

WOMEN'S HEALTH CONCERNS

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Gynecologic Issues and Ehlers-Danlos Syndrome/Hypermobility

- EDS is associated with a higher frequency of some common gynecologic problems.
- EDS is associated with some rare gynecologic disorders.
- Pubertal maturation can worsen symptoms associated with EDS.

Gynecologic Issues and Ehlers Danlos Syndrome/Hypermobility

- Menstruation
 - Menorrhagia
 - Dysmenorrhea
 - Abnormal menstrual cycle
- Dyspareunia
- Vulvar Disorders
- Pelvic Organ Prolapse

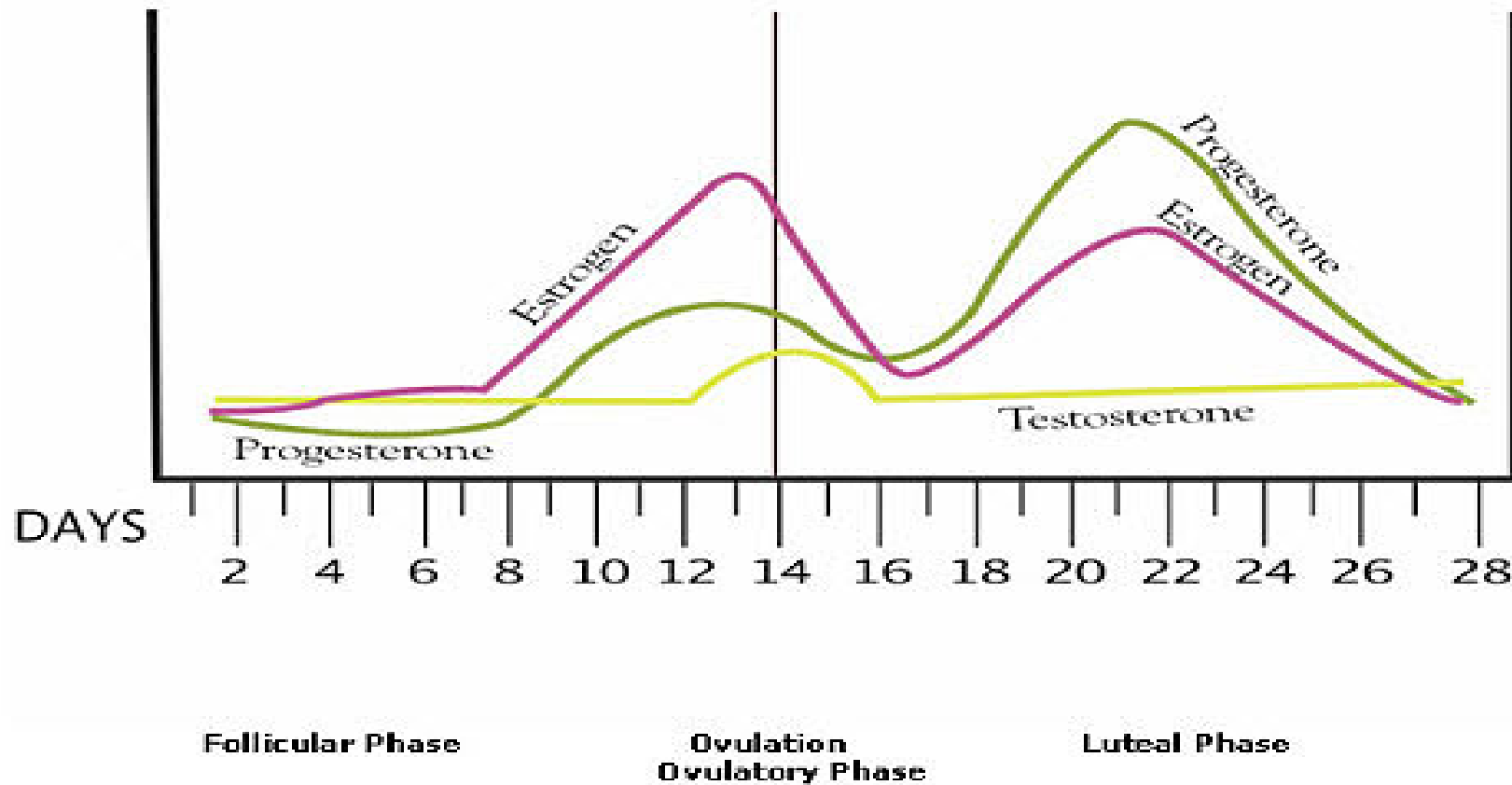
Puberty and EDS

- Symptoms of EDS can become worse with puberty, or can begin at puberty
- Hugon-Rodin 2016 series of 386 women with hypermobile type EDS.
 - 52% who had prepubertal EDS symptoms (chronic pain, fatigue) became worse with puberty.
 - 17% developed symptoms of EDS with puberty

Hormones and EDS

- Conflicting data on effects of hormones on connective tissue, joint laxity, and tendons
