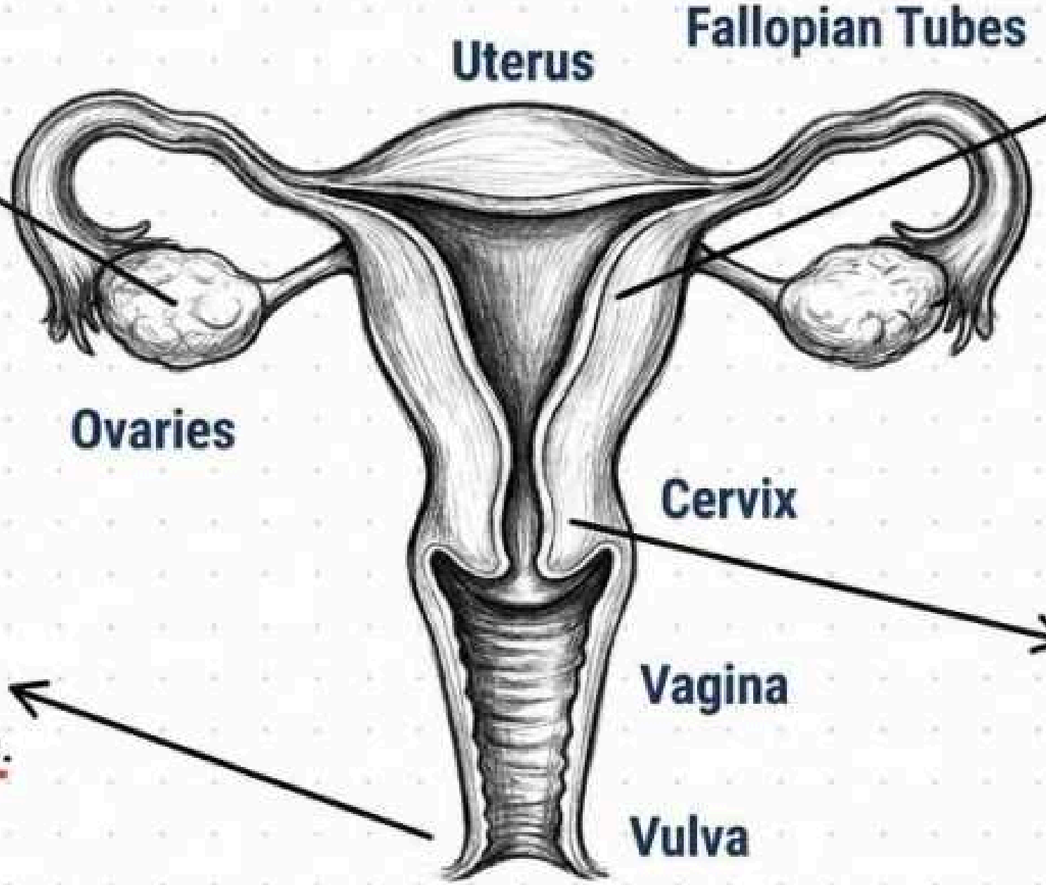
The Landscape of Gynaecological Cancers

¶ 6.1

Ovaries: High mortality, late detection paradigm.



Uterus (Endometrium): The most common presentation in wealthy nations.

Vulva & Vagina: Rarer presentations requiring distinct clinical vigilance.

Cervix: Highly preventable via screening and vaccination.

Together, these represent the most common cancers in women.
Prevention and early detection strategies differ markedly by anatomical site.

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HPV & Cervical Cancer Pathogenesis

¶ 6.2

$$HPV_{Infection} + \Delta\,Time_{Persistent} \rightarrow \text{Precancerous Changes} \rightarrow \text{Cervical Cancer}$$

High-risk types of Human Papillomavirus. A highly common STI.

Crucial divergence: Most infections clear spontaneously. Persistence is the primary driver of carcinogenesis.

Nobel Prize in Medicine (2008): Harald zur Hausen established this definitive viral-cancer link in the 1980s.

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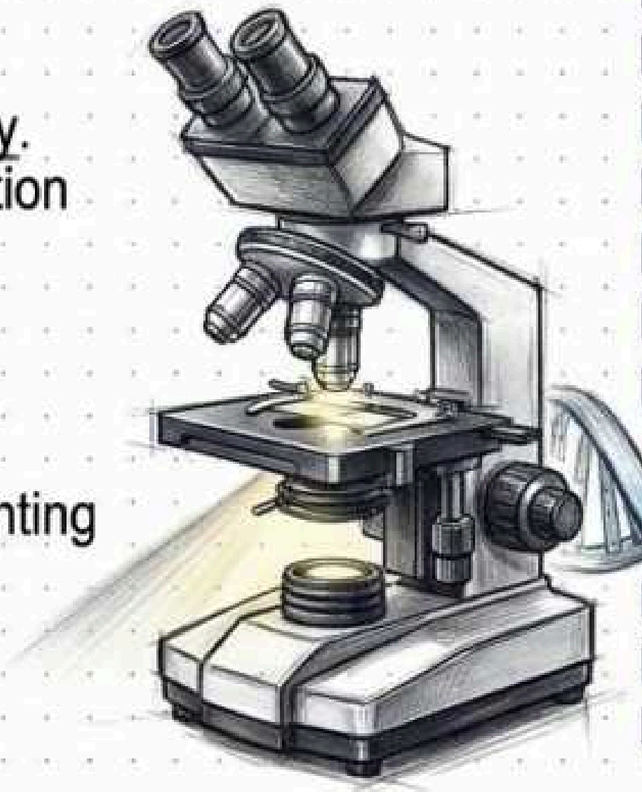
The Paradigm Shift in Cervical Screening

