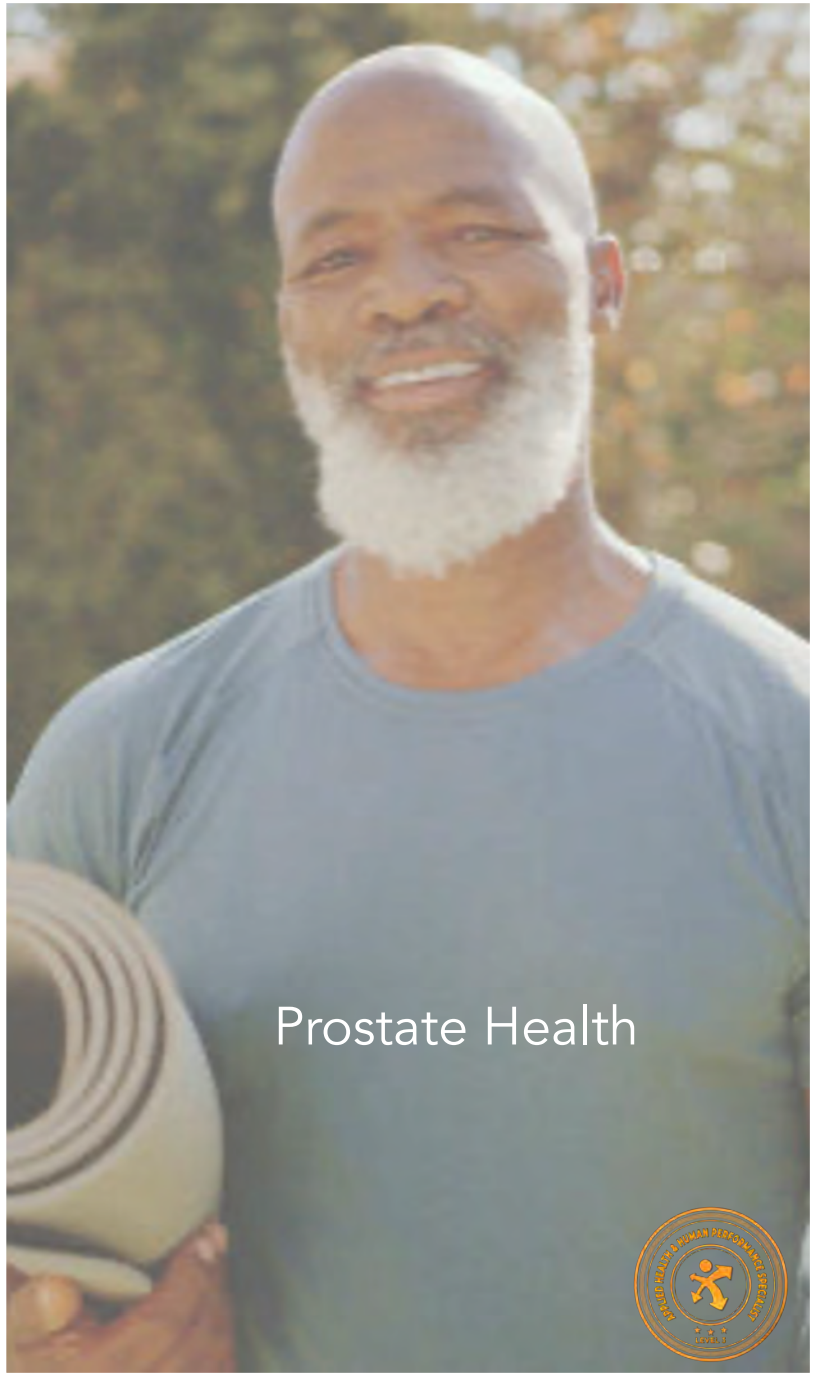
Welcome!

