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# Modulating Women's Health with an Ancient Healing Plant



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ACADEMY



# Module Overview

- Role of ECS in reproduction
- Relationship of ECS to estrogen
- ECS differences between men + women
- Genetic causes of ECS deficiency
- Health conditions specific to women + cannabis care





# ESC + Reproduction

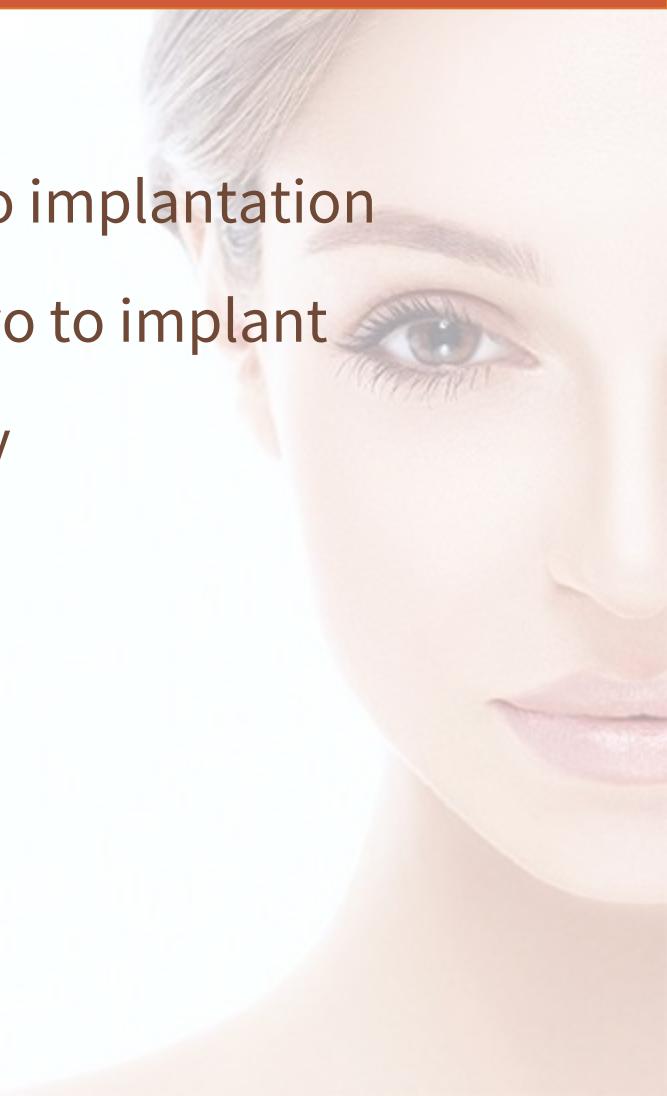
- Uterus has highest concentration of anandamide
- ECS influences sperm + egg production plus lactation
- Anandamide reaches peak levels during ovulation
- Endocannabinoids in semen, amniotic fluid, breast milk, ovarian cysts





# ECS + Fertility

- Enzymes reduce endocannabinoid levels, enabling an embryo implantation
- Anandamide levels then increase, preventing a second embryo to implant
- Abnormal anandamide or receptor levels may cause infertility
- Embryo has higher levels of CB1 receptors than adult brain







