

Cases from the Women's Health Clinic

AKA Hormones are our Friends and Osteoporosis updates

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Disclosures

No Financial Disclosures

Off Label Use of Medications

Brand Names will be noted**

Objectives

Practical tips for Menopause Hormone Therapy

Discussion of use of Testosterone in HSDD

Simple Osteoporosis Pathway



What is the Internal Medicine Residency Women's Health Clinic?

Case 1

- 51yo F with pmhx of obesity (BMI 33) on metformin (500mg XR qd), depression (on bupropion 300mg qday) presents to talk about getting her "hormones checked"
- Vitals: BP: 136/85, HR 77 wt 197#
- Last Pap: 3 years ago 'normal'
- Last years labs: A1c 5.8, LDL 135

What do you do?

- A. Ask her to schedule with someone else / refer out
- B. Ask her if she wants to start estrogen and progesterone
- C. Tell her she is not a candidate for MHT (Menopause Hormone Therapy) due to her elevated cardiovascular risk
- D. Take a thorough history, order additional blood work that may help with the evaluation and discuss options for MHT

Internal Medicine Women's Clinic History

Smartphrase

Current Symptoms

Menstrual History (even if postmenopausal)

of Pregnancies and type of deliveries

Hx of Pre-eclampsia or diabetes in pregnancy

Prior Treatments or Hormones

Current and prior contraceptive methods

GAIL Model (or Breast Cancer Risk tool)

PREVENT Score

Sexual History (Libido, dyspareunia, if not currently active, using toys?)

Urinary Symptoms

What is their goal?

Most challenging symptoms?

- Hot Flashes and Night Sweats?
- Libido
- Energy, brain fog, and 'not feeling like myself?'
- Sleep disturbances
- Vaginal dryness or pain with intercourse
- Bladder

Case 1 Cont'd

- Frustrated with weight gain over the last 3 years
- Menses are still regular, sometimes shorter (21 days)
- Husband has a vasectomy
- Mammogram normal, Low/avg risk Gail Model
- Very tired, fatigued, not sleeping well

Next Steps

- I order labs!
- Lipid Panel, A1c, consider additional CVD risk stratification labs
- CBC and iron profile
- TSH with reflex
- Hormones? (not yet, and counseled on why)

Do the work up!

Perimenopause transition is rough

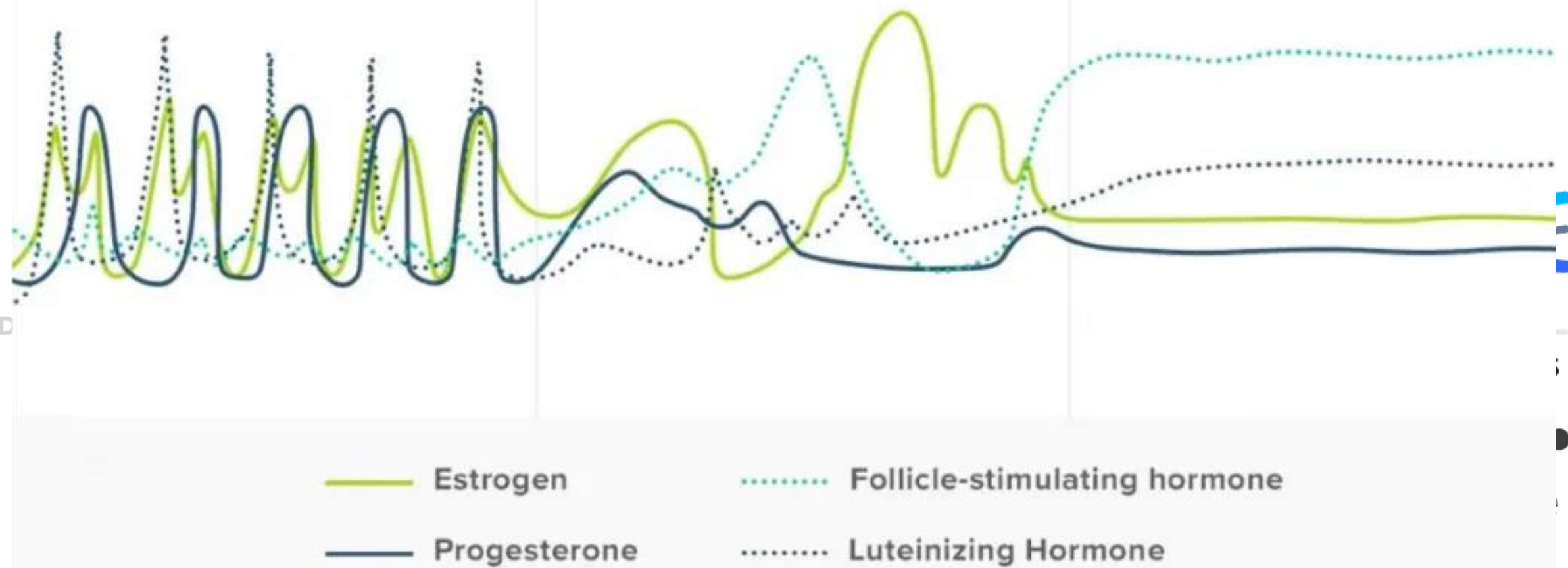
Do not wait until they are "in menopause" to consider hormone therapy