AHHPS L3 Webinar


“Low Tech” Ways to Manage Premenstrual Syndrome (PMS)/ Menstrual Cycle Symptoms


“Low Tech” Ways to Manage Perimenopause/Menopause Symptoms


Prostate Health


17 Minutes
"Low Tech" Ways to Manage
Premenstrual Syndrome
(PMS) / Menstrual Cycle Symptoms


17 Minutes
"Low Tech" Ways to Manage
Perimenopause/Menopause

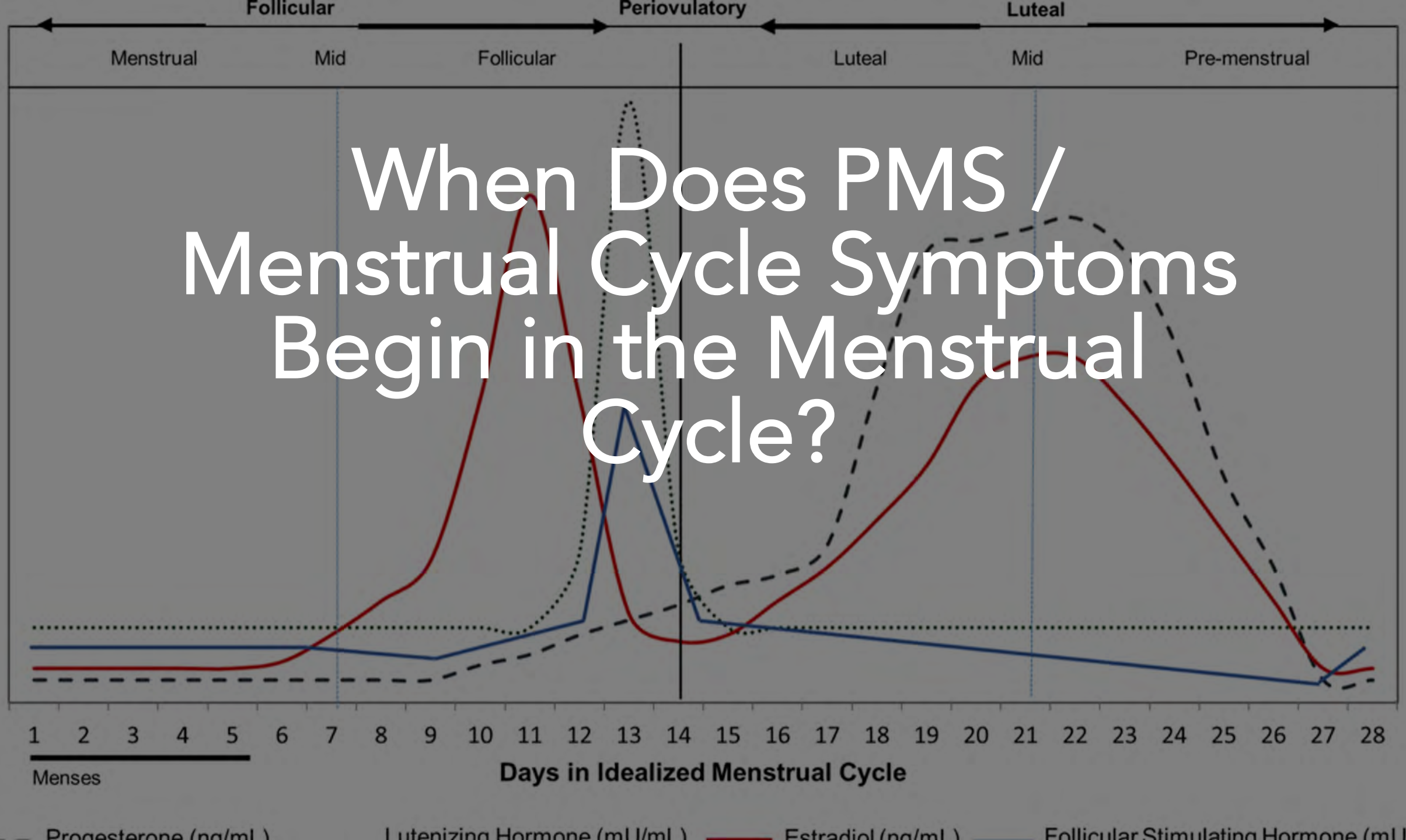

17 Minutes
Prostate Health


9 Minutes
Questions

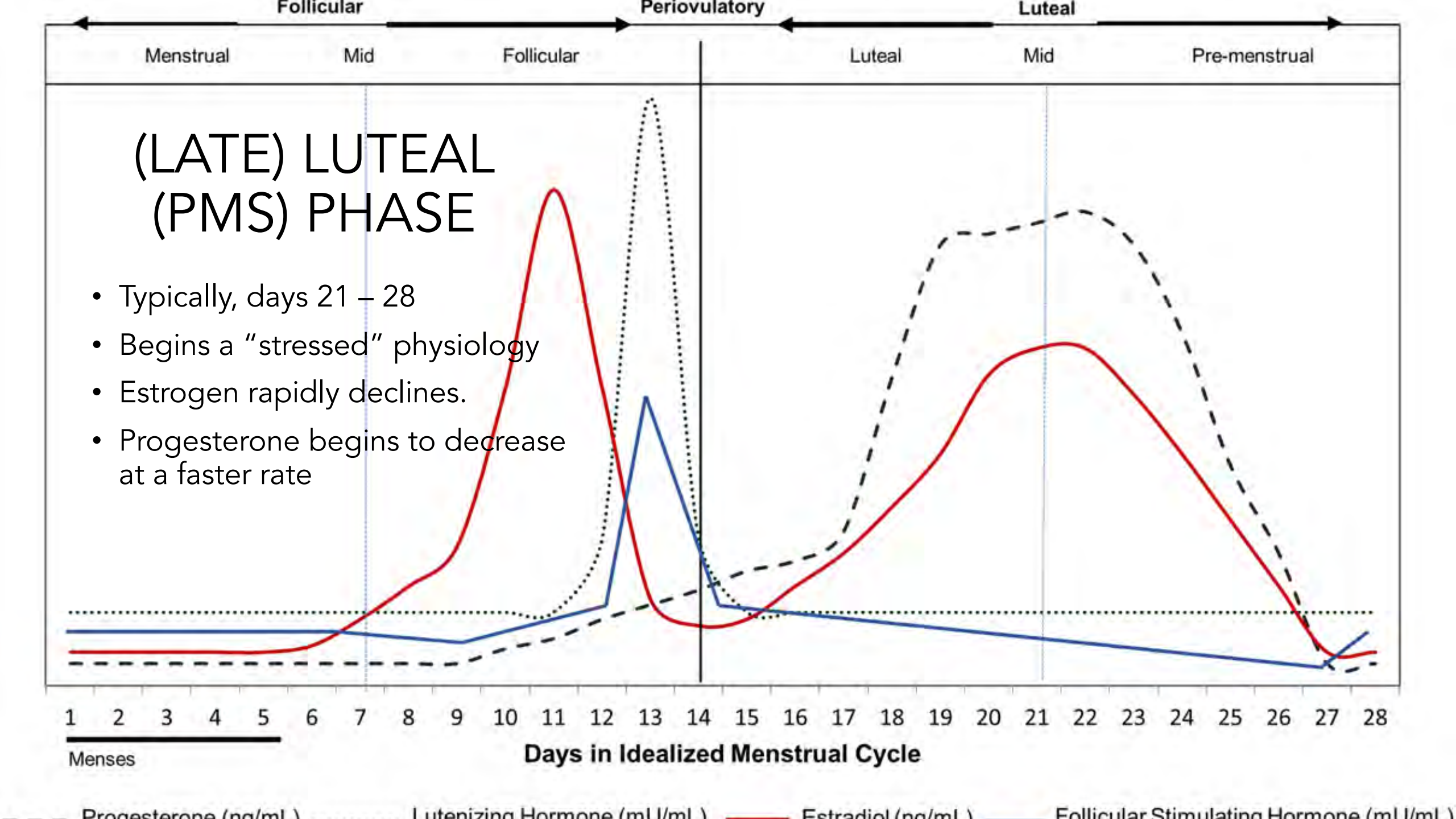
“Low Tech” Ways to Manage Premenstrual Syndrome (PMS)/Menstrual Cycle Symptoms

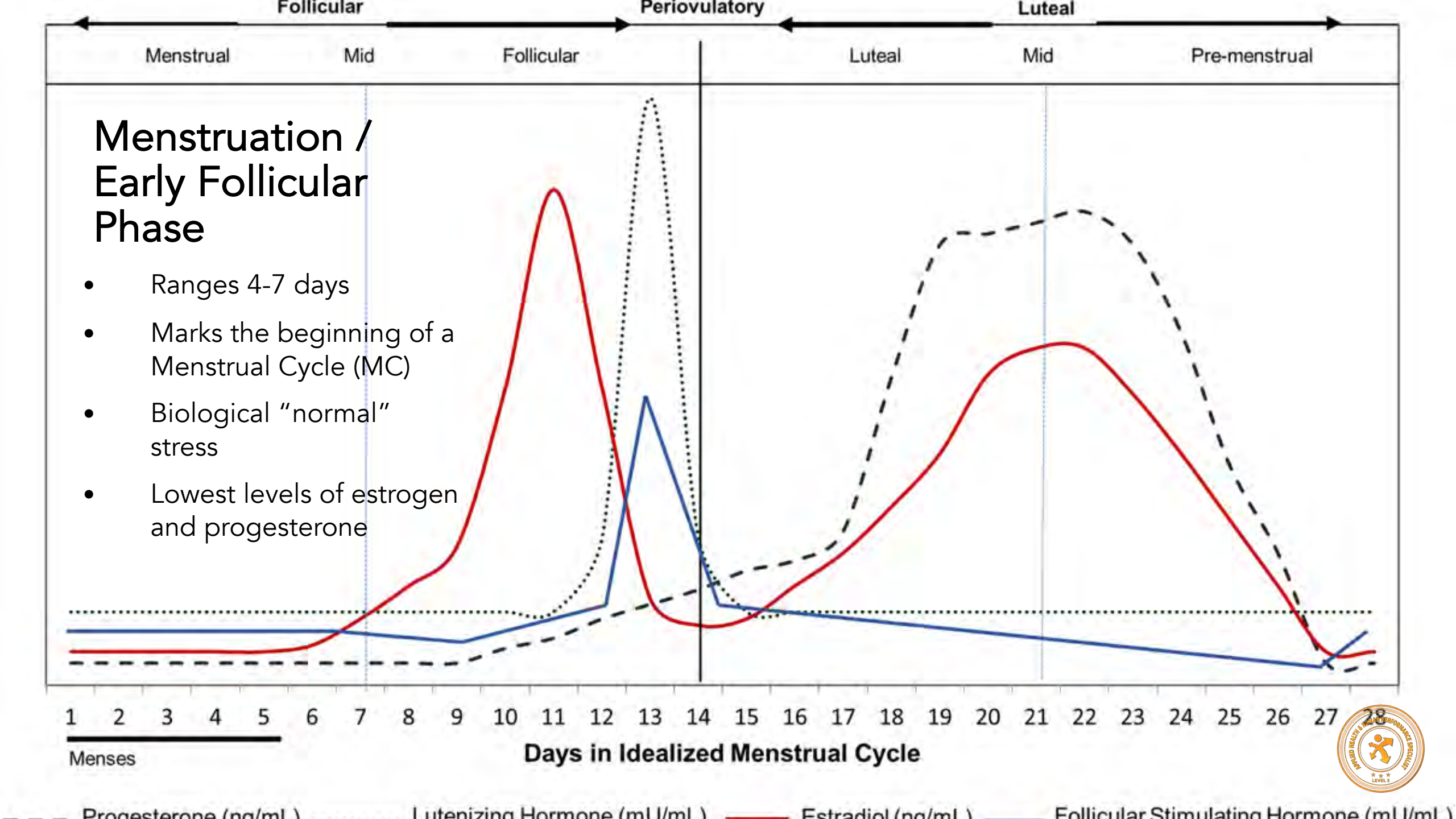
Objectives:

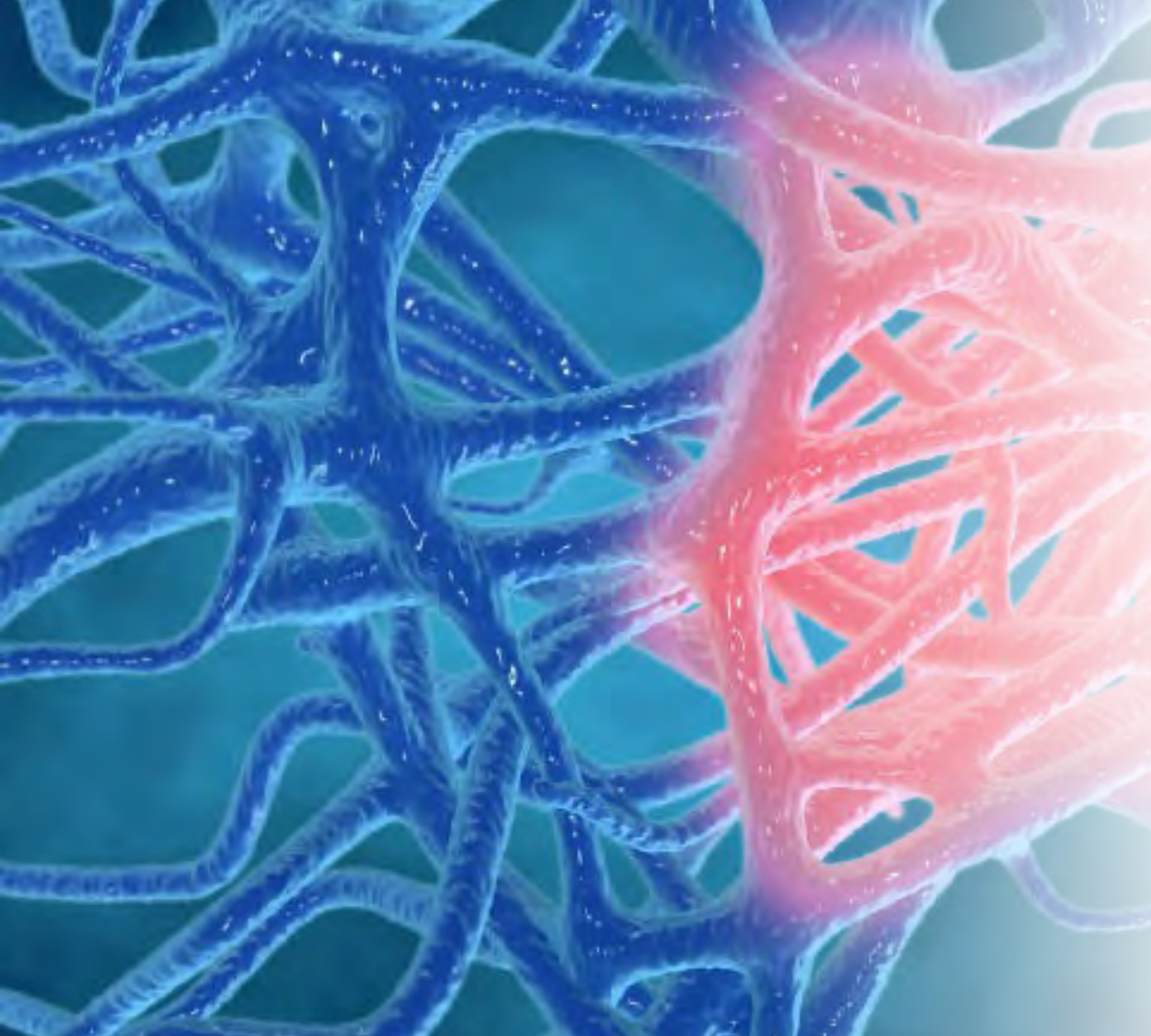
- Recognize the timing of PMS/menstrual cycle symptoms
- Identify PMS/ menstrual cycle symptoms
- Understand their physiological causes
- Understand their impact on health and human performance and well-being
- Traditional pharmacological methods of handling PMS symptoms
- Identify “low tech” management of PMS symptoms



When Does PMS / Menstrual Cycle Symptoms Begin in the Menstrual Cycle?


Follicular
Periovulatory
Luteal
Menstrual
Mid
Follicular
Luteal
Mid
Pre-menstrual
(LATE) LUTEAL (PMS) PHASE
• Typically, days 21 – 28
• Begins a "stressed" physiology
• Estrogen rapidly declines.
• Progesterone begins to decrease at a faster rate
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
Menses
Days in Idealized Menstrual Cycle
Progesterone (ng/mL)
Lutenizing Hormone (mIU/mL)
Estradiol (pg/mL)
Follicular Stimulating Hormone (mIU/mL)


Follicular
Periovulatory
Luteal
Menstrual
Mid
Follicular
Luteal
Mid
Pre-menstrual
Menstruation / Early Follicular Phase
• Ranges 4-7 days
• Marks the beginning of a Menstrual Cycle (MC)
• Biological "normal" stress
• Lowest levels of estrogen and progesterone
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
Menses
Days in Idealized Menstrual Cycle
Progesterone (ng/mL)
Lutenizing Hormone (mIU/mL)
Estradiol (pg/mL)
Follicular Stimulating Hormone (mIU/mL)



Symptoms of of the Natural Menstrual Cycle Affecting Health, Performance, and Well-being

- Dysmenorrhea: Menstrual cramps
- Menorrhagia: Heavy menstrual bleeding
- Menstrual headaches/migraines
- Bloating
- Breast tenderness
- Diarrhea
- Muscular aches
- Lethargy, low energy levels
- Depression
- Mood swings

Physiological Factors Causing PMS/Menstrual Symptoms – Low-grade inflammation are correlated to changes in mood and pain.