# ECS + Estrogen

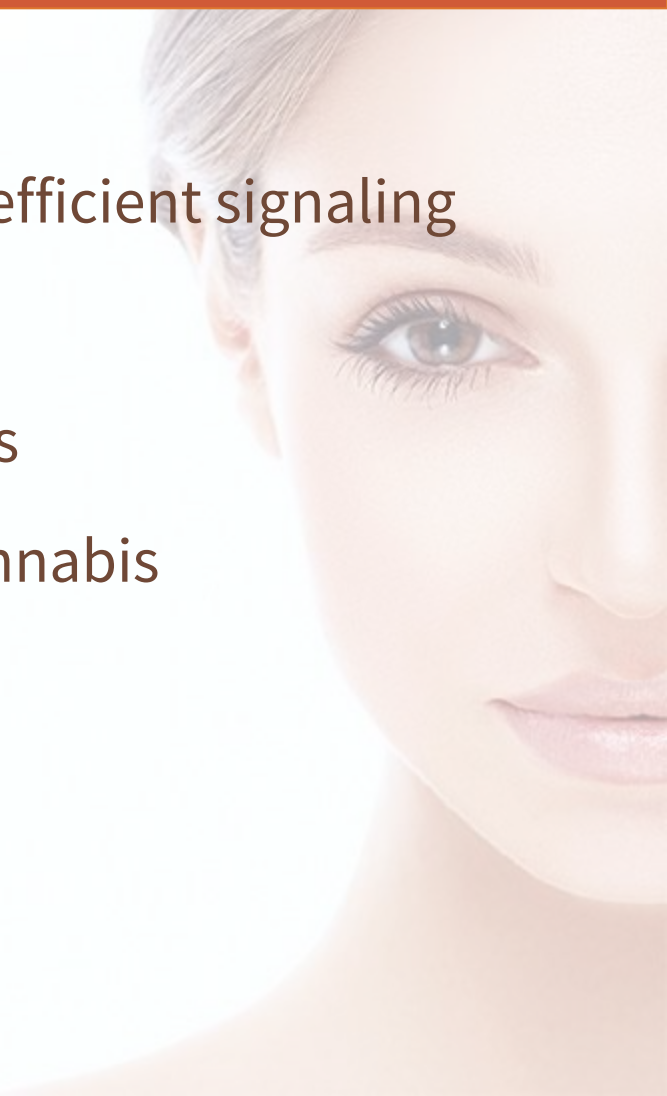
- Strong relationship between endocannabinoids + estrogen levels
- Increased estrogen + increased CB1 receptors via the CNR1 gene





# Female + Male Differences

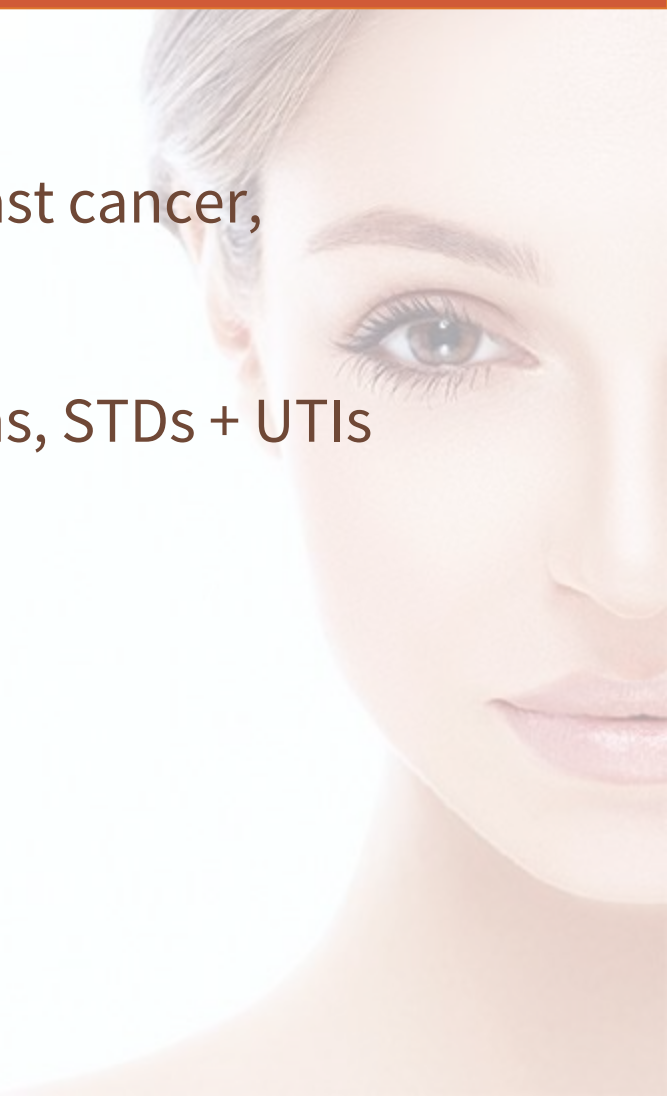
- Women have fewer receptors in the brain, but possibly more efficient signaling
- Cannabis more likely to increase sexual behavior in women
- Women more likely to have pain + anxiety relief from cannabis
- Women less likely to experience appetite stimulation with cannabis
- Women use cannabis less frequently + in smaller quantities