 - Estriol decreases the formation of collagen in tendons following exercise
 - Joint laxity increases during pregnancy
- Studies (Non EDS)
 - Heitz: Increased ACL laxity in luteal phase
 - Park: Increased knee laxity during ovulation in some, but no difference in hormone levels among all (N=26)

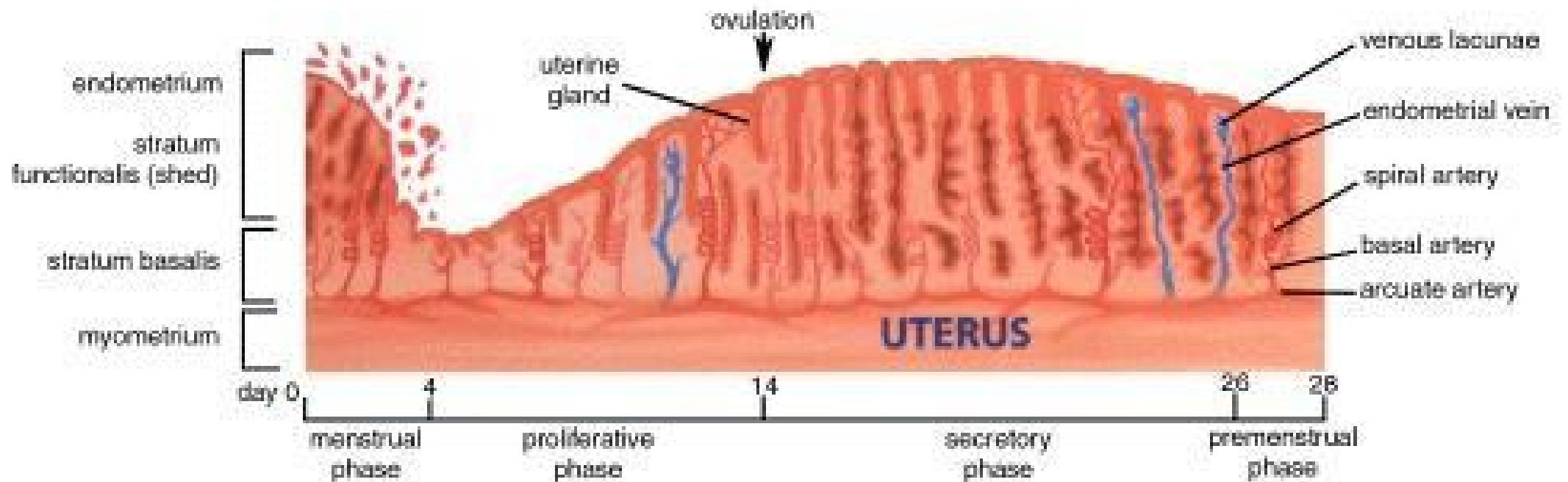
Menstrual Cycle Hormonal Changes



GYN Issues EDS/HDS:Menorrhagia

- **Menorrhagia** – heavy menstrual bleeding 33-75%, worst in vEDS
 - Weakness in capillaries and perivascular connective tissue
 - Abnormal interaction between Von Willebrand factor, platelets and collagen

Menstrual cycle : Endometrium



UTERINE CYCLE

Throughout the fertile period of a woman's life hormonal changes control cyclical changes to the reproductive organs. Every month, an egg is released from the ovaries and the endometrium thickens in readiness to accept it - if it is fertilised. If conception does not take place, then this uterine lining is discarded and a menstrual bleed occurs.

