Menopause and Perimenopause

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Disclosures

- I have no financial interests or relationships to disclose

Objectives

- Define menopause, perimenopause and primary ovarian insufficiency
- Identify symptoms of menopause and perimenopause
- Understand what is hormone replacement therapy (HRT), as well as, the risks and benefits
- Define who is a candidate for HRT
- Identify non-hormonal treatments for symptoms of menopause and perimenopause
- Define treatments in sexual health for the premenopausal and postmenopausal woman

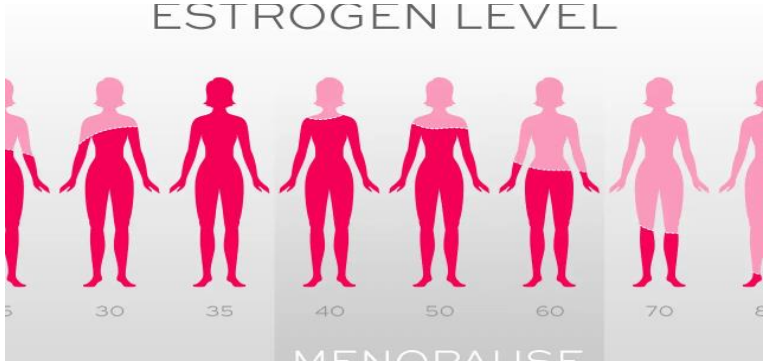
What is menopause?

- Menopause is a normal, natural event, defined as the final menstrual period, confirmed after 1 year of no menstrual bleeding

- Represents the permanent cessation of menses resulting from loss of ovarian follicular function, usually due to aging

When is menopause

- Naturally (spontaneously) average age is 52
- Prematurely from medical intervention
  - Bilateral oophorectomy
  - Chemotherapy
- At any time due to impaired ovarian function



What is perimenopause

- The time around menopause also called “the menopause transition”
- This is the most **symptomatic** phase for women

Stage	-5	-4	-3b	-3a	-2	-1	+1 a	+1b	+1c	+2
Terminology	REPRODUCTIVE				MENOPAUSAL TRANSITION		POSTMENOPAUSE			
	Early	Peak	Late		Early	Late	Early			Late
					Perimenopause					
Duration	*variable*				*variable*	1-3 years	2 years (1+1)		3-6 years	*Remaining lifespan*
PRINCIPAL CRITERIA										
Menstrual Cycle	Variable to regular	Regular	Regular	Subtle changes in Flow/ Length	*Variable Length* Persistent ≥7- day difference in length of consecutive cycles	Interval of amenorrhea of >=60 days				
SUPPORTIVE CRITERIA										
Endocrine FSH AMH Inhibin B			Low Low	Variable Low Low	↑ Variable Low Low	↑ >25 IU/L** Low Low	↑ Variable Low Low		Stabilizes Very Low Very Low	
Antral Follicle Count			Low	Low	Low	Low	Very Low		Very Low	
DESCRIPTIVE CHARACTERISTICS										
Symptoms						Vasomotor symptoms *Likely*	Vasomotor symptoms *Most Likely*			*Increasing* symptoms of urogenital atrophy

* Blood draw on cycle days 2-5 ↑ = elevated

**Approximate expected level based on assays using current international pituitary standard[67-69]

What is premature menopause

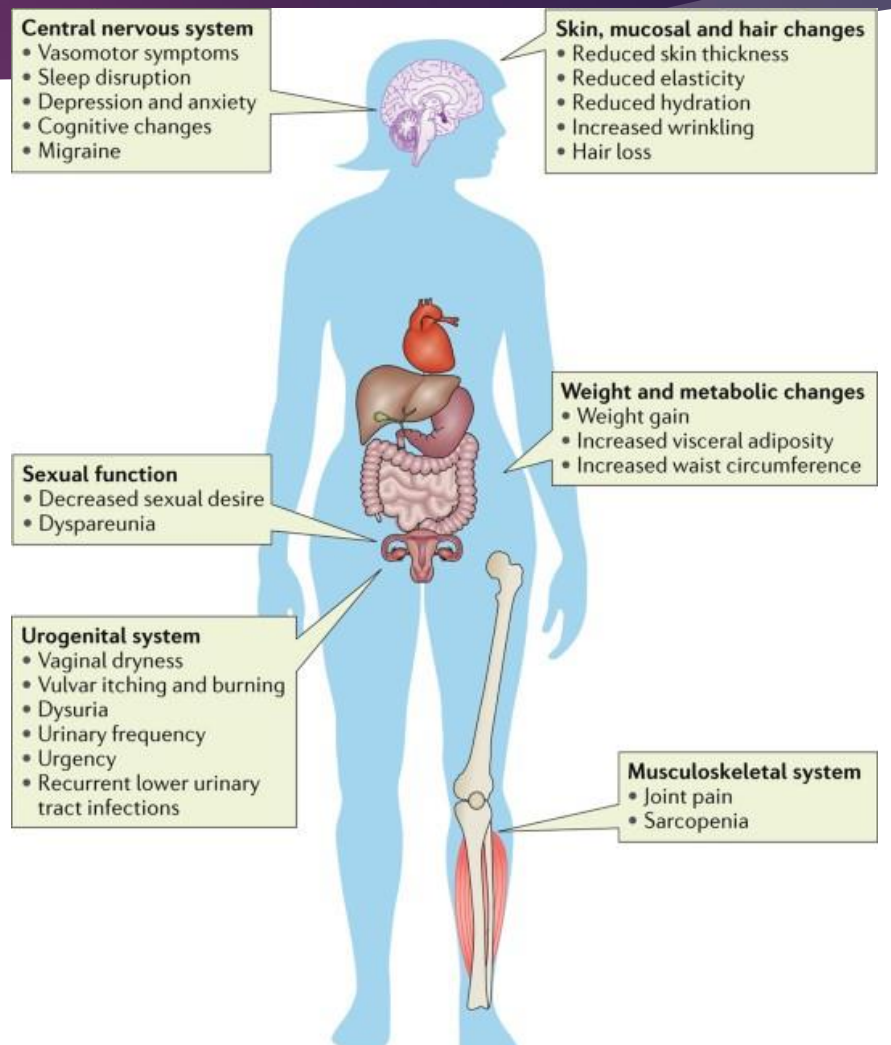
- Any menopause that occurs before age 40
- Typically defined as Primary Ovarian Insufficiency
  - Impaired ovarian function leading to amenorrhea (no menstrual cycle) in women younger than age 40
  - History of impaired fertility is common

Symptoms of perimenopause/menopause

"You shake, rattle and roll, twist and shout, and you're tossing and turning all night? It's either menopause or too much oldies radio."

Symptoms of perimenopause/menopause

- Menstrual changes and irregularities
- Vasomotor symptoms
- Vulvovaginal atrophy
- Sleep changes
- Mood
- Libido
- Joint/muscle pain
- Urinary changes
- Cognitive changes
- Skin changes
- Weight/metabolic changes



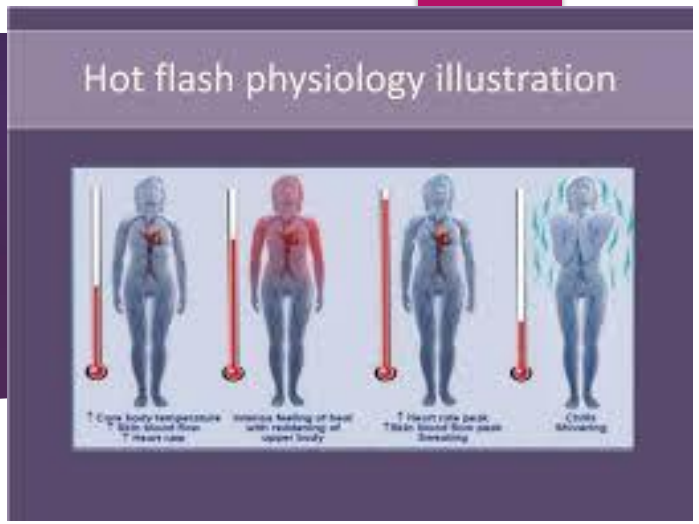
Menstrual changes

- Menstrual bleeding changes
  - Changes in both menstrual flow and frequency are common
    - Lighter bleeding/heavier bleeding
    - Increase/decreased duration of bleeding
    - Cycles are shorter/longer (<21 days or >40+ days)
    - Skipped menstrual periods

Abnormal uterine bleeding

- Abnormal uterine bleeding
  - Excessive or erratic bleeding
    - Heavy bleeding >80ml with clots
    - Bleeding >7days or >2 days longer than usual
    - <21 days from the onset of one menstrual cycle to the next
    - Spotting/bleeding between periods
    - Bleeding after intercourse

Vasomotor symptoms



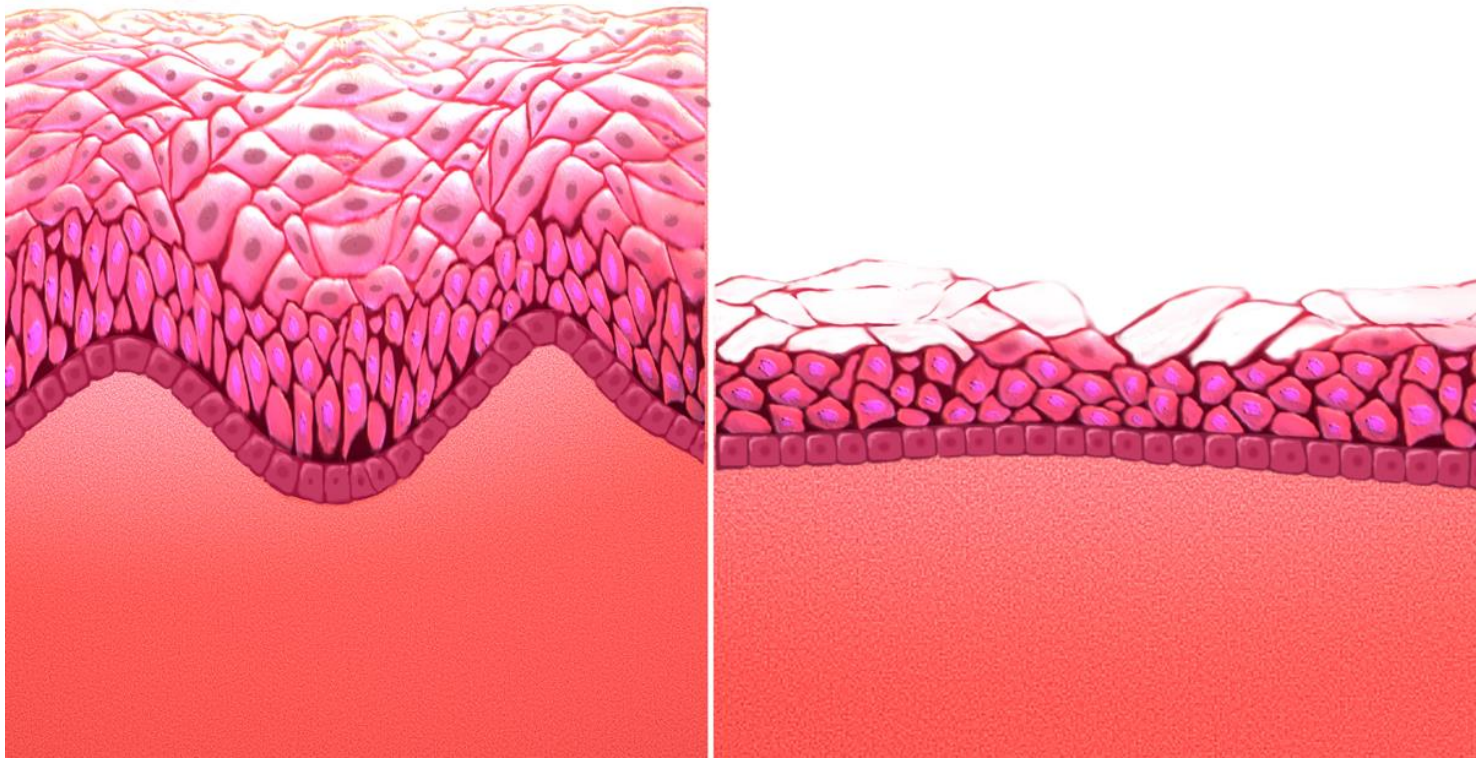
- Vasomotor symptoms
  - Recurrent, transient episodes of flushing accompanied by sensation of warmth to intense heat on the upper body and face
  - As many as 75% of perimenopausal women in the US have hot flashes
  - Triggered by small increases in core body temperature acting within a reduced thermoneutral zone

