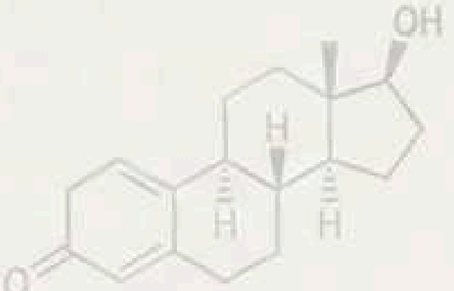
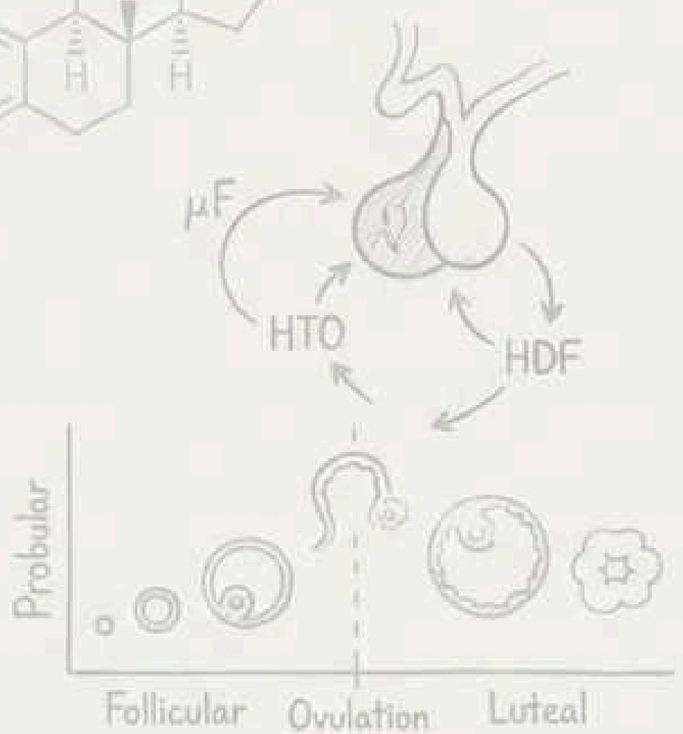
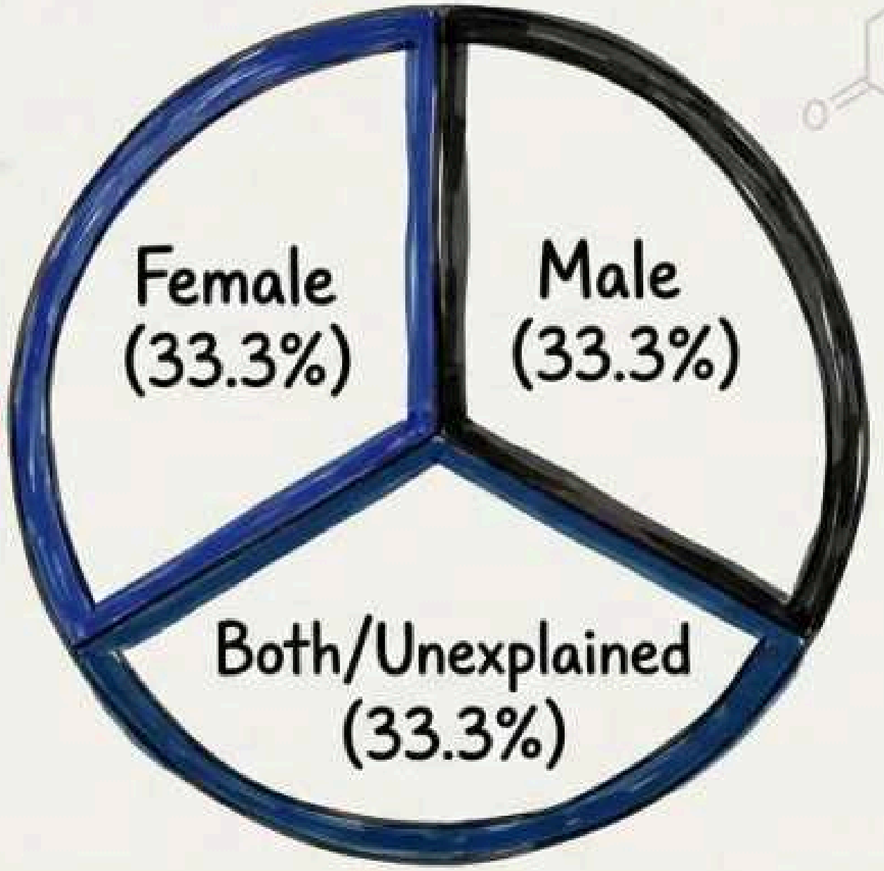
MED 532 B Lecture 6:
Infertility, Contraception and Menopause

