, impaired self image, performance anxiety

BIOLOGICAL FACTORS
- Hormones, neurobiology, general health

INTERPERSONAL FACTORS
- Quality of past/current relationships
- Life stressors

SOCIO-CULTURAL FACTORS
- Upbringing, cultural norms and expectations

SEXUAL HEALTH
DUAL CONTROL MODEL

Dopamine
Melanocortins
Oxytocin
NE
Hormones

Opioids
Endocannabinoids
Serotonin
NORMAL SEXUAL RESPONSE

- Arousal causes increased blood flow, swelling of the vagina, vulva, transudation from the vagina
- Pelvic nerve stimulation results in clitoral smooth muscle and arterial smooth muscle dilation.
- Leads to increased clitoral intracavernous pressure, causing enlargement of the clitoris
- Orgasm reflex with rhythmic contractions of perineal, bulbocavernosus and pubococcygeus muscles with subsequent release of endogenous opioids, serotonin, prolactin, and oxytocin
Q3
PERIPHERAL INNERVATION

- **Motor Innervation**
  - Parasympathetic-sacral cord
    - Early genital arousal-engorgement of the clitoris, labia, vagina, lubrication response
  - Sympathetic-lumbar spinal cord
    - Late stages of sexual arousal-increased heart rate, BP and orgasm

- **Sensory Innervation**
  - Pudendal nerve (clitoris, vulva, striated pelvic and perineal muscles)
  - Hypogastric nerve (noxious information from uterus, cervix, ovaries)
  - Vagus ( cervix and vagina)
Pudendal Nerve

- Dorsal nerve of clitoris
- Bulbocavernosus muscle
- Ischiocavernosus muscle
- Deep perineal nerve
- Posterior labial nerves
- Superficial perineal nerve
- Transverse perineal muscle
- External anal sphincter
- Puborectalis muscle
- Pubococcygeus muscle
- Pudendal nerve
- Alcock’s canal
- Inferior anal nerves

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Q4
SEXUAL HISTORY

- Onset
- Acquired or Life-long
- General or Specific
- Factors that make it better or worse
- Past Therapy
- Medical/Surgical/Gynecologic History
- Medications
- Abuse
- Exercise
SEXUAL HISTORY

- Age of coitarche
- Use of erotica
- Masturbation
- Privacy
- Quality of relationship
- Health issues of partner
- Fatigue
- Stress
- Body image
- Timing
HISTORY

- Use of:
  - Lubricants
  - Dilators
  - Moisturizers
PHYSICAL EXAM

- Complete Gyn Exam
- Vulva:
  - Color- erythema, pallor
  - Clitoris- size, color, smegma, lesions, pain, phimosis
  - Labia- present, absent % resorption
  - Lesions- lichenification, ulcers, fissures, nodules, pigmented lesions
- Neurologic exam
- Cotton Swab test
- Vulvoscopy
PHYSICAL EXAM

- Vagina
  - pH
  - Color
  - Rugae
  - Discharge
- Pelvic Floor Muscles
- Bimanual exam
- Digits
LAB TESTING

- CBC
- CMP
- LIPIDS
- TSH
- PROLACTIN
- LH/FSH
- ESTRADIOL
- TOTAL TESTOSTERONE/FREE TESTOSTERONE
- SHBG
- MICROSCOPY (pH, wet mount, KOH)
- CULTURES
HSDD

- Most common of FSD
- Peaks ages 40-60
- Increased in women with surgical menopause
HSDD
NEUROENDOCRINE FACTORS

- Major determinant of women’s sexual function

- Central contribution from neurotransmitters

- Sex steroids exert activational effects in order to prime the brain
HSDD - ETIOLOGY

- Pelvic pain
- Arousal/orgasmic disorders
- Chronic disease
- Hyperprolactinemia
- Thyroid disease
- Psychological state
- Medication
- Menopause
MEDICATIONS ASSOCIATED WITH FSD

- PSYCHOTROPIC DRUGS
  - Antipsychotics
  - SSRIs
  - Lithium
  - SNRIs
  - Tricyclic Antidepressants
  - Anti-epileptics
MEDICATIONS ASSOCIATED WITH HSDD