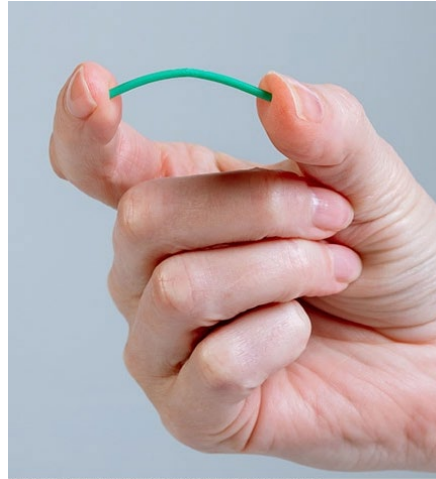


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HORMONAL CONTRACEPTIVE OPTIONS

GYN Menorrhagia: Hormonal Treatment

- Oral Contraceptive Pill
- Progesterone only medication
 - Progesterone pill: Norethindrone
 - Progesterone long acting injection: Depo Provera
- Long Acting Implant: Etonorgestrel
- IUD with progesterone

Hormonal treatment for Menorrhagia

- Hernandez and Dietrich, EDS adolescent population in menorrhagia clinic
- 9/26 fine with first line hormonal medication, often progesterone only pill
- 15/26 required 2 or more different medications until found effective one.
- Daily compliance with P or OCP an issue for some
- Goal amenorrhea, achieved by 70% at 2 years

GYN Bleeding: Hormonal Treatment EDS

- Hugon-Rodin, large series, adults
 - EDS symptoms improved:
 - 15% on OCP
 - 25% on progesterone only medication
 - Already had cyclic worsening of EDS each perimenstrual period:
 - 25% worse on OCP
 - 15% improved on OCP

GYN Menorrhagia Nonhormonal Treatment: Tranexamic Acid

- : Antifibrinolytic
- Prevents breakdown of clots(inhibiting clot-dissolving enzymes)
- Taken during first 5 days of menstrual cycle
- Good option for women with migraines with aura
- Venous thromboembolic disease rarely reported, theoretical concern

GYN Menorrhagia Nonhormonal Treatment: Vitamin C

- Vitamin C can reduce blood vessel fragility
- Acts on the lining (endothelial cells) integrity
- Cofactor in crosslinking of collagen fibers
- Like all water soluble vitamins, need to take a steady dose

Abnormal Uterine bleeding: Other

- Intermenstrual bleeding
 - More common in vascular EDS
 - Hormonal therapy after ruling out pathogenic etiologies
- Irregular menses
 - Reported in about 30% EDS females, both adolescent and adult
 - Polycystic Ovary Syndrome in some