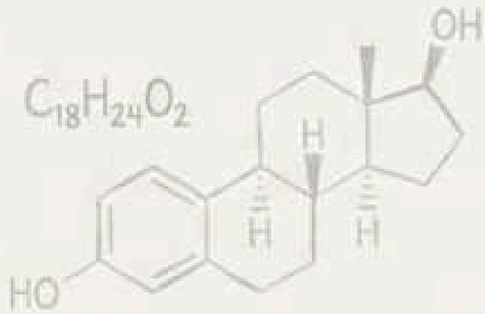
[¶ 6.1]





[1 Year Regular Unprotected Sex]
+
[No Conception]
= Infertility

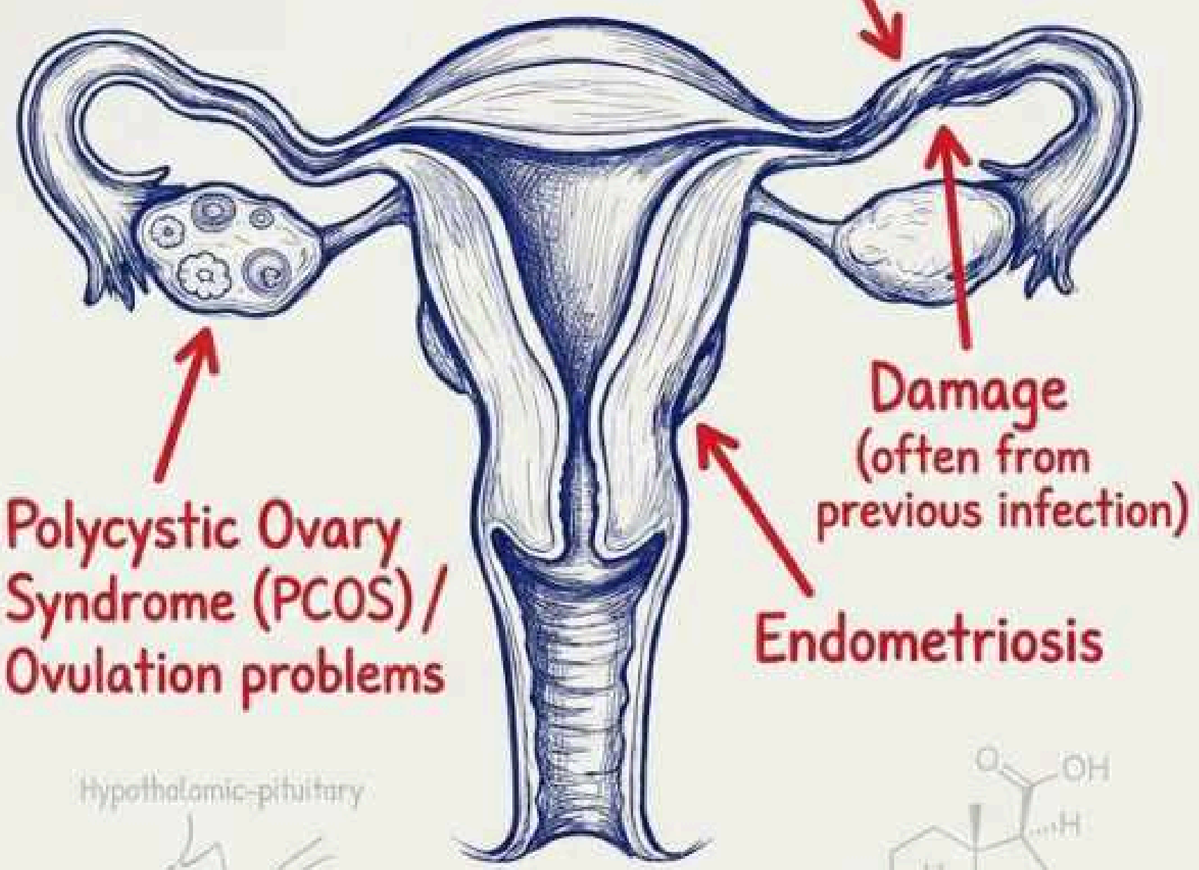


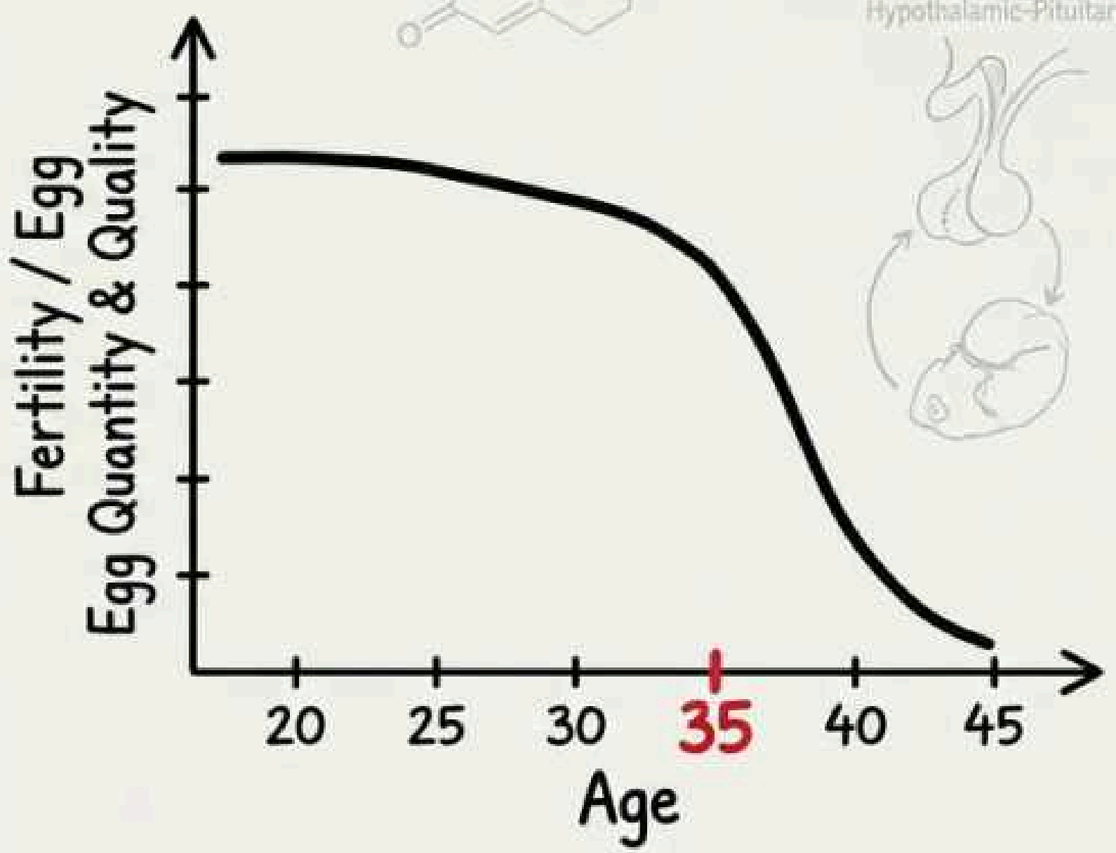


Affects ~1 in 6 people globally at some point in their lives.

Gemini Notebook

[¶ 6.2]