- Antihypertensive medications
  - Beta blockers
  - Alpha blockers
  - Diuretics

- Cardiovascular medications
  - Lipid lowering agents
  - Digoxin
MEDICATIONS ASSOCIATED WITH HSDD

- **Hormones**
  - Oral contraceptives
  - Estrogens
  - Progesterone
  - Anti-androgens
  - GNRH agonists

- **Other**
  - Histamine H-2 receptor blockers
  - Opioids, endocannabinoids
  - NSAIDS
  - Chemo drugs - AI’s
  - Weight loss agents
BIOLOGIC APPROACHES FOR HSDD

- Increase androgens (both locally and systemically)
- Increase dopamine
- Increase norepinephrine
- Modulate serotonin
- Melanocortins
HSDD-TREATMENT

- Treat under-lying systemic illness
- Evaluate medications, timing, dosage
- Joint therapy, if appropriate
- Diet
- Exercise
- Structured tasks
  - Fantasy box
  - Deliberate fantasy
  - Erotica
  - Sexual devices
HSDD-TREATMENT

- Medications
  - Testosterone
  - Estrogen-Progesterone
  - Wellbutrin
  - Arginmax
  - Oxytocin
  - Melanacortin
  - NE Agonist
  - Flibanserin (Addyi)
  - Bremolanotide (Vyleesi)
HSDD-TREATMENT

- Education
  - Review female sexual response cycle
- Mindfulness
- Change
  - Discuss normative lessening of desire
TESTOSTERONE THERAPY FOR HSDD

Androgenic effects vary from person to person based on enzymatic activity and receptor response.

Testosterone levels do not always correlate with degree of sexual dysfunction.

- However, randomized, placebo controlled trials consistently show benefits of transdermal testosterone vs. placebo for sexual desire and arousal, orgasm, pleasure, satisfaction, and pain.

Use of testosterone therapy is based on clinical evidence that exogenous testosterone improves libido, arousal, pleasure and overall satisfaction.
TESTOSTERONE THERAPY FOR HSDD

RCTs have established efficacy of transdermal patch for relieving symptoms of HSDD
  • Naturally and surgically menopausal women
  • With and without concomitant ET or EPT

Main side effects: increased hair growth and acne

Reassuring safety data, although inconclusive, with respect to cardiovascular, breast, endometrial outcomes
  • Long term safety data demonstrate no significant impact on intermediate metabolic endpoints and a low rate of cardiovascular events and breast cancer in postmenopausal women at increased cardiovascular risk.
MONITORING OF TESTOSTERONE THERAPY

- Annual breast and pelvic exams
- Annual mammography
- Evaluation of abnormal bleeding
- Evaluation for acne, hirsutism, androgenic alopecia, voice changes, clitoromegaly
- Monitor testosterone by mass spectrometry
  - SHBG, calculated free T
- Goal: not to exceed normal range for reproductive-aged women
- Lipid profile, LFTs, CBC at baseline, 6 months, then annually
- Use for > 6 months contingent on clear improvement and absence of adverse events
TESTOSTERONE THERAPY FOR HSDD

Transdermal testosterone treatment has been shown to improve sexual function in postmenopausal women. May be a role for testosterone in select patients. Long term safety and efficacy RCT data are lacking. Not FDA-approved for women:

- Intrinsa Patch- Never received FDA approval, approved in Europe, taken off the market
- Libigel- Never received FDA approval

Aim for normal physiologic range in premenopausal women.
TESTOSTERONE THERAPY FOR HSDD

- Dosing: 1/10<sup>th</sup> male dose
- Pharmaceutical: Packets of 1 cc (Testim)
- Dose 0.1 cc daily, use tuberculin syringe
- Apply to different sites, back of knee, thigh, abdomen
- Compound: start with 1.5 mg/gram /day
- Titrate up as needed
HSDD TREATMENT- FLIBANSERIN (ADDYI)

- Mixed post-synaptic 5HT 1A agonist and 5HT 2A antagonist
  - 5HT1 agonists could have pro-sexual effects
  - 5HT2A antagonists could have pro-sexual effects
- Activity at dopamine D4 receptors and moderate affinity for 5HT2B and 5HT2C receptors
- Region-specific elevations in dopamine and norepinephrine offset inhibitory serotonergic activity resulting in increased desire pathways
- Serotonin may act as sexual satiety signal
- Improvement in the number of SSE’s
FLIBANSERIN