# Cannabis Care for Women

- ECS dysfunction is a root cause for autoimmune disease, breast cancer, IBS, fibromyalgia
- Vaginal cannabis treatments may be useful for yeast infections, STDs + UTIs







# Pelvic Pain Causes + Treatments

- Dysmenorrhea – acute pelvic pain related to menstruation
- Treatments for chronic pelvic pain include medications, physical therapy + surgery
- Pain killers, antibiotics, hormone therapy, hysterectomy may not always resolve pain





# Cannabis for Pelvic Pain

- CB1 receptors in the brain mediate pain-relieving effects of cannabis
- Better ECS function = less pain
- Higher levels of anandamide = less pain
- Possible genetic mutation related to decreased pain sensitivity





# What Does the Research Say

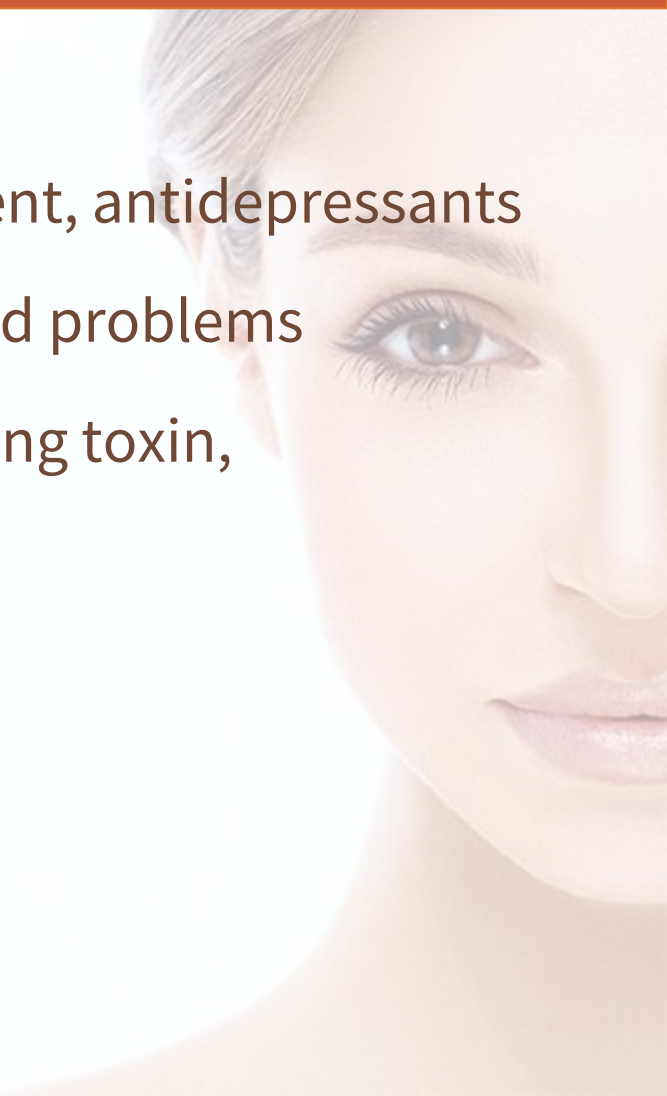
- No cannabis or CBD clinical trials for pelvic pain treatment
- New drug possibilities that inhibit FAAH, prolonging anandamide activity
- More anandamide means more CB1, CB2 signaling = pain relief





# Why Cannabis Is a Better Idea

- Fewer side effects compared to pain killers, hormone treatment, antidepressants
- Mutation in FAAH gene may mean higher risk for opioid related problems
- Long-term OTC use can lead to glutathione depletion, hindering toxin, heavy metal release