Discuss the impact on their menstrual cycle / bleeding pattern if you start

Premenopause

Perimenopause

Postmenopause



What we did

- Offered GLP-1 for weight loss
- Referral for Sleep Study
- Treated Iron Def w/o Anemia
- Discussed the role of HRT- she may benefit from symptom relief, she wanted to wait
- Did not check her hormone levels

Case 1 6 months later

Returns to clinic with frequent breaks in menses (has 2-3 regular then skips up to 3 months)

Some VMS esp in those off months

Worsening sleep (had sleep study, got an appliance)-mostly insomnia

Weight is down but not at goal (still titrating meds)

Ready to start hormone therapy

Where Do I Start?

Formulation	Ultra Low Dose	Low Dose	Average Dose	Upper Limit
Estradiol Patch (ie Vivelle Dot* - Twice weekly or Climara* once weekly)	0.014mg (Menostar* Osteoporosis prevention)	0.025mg	0.0375 or 0.05 mg	0.075 or 0.1mg

Formulation	Cyclic	Continuous	Benefits
Micronized Progesterone	200-300 mg for 12-14 days month	100mg nightly	Gaba Receptor / Sleep
Norethindrone	0.5 – 1 mg	0.5 – 1mg	
MPA	5 - 10mg	1.5 –2.5mg	
Progesterone IUD**		Off Label in USA	Dual Contraceptive
Drospirinone**	0.25 - 1mg	24 active/4 inactive	antiandrogenic effects, potentially watch K

** Off Label Uses

Perimenopause Hormone Therapy

Because the menopause transition is marked by hormone instability, providing consistent sex steroid levels can result in multisystem symptom relief

Continuous-Combined Hormone Contraceptives

- May be used up to the time of menopause, barring no contraindications

- Use the lowest dose that alleviates symptoms

52-mg Levonorgestrel Intrauterine Device Plus Estrogen Therapy

- Intrauterine device not FDA approved for this indication (5y only)

- Nonoral routes recommended (patches, gels, or vaginal rings)

Menopause Hormone Therapy (MHT)