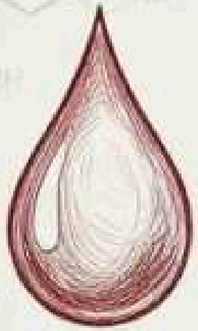


PRIMARY DRIVER > AGE 35: DECLINING EGG NUMBER & QUALITY.

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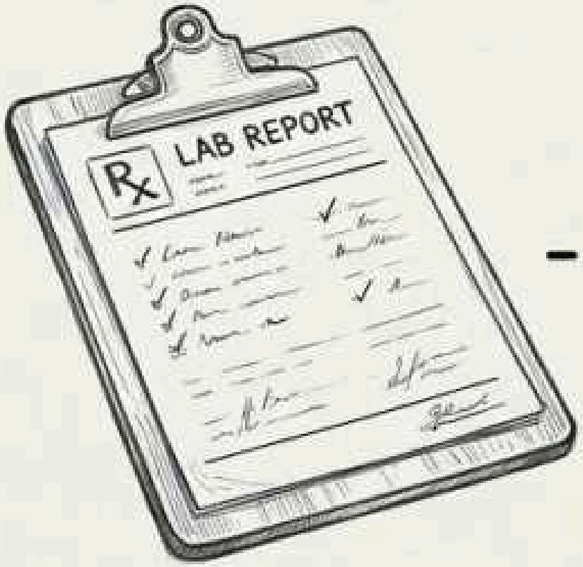
[¶ 6.3]

Luteal Phase Progesterone Test (2nd half of cycle)

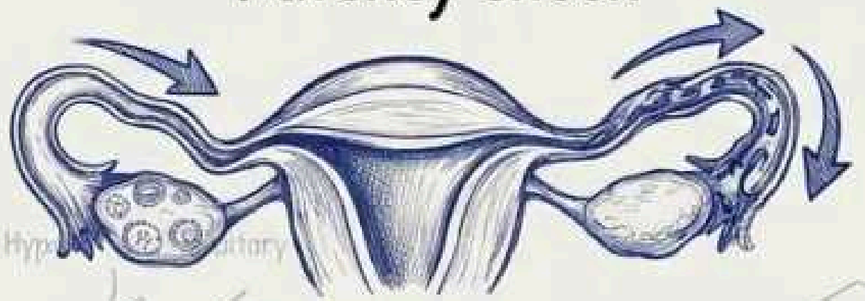


AMH (Anti-Müllerian Hormone)