¶ 6.3

Detecting precancerous changes before malignancy develops.

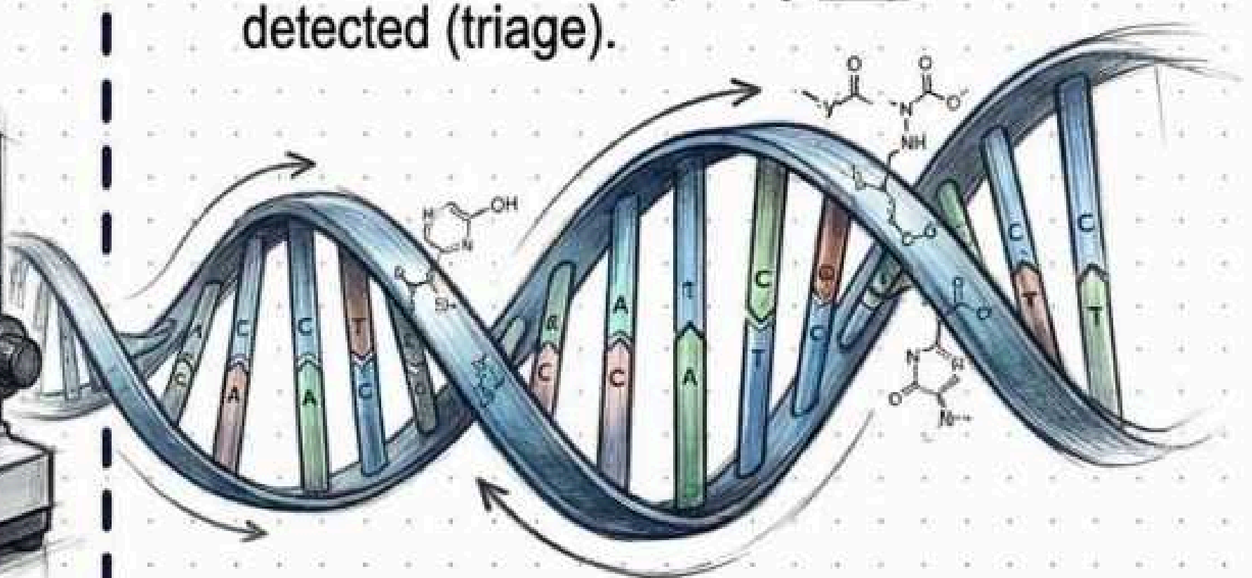
Historical Standard

- **Method:** The Pap Smear (introduced 1940s by George Papanicolaou).
- **Mechanism:** Cytology. Microscopic examination of cervical cells.
- **Impact:** Massively reduced cancer incidence in implementing countries.



Modern Approach

- **Method:** High-Risk HPV Testing.
- **Mechanism:** Molecular detection of viral DNA presence.
- **Advantage:** Higher sensitivity. Cells are examined microscopically only when HPV is detected (triage).



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Clinical Management of Precancerous Lesions