- FDA approved for generalized HSDD in premenopausal women not caused by:
  - Medical or psychiatric condition
  - Relationship problems
  - Effects of a medication/drug
- 100 mg daily at bedtime
- Reevaluate at 8 weeks
- Warnings:
  - Hypotension and syncope due to interaction with alcohol
  - Avoid in patients with liver impairment or on CYP3A4 inhibitors
FLIBANSERIN PRESCRIBING

- Due to alcohol interaction
  - Initially it was C/I to use alcohol, that has now changed to advising patients to stop drinking 2 hours prior to dosing
  - Evaluate patients ability to do this
  - Phase III trials no adverse reaction was reported in a separate alcohol interaction study

- Contraindications
  - CYP-3A4 inhibitors
    - HIV drugs, antifungals, antibiotics (Cipro, macrolides), diltiazem, verapamil, conivaptan, nefazondone
  - Hepatic impairment
HSDD
FLIBANSERAN

- Adverse events (10%)
  - Nausea
  - Dizziness
  - Fatigue
  - Syncope
TREATMENT HSDD

- BREMELANOTIDE (VYLEESI)
  - Melanocortin receptor-4 agonist, modulates sexual behavior at hypothalamic level
  - Analog of MSH
  - Aids in translating sexual cues into genital response
  - Benefits desire and arousal
  - Phase III trials - showed significant improvement in desire, arousal, SSE's, orgasm and decrease distress
  - On demand use, subq administration,
TREATMENT HSDD

- BREMALANOTIDE- SIDE EFFECTS
  - Nausea
  - Flushing
  - Cough
  - Headache
  - Injection site reaction
  - Increased pigmentation
  - Decrease HR, increase BP
TREATMENT HSDD

- BREMOLANOTIDE-CONTRINDICATIONS
  - Hypertension
  - Heart disease

- USAGE
  - Effect starts within 45 minutes and lasts for 12 hours
  - Cannot use more than once every 24 hours
  - Cannot use more than 8 times a month
TREATMENT HSDD- ON THE HORIZON

- LOREXYS
  - Orgasm and ecstasy
  - Combination of 2 antidepressants in slow release formula
  - Trazodone (Desyrel) and Bupropion (Wellbutrin)
  - Wellbutrin-Norepinephrine and dopamine reuptake inhibitor
  - Trazadone 5-HT2A antagonist, moderate 5-HT1A partial agonist
HSDD TREATMENT - ON THE HORIZON

- LYBRIDO (low sensitivity to sexual cues)
  - Testosterone/Sildenafil: increase brain’s response to sexual cues and enhances genital sexual response

- LYBRIDOS (high sexual inhibition)
  - Testosterone/Buspirone: increases brain’s response to sexual cues and reduces inhibitory response to sexual cues
Q7
PAIN

PRIMUM NON NOCERE

- Do not attribute dyspareunia to abuse, anxiety, depression just because YOU can’t figure out what is going on.
- Chronic dyspareunia is only rarely caused by chronic infection. Do not sterilize the vagina.
- Do not treat GBS, E.coli, Klebsiella, and other non-pathogenic species.
- Do not use topical steroids without a diagnosis.
- Do not biopsy unless you have some idea what the diagnosis is.
- Do not suggest: a glass of wine, an erotic video, a lubricant, etc.
PAIN

- Determine the origin of the pain
  - Introital (insertional)
  - Vaginal
  - Pelvic (pain with deep thrusting)
DEEP DYSPAREUNIA ETIOLOGY

- Endometriosis
- Pelvic Congestion Syndrome
- IC
- Uterine Retroversion
- Uterine Leiomyomas
- Adenomyosis
- PID
- Pelvic Adhesions
- IBS
- History of Sexual Abuse
PAIN