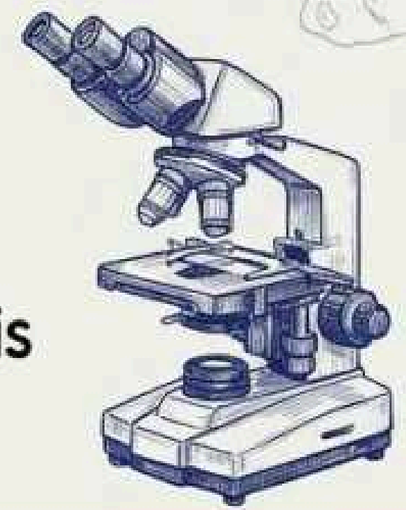




Hysterosalpingogram (HSG) - Patency check



Semen Analysis



CRUCIAL PRINCIPLE: COUPLES ARE INVESTIGATED TOGETHER.

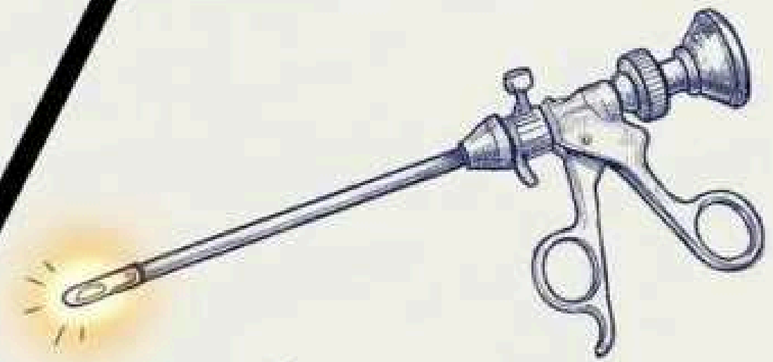
Gemini Notebook

[¶ 6.4]

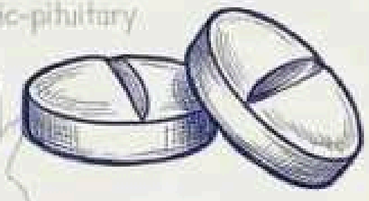
Treatment Escalation Ladder

In Vitro Fertilisation (IVF)

The highest escalation. Used when previous steps fail, or if if fallopian tubes are blocked.



Address tubal problems & endometriosis.



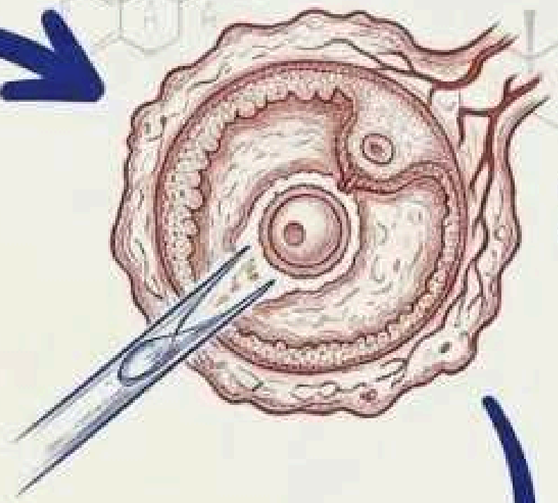
Letrozole / Clomifene
(Goal: Induce ovulation)

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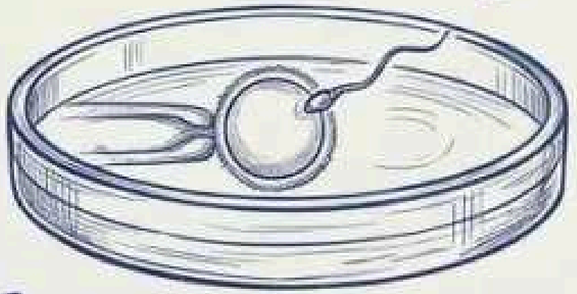
[¶ 6.5]