Vaginal Symptoms

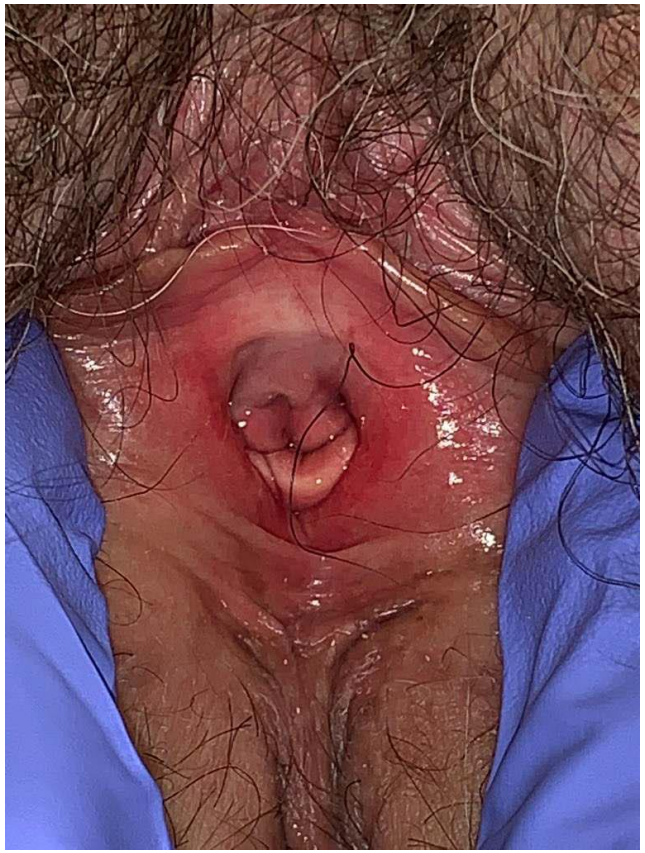
- Vaginal dryness, vulvovaginal irritation/itching and dyspareunia in 10-40% of women
- Vaginal atrophy is progressive and will not resolve on its own
- Recurrent vaginal infections due to pH imbalances
- Treatments include:
  - Regular sexual activity
  - Lubricants and moisturizers
  - Local vaginal estrogen
  - Local vaginal DHEA

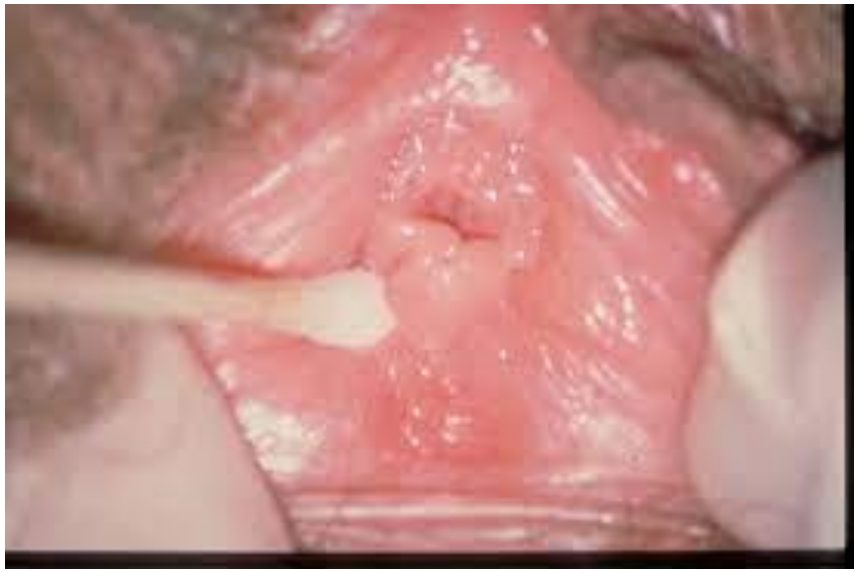
Vaginal atrophy illustration

Vaginal atrophy as illustrated by contrast of vaginal epithelium in a well-estrogenized premenopausal state (left panel) with low-estrogen postmenopausal state (right panel)



Genitourinary syndrome of menopause

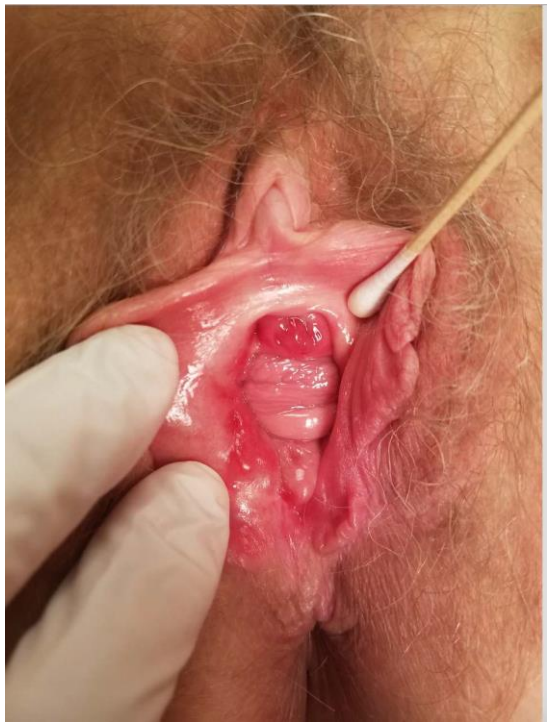




pH balance

pH	Symptoms	Indication
3.8 to 4.4	None	Balanced pH
3.8 to 4.4	Itching, burning, odor, discharge	Signs of yeast Infection (thrush)
4.5 and more	Itching, unpleasant/fishy smell, discharge (white to greyish)	It may be a bacterial Infection (vaginosis)
4.5 and more	Pain when urinating, unpleasant mold-like smell, abnormal foamy yellow to greenish discharge	Typically related to Trichomoniasis (trich)

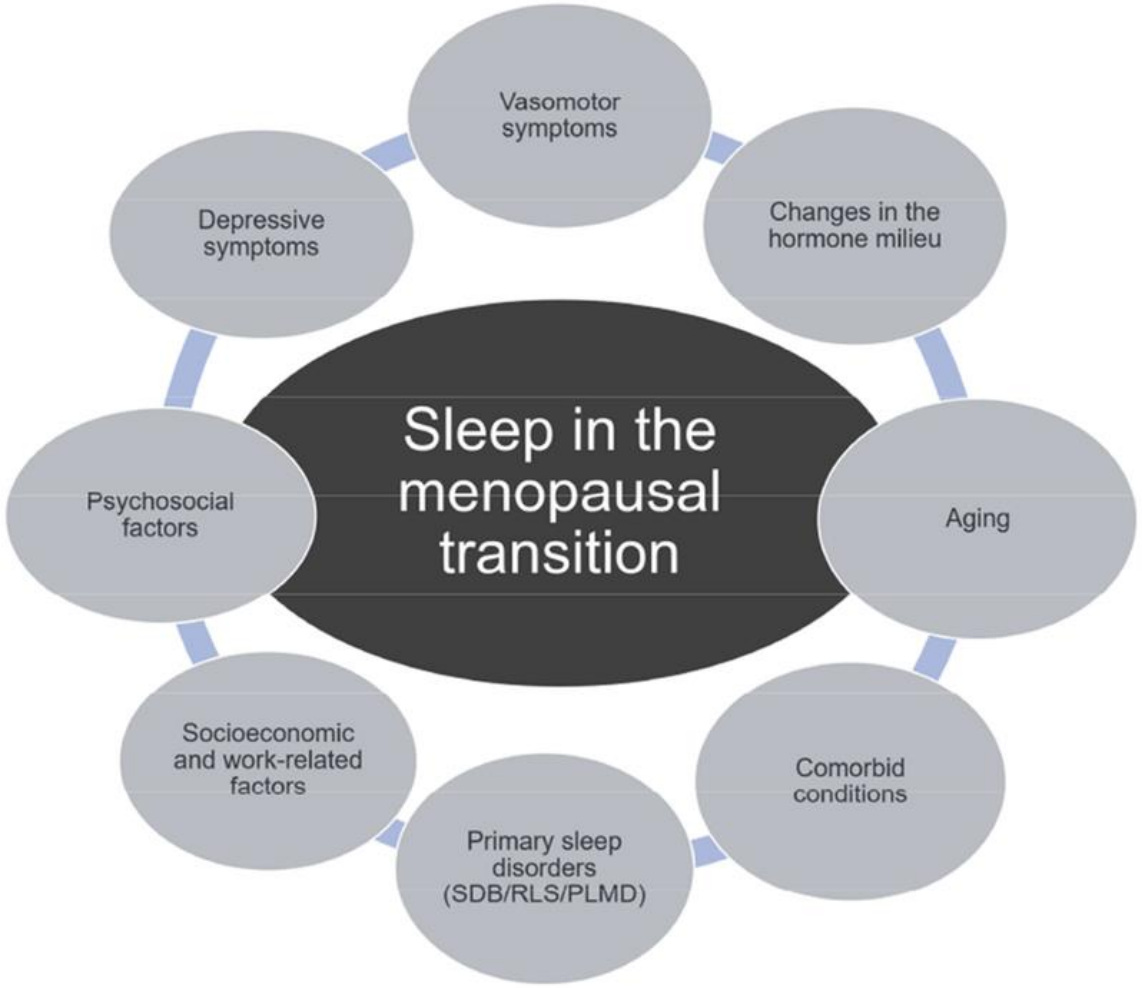
Vulvodynia



- Oral contraceptives
- Spironolactone
- Breast feeding
- Anorexia/Disordered Eating
- Infertility treatments
- Menopause
- Oophorectomy
- Breast cancer treatments

Sleep disturbances

- Insomnia with frequent waking and more likely to use sleep aids
- General aging – nocturnal urination
- Sleep-related disorders (apnea and chronic pain)
- Comorbid conditions
- Depression
- Stress (work/family)
- Vasomotor symptoms