- INFECTIOUS: recurrent candidiasis, HSV
- INFLAMMATORY: LS, LP, immunobullous
- NEOPLASTIC: Paget, squamous cell ca
- NEUROLOGIC: nerve damage, post-herpetic neuralgia, neuroma
- TRAUMA: genital mutilation, obstetrical
- IATROGENIC: radiation, chemo
- HORMONAL DEFICIENCIES: GSM, lactational amenorrhea
VIVA LA VULVA
INTROITAL DYSPAREUNIA
ETIOLOGY

- Hormonally Mediated Vestibulodynia
- Neuroproliferative Vestibulodynia
- Hypertonic Pelvic Floor Dysfunction
- Lichen Sclerosis
- Lichen Planus
- Desquamative Inflammatory Vaginitis
- Chronic Candidiasis
- Vulvar Granuloma Fissuratum
The Vestibule

- Lateral border is Hart’s line
- Medial border is the hymen and urethra
- Ostia of the Bartholin’s, Skene’s, and minor vestibular glands
- Derived from the primitive urogenital sinus
- Different blood supply from the vagina
- Rich in AR (> ER)

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AR= androgen receptor; ER= estrogen receptor
VESTIBULODYNIA

- Hormonally Mediated PVD
  - OCP’s
  - Menopause
  - Oophorectomy
  - Hormonal control of endometriosis, hirsuitism
  - Breast-Feeding
  - Infertility Treatments
  - Breast Cancer Treatments
VESTIBULITIS
Hormonally Associated Vulvar Pain
VESTIBULODYNIA-OCP INDUCED

- Women who use OCP’s before 17 y.o. have a RR of 9.2 of developing vestibulodynia

- Later start RR of 4.6

- More common with anti-androgenic and low dose OCP’s
VESTIBULODYNIA-OCP INDUCED

- Diffuse vestibular tenderness over the entire vestibule
- Ostia of glands generally erythematous
- Vestibule diffuse pallor with overlying erythema
- Fissures very common
- Low estradiol, low free testosterone and high SHBG
TREATMENT HORMONALLY INDUCED VESTIBULODYNIA

- Introitus replete with testosterone receptors
- Stop OCP’s (may or may not help), consider alternate means of birth control
- Estradiol 0.02% with testosterone 0.1% ointment applied BID
- Lidocaine gel prior to intercourse
- Non irritating lubricants
- May take up to 6 months to see improvement
CONGENITAL NEUROPROLIFERATIVE

- Increased density of C-afferent nociceptors in the vestibular mucosa

- Primary: Congenital neuronal hyperplasia in the primitive urogenital endoderm
  - Umbilical hypersensitivity
ACQUIRED NEUROPROLIFERATIVE

- Women report onset of symptoms after severe or recurrent candidiasis or allergic reaction
- Increased mast cells in mucosa
- Proliferation of C-afferent nociceptors
TREATMENT FOR ACQUIRED NEUROPROLIFERATIVE

- Interferon and montelukast if within 6 months of onset of symptoms

- If after 6 months: topical lidocaine, caspsaicin 0.025%, desapramine, gabapentin

- Consider referral to vulvar specialist for vestibulectomey
Q8
Q9
VULVOVAGINAL ATROPHY
SEXUAL PAIN
VULVOVAGINAL ATROPHY

- Part of GSM
- Etiology:
  - Lack of estrogen
  - Menopause
  - AI’s
  - Radiation
  - Chemotherapy
  - Lactation
SEXUAL PAIN
VVA

- Pathophysiology:
  - Decrease in superficial cells
  - Increase in parabasal cells
  - Decrease glycogen
  - Decrease in lactic acid
  - Increase in pH
PREVALENCE OF GSM

- >50 million women in the U.S. over 51 in 2020
- GSM symptoms affect at least 50% of PM women
  - Prevalence increases with menopausal stage: 4% in perimenopausal transition and 47% 3 years following final menstrual period
  - Significant under-diagnosis, under-treatment and /or delays in seeking treatment
PREVALENCE OF GSM

- GSM is chronic, progressive and symptoms do not improve without treatment.
- Many women remain unaware that vulvar and vaginal changes are a direct result of the menopausal transition.
- Communication challenges/barriers exist for both health care providers and patients.
GSM
SIGNS AND SYMPTOMS