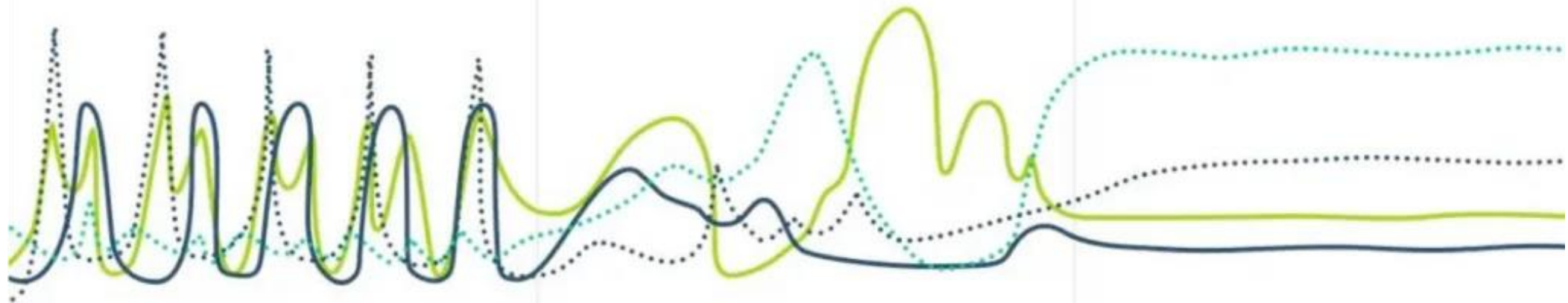
- Do not provide contraception

- May result in nuisance breakthrough bleeding

Premenopause

Perimenopause

Postmenopause



— Estrogen

— Progesterone

..... Follicle-stimulating hormone

..... Luteinizing Hormone

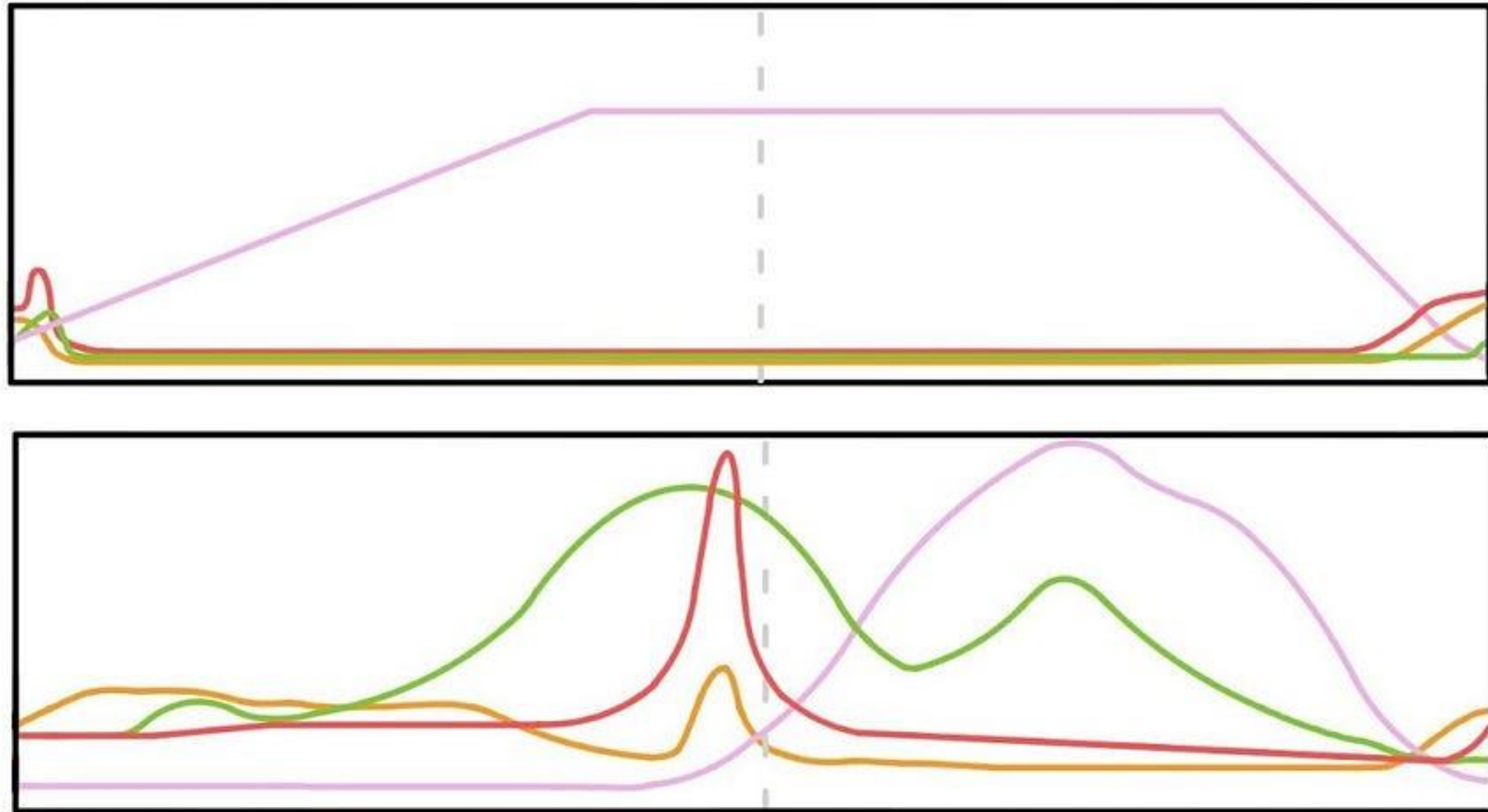
Follicular phase Ovulation Luteal phase

FSH

LH

Estrogen

Progesterone



FDA Approval and the Menopause Society Guidelines

Moderate to severe vasomotor symptoms

Prevention of osteoporosis

Early or premature menopause

- Indirect benefits may improve sleep, mood, fatigue, concentration, and overall quality of life
- Timing hypothesis: initiate in symptomatic persons aged younger than 60 years within 10 years of the onset of menopause