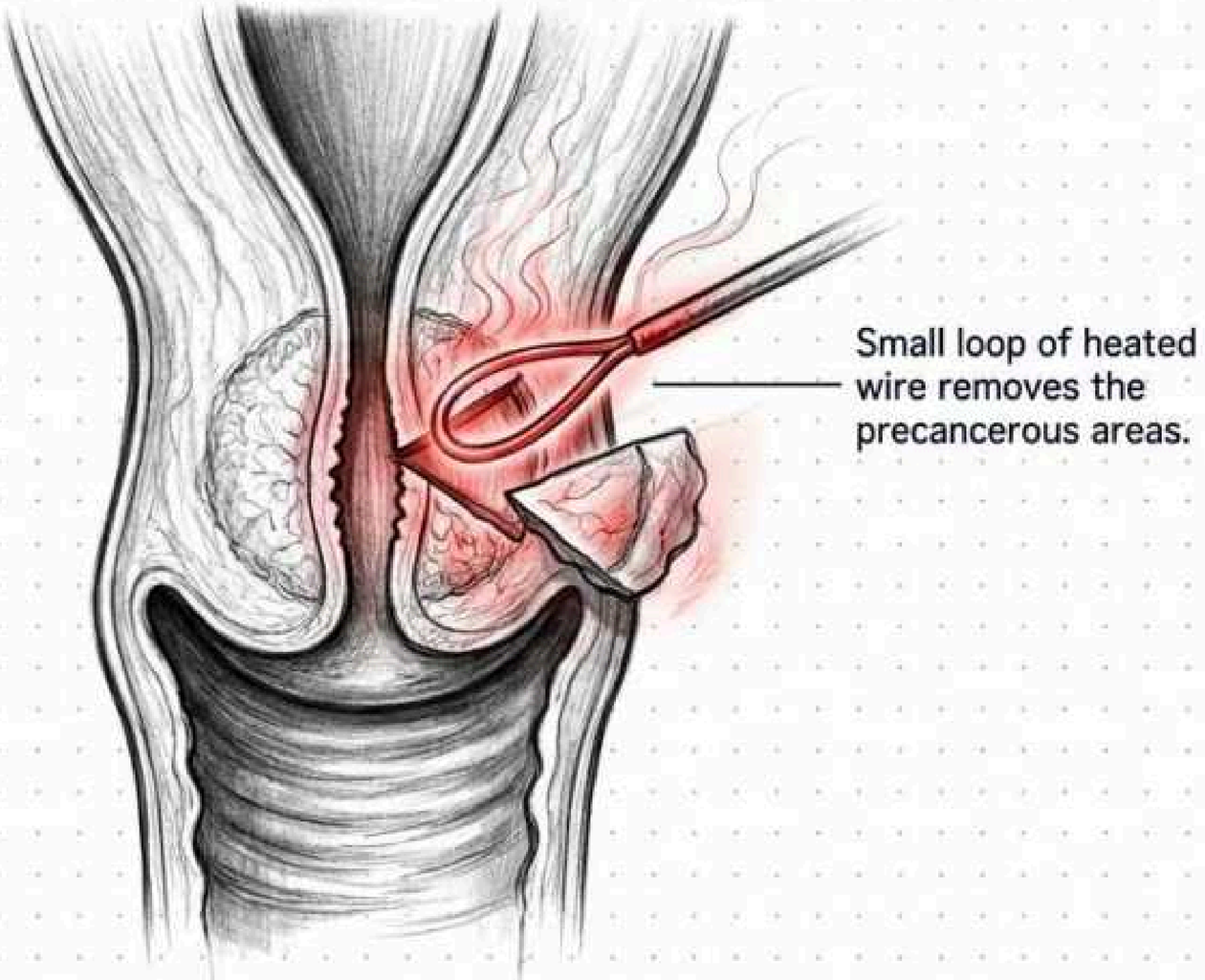
Abnormal Screening Result

↓

Colposcopy
(Closer microscopic examination of the cervix)