- Dryness and insufficient moisture
- Dyspareunia
- Itching
- Burning sensation
- Soreness
- Tightness
- Loss of elasticity
GSM
SIGNS AND SYMPTOMS

- Recurring UTI’s
- Thinning of vaginal tissue, alteration of keratinization
- Mucosal defects- petechiae, microfissures, ulceration, inflammation
- Shortening, fibrosis, obliteration of vault, narrowing of introitus
- Smoothing of fornix, loss of rugae
- Decreased blood flow
- Telescoping of urethra
TREATMENT OF GSM

ESTROGEN

- Lowers vaginal pH
- Thickens epithelium
- Increases superficial cells and decreases parabasal cells
- Increases rugae and elasticity
- Increases secretions
- Increased vibratory sensation
- Alleviates subjective symptoms of dryness, itching and irritation
### ESTROGEN PREPATIONS

<table>
<thead>
<tr>
<th>Formulation</th>
<th>Composition (Product Name)</th>
<th>Dosing</th>
</tr>
</thead>
</table>
| **Cream**   | 17β estradiol (Estrace®)  | Initial: 2-4 g/d for 1-2 wk  
               | Conjugated estrogens (Premarin®) | Maintenance:  
               |                                    | 1 g/d (0.1 mg active ingredient/g)  
               |                                    | 0.5-2 g/d (0.625 mg active ingredient/g) |
| Tablet      | Estradiol hemihydrate      | Initial: *10 mcg/d for 2 wk  
               | (Vagifem®)                  | Maintenance: 10 mcg twice/wk |
| **Ring**    | 17β estradiol (Estring®)   | Device contains 2 mg  
               |                                    | Releases 7.5 mcg/d for 90 d |
VVA
ESTROGENS

- Contraindications:
  - Undiagnosed vaginal bleeding
  - Current/past history of breast cancer
  - Estrogen-dependent cancer
  - VTE
  - Hepatic impairment
  - Pregnancy
  - Protein C or S deficiency
  - Thrombophilic disorder
  - Arterial thromboembolism within 12 months
Vaginal estrogen use and chronic disease risk in the Nurses’ Health Study

Bhupathiraju, Shilpa N., PhD
Menopause: December 17, 2018

Objective
- Examined the association between vaginal estrogen use and health outcomes, including MI, CVA, Thromboembolic disease, cancer of breast, endometrium, ovarian and colorectal, and hip fracture.

Methods
- Postmenopausal women from Nurses Health Study (1982-2012), nonusers of systemic HRT. Self reported users of vaginal estrogen
Vaginal estrogen use and chronic disease in the Nurses’ Health Study

Results
- 18 years follow up, risks of CVD, Cancer and hip fracture were not different between users and nonusers of vaginal estrogen

Conclusions
- Vaginal estrogen use was not associated with a higher risk of CVD, cancer, hip fractures and is a safe and effective drug for the treatment of VVA due to GSM
NON-HORMONAL TREATMENT
OF GSM

- Behavioral
  - Smoking cessation
  - Regular painless sexual activity

- Non-hormonal vaginal therapy
  - Moisturizers
  - Lubricants
  - Dilators
  - Fractional CO2 laser
  - Osphena
  - Intrarosa
<table>
<thead>
<tr>
<th>MOISTURIZERS</th>
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</thead>
<tbody>
<tr>
<td><strong>Product</strong></td>
</tr>
<tr>
<td>Replens</td>
</tr>
<tr>
<td>Me again</td>
</tr>
<tr>
<td>KY Liquibeads (ovules)</td>
</tr>
<tr>
<td>KY long lasting</td>
</tr>
<tr>
<td>Emerita personal moisturizer</td>
</tr>
<tr>
<td>Moist Again</td>
</tr>
<tr>
<td>Hyalofemme</td>
</tr>
<tr>
<td>Pre-seed</td>
</tr>
</tbody>
</table>
## LUBRICANTS