# Cannabis Options

- Smoking or vaporizing provide immediate relief
- Sublingual use can provide quick, consistent results
- THC or CBD only topicals on abdomen + lower back
- Vaginal suppositories made with coconut oil have high bioavailability

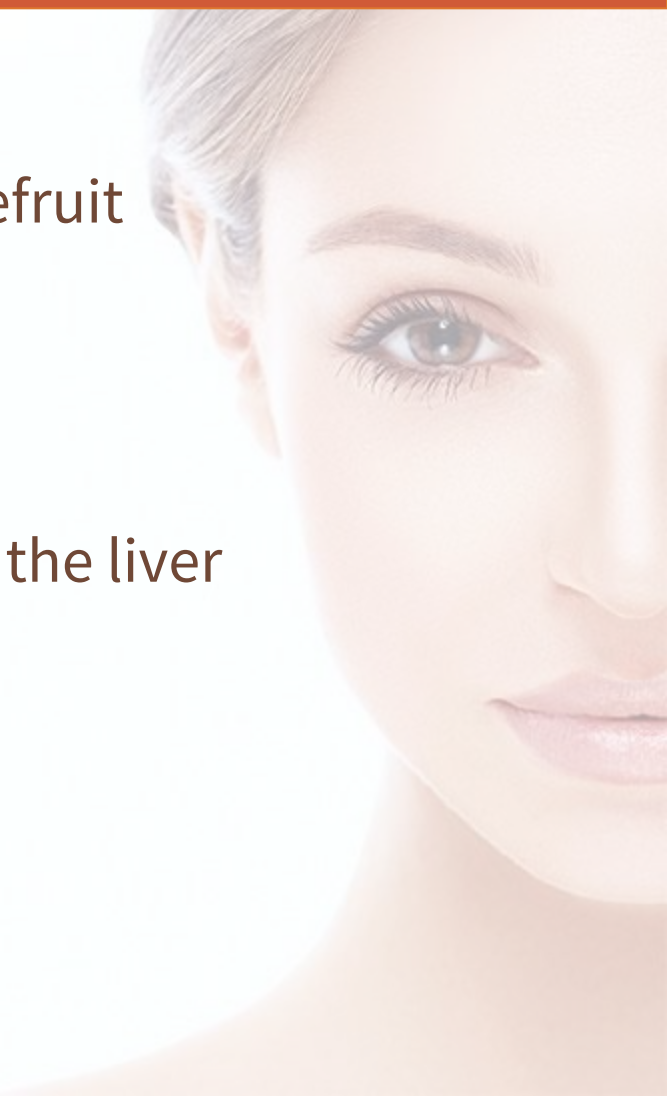






# Potential Risk

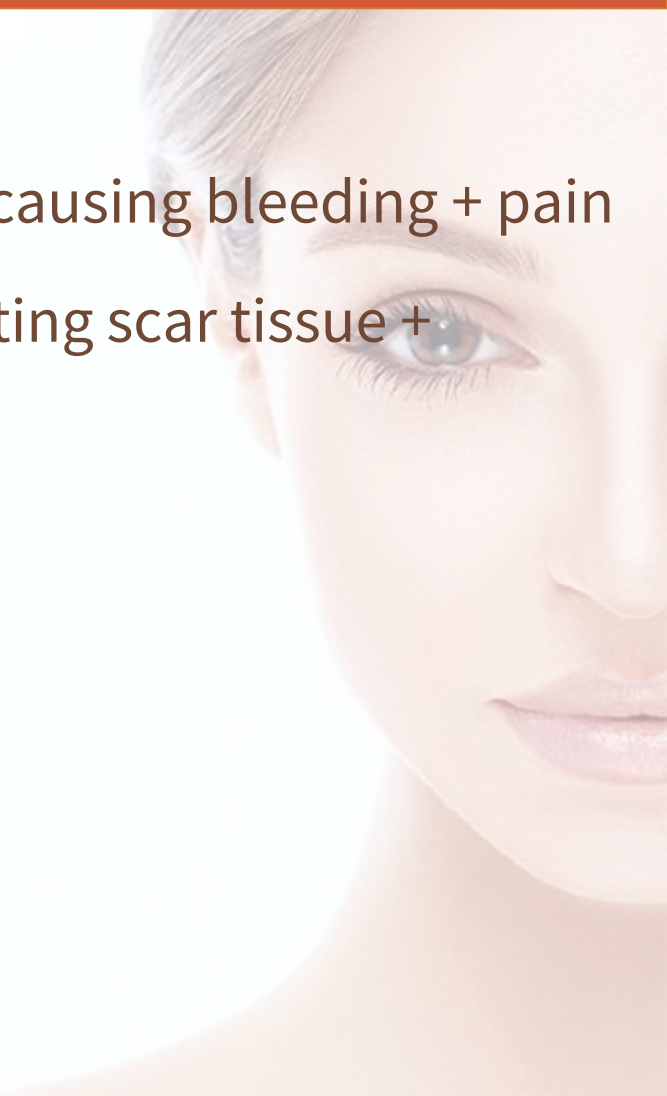
- Avoid CBD with prescription meds contraindicated with grapefruit
  - CBD inhibits P450 detox enzymes
- Avoid CBD with opiate pain relievers, Zoloft, Prozac + Valium
- CBD interactions do not occur when administration bypasses the liver
  - Smoking, vaporizing, sublingual + vaginal preparations