- Serum levels of CRP and the pro-inflammatory cytokines interleukin-6, interleukin-1 and tumour necrosis factor-alpha (TNF-**α**) are higher in patients known to suffer from depression when compared with healthy controls (Ford et al., 2004; Kop et al., 2005; Tuglu et al., 2003; Danner et al., 2003; Tiemeier et al., 2003; Martiletti et al., 1999).

- Pro-inflammatory cytokines are elevated in some forms of headaches; however, this relationship remains controversial (Martiletti et al., 1993; Martiletti et al., 1999; Kemper et al., 1999).

- Interestingly, an altered inflammatory state, i.e. elevated serum concentrations of CRP or TNF-**α**, may normalize when the depression resolves (Danner et al., 2003; Ford et al., 2004; Tuglu et al., 2003).

- In healthy subjects, acutely depressed mood and/or states of anger or hostility were also associated with higher serum levels of TNF-**α**, interleukin- 6 or CRP in most but not all studies (Douglas et al., 2004; ; Lutgendorf et al., 1999; Panagiotakos et al., 2004; Penninx et al., 2003; Suarez et al., 2003; Suarez et al., 2004).

A close link between low-grade inflammation & affective menstrual symptoms in healthy subjects.

COMMUNICATION

- Embarrassing
- Taboo
- Shame
- Social Understandings
- Comfort with their bodies
- Ridicule
- Language
- Cultural differences

The Impact of PMS/Menstrual Cycle Symptoms on Health and Human Performance and Well-Being

- The most common reported menstrual symptoms are painful cramps (dysmenorrhea), tiredness, and heavy bleeding (Bruinsvels et al., 2016; Schoep et al., 2019).
- Menstrual cycle symptoms have been reported to prevent women from participating in daily activities (Schoep et al., 2019).
- 43% of adolescent women avoided aspects of daily life due to menstrual events (e.g., bleeding and pain), of which 21% missed at least one in 30 school days (Houston et al., 2006).
- 64% of adult women missed an average of 2.6 workdays per month due to severe menstrual bleeding and pain (Fourquet et al., 2010).

Traditional Pharmacological Methods of Handling PMS / Menstrual Cycle Symptoms

PAIN RELIEVERS

NSAIDs
(non-steroidal anti-inflammatory drugs)

- Ibuprofen
- Naproxen
- Diclofenac

Acetaminophen

ANTIDEPRESSANTS

SSRIs
(Selective Serotonin Reuptake Inhibitors)

- Fluoxetine
- Paroxetine
- Sertraline

DIURETICS

- Ammonium chloride
- Caffeine
- Pamabrom
- Spironolactone

HORMONES

Birth control

- Estrogen and drospirenone

GnRH* agonists
(*Gonadotropin-releasing hormone)

- Leuprolide
- Nafarelin

“Low Tech” Management of PMS / Menstrual Cycle Symptoms

- Magnesium
- Vitamin B6
- Calcium / Vitamin D
- Ginger
- Physical Activity
  - Brisk Walking
  - Jogging
  - Aquatic Exercise
  - Yoga
  - Stretching
- Napping / Getting Sleep
- Deep Breathing
- Yuzu / Lavender oil`

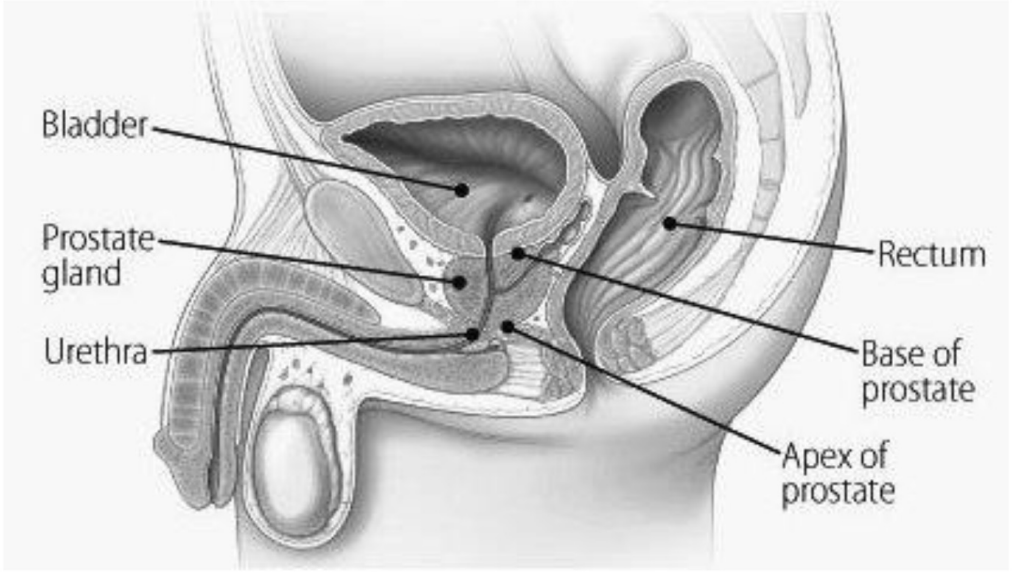
Maintaining Prostate Health Objectives:

- Learn the timing of enlarged prostate (Benign Prostate Hyperplasia)
- Learn symptoms of possible BPH
- Understand the physiological causes
- Understand their impact on health and human performance and well-being
- Traditional pharmacological methods of handling BPH
- Identify proactive methods for maintaining prostate health
- BONUS Topic: ED

Timing of BPH

- Age 40 years and older
- Family history of benign prostatic hyperplasia
- Obesity
- Medical conditions: Heart disease, CVD, Type 2 diabetes
- Low Physical Activity
- Increase certain types of alcohol consumption

Lower Urinary Tract Infections (LUTS) vs. BPH



LUTS = Neural factors, specifically sympathetic signaling pathways, are also important in the etiology and pathophysiology of LUTS through modulation of the smooth muscle cell phenotype in the prostate

- Poor or intermittent urine stream.
- Straining to pee.
- Sudden urge to urinate.
- Waking up many times at night to pee.
- Having to Pee frequently.
- Feeling like you can't fully empty your bladder.

Prostate Enlargement

Testosterone

↓

5-Reductase (enzyme)