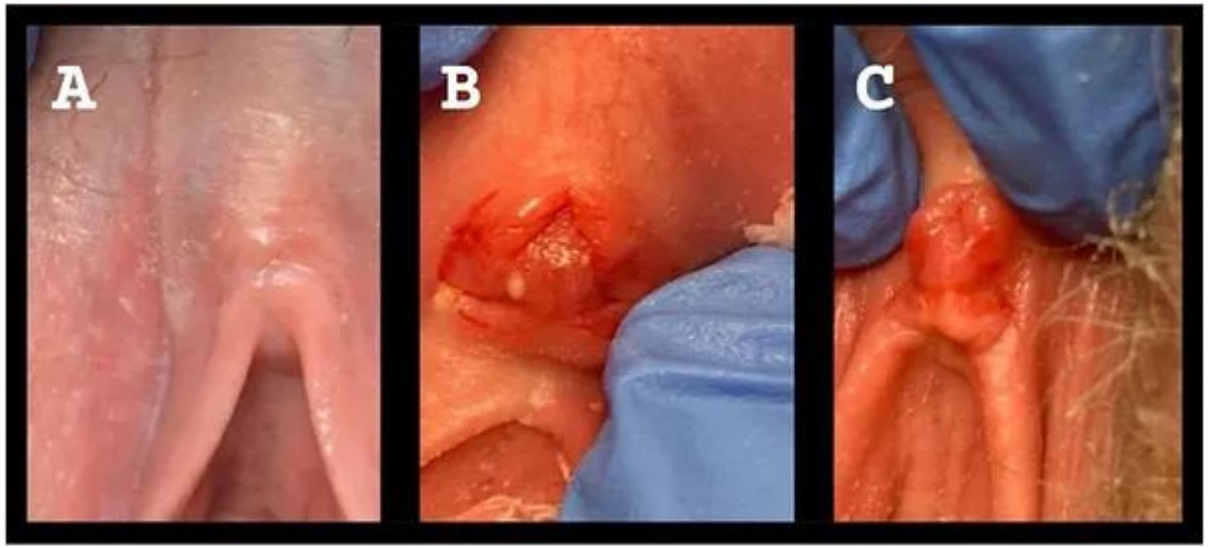


Mood disorders

- Feelings of upset, loss of control, irritability and fatigue may be caused by fluctuating hormone levels that perturb neural systems transiently
- Women with history of premenstrual syndrome, significant stress, sexual dysfunction, physical inactivity or vasomotor symptoms are more vulnerable to depressive symptoms
- Risks include prior history of clinical depression

Libido changes

- Hormonal changes
  - Decrease in estrogen/progesterone/testosterone
- Physical changes
  - Clitoral adhesions
  - Vulvovaginal Atrophy
  - Vulvodynia
  - Pelvic floor dysfunction
- Sociopsychological factors

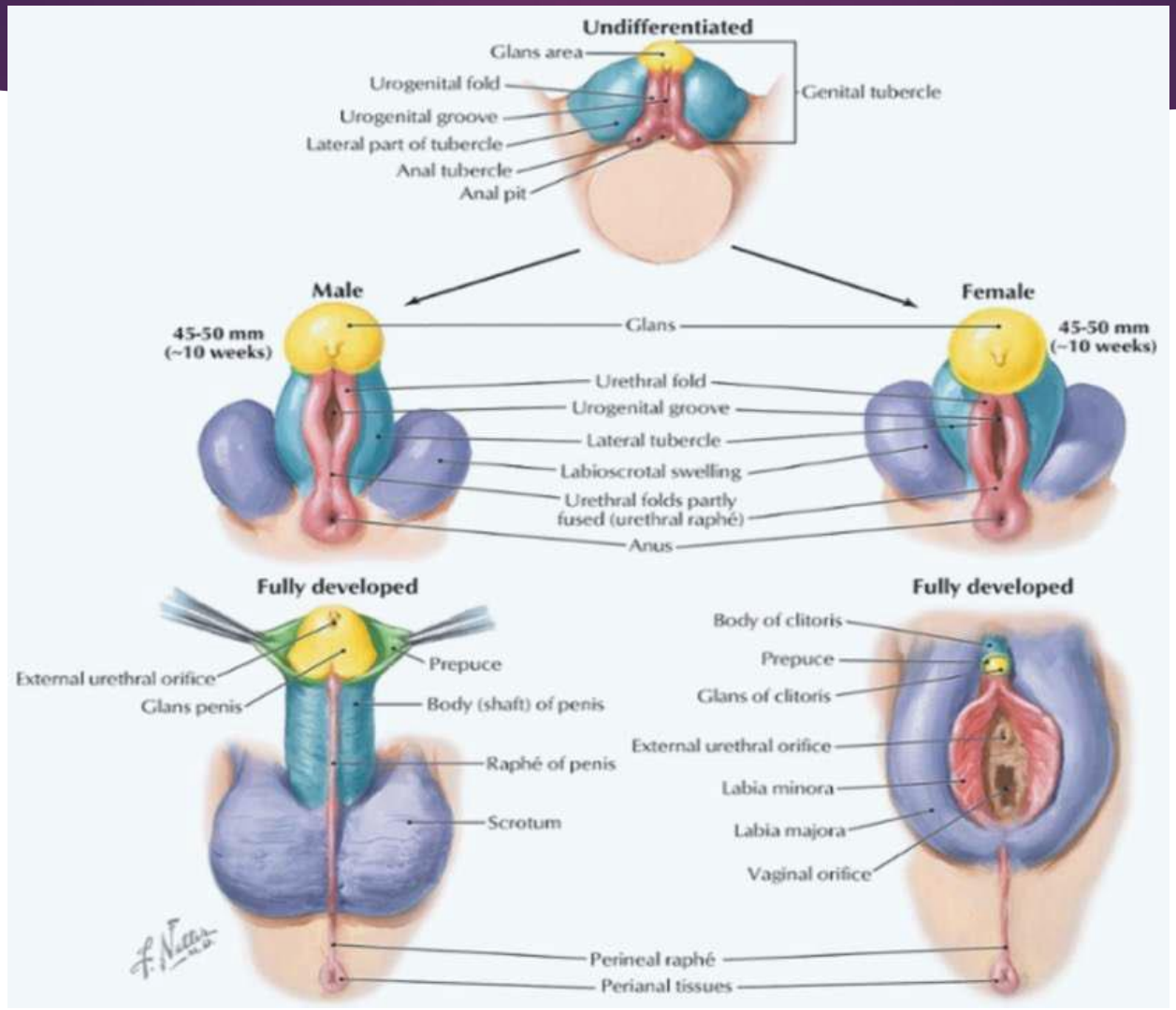


Joint and Muscle Pain

- Estrogen and testosterone are anti-inflammatory
- Joint/muscle pain is common postpartum and during the menopause transition
- Development of autoimmune diseases during this time is common
- General physical wear and tear

Urinary symptoms

- Over 50% of women struggle with urinary incontinence in menopause
  - **Not** a typical part of aging
  - Weight loss and Kegel exercises can improve symptoms
- Thinning of the bladder and urethral linings which can cause chronic dysuria and an increased incidence of urinary tract infections


Undifferentiated
Glans area
Urogenital fold
Urogenital groove
Lateral part of tubercle
Anal tubercle
Anal pit
Genital tubercle
Male
Female
45-50 mm
(~10 weeks)
Glans
Urethral fold
Urogenital groove
Lateral tubercle
Labioscrotal swelling
Urethral folds partly
fused (urethral raphé)
Anus
45-50 mm
(~10 weeks)
Fully developed
External urethral orifice
Glans penis
Prepuce
Body (shaft) of penis
Raphé of penis
Scrotum
Fully developed
Body of clitoris
Prepuce
Glans of clitoris
External urethral orifice
Labia minora
Labia majora
Vaginal orifice
Perineal raphé
Perianal tissues

Cognitive changes

- Decrease in working memory, attention, reduced processing speed and reduced verbal memory

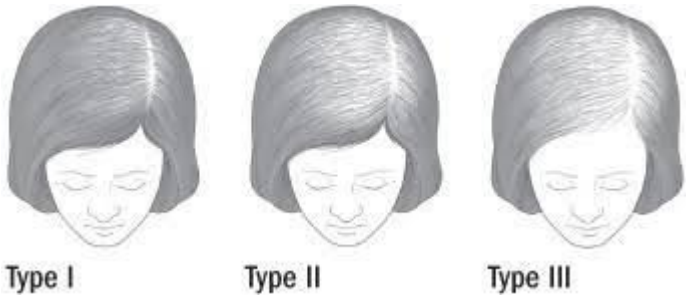
- Noted during any large hormonal shift
  - Decreased short term memory
  - Brain fog
  - Word finding

Weight changes

- Weight gain occurs before and during menopause partly because of a drop in estrogen levels
- Low-quality sleep and regular, age-related reductions in metabolism and muscle tone can also contribute to this weight gain
- Weight tends to develop in the abdomen and thighs

Skin & hair changes

- Skin becomes thinner and more prone to itchiness, dryness and eczema
- Menopausal acne can start to flare up due to fluctuating hormone levels
- Dark marks and sunspots, may become more visible and pronounced
- Wrinkles are more prominent due to fat loss in the face and a decrease skin collagen
- Hair thinning or hair loss, with texture becoming dryer and more coarse



What is hormone replacement therapy

- Replacement of depleted or fluctuating hormone levels through body identical hormones

- Types of hormone replacement therapy (HRT)
  - Oral, Transdermal, Topical, Vaginal cream, Vaginal ring, Vaginal String
    - Estrogen only
    - Estrogen/Progesterone combinations
    - Vaginal Estrogen/DHEA/Testosterone
    - Testosterone

NAMS position statement

- NAMS 2022 Position Statement
  - Hormone therapy remains the **most effective treatment for vasomotor symptoms** (VMS) and the **genitourinary syndrome of menopause** and has been **shown to prevent bone loss and fracture**.
  - The risks of hormone therapy differ depending on the type used
  - Treatment should be individualized using the best available evidence to maximize benefits and minimize risks

NAMS position statement

- NAMS 2022 Position Statement
  - For women aged younger than 60 years or who are within 10 years of menopause onset and have no contraindications, the **benefit-risk ratio is favorable** for treatment of **bothersome VMS** and **prevention of bone loss.**
  - For women who initiate hormone therapy more than 10 years from menopause onset or who are **aged older than 60 years**, the benefit risk ratio appears less favorable because of the **greater absolute risks of coronary heart disease, stroke, venous thromboembolism, and dementia.**

NAMS position statement

- NAMS 2022 Position Statement
  - Longer durations of therapy should be for documented indications such as persistent VMS, with **shared decision-making** and periodic reevaluation.
  - For bothersome genitourinary syndrome of menopause symptoms not relieved with over-the-counter therapies in women without indications for use of systemic hormone therapy, **low-dose vaginal estrogen therapy or other therapies (eg, vaginal DHEA or oral osphena) are recommended**.