# Endometriosis: Causes + Treatment

- Uterus tissue lining (endometrium) grows outside the uterus causing bleeding + pain
- Medications to slow growth, laparoscopic surgery (often creating scar tissue + worsening condition), hysterectomy





# Cannabis for Endometriosis

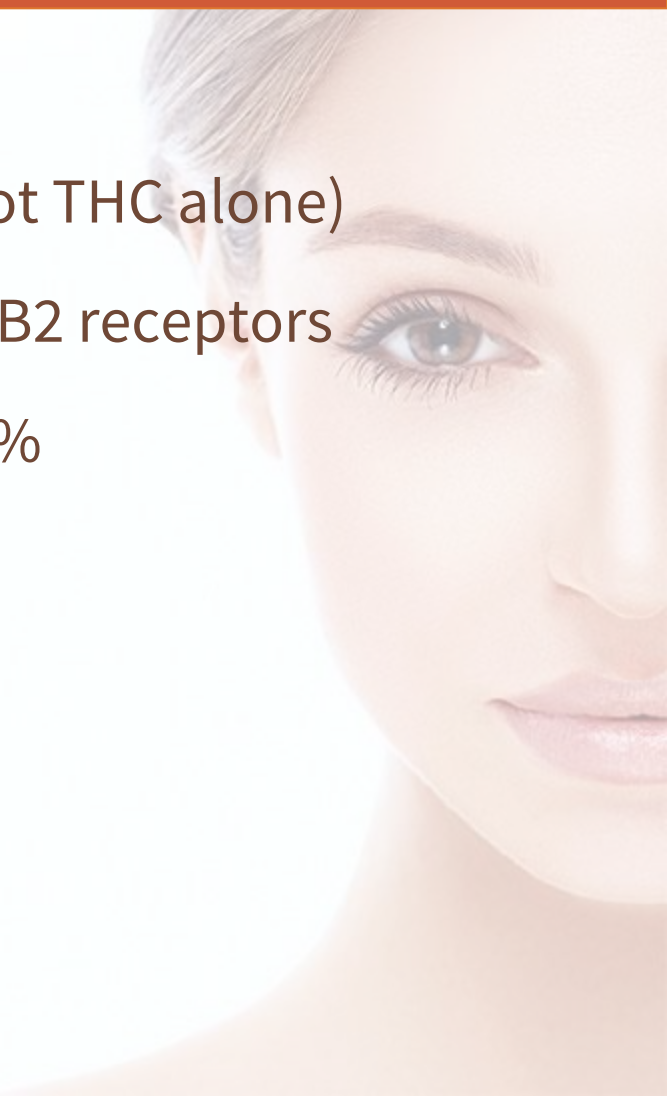
- Endometriosis is co-morbid with GI + immune disorders
- ECS dysfunction is linked to endometriosis
- Higher endocannabinoid levels may compensate for fewer CB1 receptors
- CB1 receptors may hold a key to managing the condition