↓

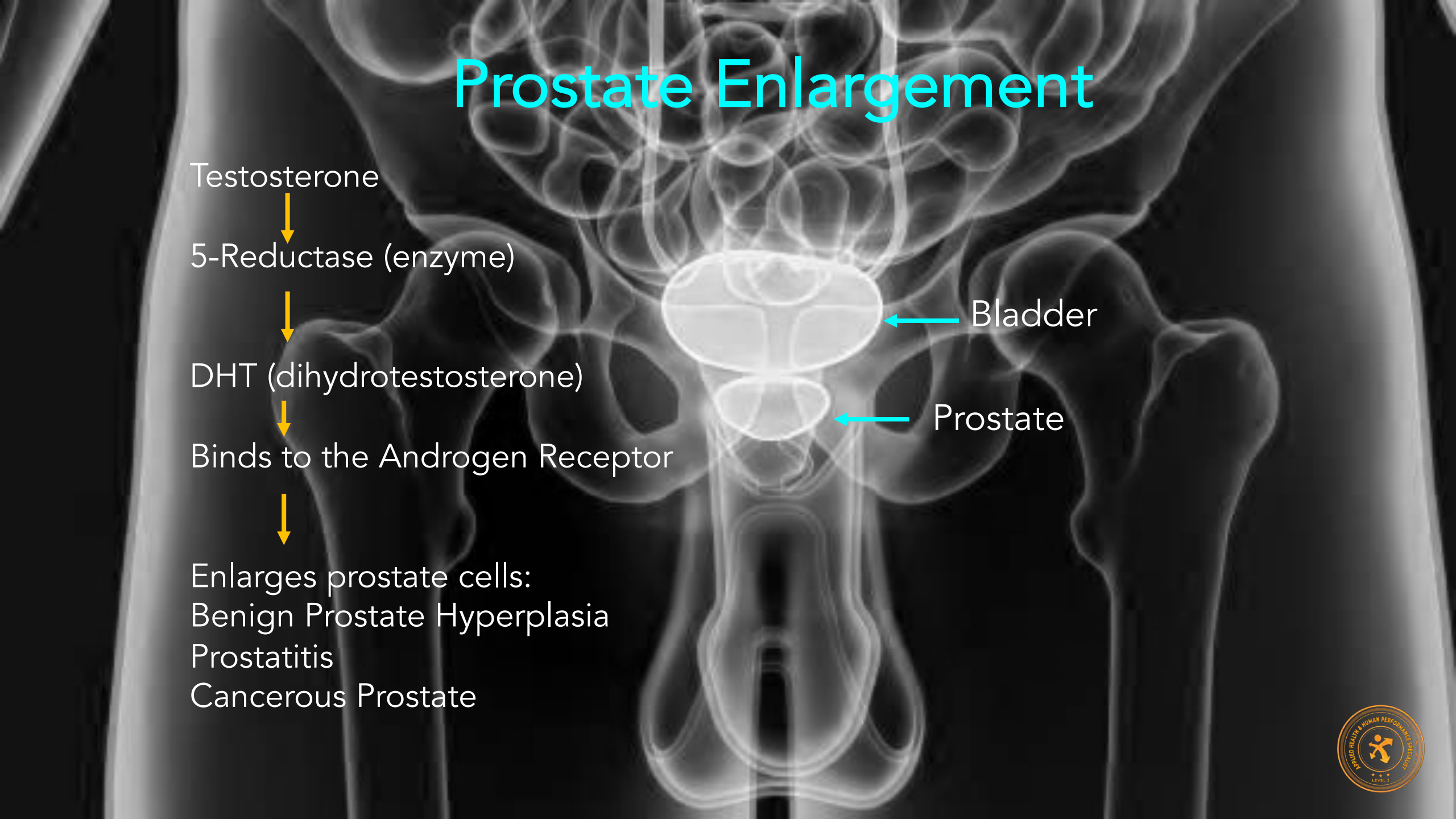
DHT (dihydrotestosterone)

↓

Binds to the Androgen Receptor

↓

Enlarges prostate cells:
Benign Prostate Hyperplasia
Prostatitis
Cancerous Prostate

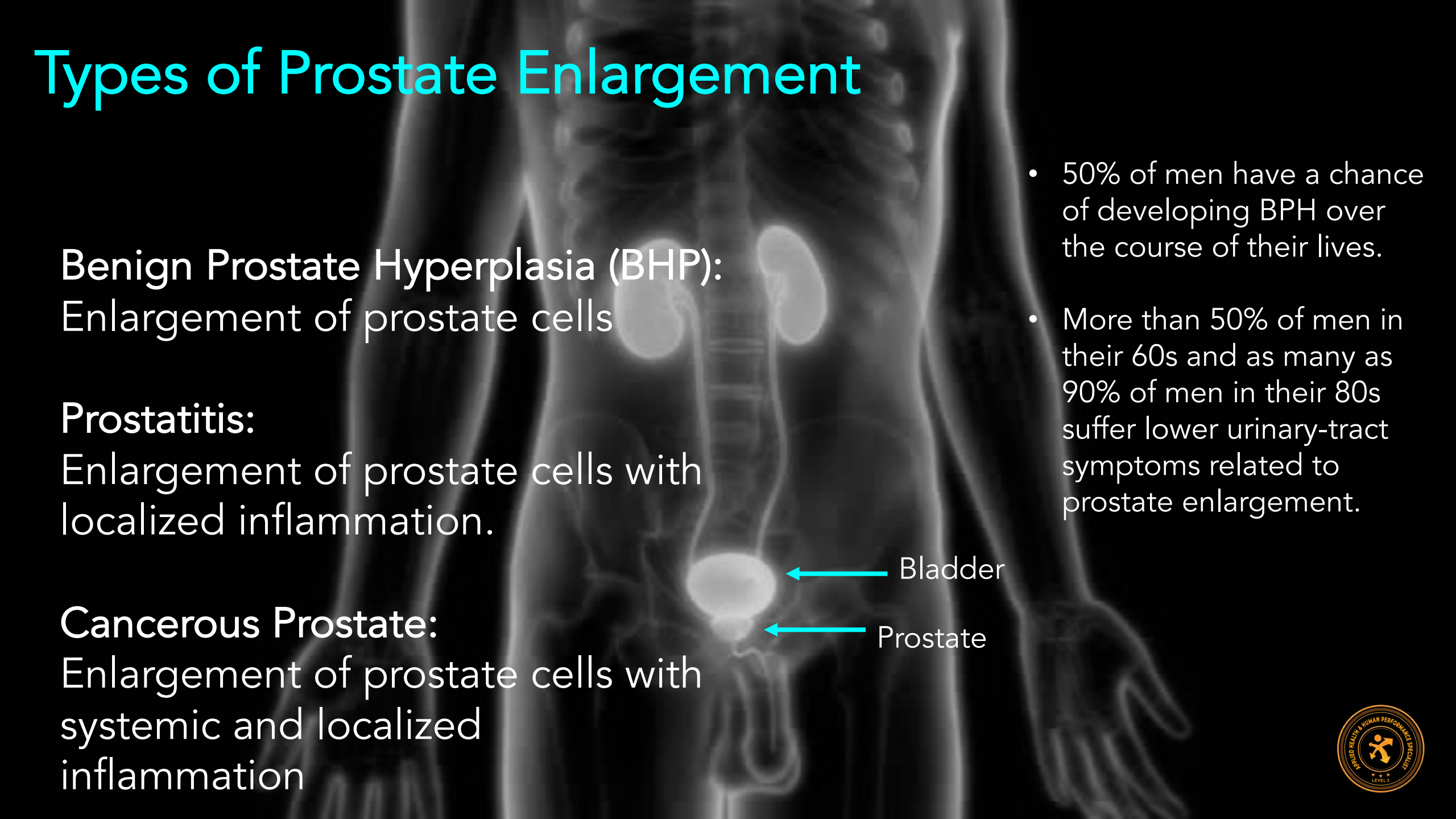


Types of Prostate Enlargement

Benign Prostate Hyperplasia (BHP):
Enlargement of prostate cells

Prostatitis:
Enlargement of prostate cells with localized inflammation.

Cancerous Prostate:
Enlargement of prostate cells with systemic and localized inflammation



- 50% of men have a chance of developing BPH over the course of their lives.
- More than 50% of men in their 60s and as many as 90% of men in their 80s suffer lower urinary-tract symptoms related to prostate enlargement.