GYN Issues EDS/HDS:Dysmenorrhea

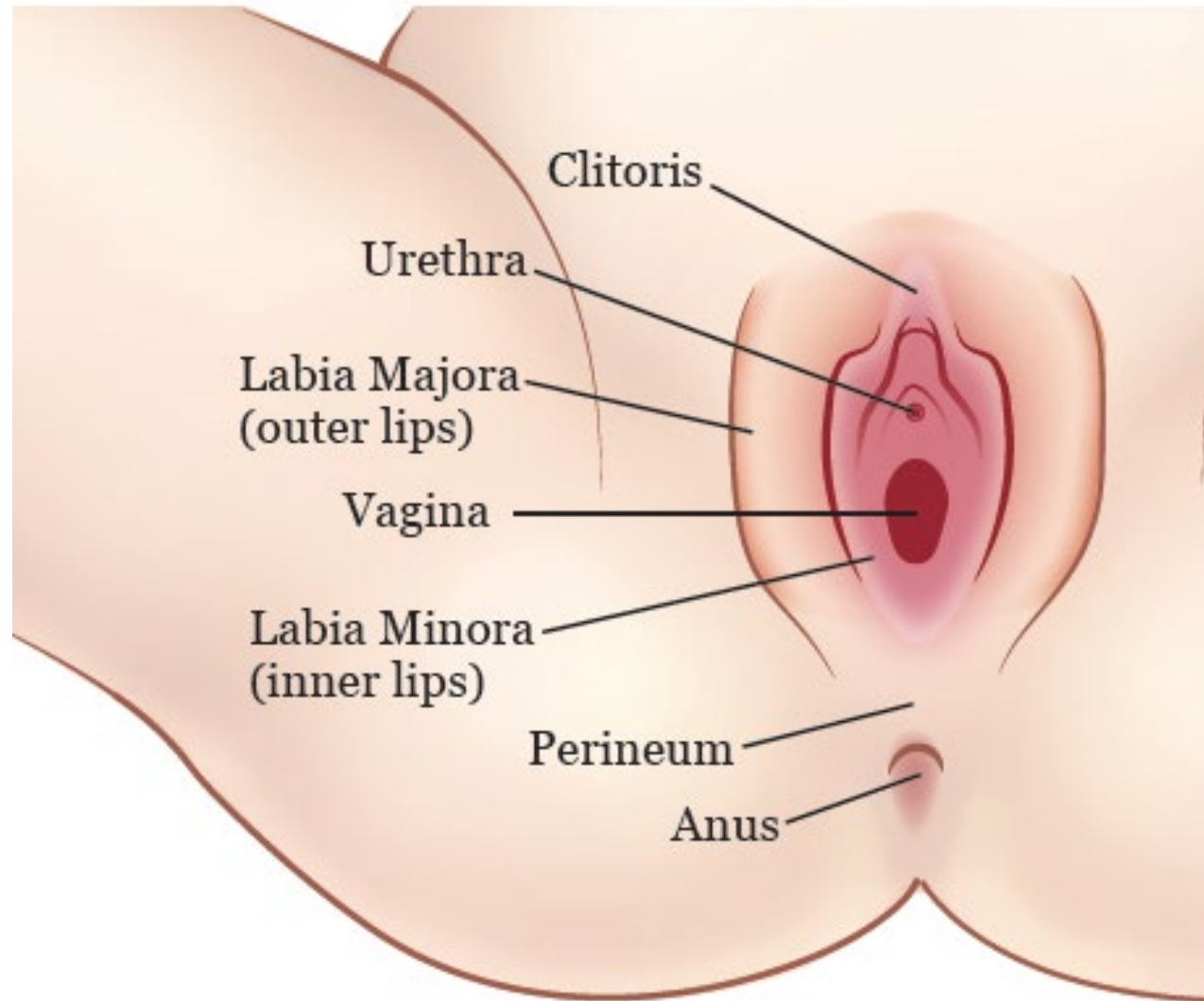
- **Dysmenorrhea** – painful menses 73-93%
- Usually caused by increased prostaglandin release
- Made in lining of uterus, cause muscles and blood vessels of uterus to contract

Dysmenorrhea Treatment

- **NSAID** – non-steroidal anti-inflammatory drug, target prostaglandins
- Works best if start at very onset of menses
- Can help with nausea, diarrhea
- Alternative treatment options include **Vitamin B1, 100mg, Vitamin B6, magnesium supplements, acupuncture**

Dyspareunia

- Painful sexual intercourse
- Reported in 30-61% of sexually active women with EDS.
- Castori observed only seen in women who had dysmenorrhea, 31% in his series
- Etiologies include
 - Vaginal dryness
 - Fragile tissue, with spontaneous skin fissures or tearing after intercourse
 - Vulvar edema
 - Vulvodynia