Rules of HRT

- Transdermal preferred over oral route to decrease cardiovascular and VTE events
- Uterus
  - Estrogen and **Progesterone (for endometrial protection)**
  - Progesterone
  - +/- Testosterone if postmenopausal
- No uterus
  - Estrogen +/- Progesterone
  - +/- Testosterone if postmenopausal

Rules of HRT

- Contraindications for oral and transdermal hormone therapy
  - Unexplained vaginal bleeding
  - Liver disease
  - Prior estrogen sensitive cancer (breast, ovarian & uterine)
  - Coronary heart disease
  - Stroke
  - Myocardial infarction
  - Venous thromboembolism
  - Personal history or inherited high risk of thromboembolic disease
  - Migraines with aura
  - Current Smoker

Types of HRT

- Recommended (Body-identical)
  - Estrogen
  - Progesterone
  - Testosterone

- Not Recommended
  - Bio-identical Hormones
  - Hormone Pellets

Body versus bioidentical

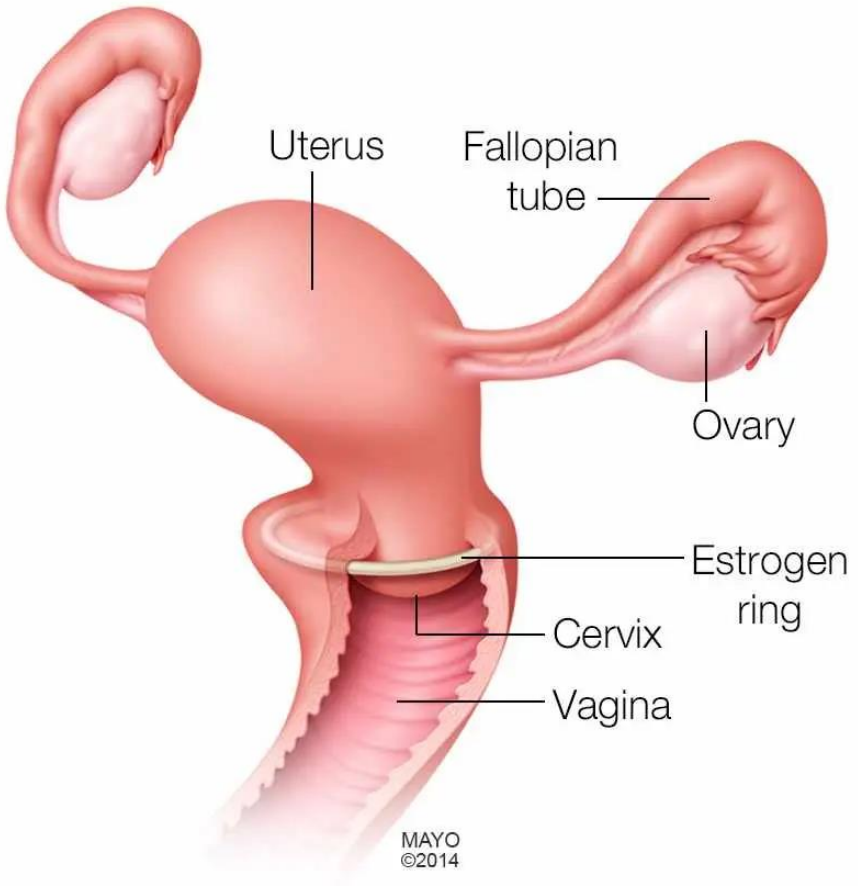
- Recommended
  - Body identical estradiol and progesterone are molecularly identical to human hormones
- Bio-identical Hormones (often compounded creams, jells, sprays, pellets)
  - Phytoestrogens are estrogen-like chemicals found in plants
  - They start out as phytoestrogens extracted from different sources like wild yams, cactus, and soy plants
  - Hormone pellets deliver inconsistent levels of hormones to the body
    - They may contain potentially harmful doses of estrogen and/or testosterone.

How to prescribe HRT

- Systemic Estrogen
- Systemic Progesterone (essential if uterus is present)
- Systemic Estrogen and Progesterone
- Systemic Testosterone if postmenopausal
- Vaginal Hormones (localized estrogen or DHEA)

Estrogen

Estrogen ring



Types of HRT

Table 1

Systemic HRT Treatment Options

Treatment	Dosage	Evidence of Benefit	FDA Approval	Products[a]
Conjugated estrogens	Standard: 0.625 mg/day Low: 0.3-0.45 mg/day	Yes	Yes Yes	Premarin (tablet or injectable) Prempro, Premphase (CEE/medroxyprogesterone)
Micronized 17β estradiol	Standard: 1 mg/day Low: 0.5 mg/day Ultralow: 0.25 mg/day	Yes Yes Mixed	Yes Yes No	Estrace (tablet) Estradiol tablets (generic) Menest (esterified estrogens)
Transdermal 17β estradiol	Standard: 0.0375-0.05 mg/day Low: 0.025 mg/day Ultralow: 0.014 mg/day	Yes Yes Mixed	Yes Yes No	Alora (twice weekly) Climara (weekly) Divigel (0.1% estradiol gel) Elestrin (0.06% estradiol gel) Estrasorb (4.35 mg/1.74 g emulsion) Estrogel (0.06% estradiol gel) EvaMist (spray) Menostar (weekly) Minivelle (twice weekly) Vivelle-Dot (twice weekly)
Estradiol acetate ring	0.05 mg/day	Yes	Yes	Femring 0.05 mg or 0.1 mg estradiol daily over 3 mo (no substitutes)
Conjugated estrogens with bazedoxifene	0.45 mg/20 mg daily	Yes	Yes	Duavee (CEE/bazedoxefine)
Combination estrogen-progestin	Various	Yes	Yes	Climara Pro (estradiol/levonorgestrel weekly patch) Combipatch (estradiol/norethindrone acetate twice-weekly patch) Xulane (ethinyl estradiol/norgestromin patch) Activella (estradiol/norethindrone acetate tablet) Lopreeza (estradiol/norethindrone acetate tablet) Mimvey (estradiol/norethindrone acetate tablet) Femhrt (ethinyl estradiol/norethindrone acetate tablet) Angeliq (estradiol/drosperinone tablet)
Depot progestin	Individualized, injected q3mo	Yes	No	Depo-Provera (medroxyprogesterone acetate)
IM estrogen	Individualized: Cypionate: 1-5 mg IM q3-4w Valerate: 10-20 mg IM q4w		Yes	Delestrogen (estradiol valerate) Depo-Estradiol (estradiol cypionate)

[a] *Many HRT products are not interchangeable. Check interchangeability ratings before suggesting alternatives.*
CEE: conjugated equine estrogens; HRT: hormone replacement therapy.
Source: References 4, 13-15.

Table 2

Local HRT Treatment Options

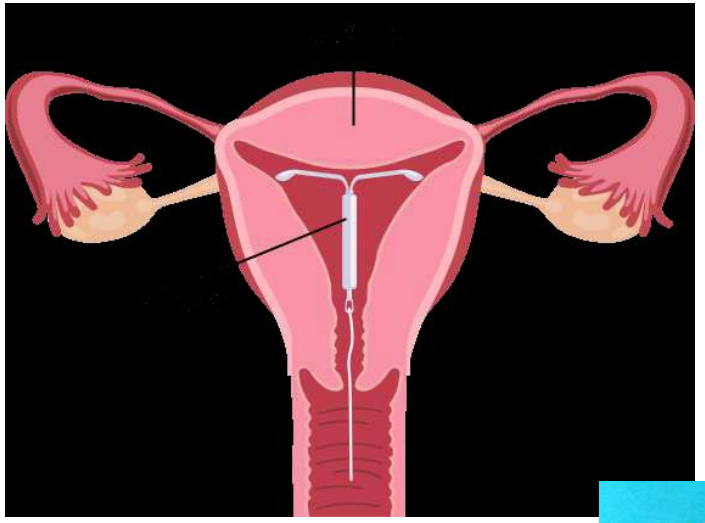
Treatment	Dosage	Evidence of Benefit	FDA Approval	Products[a]
17β estradiol ring	7.5 mcg/day	Yes	Yes	Estring 0.0075 mcg/24h q3mo (no subtitutes)
Estradiol vaginal tablet	25 mcg/day	Yes	Yes	Vagifem, Yuvafem (10 mcg estradiol, no generics)
17β estradiol cream	2 g/day	Yes	Yes	Estrace 0.01% estradiol (generics by Mylan, Teva, Perrigo, Alvogen)
Conjugated estrogen cream	0.5-2 g/day	Yes	Yes	Premarin vaginal cream (0.625 mg CEE per gram of cream, no generics)
DHEA	0.50%	Yes	Yes	Intrarosa vaginal suppository (DHEA, prasterone)
Estrogen agonist-antagonist (tissue-selective)	60 mg/day	Yes	Yes	Osphena (ospemifene)

[a] *Many HRT products are not interchangeable. Check interchangeability ratings before suggesting alternatives.*
CEE: conjugated equine estrogens; DHEA: dehydroepiandrosterone; HRT: hormone replacement therapy.
Source: References 4, 13, 15.

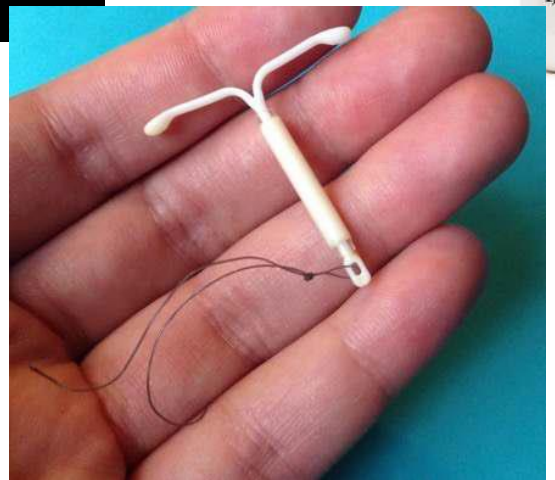
Progesterone Pearls

- Progesterone Pearls
  - If using systemic estrogen and patient has a uterus then you must use therapeutic doses of progesterone/progestogen for endometrial protection
  - Otherwise patient is at risk for endometrial cancer
  - Micronized progesterone can help with sleep as well
  - Synthetic progestins may be used but may have mood and other side effects and data is mixed as to this piece increase risk.

Progesterone Therapy



Levonorgestrel Intrauterine Device (IUD)



8 years of endometrial protection and contraception

Oral Micronized Progesterone

Taken by mouth before bed
Either
Nightly: 100mg qhs

or

Cyclically: 200mg 12 days per month (best if there is still bleeding so they bleed more reliably)

Can place vaginally if somnolence or GI symptoms

May cause sedation

Combination estrogen/progesterone

Abnormal uterine bleeding is common side effect of combination therapy.