↓

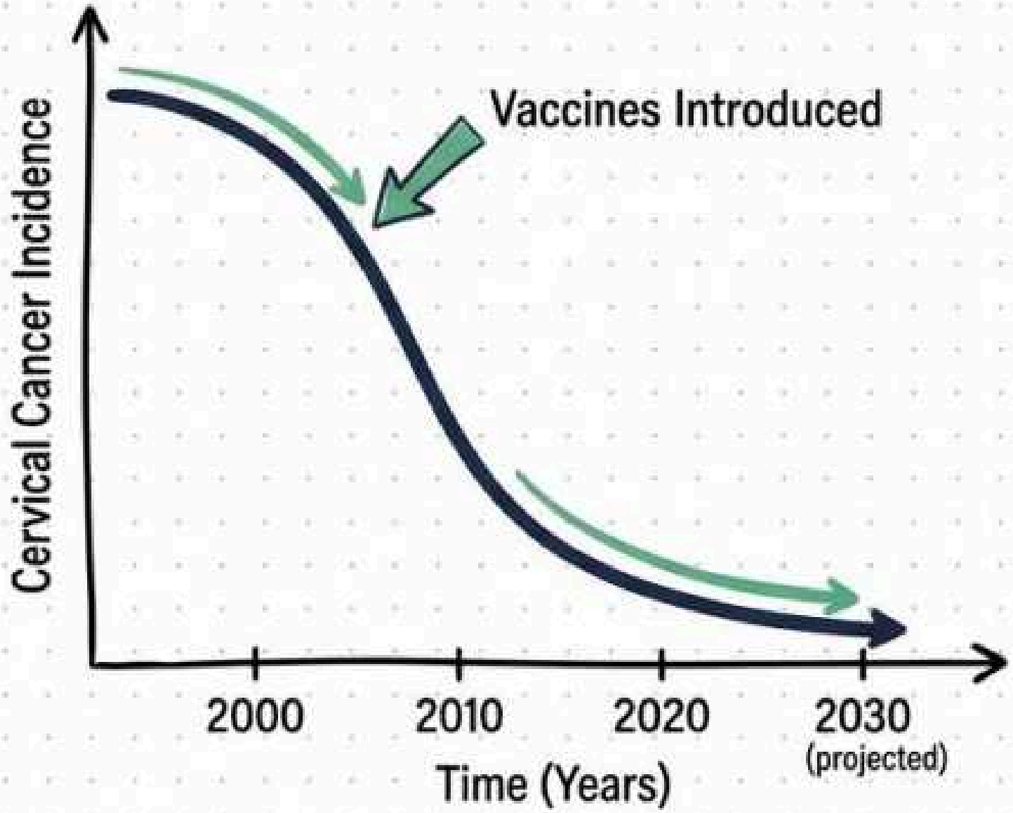
Excision Treatment



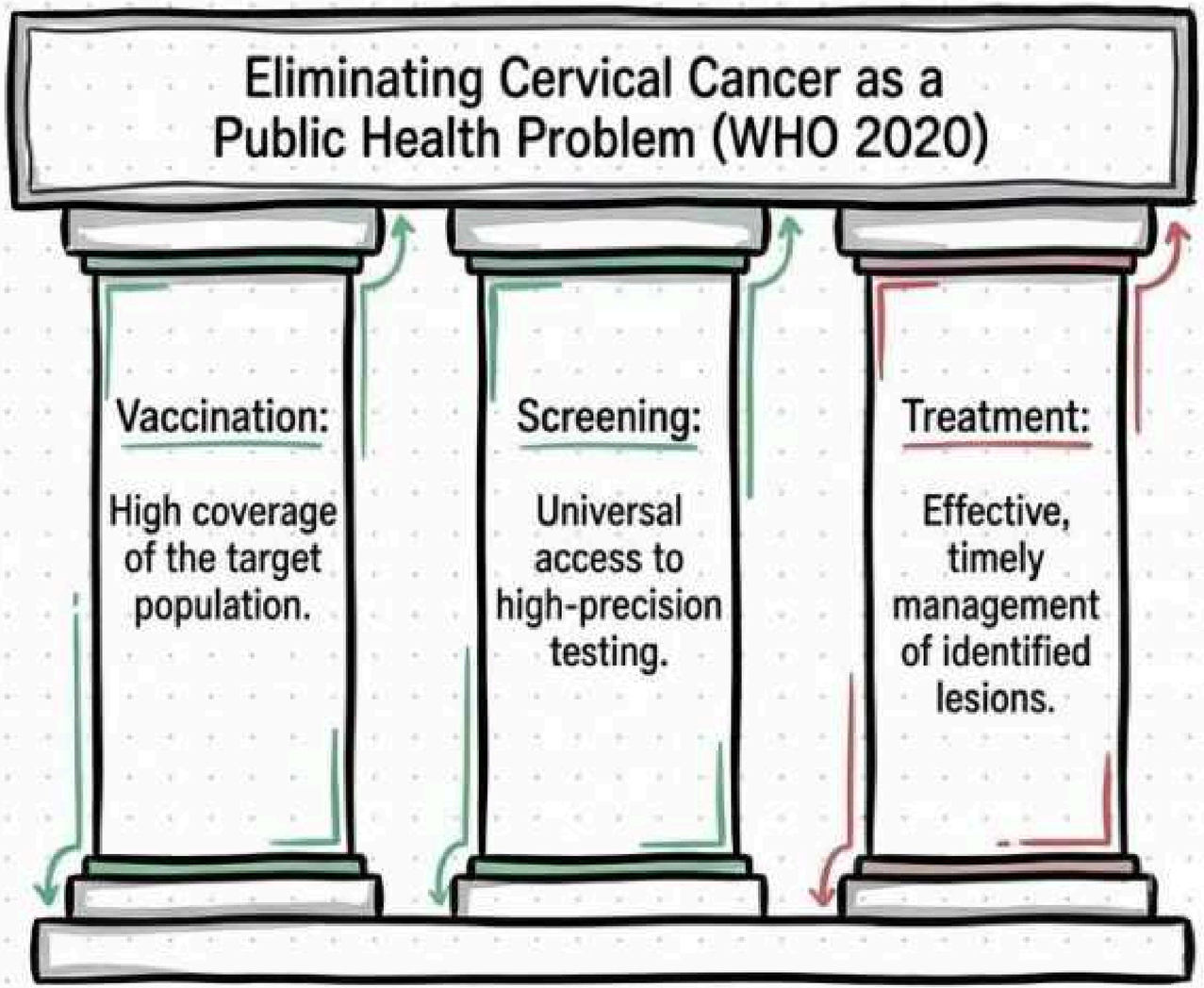
Highly effective intervention. Removing the precancerous tissue permanently halts the progression to invasive carcinoma.

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The Path to Elimination



Vaccines introduced in 2006 block main cancer-causing types. Dramatic drops seen in countries with high types. Dramatic drops seen in countries with high vaccine coverage (e.g., Scotland & Sweden).