1. Stimulation:
Hormone Injections
(matures several eggs)

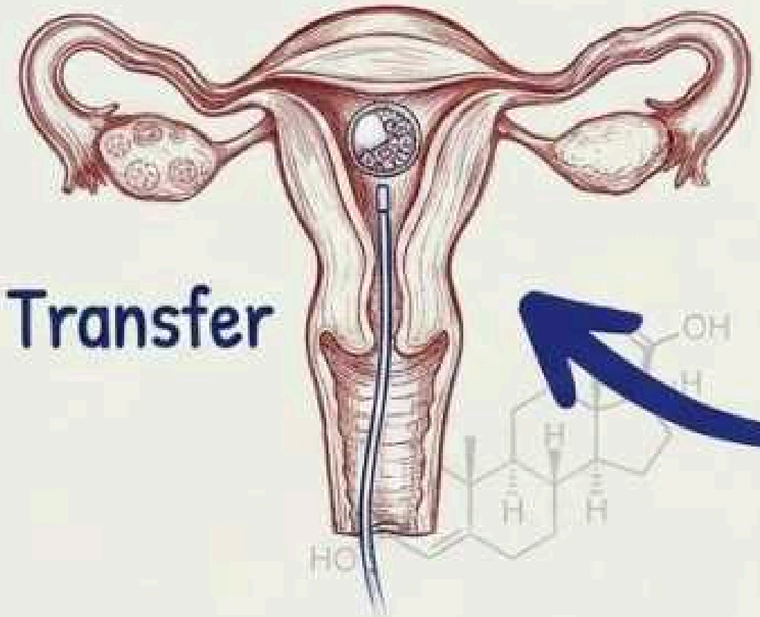




2. Retrieval



3. Fertilisation
(outside the body)



4. Transfer

1978: Louise Brown (First IVF baby, UK) via Robert Edwards & Patrick Steptoe.

2010: Nobel Prize awarded to Edwards.

Gemini Notebook

[¶ 6.6]

ICSI (Intracytoplasmic Sperm Injection, est. early 1990s): Ideal for very low sperm counts.



- Cryopreservation: Embryos & eggs safely frozen for later use.

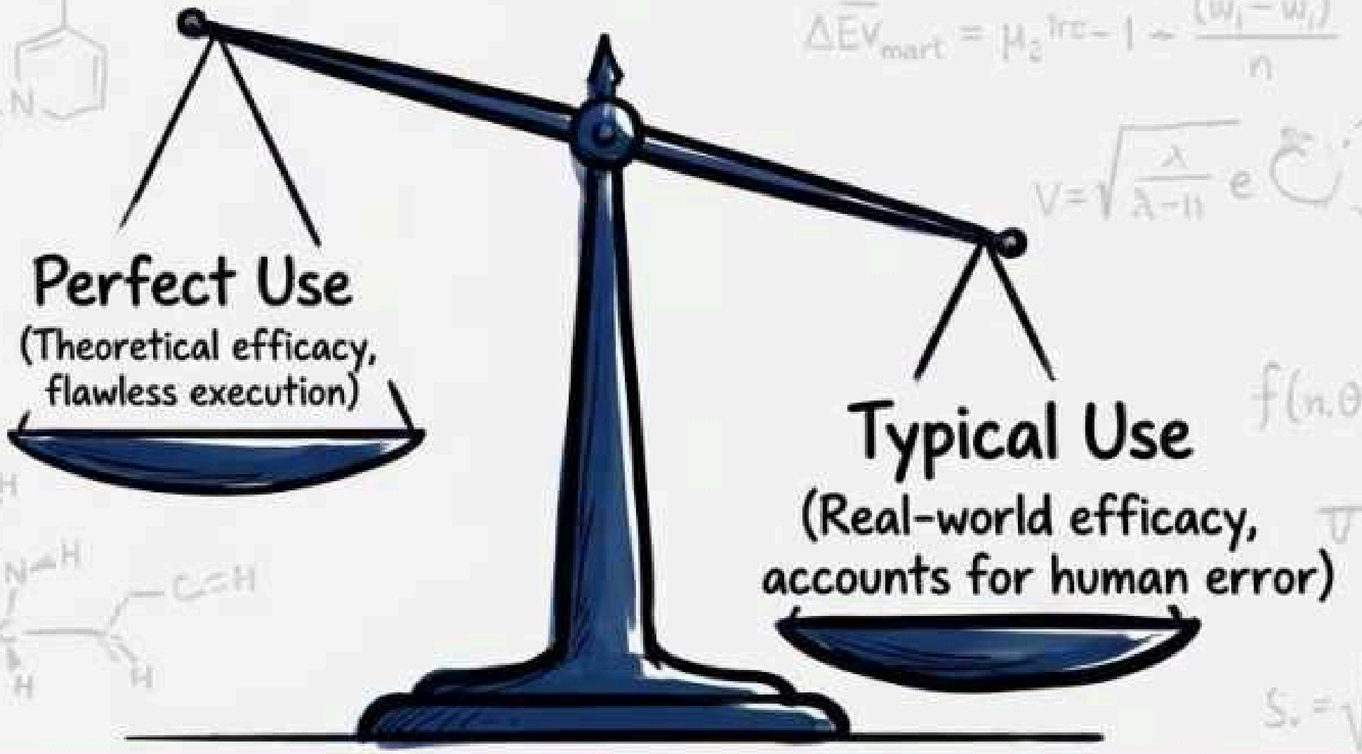
- Risk Reduction: Transferring a single embryo minimizes dangerous twin/triplet pregnancies.

Impact: Millions of babies born through assisted reproduction.