FEMALE EXTERNAL GENITALIA

Vulvodynia

- Vulvodynia: chronic pain /discomfort of the vulva for which no obvious etiology can be found.
- Incidence 32-77%. Always have a history of dysmenorrhea
- Etiology- peripheral sensitization of the vulva or generalized urogenital, pelvic and/or central nerve nervous sensitivity

Vulvar Edema

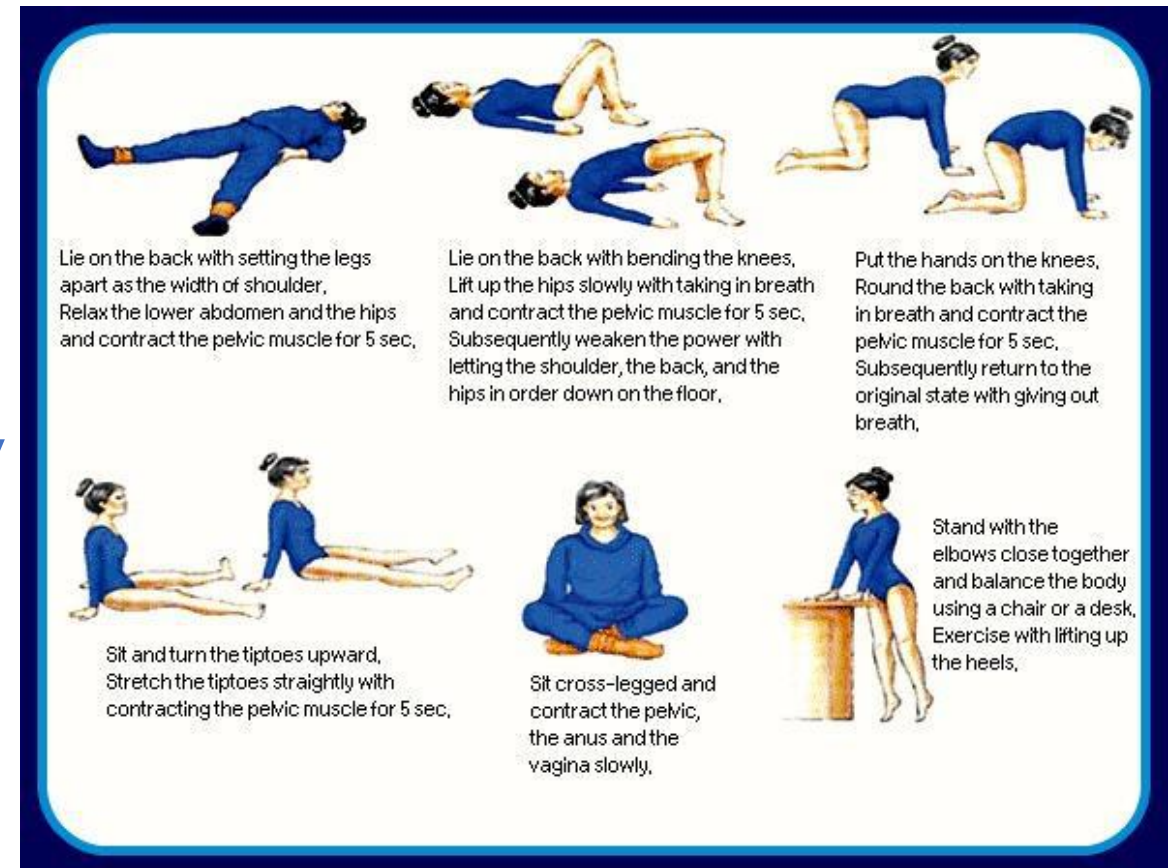
- Swelling of the vulva
- May be persistent, or occur with/after intercourse
- Etiologies in EDS
 - Vasocongestion, due to laxity of blood vessel walls
 - Venous insufficiency, resulting in pooling of blood.