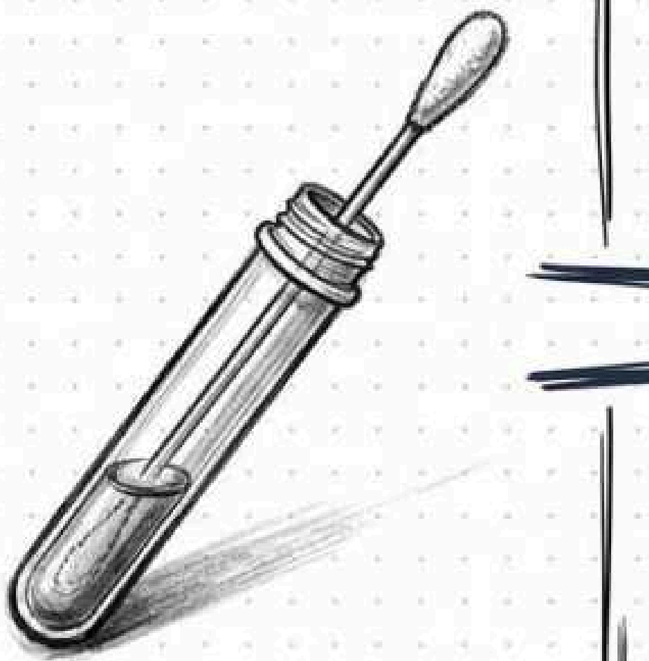


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Expanding Access in Low- and Middle-Income Countries

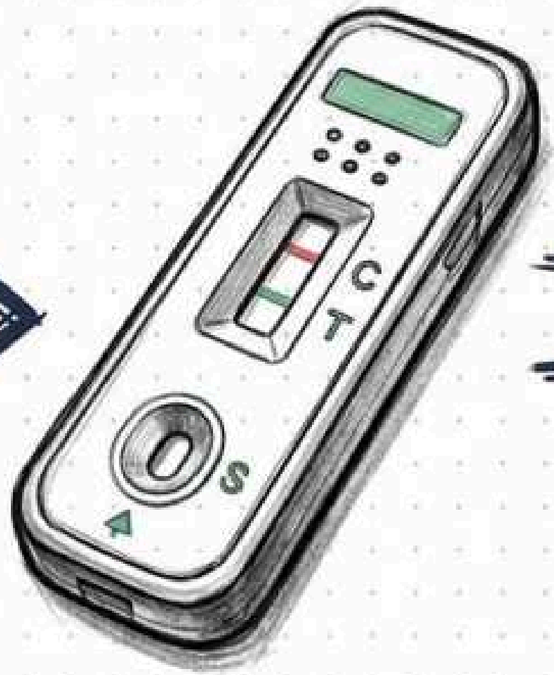
Cervical cancer remains a leading cause of cancer death where traditional screening and vaccination are scarce.

Step 1: Self-Collection



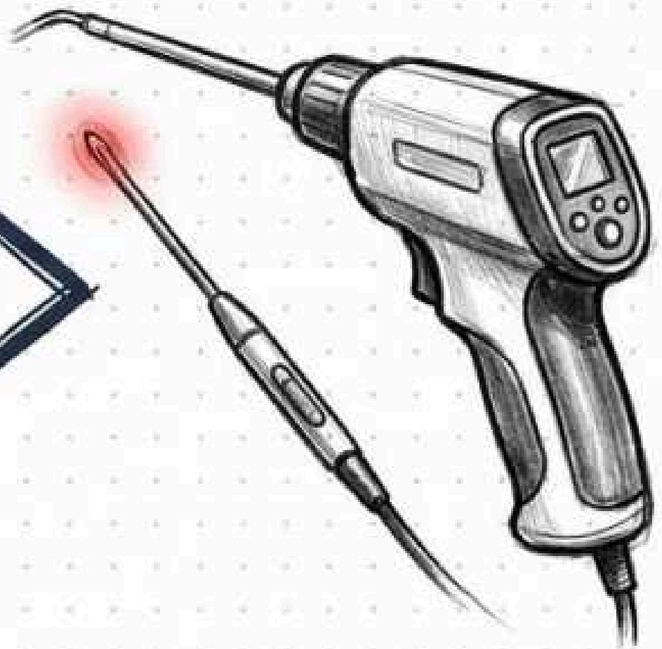
Patient-collected samples for HPV testing.

Step 2: Rapid Diagnostics



Immediate analysis without complex lab infrastructure.

Step 3: Single-Visit Screen-and-Treat



Immediate treatment of positive results in the same visit.

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Endometrial Cancer: The Rising Incidence

The **most common gynaecological cancer** in many wealthy countries, rising sharply with obesity rates.