Menopause Society: Hormone Therapy Contraindications

- Active or history of Breast Cancer
- Congestive heart failure
- VTE
- Stroke or TIA
- Active liver disease or cirrhosis
- High risk endometrial cancer
- Unexplained vaginal bleeding

Pro Tips

- Very early menopause symptoms with irregular, annoying bleeding = COC
- Later transition or IUD add a patch (start average dose (0.0375 or 0.05mg)
- Estrogen Patch >> Oral Therapy
- Combined patch: Estradiol/Norethindrone (0.05mg / 0.14mg)
- Consider nonhormonal options (Fezolinetant)

Just start somewhere

- Twice weekly patches vs Weekly
- Average vs Low Doses
- Discuss progesterone options with patient pick based on sx profile
- Follow up

Learning the hard way

- Some women want to start at a low dose and go up
- Some are miserable and its reasonable to start at average or high and go down as tolerated
- Regular follow up recommended (I start with a 6-8 week follow up)
- Discuss "Patch Maintenance"

Case 2 "I have no idea where I'm at"

- 46yo, BMI 21, had Total Hyst (Left one ovary) for Endometriosis at age 35
- Mood, sleep issues, minimal VMS
- Decreased Libido
- Vaginal Dryness

What would you do?

- A. Diagnose menopause based on clinical presentation
- B. Order labs
- C. Start Estrogen patch

Internal Medicine Womens Clinic

Case 2 cont'd

1. Ordered Labs
2. FSH, LH, and Estradiol
3. Testosterone

Early Menopause vs POI

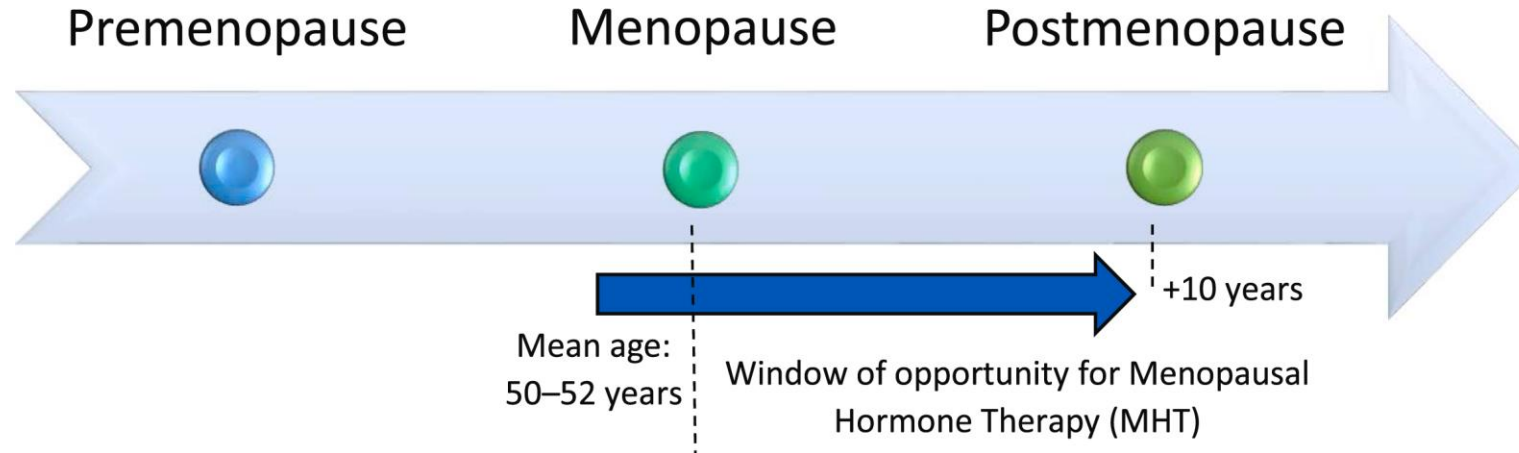
- Women with a history of oophorectomy often go through menopause earlier age than counterparts
- Average age of Menopause is 53 in USA
- Hormones can be helpful to clarify the diagnosis