<table>
<thead>
<tr>
<th>Base</th>
<th>Ingredients</th>
<th>Safe with latex?</th>
<th>Staining</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Deionized water, glycerin, propylene glycol</td>
<td>Yes</td>
<td>No</td>
<td>Rarely causes irritation but dries out with extended activity</td>
</tr>
<tr>
<td>Petroleum</td>
<td>Mineral oil, petroleum jelly, baby oil</td>
<td>No; do not use with condoms, diaphragms, or cervical caps</td>
<td>Yes</td>
<td>Irritating to vagina</td>
</tr>
<tr>
<td>Natural oil</td>
<td>Avocado, olive, peanut, corn</td>
<td>Yes</td>
<td>Yes</td>
<td>Safe (unless peanut allergy); non-irritating to vagina</td>
</tr>
<tr>
<td>Silicone</td>
<td>Silicone polymers</td>
<td>Yes</td>
<td>No</td>
<td>Non-irritating to vagina, long-lasting and waterproof</td>
</tr>
</tbody>
</table>
DHEA FOR GSM INTRAROSA

- DHEA 0.5% 6.5 mg vaginal suppository
- FDA approved for treatment moderate to severe dyspareunia associated with GSM
  - Inserted intravaginally once daily at bedtime
  - Phase 3 trials reveal improvements over placebo at 4 primary endpoints:
    - Decreased percentage of parabasal cells
    - Decreased vaginal pH
    - Decreased pain with sexual activity
    - Improvement in moderate to severe dryness
DHEA FOR GSM INTRAROSA

- Serum steroid levels remained well within normal postmenopausal range
- Most common adverse effect: discharge (14%) due to melting vehicle
- No change in endometrial atrophy after 12 months
- Converted in the cell to estrogen and testosterone
FRACTIONAL CO2 LASER

- Tissue coagulation by laser energy penetrates into deeper tissues to stimulate synthesis of new collagen and ground substance of the matrix
- Supra-physiologic level of heat generated by CO2 laser induces rapid and transient change, restoring permeability of connective tissue
- Heat shock response activate small family of heat shock proteins
- Inflammatory response stimulates fibroblasts to produce new collagen and extracellular matrix
VVA

NON-HORMONAL TREATMENTS

- Osphena
  - SERM
  - Agonistic on vaginal tissue and endometrium
  - Effect on breast
  - Daily oral pill
VVA
NON-HORMONAL TREATMENTS

- Osphena-Contraindications
  - Undiagnosed vaginal bleeding
  - Current or past hx breast cancer
  - Estrogen dependent cancer or history
  - VTE
  - Arterial thromboembolism
  - Pregnancy
Q10
Pelvic Floor Muscles

- clitoris
- urethra
- ischiocavernosus
- vagina
- bulbocavernosus
- vestibule
- transversus perineum
- perineal body
- levator ani:
  - pubococcygeus
  - iliococcygeus
- coccyx bone
- anus
- anal sphincter
- gluteus maximus

PELVIC FLOOR MYALGIA

- Dyspareunia—“hitting a wall”
- Rectal symptoms of constipation, rectal fissures, caused by puborectalis
- GU symptoms of hesitancy, frequency, incomplete emptying, caused by coccygeus
- Anxiety
- Low back/hip pain
- Associated with core strengthening exercise
- If due to pudendal neuralgia, worse with sitting, improves when prone
- Generalized burning
PELVIC FLOOR MYALGIA

- INCREASED TONE RESULTS IN:
  - Decrease in blood flow and oxygen to the muscles of the pelvic floor and build up of lactic acid

- PHYSICAL EXAM:
  - Erythema where the muscles insert at the vestibule
  - Q-tip test positive at 4,6,8 O’clock on vestibule
  - Multiple trigger points, muscle weakness/hypertonicity
PELVIC FLOOR MYALGIA

TREATMENT
- PFPT/Home exercises
- Dilator therapy
- Diazepam suppositories
- Botox
- Trigger point injections
- Pudendal blocks
FSD CONCLUSION

- All women should be screened for sexual issues
- Legitimize their concerns
- If you are uncomfortable, do not have the time or the knowledge, then refer
- Although the science is in its infancy, there is much that can be done to help your patients have a satisfying, sexual life.
Last Question:
If you could have dinner with any of the following, who would you pick?

A. Beyonce
B. JK Rowling
C. Jake Gyllenhaal
D. Banksy

Unmute and let us hear your answer!
Contact Information

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