Gemini Notebook

[¶ 6.7]

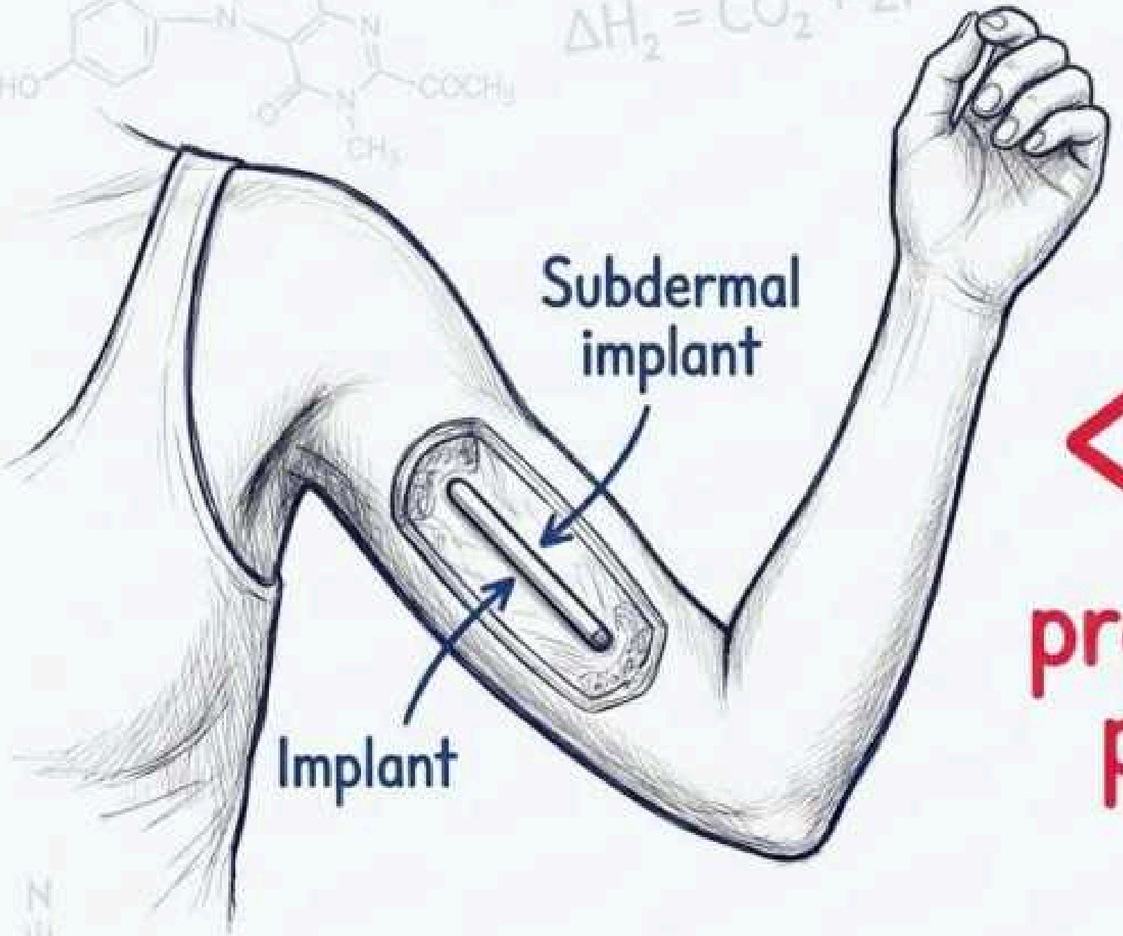
A monumental advance in public health and women's lives. The power to choose whether and when to have children.



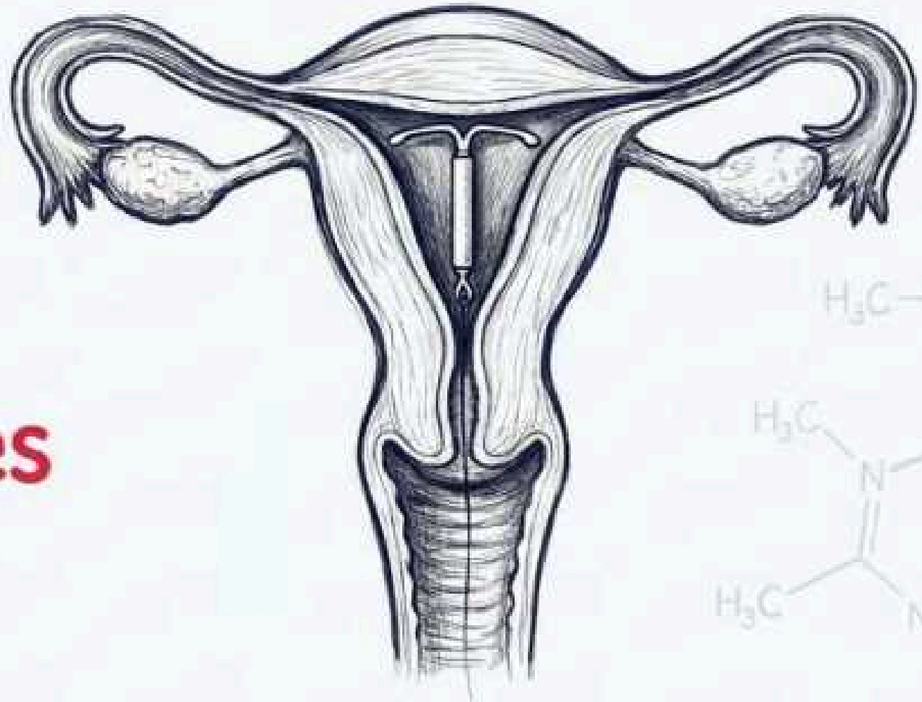
Effectiveness of any method hinges entirely on the gap between perfect and typical use.