Early Menopause or POI

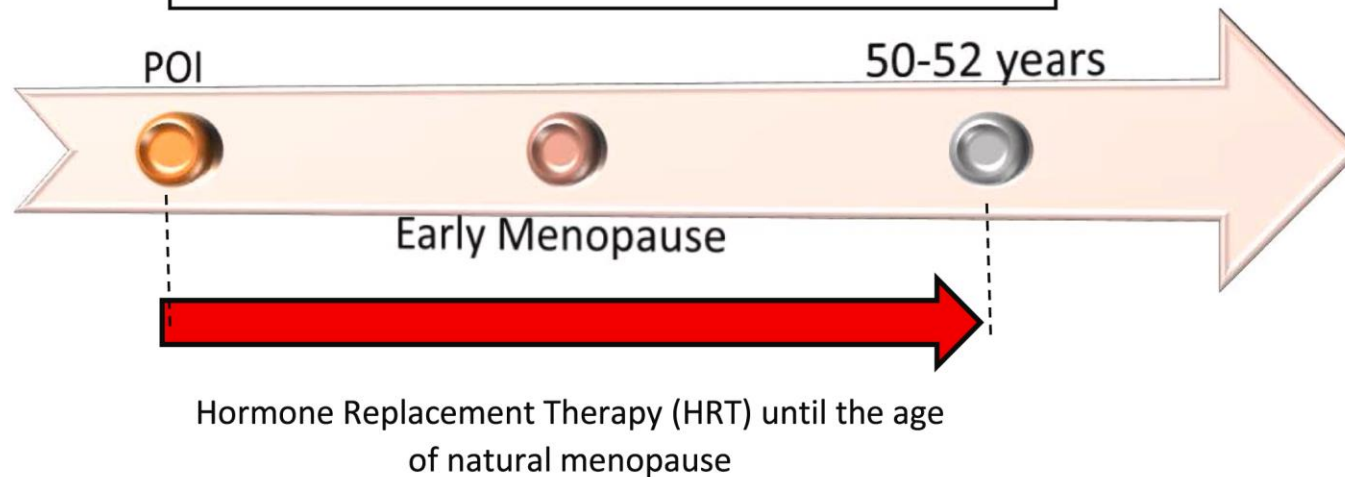
- Start high—near close to premenopausal physiological levels for improvement in symptoms (0.1mg)
- Even if minimal sx consider treatment (unless contraindicated)

Formulation	Ultra Low Dose	Low Dose	Average Dose	Higher Dose
Estradiol Patch (ie Vivelle Dot* - Twice weekly or Climara* once weekly)	0.014mg (Osteoporosis prevention)	0.025mg	0.0375 or 0.05 mg	0.075 or 0.1mg ~COC equivalent to 10mcgEE to 20mcgEE

Menopause after the age of 45 years



Menopause before the age of 45 years



A Note on Cancer Survivors

- Consider of Hormone Receptor Status and risk of recurrence
- Early risk-reducing bilateral salpingoophorectomy improves breast cancer-specific survival in BRCA carriers, especially those with BRCA1 mutations and triple-negative breast cancer

Case 3

- 67yo F with multiple medical comorbidities and polypharmacy including CAD, MAFLD, PTSD, peripheral neuropathy presents with concerns about 'sex'

Case 3 What would you do?

- A. Tell her there is not any safe options for libido management for her age
- B. Offer her topical estrogen therapy
- C. Do a hormone panel
- D. Perform a pelvic exam

"No one talks about this"

Very few providers ask about libido, desire, and sex

Many women tell me they heard "its normal"

Not sure of treatment options

Psychosocial constructs

Women's Health Clinic Note Template

- Genitourinary Syndrome of Menopause (Vaginal atrophy)
- Pelvic Floor Dysfunction
- History of pelvic surgery with vaginal cuff
- Undertreated mood disorders
- Urinary concerns

Women's Health Clinic Note Template

- Always do an exam
- Discuss findings and offer treatment for GSM (very common)
- No progesterone for uterine protection needed