Persistent genital arousal syndrome

- Intrusive genital arousal
 - unrelated to sexual desire
 - unrelieved by orgasm
 - Painful in 30%
- During sexual arousal, blood flow to genitalia increases, leading to genital vasocongestion
- Persistent genital arousal syndrome may be associated with systemic vasocongestion secondary to laxity of blood vessels

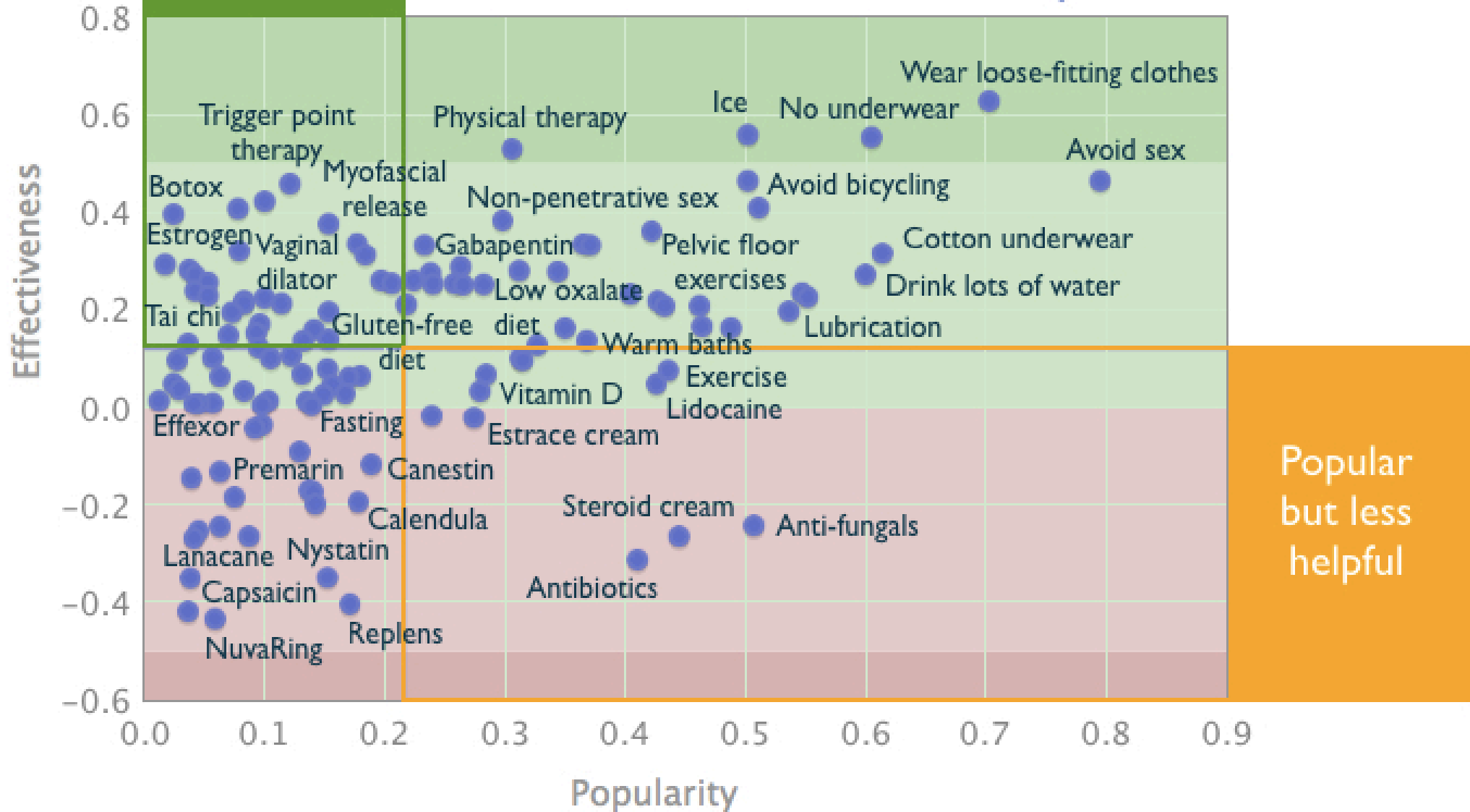
Vulvar disorders/Dyspareunia: Treatment

- Skin care
- Physical therapy
- Psychotherapy
- Cognitive behavior therapy
- Exercises: Kegel/reverse Kegel
- Medications