Gemini Notebook

[¶ 6.8]



$< \frac{1}{100}$ pregnancies per year



LARC = Long-Acting Reversible Contraception.

Highest typical-use efficacy because nothing needs to be remembered.

[Sterilisation is equally effective but intended to be permanent.]

Gemini Notebook

[¶ 6.9]



The Combined Pill (1960):
Oestrogen + Progestogen blocks ovulation.

Typical Use: ~7/100 pregnancies/year (primarily due to missed pills).

Caution: Slight increase in blood clot risk (Ref: Medicine 525 B). Not suitable for everyone.

Alternatives: Progestogen-only pills, patches, rings, injections.

Note: Condoms are required for STI protection.

Gemini Notebook

Emergency Contraception: Interventions to prevent pregnancy after unprotected sex.

[¶ 6.10]

Time 0: Unprotected Sex

A.



Works by delaying ovulation.
Efficacy drops over time—Take ASAP.

5 Days

B.



Fitted within 5 days = The most effective emergency method.

Gemini Notebook

[¶ 6.11]

Perimenopause
(Years of change)

Menopause
(Avg age 51, 12 months without periods, follicle depletion)

Postmenopause

Falling Oestrogen



Brain: Hot flushes, night sweats, sleep disturbance, mood changes.

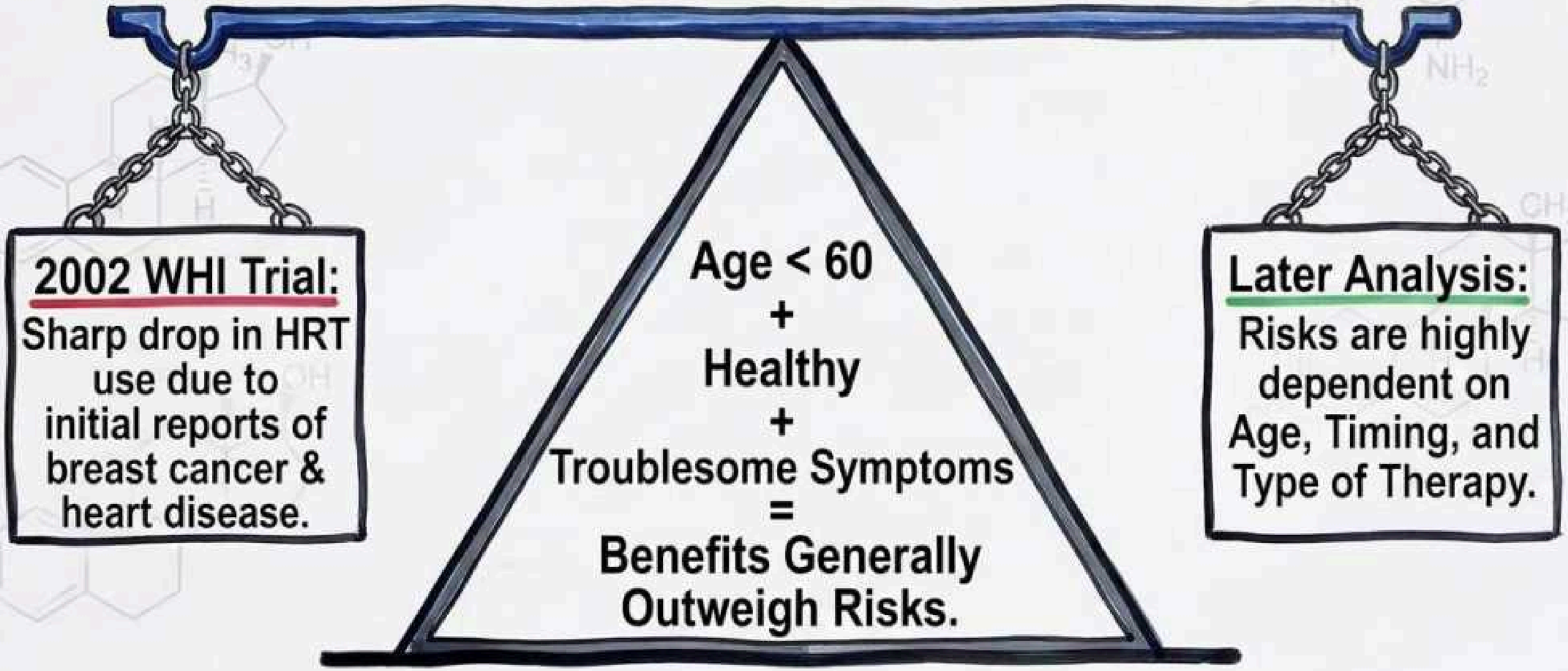
Vagina: Dryness.