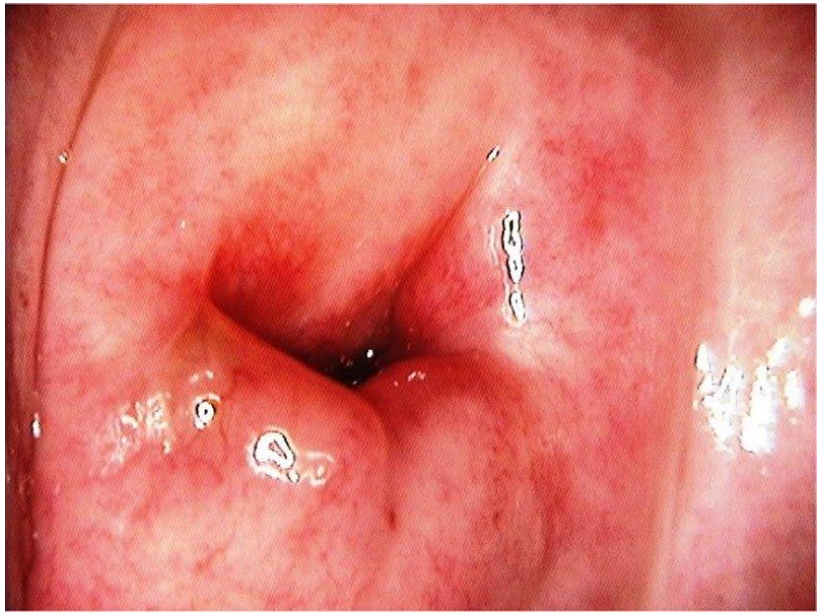
This requires full workup

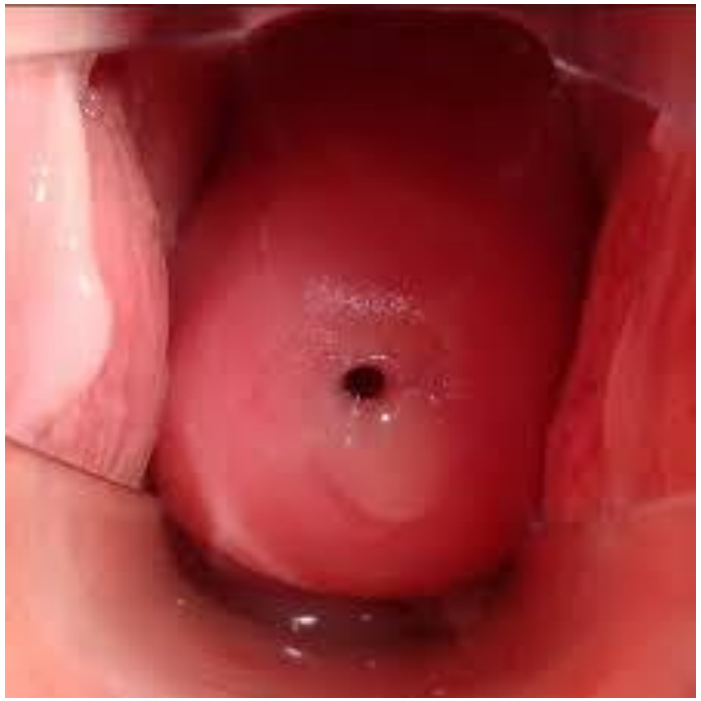
Testosterone

- Indications for Testosterone therapy
  - Hypoactive Sexual Desire Disorder in postmenopausal women
  - Genitourinary syndrome of menopause
  - Hormonally mediated Vestibulodynia

Vaginal Hormones (localized estrogen or DHEA)

- Approved to treat severe dyspareunia and vulvovaginal atrophy
- Labial and clitoral adhesions
- Perineal and vulvar fissures





Vaginal DHEA

For _____

Address _____ Date _____

℞

Vaginal DHEA 6.5mg

1 suppository in the vagina nightly

Dispense 3 month

Refill: forever

REFILL _____ TIMES _____

DEA NO. _____ Address

- Use the applicator to decrease discharge

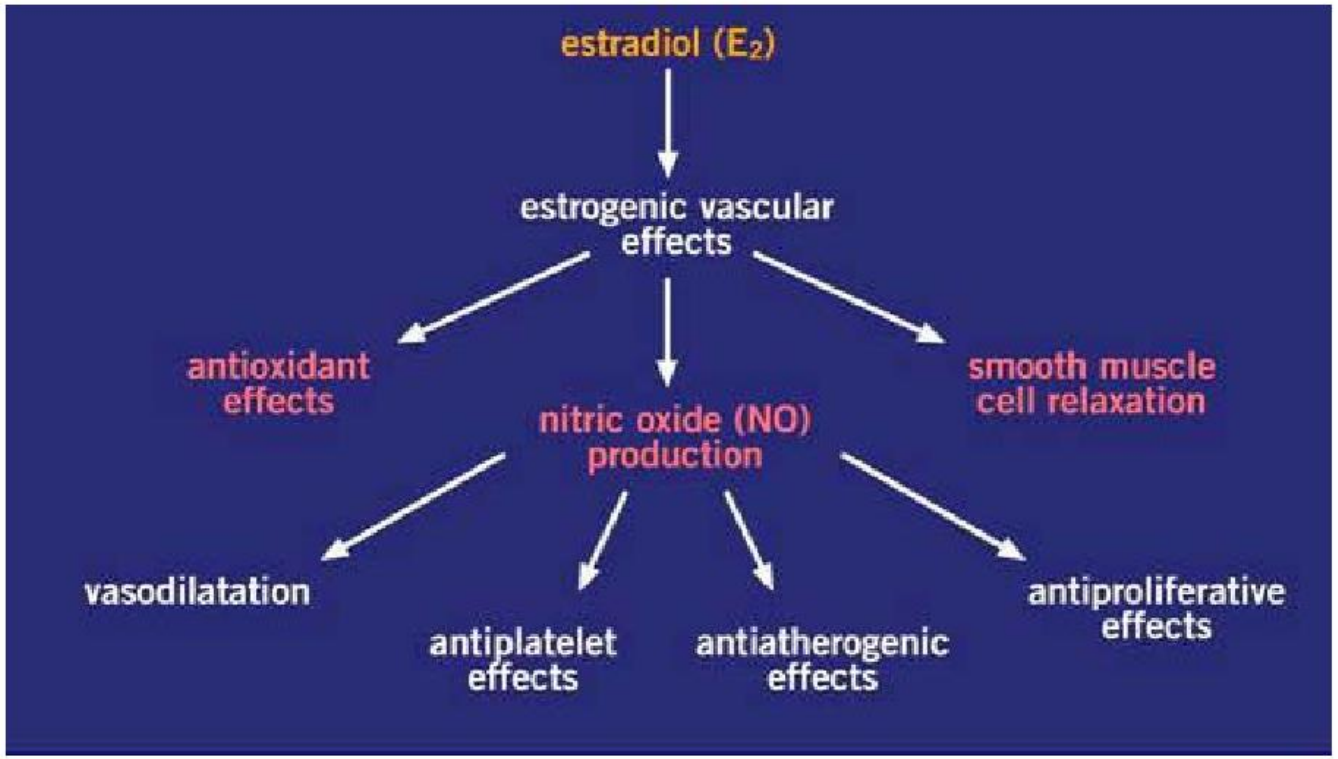
- Only 2 ingredients palm oil and DHEA for your 'natural' patients

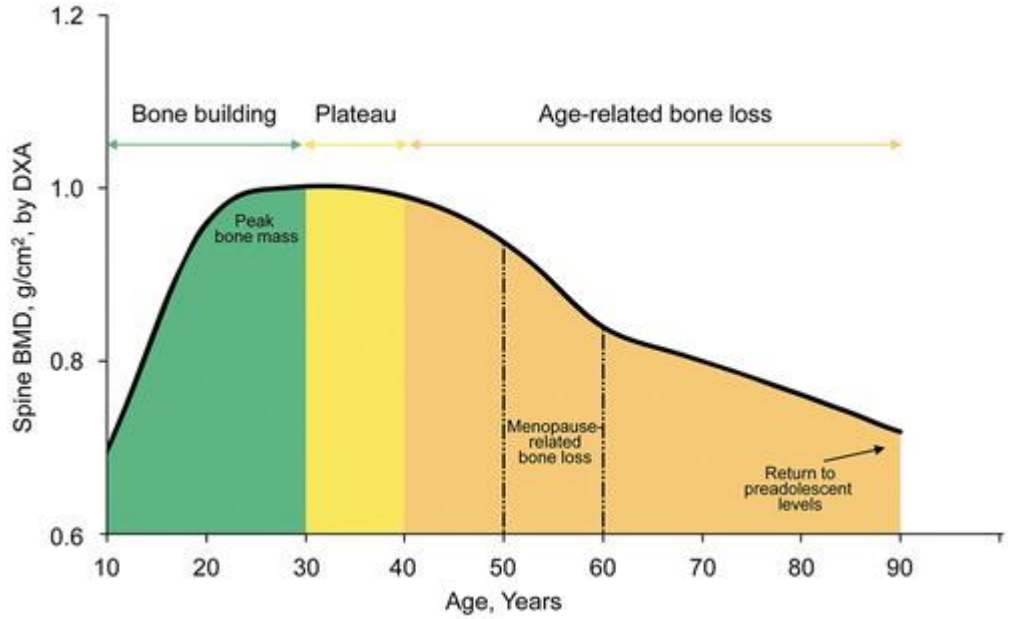
- $85/mo at Costco

Benefits of HRT

- Improves bone mineral density
- Helps to decrease your risks for dementia/alzheimers
- Helps to decrease systemic inflammation
  - Decreases your risks for cardiovascular events, autoimmune disease, muscle/joint pain
- Improves vaginal tissue health
- Improves general sleep
- Improves libido
- New studies show that estrogen and testosterone are linked to nerve regeneration

Benefits of HRT





Timeline of HRT

- Women < 60yrs or who are within 10yrs of menopause onset and have no contraindications.
- Continuing HRT > 60yrs is shared decision-making between provider and patient
  - Can increase risks of CVA, PE, MI, DVT and estrogen dependent cancers
- Estrogen cream
  - Apply 2-3 times weekly and till death due you part

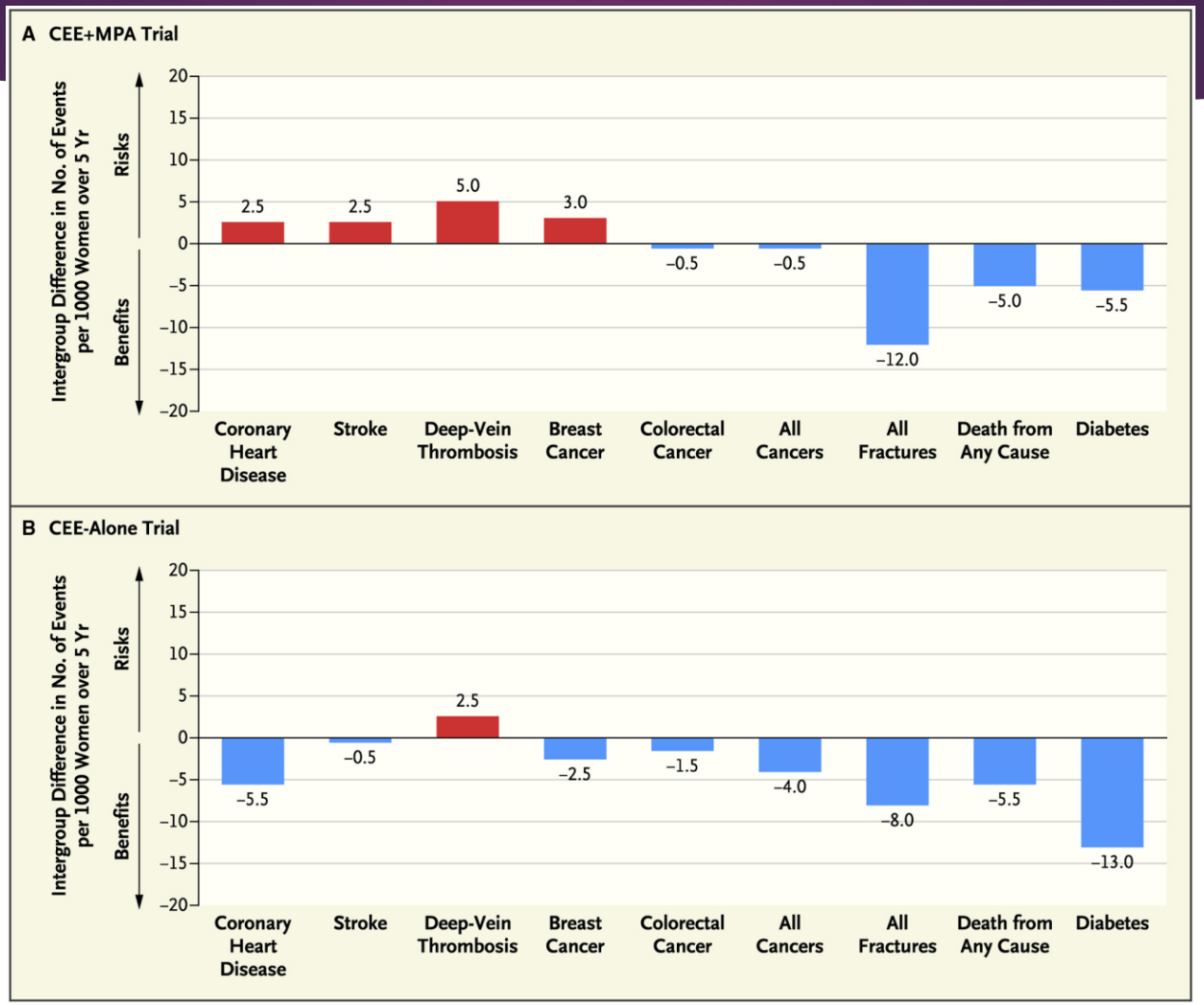
Risks of HRT

- Rare risk of breast cancer with EPT
- Endometrial hyperplasia
- Endometrial cancer with inadequately opposed estrogen
- VTE
- Gall bladder disease