# Treating Endometriosis

- THC + CBD combined help reduce endometrial cell growth (not THC alone)
- Beta-caryophyllene (primary terpene in cannabis) activates CB2 receptors
  - Study results show endometriosis growth reduced by 50%





# Toxin Exposure

- Environmental toxins are linked to ECS dysfunction
- Dioxin (90% in meat, dairy, fish) wipes out CB1 receptors
- Women with endometriosis have higher dioxin levels in adipose (fat) tissue







# How Can Cannabis Help

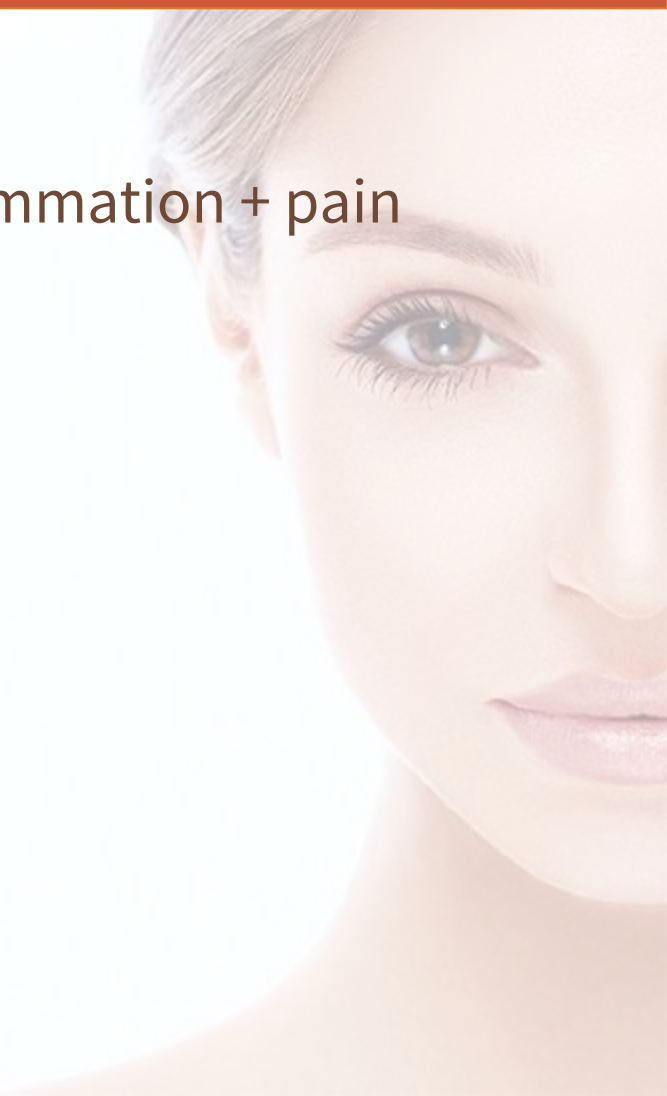
- May reduce inflammation, pain, spasms, nausea, vomiting + disease progression
- No clinical trials on prevention or treatment
- Women who use cannabis may experience less pain
- Cannabis may inhibit endometrium growth





# Options For Use

- Juicing raw acid form – THCA and/or CBDA – can reduce inflammation + pain
- Vaginal suppositories can reduce disease progression (research needed on safety + efficacy)
- Atypical cannabinoid, PEA, show promise for pain





# Potential Risk

- Avoid smoking cannabis if on hormone therapy
  - Vaporizing is a better choice
- Avoid CBD with prescription meds contraindicated with grapefruit
  - CBD inhibits P450 detox enzymes
- Avoid CBD with opiate pain relievers, Zoloft, Prozac + Valium





# Menopause Causes + Treatment

- Menopause: 12 months after last menstrual period (1.1 billion women by 2025)
- Most common treatments include hormone therapy, antidepressants, medications for bone loss