120 Treatments for Vulvodynia



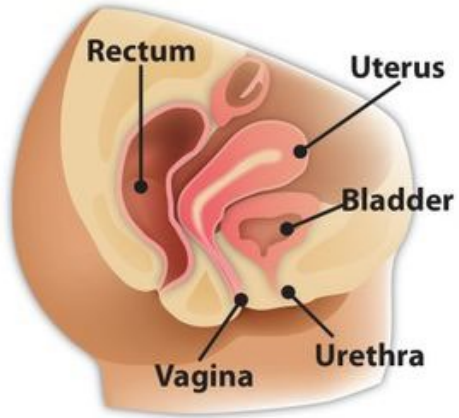
Medications for vulvar disorders

- Gabapentin- treats neuropathic pain
- Benzodiazepines- less sensitive to stimulation (GABA brain receptors)
- TCA-Tricyclic antidepressants, increase norepinephrine and serotonin
- SSRI-Serotonin (“feel good”) reuptake inhibitor, increases levels in brain

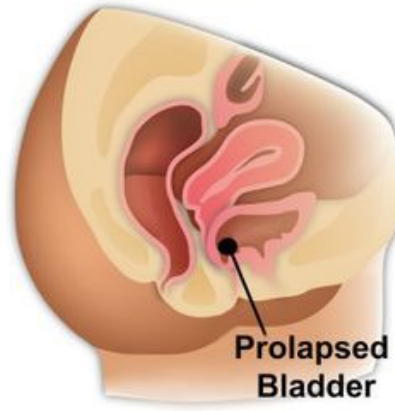
Pelvic Organ Prolapse

- Can involve bladder, uterus, rectum, or any combination of these.
- Can occur at all ages, typically post pubertal
- Need to keep in mind if vaginal mass seen, even in nulliparous women
- More common after childbirth
 - One study did not show increased risk after childbirth when compared with control population.

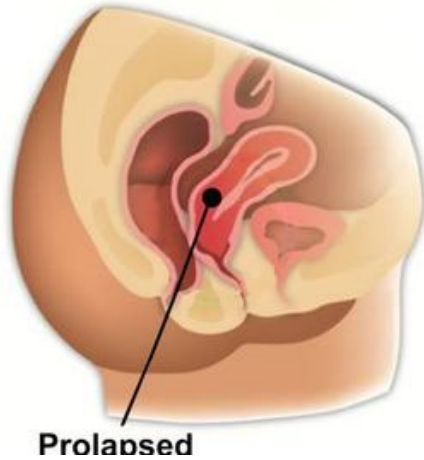
Female Pelvic Anatomy



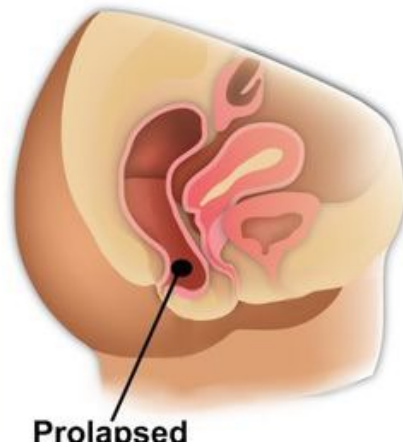
Cystocele



Uterine Prolapse



Rectocele



PELVIC ORGAN PROLAPSE

Other Gyn issues

- **Endometriosis** 6%-23%
- **Uterine myomas** 5-9%
- **Infertility** Wide range reported for hEDS:
Majority show no difference from general population, up to 48%

Menopause

- Improvement of EDS symptoms in 22%
- HRT used in 42%
 - 15% of these women founded symptoms improved.



**NEXT
YEAR....**