Risks > 5yrs on HRT

CEE + MPA

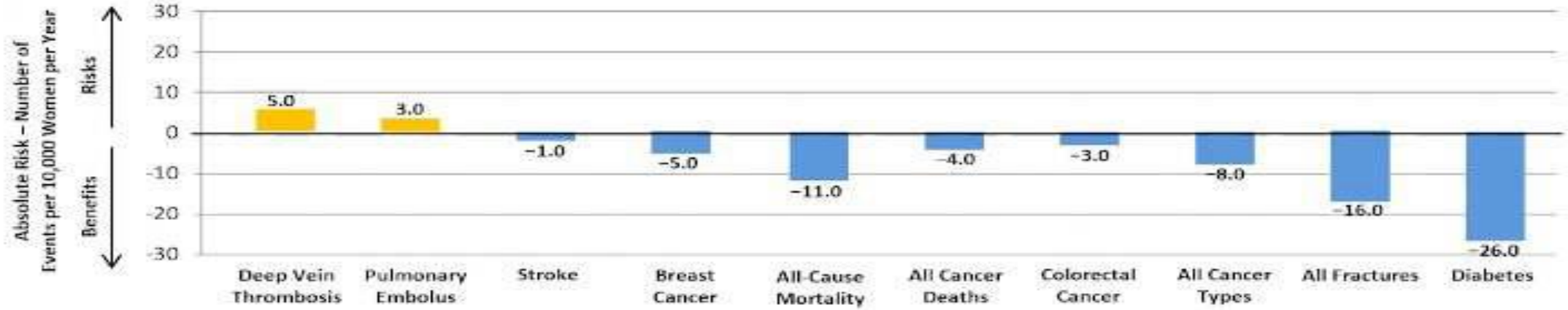
CEE only



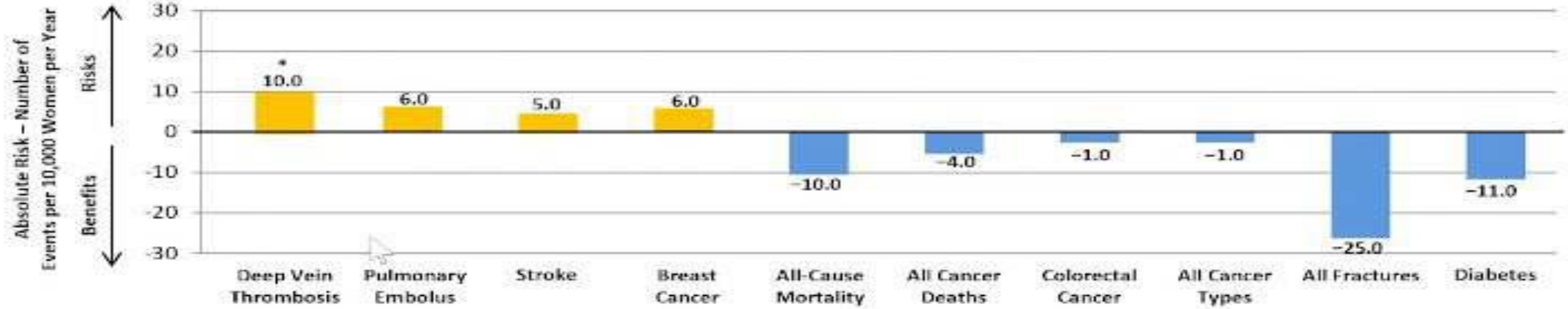
The role of menopausal hormone therapy in women with or at risk of ovarian and breast cancers: Misconceptions and current directions
Sarah M. Temkin MD, Adrianne Mallen MD, Emily Bellavance MD, Lisa Rubinsak MD, Robert M. Wenham MD

Absolute Benefits and Risks from WHI – Initiation of HT in Women 50-59 Years of Age: Number of Events per 10,000 Women per Year

CE Alone Trial



CE + MPA Trial



Common adverse events of HRT

- Nausea
- Bloating
- Weight gain
- Fluid retention
- Mood swings (progesterone related)
- Breakthrough bleeding (Needs evaluation)
- Headaches
- Breast tenderness

Risks of HRT

- Contraindications for oral and transdermal hormone therapy
  - Unexplained vaginal bleeding
  - Liver disease
  - Prior estrogen sensitive cancer (breast, ovarian & uterine)
  - Coronary heart disease
  - Stroke
  - Myocardial infarction
  - Venous thromboembolism
  - Personal history or inherited high risk of thromboembolic disease

How to decide who is/not a candidate

- Important questions
  - History of DVT, PE, MI, CVA
  - History of extensive family history of breast/ovarian cancer
  - History of hypertension*
  - Current or recent history of smoking
  - Migraines or Migraines with Aura

Perimenopause/Menopause Questionnaire

These questions relate to menopause and the time period prior to menopause (known as peri-menopause). We define menopause as beginning after you have had no menstrual cycles for ONE YEAR. Peri-menopause is recognized as the several years prior to menopause and generally lasts from 2-6 years. Most women recognize peri-menopause as the time at which they begin to have irregular periods. You have been given this questionnaire because you have indicated that you are in peri-menopause or are post-menopausal.

1. What was the approximate date of your last menstrual period? _____
2. What age did your menstrual cycles first become irregular? _____
3. What age do you think you entered peri-menopause? _____
4. Are you post-menopausal? (Answer YES, if your last menstrual period was over one year ago? **YES NO**
5. If post-menopausal, what age did you consider yourself post-menopausal? _____
   * write N/A if not applicable
6. What happened that made you think you were in peri-menopause? (Please check all that apply)
   - ( ) Hot flashes
   - ( ) Weight gain
   - ( ) Irregular periods
   - ( ) Shorter, lighter periods
   - ( ) Shorter cycles
   - ( ) Loss of interest in sex
   - ( ) Difficulty Sleeping
   - ( ) Low mood or depression
   - ( ) Decreased ability to concentrate
   - ( ) Irritability
   - ( ) Night sweats
   - ( ) Vaginal dryness
   - ( ) Phantom periods
   - ( ) Heavier periods or flooding
   - ( ) Longer cycles
   - ( ) Changes in hair growth
   - ( ) Mood swings
   - ( ) Easy tearfulness
   - ( ) Memory problems
   - ( ) Incontinence
   - ( ) My doctor informed me that I was menopausal
   - ( ) I felt I was just at that age
   - ( ) Other (please specify) _____
7. Have you received any medical treatment, such as a hysterectomy with both ovaries removed or chemotherapy that caused or precipitated menopause? **YES NO**
   If yes, what treatment did you receive?
   _____
8. Did you or do you currently take hormone replacement therapy (HRT)?
   - ( )YES, I am currently on HRT
   - ( )YES, I have taken HRT but do not currently
   - ( )NO, I do not and have never taken HRT

   If yes, has it alleviated any symptoms? **YES NO**
   What treatments have you tried or currently trying? _____

Perimenopause/Menopause Questionnaire

9. Do you have any current or history of the following cardiovascular risks? (check all that apply)
   - ( ) High blood pressure
   - ( ) High cholesterol
   - ( ) Stroke
   - ( ) Deep Vein Thrombosis
   - ( ) Pulmonary Embolism
   - ( ) Heart Attack
10. When did your mother go through menopause? ____ years old
11. Any personal or family history of seizures? **YES NO**
12. Any personal or family history of breast cancer? **YES NO**
    If yes- who? _____
    Did they have BRCA testing done? **YES NO DON'T KNOW**
13. Do you have any history of migraines? **YES NO**
    If yes, any migraines with visual changes? **YES NO**
14. Do you have any history of liver disease? (Check all that apply)
    - ( ) Elevated liver enzymes
    - ( ) Fatty Liver
    - ( ) Elevated cholesterol
    - ( ) Stenosis
15. Are you are smoker? **YES NO**
16. Are you done having children? **YES NO UNSURE**
17. Do you still have your ovaries? **YES NO**
18. Do you experience pain with intercourse? **YES NO**
19. Do you reach orgasm with intercourse and/or personal stimulation? **YES NO**
20. Do you have any of the following vaginal symptoms (check all that apply)
    - ( ) Burning
    - ( ) Itching
    - ( ) Stinging
    - ( ) Worsening vaginal pain with urination
21. Do you struggle with urinary incontinence? **YES NO**
    If yes, when does this happen? ___ stress (laugh/cough/sneeze) ___urge
22. How much urine do you lose? ____contents of bladder vs ____ drops
23. Anything else I should know? _____

Non-hormonal treatments

Diet Changes

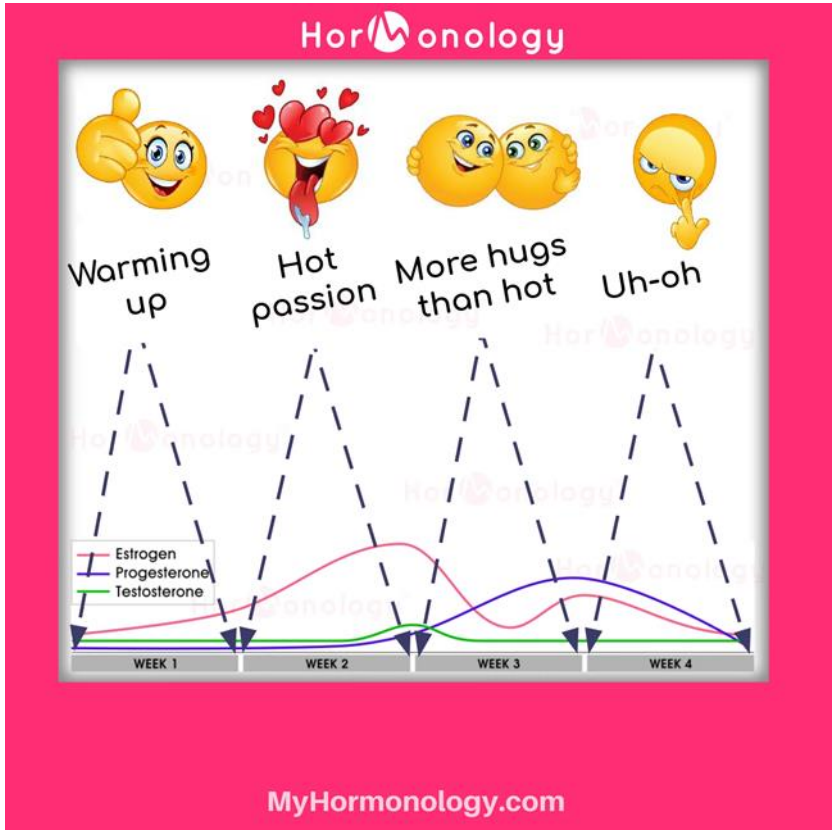
- Gluten
- Diary
- Added Sugars

Vitamin Replacement

- Fish Oil 1000mg daily
- Turmeric 500-1000mg daily
- Vitamin D 3000-5000IU daily
- Vitamin C 1000mg 1-2 times daily
- Sparkle Collagen Peptides
- Probiotic Daily
- fiber 25grams per day
- Folic acid 1mg daily
- Iron 325mg daily
- Vitamin B complex