Hormonal Options	Estradiol Vaginal Ring: Estring	Estradiol Vaginal Suppository: Imvexxy* or Vagifem*	Vaginal Cream: Estradiol (Estrace*) or EE (Premarin*)	Vaginal DHEA: Interosa*	SERM Oral Ospemifine
Pros	3m placement, well tolerated	Less Messy: tablet vs gel suppository	\$ Most affordable Mark Cuban, titratable	Not estrogen, aromatized at the cellular level	Oral
Cons	\$\$\$ / not well covered	Requires maintenance	Messy, requires regular use	\$\$\$	\$\$\$

The Role of Testosterone

- How does testosterone impact women's libido?
- What is a 'normal' level in post menopausal women?
- What are contraindications to use?
- Define HSDD (hyposexual desire disorder) vs dyspareunia

Menopause Society Practice Pearl

Check Baseline levels and use a reliable lab Total T (LC/MS)

Goal to premenopausal levels

Helps with r/o PCOS or hyperandrogen disorders

Get informed consent

Not covered/Not FDA approved

1/10th of a 1% Male tube or packet on thigh

Check in 3 weeks (or less) and every 3 mo until stable then 6m

Case 3 What Happened

Exam: GSM noted, treated with topical estrogen therapy

Patient returned after 3 months of treatment and no change in libido, but improvement in pain

Started T therapy → Improvement within 4 weeks

Baseline T: 6 → 20 with therapy

No adverse side effects

Case 4: I don't want to break a hip like my mom

58yo F with hx of PMR treated with steroids for 13 months (<5mg for 6 months), wants to know about her DEXA

DEXA Score

Hip: T -1.9

Femoral Neck: -2.1

Lumbar Spine: -1.2

FRAX: 3% Hip Fracture and 15% All fracture Risk

Case 4 What would you do

- A. Diagnose Osteopenia and refer to balance training, start Vit D, and recommend follow up DEXA in 2 years
- B. Diagnose Osteoporosis based on FRAX score and start therapy
- C. Refer to Endocrinology

Define Osteoporosis

Disparities in diagnosis and treatment

Fragility Fracture (standing height)

DEXA T Score -2.5 or worse

DEXA T Score -1.0 to -2.5 with an increased FRAX score: 3% Hip;
20% Major

Very High Risk = T Score -3.0 or multiple risk factors

TABLE 1

Causes of Secondary Osteoporosis

Conditions, disorders, and diseases	Medications
AIDS or HIV	Antiepileptic drugs (e.g., carbamazepine, phenobarbital, phenytoin, primidone [Mysoline])
Anorexia nervosa	Antiretroviral drugs
Diabetes mellitus (types 1 and 2)	Aromatase inhibitors
Diminished ovarian reserve	Cancer chemotherapeutic agents
Gastric bypass	Depot medroxyprogesterone acetate*
Hyperparathyroidism	Glucocorticoids
Hypocalcemia	Gonadotropin-releasing hormone agonists
Premature menopause (induced or surgical)	Gonadotropin-releasing hormone antagonists
Primary ovarian insufficiency	Heparin
Renal impairment	
Rheumatoid arthritis	
Turner syndrome	
Vitamin D deficiency	

Note: This is not intended to be an all-inclusive list of causes of secondary osteoporosis.

*—Although the use of depot medroxyprogesterone acetate is associated with loss of bone mineral density, available evidence suggests that decreases in bone density appear to be substantially or fully reversible after discontinuation.

Secondary Work Up and Evaluation

- 1.PTH
- 2.TSH
- 3.Celiac Panel
- 4.Urinary Calcium
- 5.?SPEP
- 6.Vitamin D

Stepwise Approach

Step 1. Are they at high or very high risk? (ie need anabolic therapy)

- Very low T score
- Multiple comorbidities
- Fragility Fracture young age

Step 2. Are they willing to start therapy?

Step 3. Are they willing to commit to the time and cost?

Step 4. Are they willing to start a bisphosphonate?

Step 5. Are they willing to work on lifestyle factors?