Alcohol Consumption

Wine

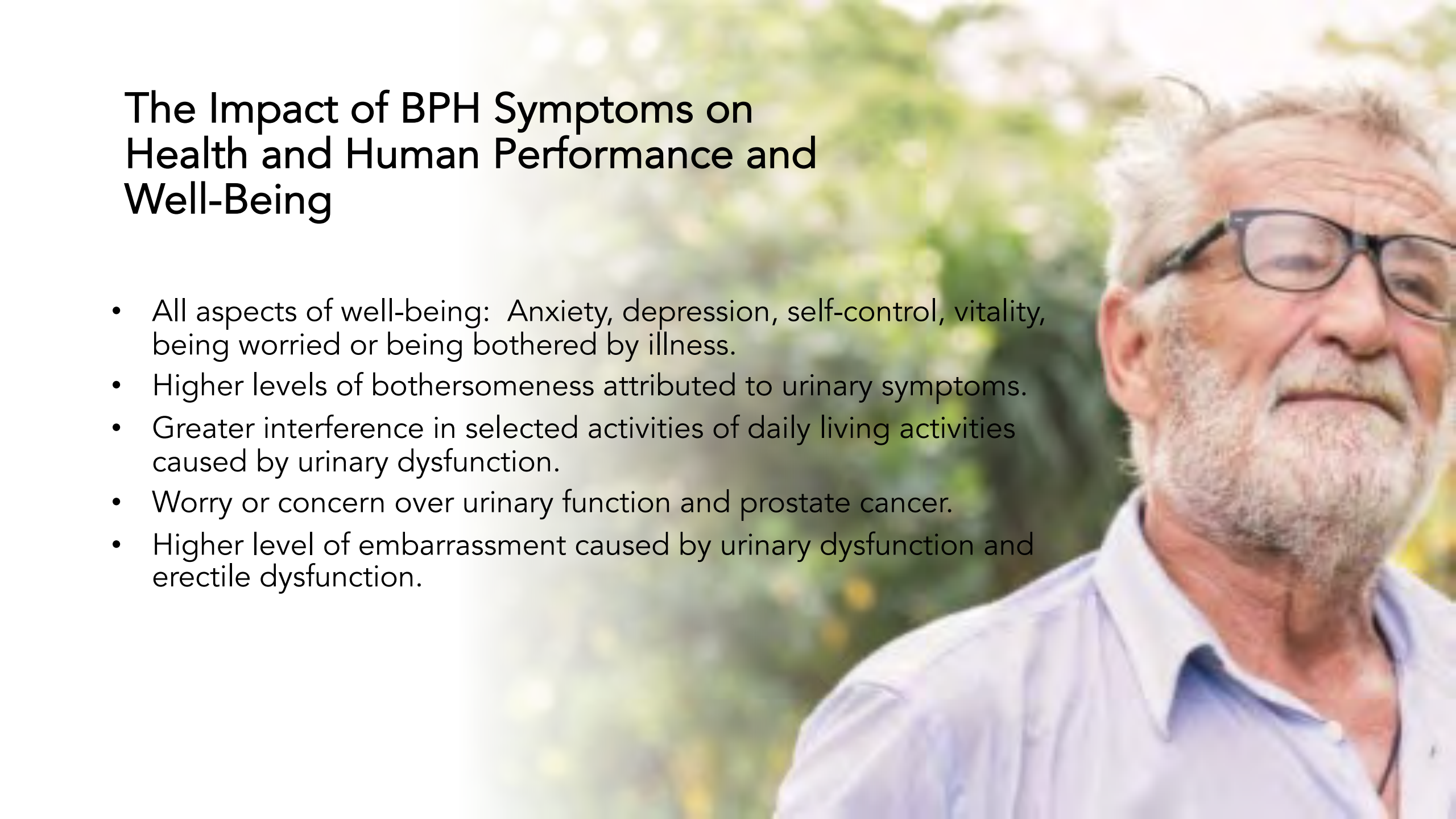
Beer

Liquor

Dose response

The Impact of BPH Symptoms on Health and Human Performance and Well-Being

- All aspects of well-being: Anxiety, depression, self-control, vitality, being worried or being bothered by illness.
- Higher levels of bothersomeness attributed to urinary symptoms.
- Greater interference in selected activities of daily living activities caused by urinary dysfunction.
- Worry or concern over urinary function and prostate cancer.
- Higher level of embarrassment caused by urinary dysfunction and erectile dysfunction.



Traditional Methods for Managing BPH

Lifestyle change / Surveillance
Medical therapy
Minimally invasive therapy
Surgical treatment
Alpha-blockers
5α-reductase inhibitors
Anticholinergics
Transurethral resection of the prostate (TURP)
Minimally Invasive Treatments:
- Prostate balloon dilatation
- Prostate stents
- Transurethral needle ablation
- Microwave therapy
- Water-induced thermotherapy
- Implant: UROLIF

"Low Tech" Management of Prostate Health

- Physical Activity
- Limit alcohol consumption
- Lycopene
- Vitamin D
- Fish oil and flaxseed supplements rich in omega-3 fatty acids
- Palmetto extract
- Pygeum africanum (Prunus africana or Rosaceae) extract / African prune (plum) tree
- Isoflavones / Soy isoflavones*
- Foods high in flavonoids
- Maca (*Lepidium meyenii)*
- Mediterranean diet
- Sleep

What is ED? - Possible Causes of ED

ED is defined as the persistent inability to attain and maintain penile erection sufficient for sexual intercourse.

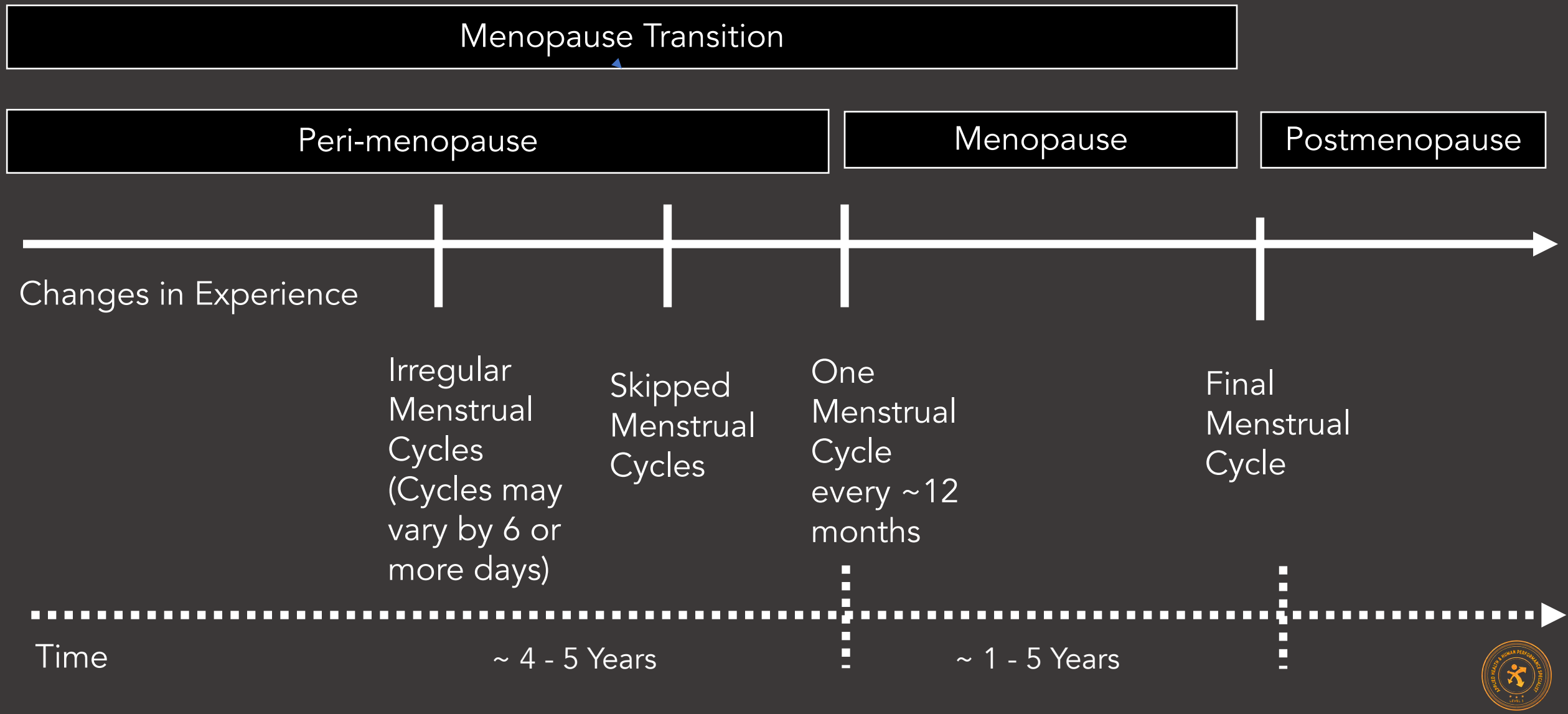
- Age
- Comorbidities: CVD, Type 2 diabetes
- Aging is associated with:
  - Compromised blood flow to the erectile tissue.
  - Endothelial dysfunction with decreased release and availability of nitric oxide (which relaxes the vascular tone)
  - Decreased smooth muscle cells
- Reduced androgens
- In younger men, it is associated with obesity, hypertension, and diabetes.