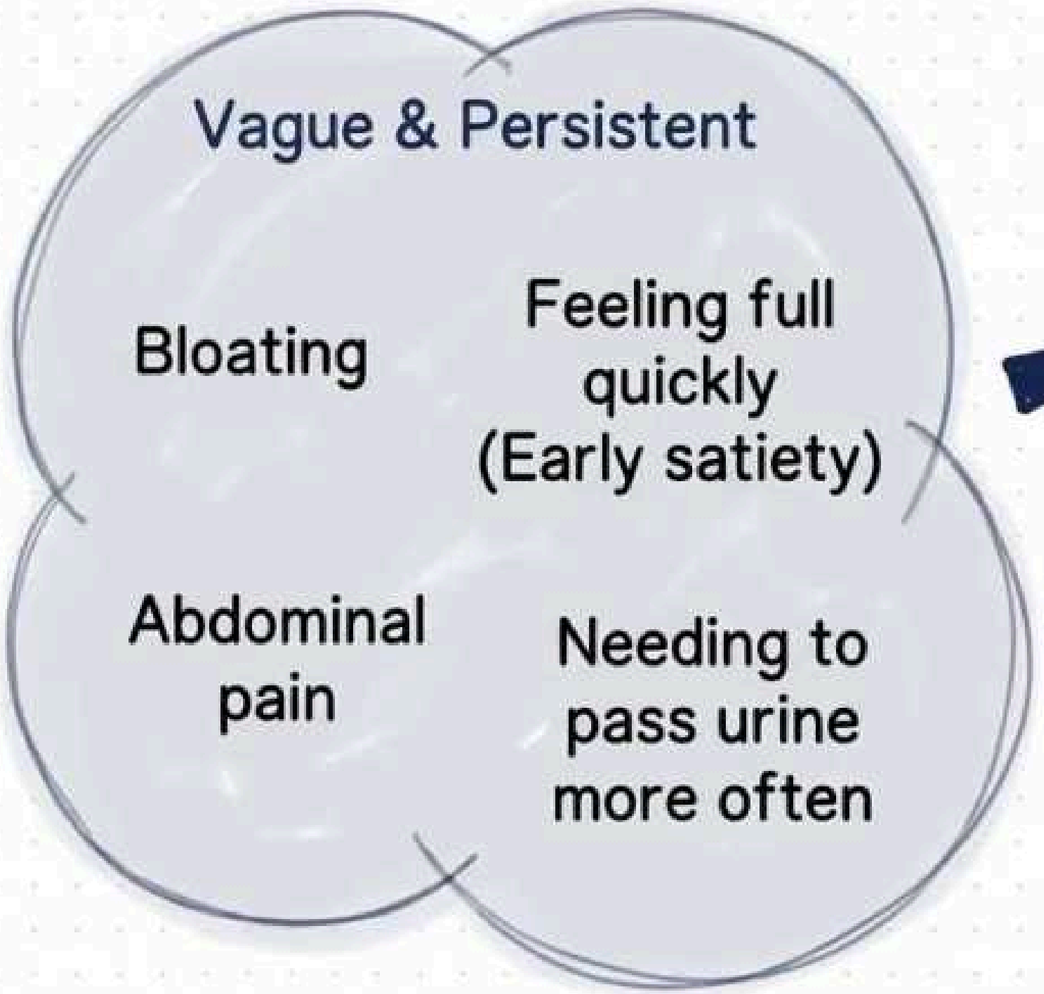
↑ Adipose Tissue → ↑ Oestrogen Production → Endometrial Stimulation → Malignancy Risk

Metabolic/Endocrine	Reproductive	Iatrogenic/Genetic
Obesity, Diabetes, Polycystic Ovary Syndrome (PCOS).	Nulliparity (never having been pregnant), Late menopause.	Tamoxifen use, Lynch syndrome (inherited condition).

Usually presents early with postmenopausal bleeding. Often cured by surgery.

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Ovarian Cancer: The Challenge of Early Detection



Persistent Symptoms → Blood Test (CA125 Marker) + Pelvic Ultrasound.

Why no routine screening?

A major 2021 British trial of the general population showed no reduction in deaths. Routine screening is NOT recommended.