Non-hormonal treatments

- SSRI/SNRIs
  - Prozac, Sertraline, Lexapro, Venlafaxine
- Gabapentin
- Oxybutynin
- Catapres
- Aspirin EC 81mg



Sexual Health

- Hypoactive Sexual Desire Disorder manifests as *any* of the following for a minimum of six months:
  - Lack of **motivation** for sexual activity manifested by either:
    - Reduced or absent spontaneous desire (sexual thoughts or fantasies)
    - Reduced or absent responsive desire to erotic cues and 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, not secondary to sexual pain disorders
    - AND is combined with **clinically significant personal distress** that includes frustration, grief, incompetence, loss, sadness, sorrow, or worry

HSDD

TABLE 3 **Decreased sexual desire screener**

1. In the past, was your level of sexual desire/interest good and satisfying to you?	○ No	○ Yes	If "No" to Q 1,2,3, or 4 = Not generalized acquired HSDD
2. Has there been a decrease in your level of sexual desire/interest?	○ No	○ Yes	
3. Are you bothered by your decreased level of sexual desire/interest?	○ No	○ Yes	
4. Would you like your level of sexual desire/interest to increase?	○ No	○ Yes	If "Yes" to all Q 1–4 and "No" to all Q 5 factors = clinician to use best judgement to confirm a diagnosis of generalized acquired HSDD
5. Please check all the factors that you feel may be contributing to your current decrease in sexual desire/interest:			
A. An operation, depression, injuries, or other medical condition	○ No	○ Yes	
B. Medications, drugs or alcohol you are currently taking	○ No	○ Yes	
C. Pregnancy, recent childbirth, menopausal symptoms	○ No	○ Yes	If "Yes" to all 1–4 and "Yes" to any Q 5 factor = clinician to use best judgement to determine diagnosis
D. Other sexual issues you may have (pain, decreased arousal, orgasm)	○ No	○ Yes	
F. Dissatisfaction with your relationship or partner	○ No	○ Yes	
G. Stress or fatigue	○ No	○ Yes	

[a]Co-morbid conditions such as arousal orgasmic disorder do not rule out a concurrent diagnosis of hypoactive sexual desire disorder.

Abbreviations: HSDD, hypoactive sexual desire disorder.

HSDD

- Treatment with Testosterone
  - Postmenopausal women with HSDD
  - Women should not receive testosterone therapy if they have signs of clinical androgen excess (ie, acne, hirsutism, androgenic alopecia) or are using an antiandrogenic medication (eg, finasteride, dutasteride)
- Birth control pills increases your SBGH which lowers your testosterone. This therefore lowers your libido

HSDD hormonal treatment

For _____

Address _____ Date _____

℞

Testosterone 1% gel (tubes only)
Apply pea size to calf daily
Dispense 30 tubes (no sachets)
Refill 0

REFILL _____ TIMES _____, M.D.

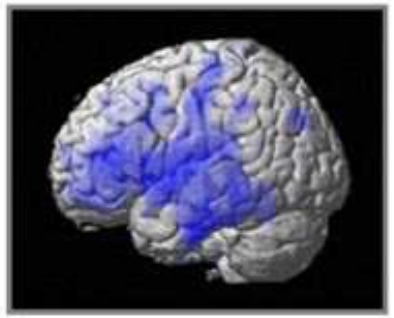
DEA NO. _____ Address _____

Tips:

- Data is for postmenopausal HSDD
- Use a pea size on calf daily:
- Each tube should last 10 days
- Goodrx coupon: $140 for 10 month supply
- May takes a few months to notice benefit
- Side effects: oily skin, acne

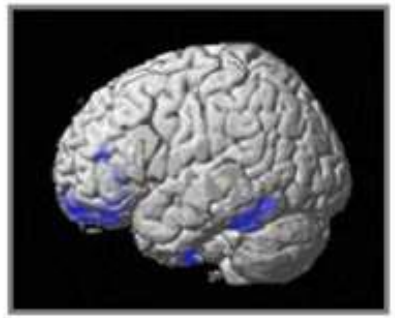
HSDD non-hormonal treatment

- Flibanserin
- Bremelanotide
- Off label: bupropion, buspar



A. Healthy female PET scan

Neuroimaging studies comparing premenopausal women with and without HSDD reveals differences in brain activity patterns when shown erotic stimuli[a,b,c,d,e]



B. HSDD female PET scan

For women with HSDD their prefrontal cortex is unable to deactivate, frustrating their ability to feel sexual desire

Flibanserin - Addyi

- Acts on serotonin to boost DA and NE
- Take it at bed time, it will make you sleepy
- Use online pharmacies to get lowest price
- PhilRx - cash price is $199/ 3 month supply
- Side effects: dizziness, somnolence, nausea
- Works in 60% who take it
- Stop alcohol 2 hours before taking the med

It takes 2-3 months for it to start working

It is not just a libido drug it is also good for desire, arousal, lubrication, orgasm and decreases pain.

When it works it works really well.

> 21% lost 5-10% of their bodyweight

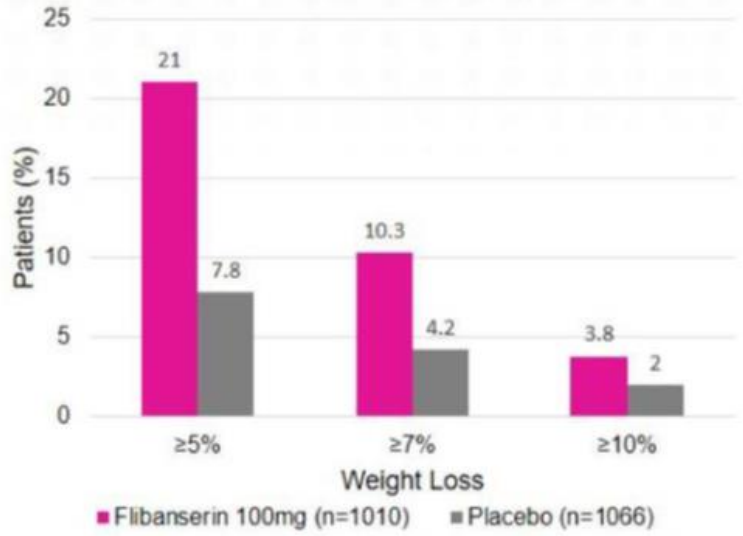
Flibanserin - Addyi

Post Hoc Analysis of Effect on Weight

addyi (flibanserin) 100mg tablets

Post Hoc Analysis of Pooled Data from 3 Clinical Trials in Premenopausal Women with HSDD

Proportion of Patients with ≥5-10% Weight Loss at 24 Weeks



- Mean baseline weight was 73kg
- Weight gain ≥7% at 24 weeks occurred in 1.8% women receiving flibanserin and 3.4% women receiving placebo
- Higher baseline BMI was associated with greater weight loss.
- No association seen between effect on weight and treatment response, contraceptive use, smoking status, SSRI/SNRI use, or occurrence of nausea
- Body weight was measured to assess weight loss and weight gain as potential adverse events
- Study was not designed to evaluate weight loss. Patients were not selected based on obesity status nor did they enter the studies with the goal of losing weight.

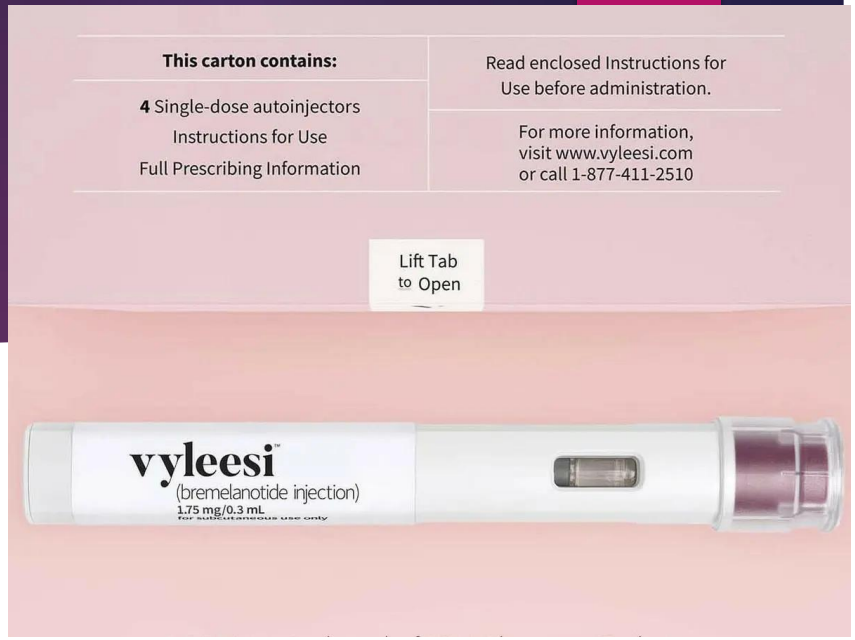
Addyi is not indicated for weight loss

Komstein SG, et al. *J Women's Health*. 2017;26(11):1161-1168.

SSRI = Selective serotonin reuptake inhibitor; SNRI = Serotonin norepinephrine reuptake inhibitor

See Indication and Important Safety Information on slides 22-26 , including BOXED WARNING regarding hypotension and syncope in certain settings, and Full Prescribing Information and Medication Guide provided during presentation.