“Low Tech” Ways to Manage Perimenopause/Menopause Symptoms

Objectives:

- Recognize the timing of Perimenopause/Menopause Symptoms
- Identify Perimenopause/Menopause Symptoms
- Understand the physiological causes
- Understand their impact on health and human performance and well-being
- Traditional pharmacological methods of handling Perimenopause/Menopause Symptoms
- Identify “low tech” management of Perimenopause/Menopause Symptoms

THE MENOPAUSAL STAGES



BIOLOGICAL STRESS

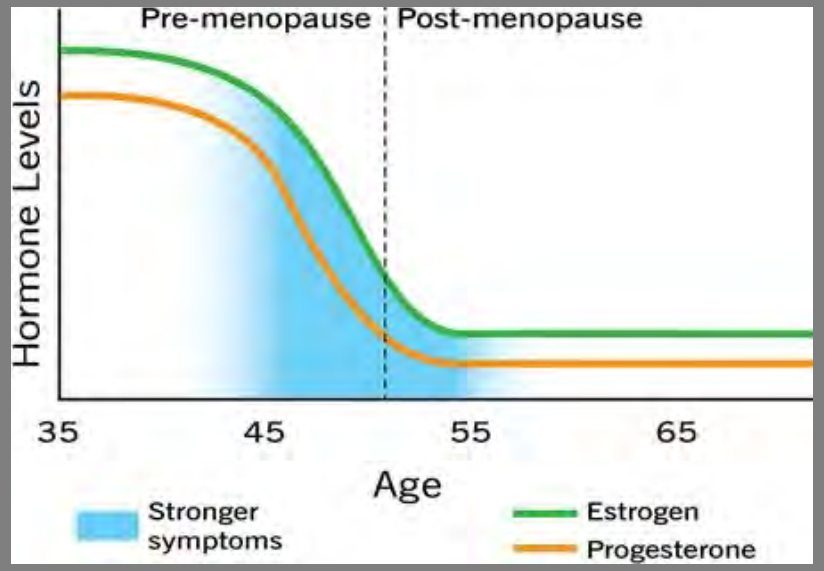
- Erratic changes & rapid declines in estrogen, progesterone, and testosterone