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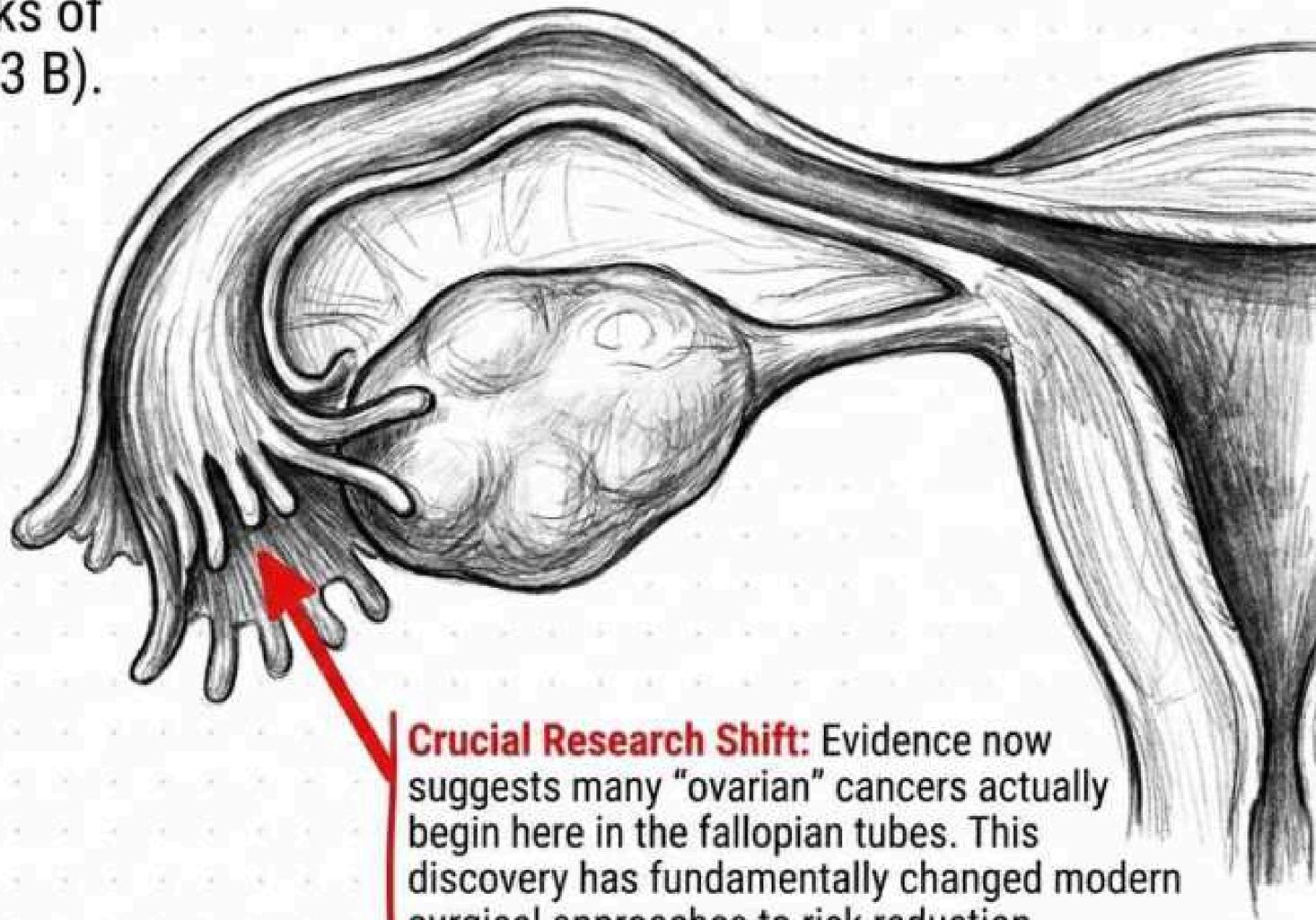
Inherited Risk: BRCA1 & BRCA2 Mutations

Inherited mutations greatly raise the risks of ovarian and breast cancer (Ref: MED 503 B).

Carrier Identification

→ Family Completion

→ Risk-reducing surgery (removal of ovaries and fallopian tubes)



Crucial Research Shift: Evidence now suggests many "ovarian" cancers actually begin here in the fallopian tubes. This discovery has fundamentally changed modern surgical approaches to risk reduction.

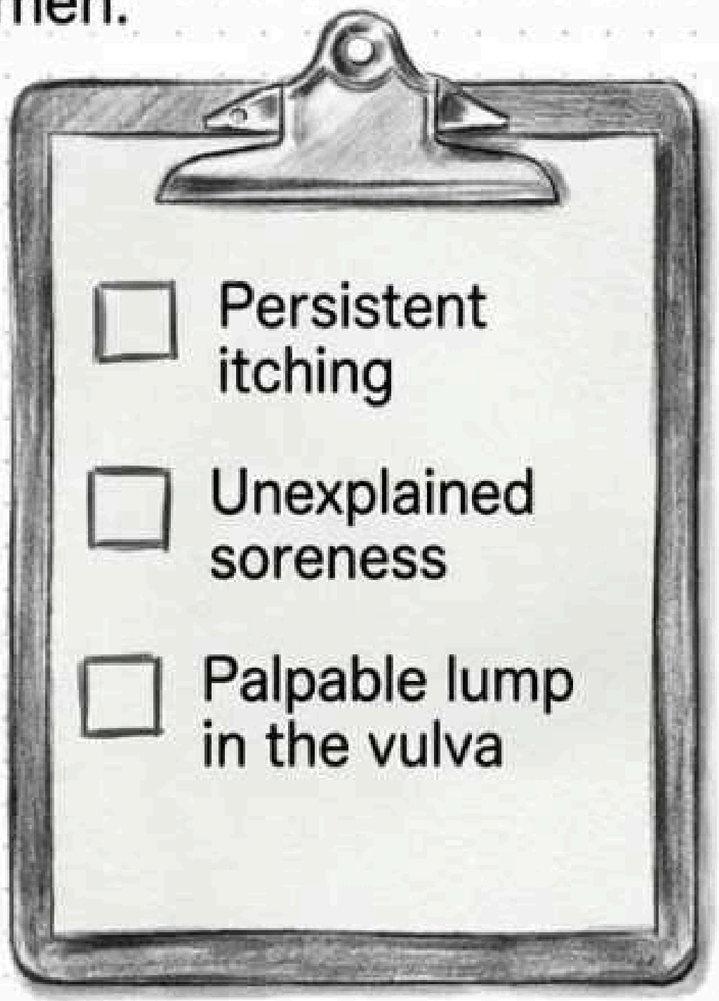
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Vulval Cancer: Clinical Profile