What goes into FRAX

- Age, Sex, Weight, and ethnicity (white, black, Hispanic and Asian)
- Previous fracture (spontaneous or fragility)
- Smoking
- Steroid use: 3m at a dosage of prednisolone 2:5 mg/d, or equivalent dose of other glucocorticoids
- Rheumatoid Arthritis**
- Alcohol use (2-3 u/ day)

High Risk → Anabolic therapy first

Category	Drug Name/ Formulatoion	Indication	Duration	Adverse Effects
Parathyroid Hormone Analog	Abaloparatide (Tymlos*; SC) daily Teriparatide (Forteo*; SC) daily	Initial Treatment for High Risk Or On antiresorptive therapy who continue to fracture Or Have persistent bone loss	Use for up to two years during lifetime	Possible increased risk of osteosarcoma if used more than two years in lifetime
Sclerostin-binding analog	Romosozumab (Evenity; SC) monthly	Very High Risk patients with <u>No prior CVD or not at High Risk for CVD</u> Or Other treatments ineffective	Use up to 1 year	FDA: Do not use in CVD event in last year May increase riskn

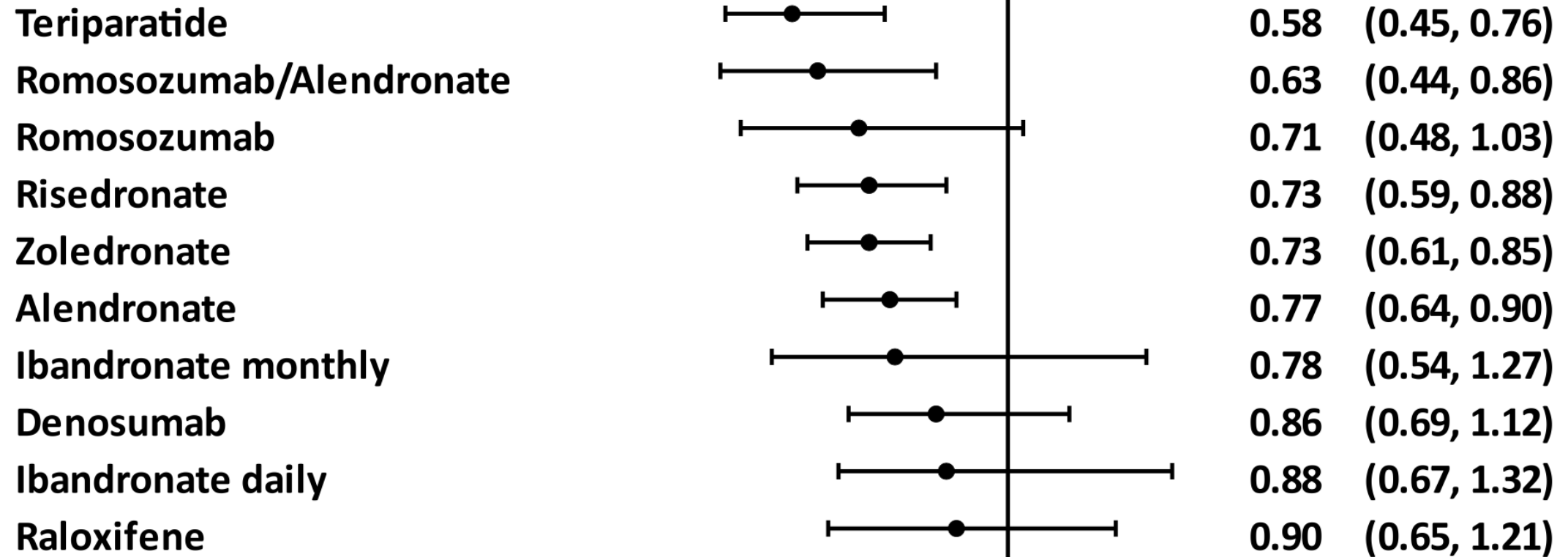
SC = Subcutaneous

Category	Drugs	Indications	Duration	Adverse Effects
Bisphosphonate	Alendronate (Oral) daily or weekly Zoledronic Acid (IV) yearly	Preferred initial treatment for moderate to high risk Following anabolic or denosumab	High Risk: 10y Oral 6y IV Or Not High Risk: 5y Oral 3y IV	GERD--?CA Atypical Femur Fracture Osteonecrosis of the jaw MSK
Targeted monoclonal receptor activator or nfkb inhibitor	Denosumab SC (q6m)	Unable to tolerate bisphosphantes CKD stage 3 or higher	Studied up to 10y of tx	Atypical Femur fracture Osteonecrosis of the jaw