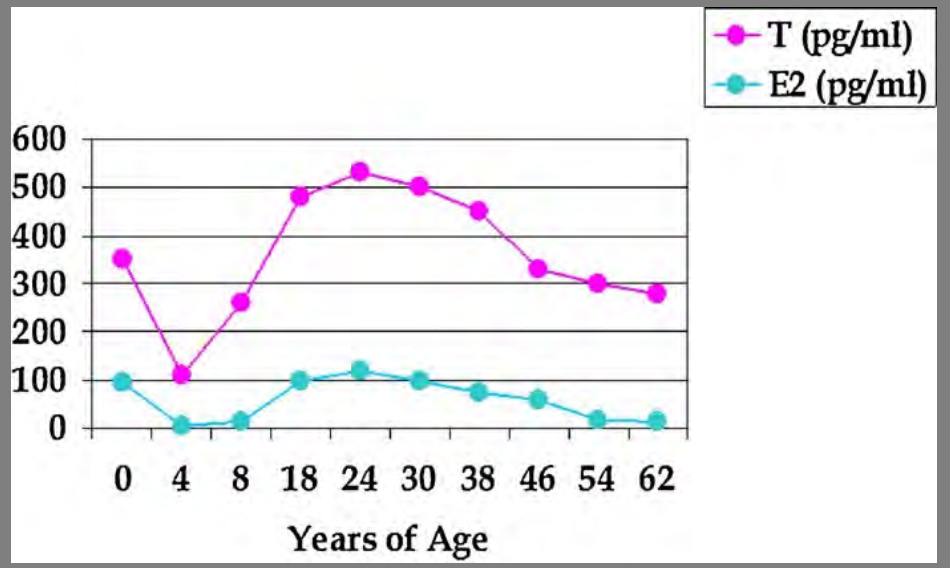
Vasomotor symptoms

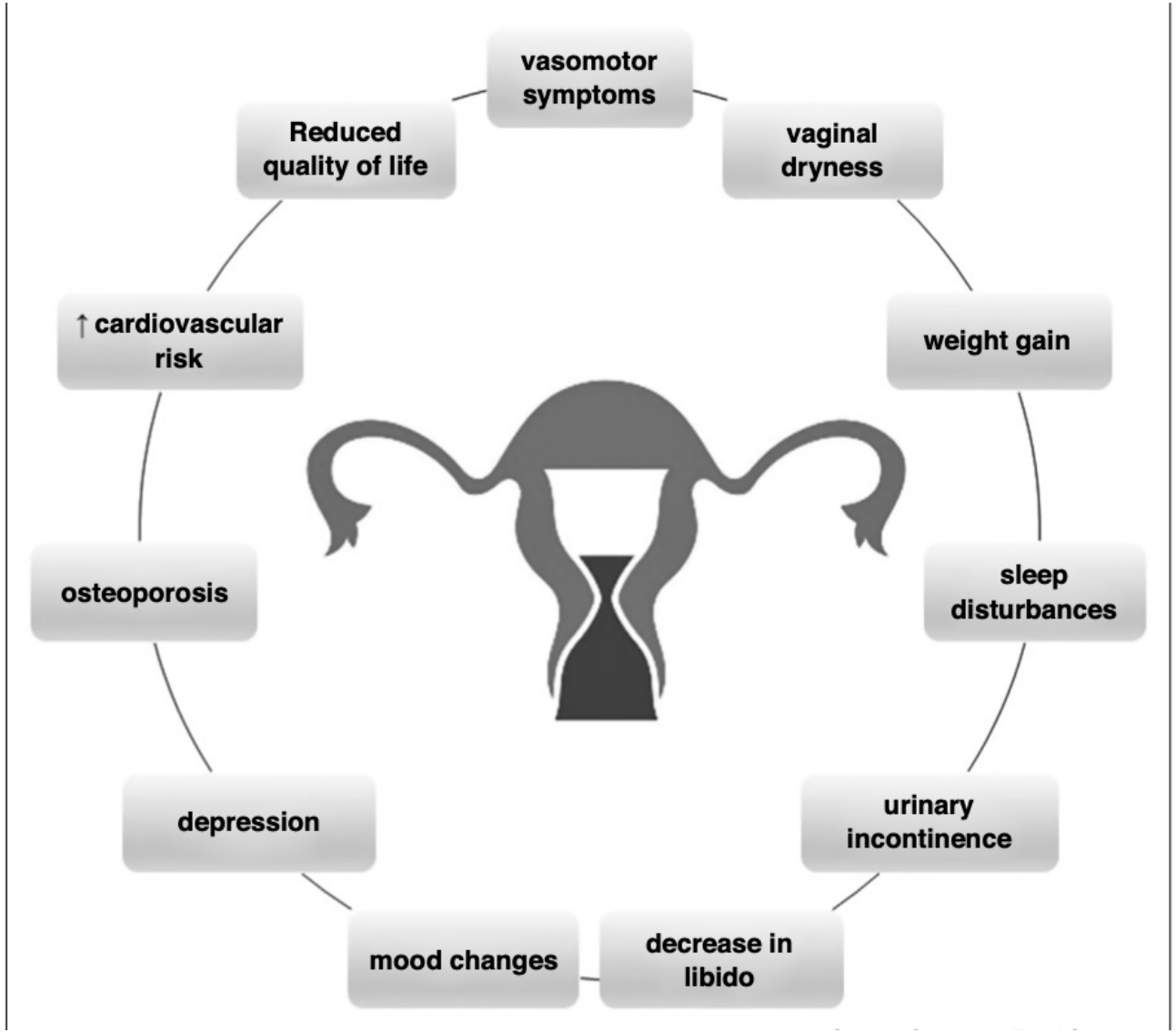
- Hot flushes
- Night sweats
- Sleep interruptions
- Chronic insomnia

Muscle & joint pain

Increase in Inflammation levels



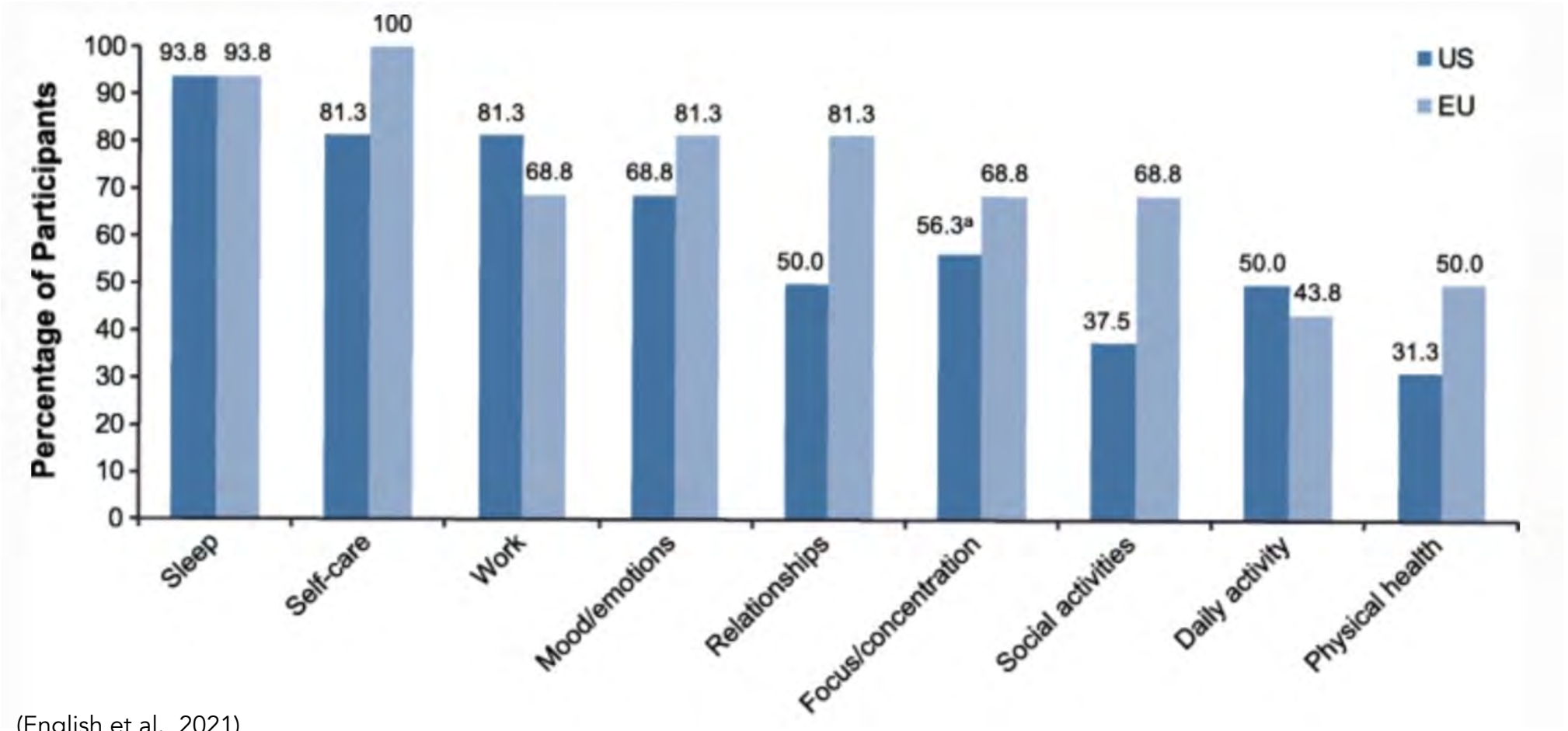




(Barrea et al., 2021)

Other Perimenopause / Menopausal Conditions

The Impact of Perimenopausal/Menopausal Symptoms on Health and Human Performance and Well-Being



(English et al., 2021)

Traditional Pharmacological Methods for Managing Perimenopausal/Menopausal Symptoms

- Hormone Replacement Therapy (HRT)
- Gabapentin
- Clonidine
- Antidepressants

"Low Tech" Management of Perimenopausal / Menopausal Symptoms

- Physical Activity
- Isoflavones / Soy isoflavones* (equol-producing gut bacterial flora)
- Hops extract (*Humulus lupulus*)
- Maca (*Lepidium meyenii)*
- *Brassica* plant species (broccoli, brussels sprouts, cabbage and savoy)
- Lignans (flaxseeds, linseeds)*
- Magnesium
- Vitamin B6
- Calcium / Vitamin D
- Mediterranean diet
- Sleep