Skeleton: Speeds bone loss / raises risk of osteoporosis.

Gemini Notebook

[¶ 6.12]

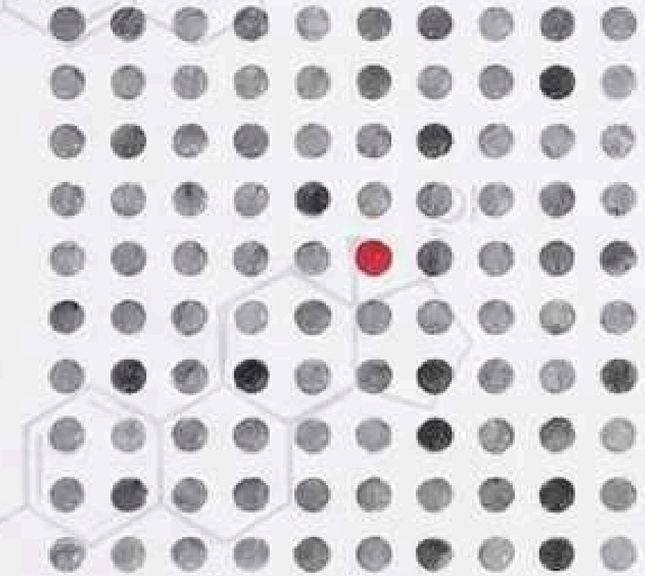
HRT effectively relieves symptoms. Every decision must be individualized.



[¶ 6.13]

Natural Menopause:
Age ~51

Premature Ovarian Insufficiency (POI):
Before Age 40



Affects 1 in 100 women.

Hormone replacement is strongly advised until the usual age of menopause (~51) to protect bone density and cardiovascular health.

Gemini Notebook

[¶ 6.14]

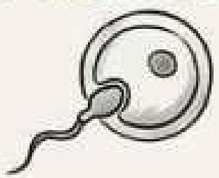
Hypothalamus → Pituitary → Gonads

Hypothalamic-Pituitary-Gonadal chain drives reproduction

Most vulnerable period (first 8 weeks)

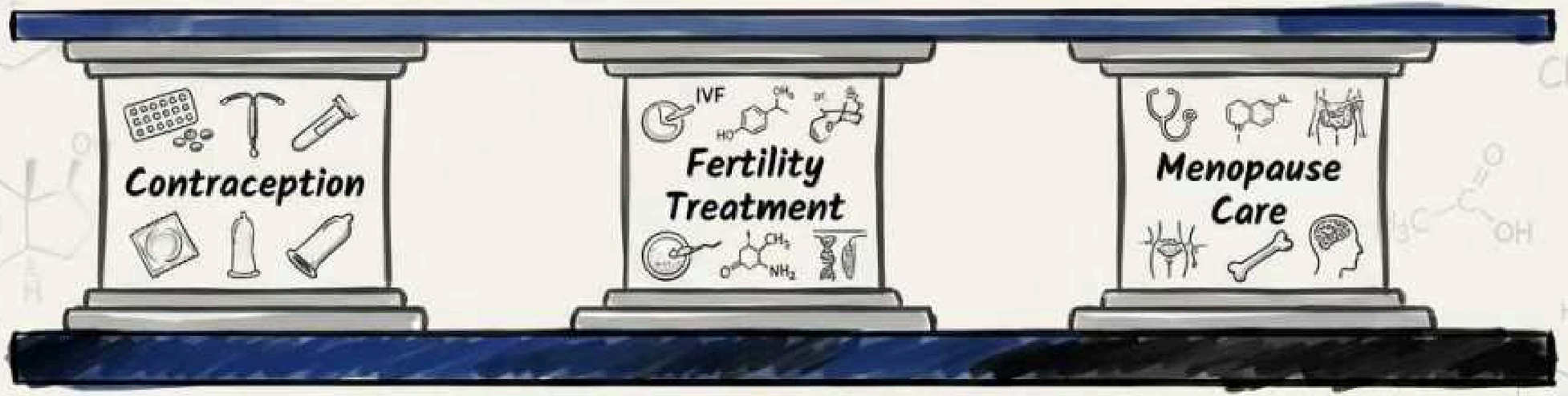
Ovulation → Fertilisation → Implantation







Great Dangers of Pregnancy: Pre-eclampsia & Postpartum Bleeding.



Shaping Reproductive Lives

Questions/Feedback: garyanderson@mail.grokbot.com | X: @garyanderson

Gemini Notebook