Vertebral

		HR	(95% CrI)
Teriparatide		0.23	(0.16, 0.32)
Romosozumab/Alendronate		0.25	(0.15, 0.43)
Romosozumab		0.27	(0.13, 0.52)
Denosumab		0.30	(0.21, 0.43)
Zoledronate		0.40	(0.29, 0.55)
Ibandronate daily		0.48	(0.33, 0.71)
Ibandronate monthly		0.48	(0.26, 0.90)
Alendronate		0.50	(0.40, 0.64)
Risedronate		0.52	(0.42, 0.65)
Raloxifene		0.61	(0.44, 0.80)

Non-vertebral



0.0 0.5 1 1.5

Always chase anabolic therapy with bisphosphonate

With 1-2 years of anabolic therapy, repeat DEXA

Start bisphosphonate therapy (IV preferred)

Consider checking bone markers if oral therapy to ensure compliance

Consider their kidney function now (limits use of zoledronic acid)

Denosumab (Prolia q6m) also needs an exit strategy

Lifestyle Factors

- Limit/Abstain from Alcohol
- Balance and weight bearing/strength training
- Replete Vit D if <20
- Eat calcium rich food
- Normal BMI

Stepwise Approach

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Key Take Home Points

Develop or steal 'dot' phrase for Women's Health Hx and Counseling/Consent for treatments

Star/Find common estrogen patches and strengths for hormone therapy with oral progesterone options

Know how to use testosterone in postmenopausal women safely

Find patients who are at very high risk osteoporotic risk and start anabolic therapy

References

- Lemos, M. J., Queiroz, L. F., Diniz, A. F., Longo da Silva, C. M., dos Santos, P. L., de Oliveira Gomide, P., Ferraz, J. M., & De Marco Novellino, A. M. (2026). Intravaginal dehydroepiandrosterone for the treatment of vulvovaginal atrophy: a systematic review and meta-analysis. *Menopause*, 33(7), 852–858. <https://doi-org.offcampus.lib.washington.edu/10.1097/GME.0000000000002736>
- Glynne S, Simon J, Branson A, Payne S, Newson L, Manyonda I, Cleator S, Douek M, Usiskin S, Tobias JS, Vaidya JS. Menopausal hormone therapy for breast cancer patients: what is the current evidence? *Menopause*. 2026 Jan 1;33(1):88-117. doi: 10.1097/GME.0000000000002627. PMID: 41025376; PMCID: PMC12727074.
- Dakkak M, Banerjee M, White L. Osteoporosis Treatment: Updated Guidelines From ACOG. *Am Fam Physician*. 2023 Jul;108(1):100-104. PMID: 37440727.
- Pauline M. Camacho, Steven M. Petak, Neil Binkley, Dima L. Diab, Leslie S. Eldeiry, Azeez Farooki, Steven T. Harris, Daniel L. Hurley, Jennifer Kelly, E. Michael Lewiecki, Rachel Pessah-Pollack, Michael McClung, Sunil J. Wimalawansa, Nelson B. Watts,
- American Association of Clinical Endocrinologists/American College of Endocrinology Clinical Practice Guidelines for the Diagnosis and Treatment of Postmenopausal Osteoporosis—2020 Update, *Endocrine Practice*, Volume 26, Supplement 1, 2020, Pages 1-46, ISSN 1530-891X, [https://doi.org/10.4158/GL-2020-0524SUPPL.\(https://www.sciencedirect.com/science/article/pii/S1530891X20428277\)](https://doi.org/10.4158/GL-2020-0524SUPPL.(https://www.sciencedirect.com/science/article/pii/S1530891X20428277))
- Armeni E, Paschou SA, Goulis DG, Lambrinoudaki I. Hormone therapy regimens for managing the menopause and premature ovarian insufficiency. *Best Pract Res Clin Endocrinol Metab*. 2021 Dec;35(6):101561. doi: 10.1016/j.beem.2021.101561. Epub 2021 Jun 30. PMID: 34274232.
- Bass M MD, MA, Kasper RE MD, MPH, MSCP. Menopause Management: When Hormone Therapy Is Appropriate. *Am Fam Physician*. 2026 Feb;113(2):115-117. PMID: 41839097.
- Yeganeh L, Giri R, Flanagan M ...**Evidence-based guideline: Premature Ovarian Insufficiency**† Fertility and Sterility, 2024; 123, 221-236