# ESC + Menopause

- Endocannabinoids influence the cycle of menopause
- Reduced ECS signaling may account for hot flashes
- Lower estrogen levels means less active ECS → poor stress + mood responses
- Endocannabinoids regulate pre-synaptic release of neurotransmitters, helping to boost serotonin (reduced need for antidepressants)







# Clinical Applications

- No clinical cannabis or CBD trials for menopause
- Safe alternative to hormone + estrogen therapy
- Safer alternative to osteoporosis meds
- Sativa cultivars may mitigate menopause fatigue





# Terpenes in Menopause

- Beta-caryophyllene activates CB2 receptor
- May help prevent bone loss and hot flashes





# Potential Risks

- Avoid CBD with prescription meds contraindicated with grapefruit
  - CBD inhibits P450 detox enzymes
  - Avoid CBD with opiate pain relievers, Zoloft, Prozac + Valium
- CBD may induce short term memory loss





# Recap

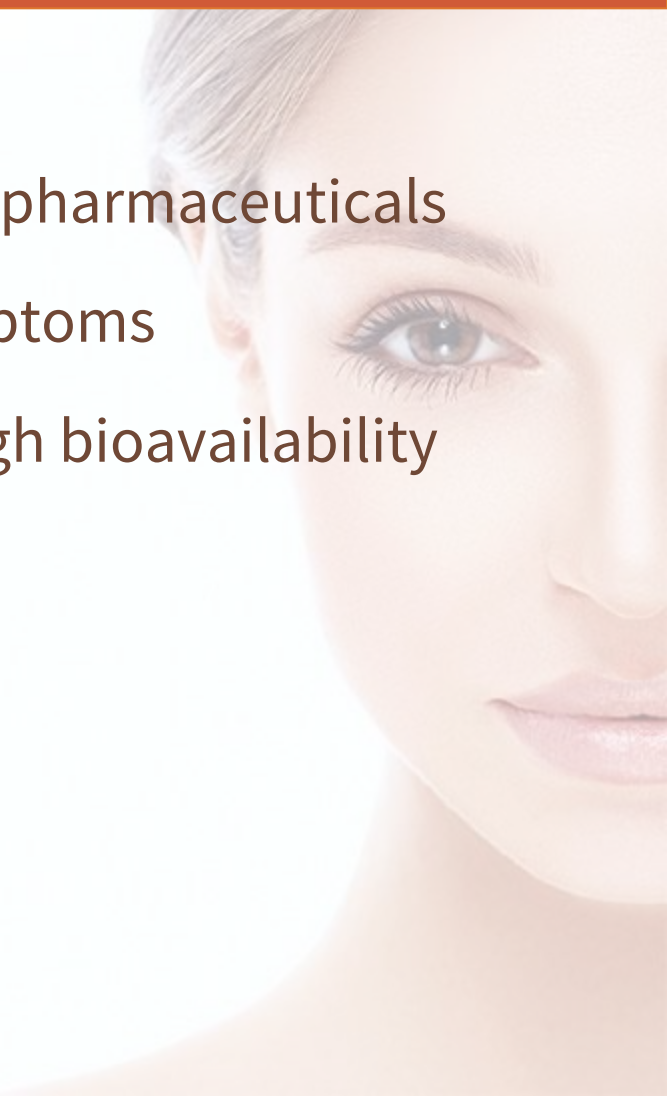
- Uterus has highest anandamide level
- Estrogen + endocannabinoids levels tightly linked
- CB1 receptor related to endometriosis development + pelvic pain
- CB2 receptor involved in menopause + osteoporosis





# Recap

- Cannabis medicine with fewer side effects may replace many pharmaceuticals
- Cannabinoid medicine can target root cause rather than symptoms
- Vaginal suppositories hold promise for targeted relief with high bioavailability







# Recap

- CBD inhibits P450 enzymes, interfering with drugs contraindicated with grapefruit
- CBD may interact with some antidepressants + hormone therapy
  - Interactions are valid with oral administration that will pass through the liver
- Vaporizing, sublingual or vaginal preparations are preferred methods for women