Rare presentation, occurring predominantly in older women.

1. Long-standing vulval skin conditions (dermatoses)

2. Persistent HPV infection

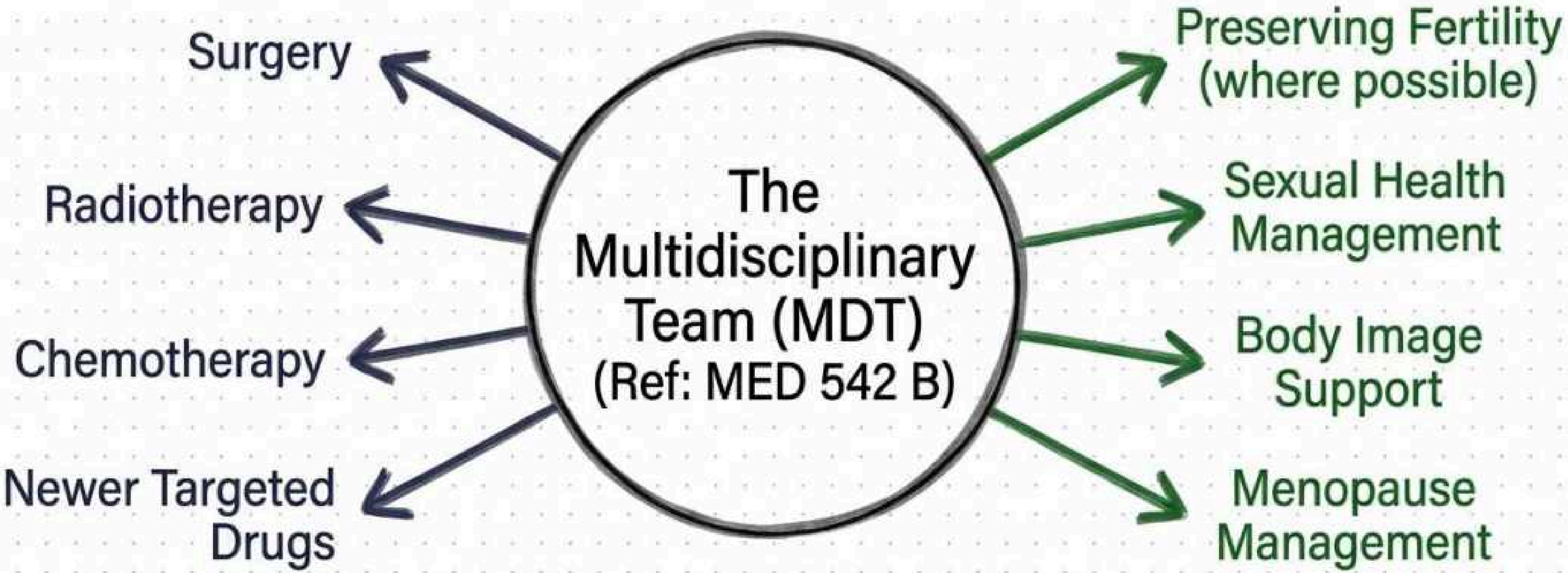


Requires immediate clinical examination.

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Comprehensive Gynaecological Oncology Care

¶ 6.11



Coordinated care is essential for combining survival outcomes with holistic patient wellbeing.

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Module Synthesis: MED 544 B

Antenatal Care:
Early detection of problems (pre-eclampsia, diabetes).

Postnatal Care:
Deserves exactly as much priority and care as pregnancy. ☑

Oncology (Lecture 6):
Cervical cancer is now largely preventable via vaccination and molecular screening.

Emergencies:
Labour requires skilled monitoring & teamwork.

Early pregnancy bleeding/pain prompts ectopic pregnancy consideration.

Questions or feedback?
Email: garyanderson @ mail.grokbot.com
X (Twitter): @garyanderson

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