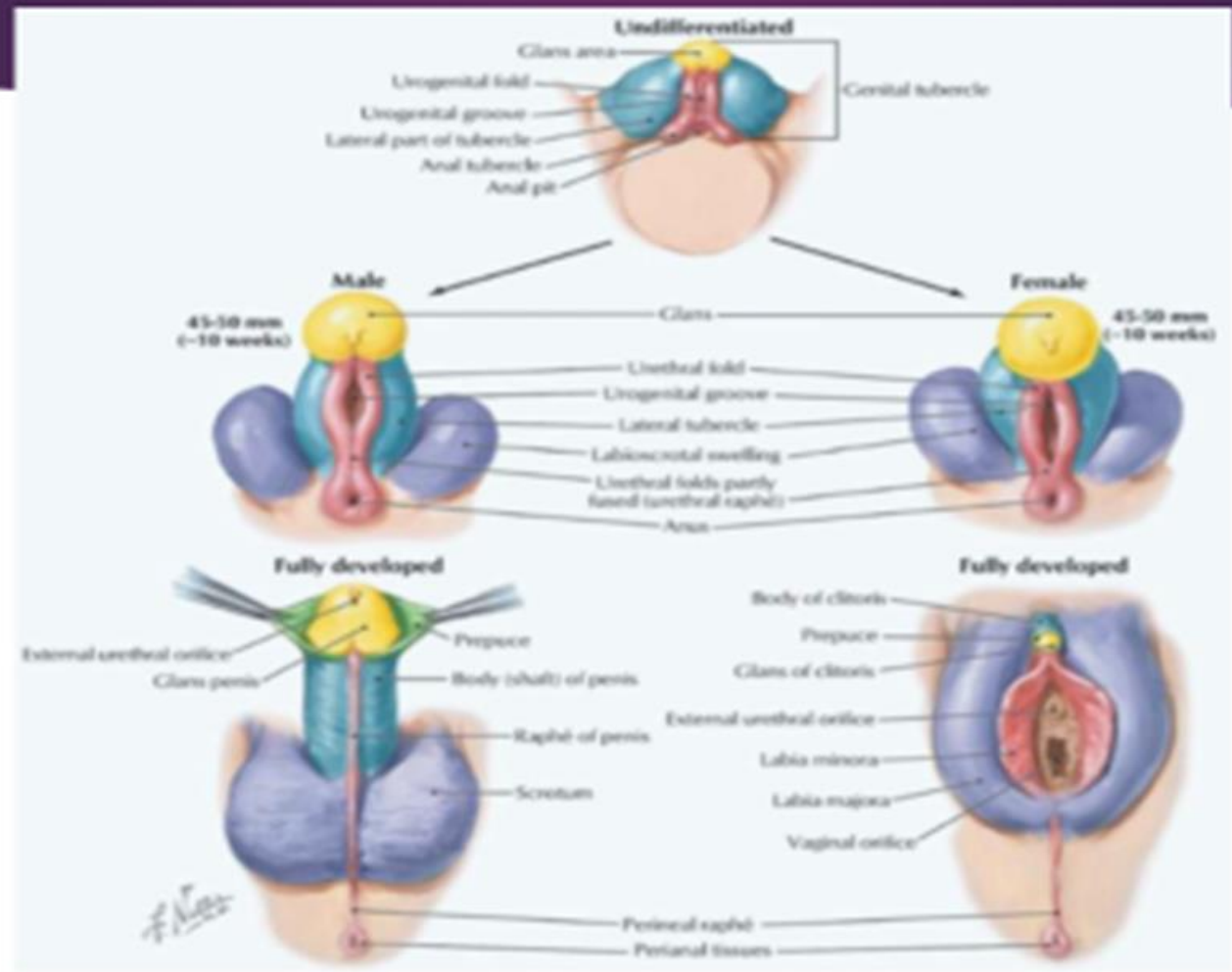
Bremelanotide



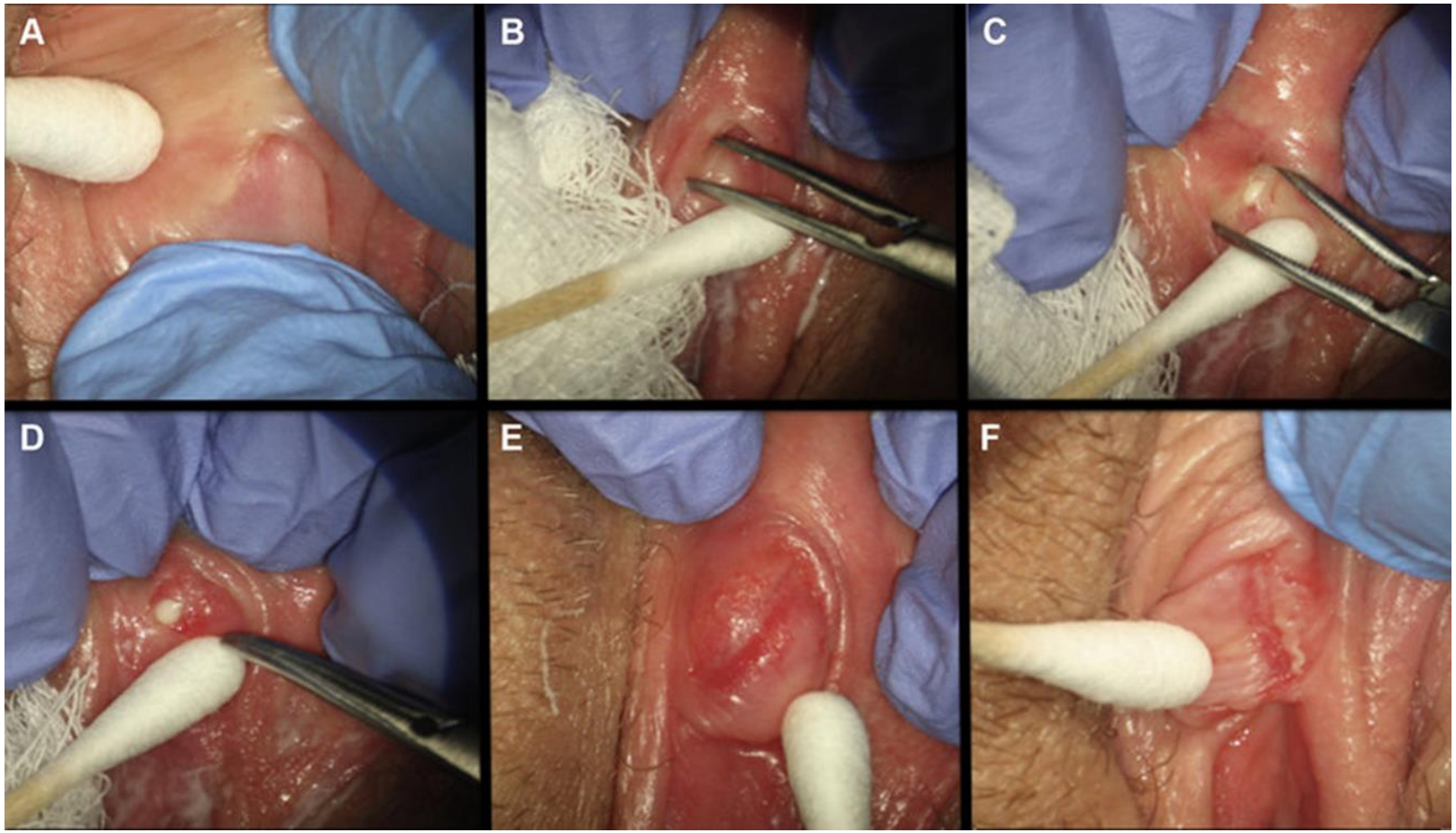
- Melanocortin 4 receptor agonist - Boosts dopamine
- Inject at least 45 min prior to wanting to want
- Use online pharmacies to get lowest price
- Online pharmacy KnipperRx cash price is $99/4 tubes
- Don't inject more than 8 times per month or more than 1x in 24h
- Side effect nausea, flushing
- Avoid in uncontrolled HTN

HSDD - off label

- Wellbutrin and Buspar
- Localized estrogen therapy


Undifferentiated
Glans area
Urogenital fold
Urogenital groove
Lateral part of tubercle
Anal tubercle
Anal pit
Genital tubercle
Male
45-50 mm
(~10 weeks)
Female
45-50 mm
(~10 weeks)
Glans
Urethral fold
Urogenital groove
Lateral tubercle
Labioscrotal swelling
Urethral folds partly
fused (urethral raphé)
Anus
Fully developed
Fully developed
External urethral orifice
Glans penis
Prepuce
Body (shaft) of penis
Raphé of penis
Scrotum
Body of clitoris
Prepuce
Glans of clitoris
External urethral orifice
Labia minora
Labia majora
Vaginal orifice
Perineal raphé
Perianal tissues

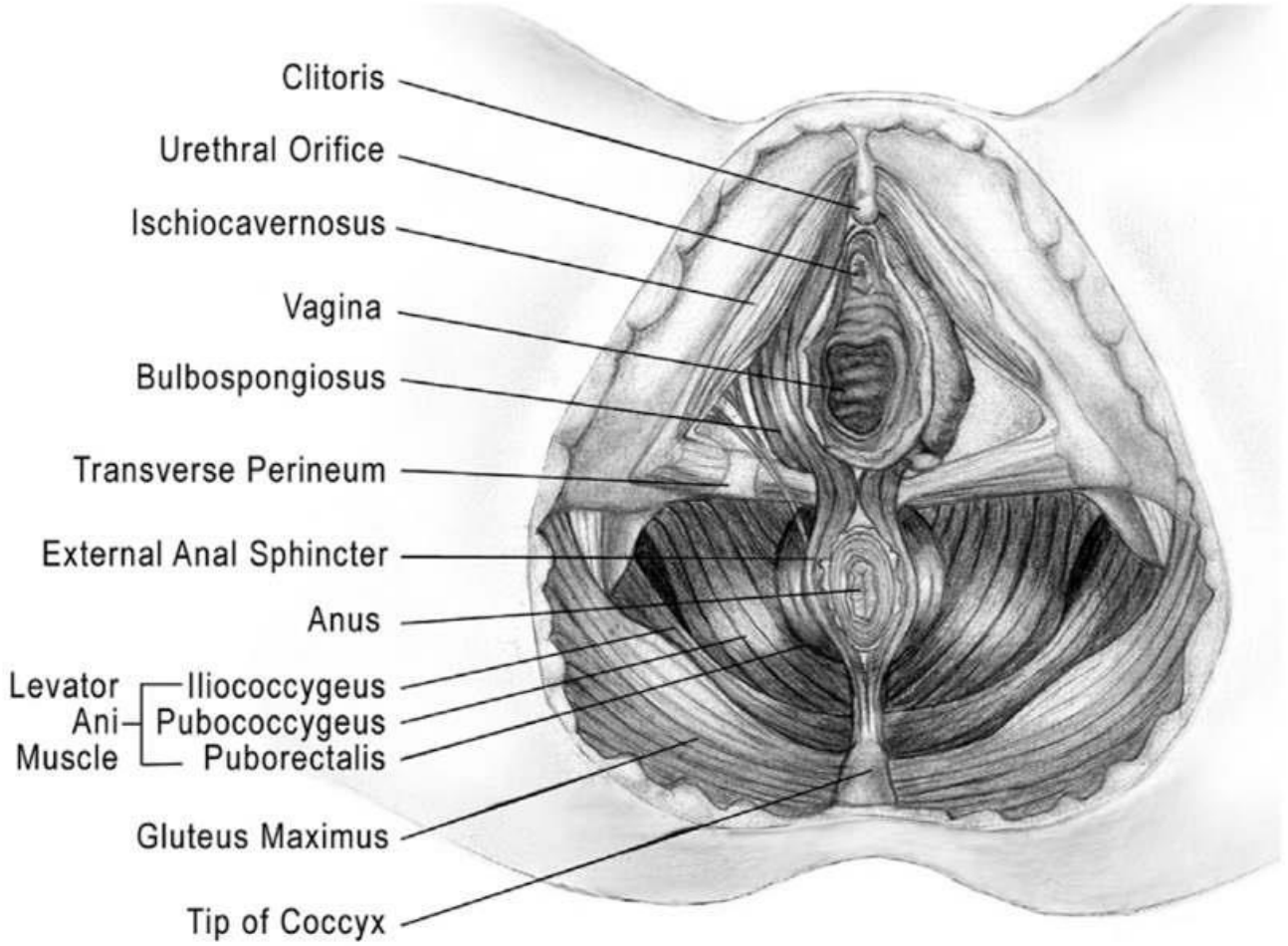
Labial Adhesions – estrogen and surgical



Pelvic floor dysfunction/Vulvodynia

- Pain in the posterior vestibule (5-7 o clock)
- Get a pelvic floor physical therapist on speed dial
- Dilator and manual therapy
- Suppositories: diazepam, baclofen
- Trigger point injections: anesthetic, steroid, botulinum toxin

Pelvic floor dysfunction



Putting it all together

- Perimenopause and menopause assessment and treatment is comprehensive and usually take a full hour appointment
- Education helps patients to understand why they feel the way they do
- Refer, refer, refer!

Questions?