National Cervical Screening Program in Australia

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National Cervical Screening Program from 1st December 2017

ensuring all women (vaccinated and unvaccinated) have access to a program that is acceptable, effective and efficient and based on current evidence

Aim for up to 36 % fewer cervical cancers

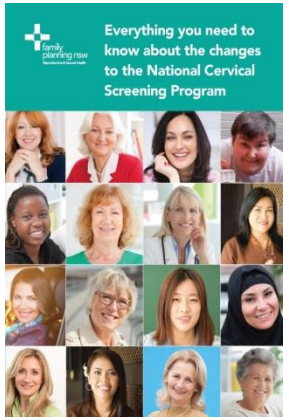
What is the Cervical Screening Test?

The Cervical Screening Test has 2 components:

1. **HPV DNA test** with partial genotyping (to allow independent detection and reporting of HPV 16 and 18; other oncogenic HPV types are reported as a pooled result)

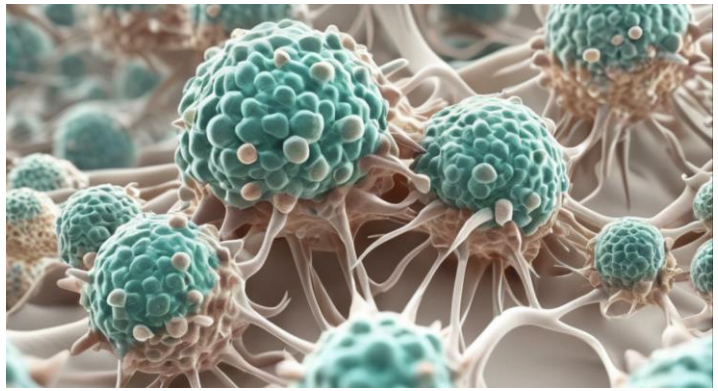
2. **Reflex liquid based cytology** (LBC) if the HPV test is +ve for **any** oncogenic HPV type (performed automatically on the same sample); results of LBC used to inform colposcopy

Understanding the new National Cervical Screening Program



- All women who have ever been sexually active will be invited for Cervical Screening Test at 25 years
- Women will be managed using a **risk-based approach** that is dependent on the cervical screening test results
- Cervical screening may cease between 70 and 74 if regular screening tests with –ve results and a –ve exit result
- Routine screening carried out every 5 years for women with no symptoms or history suggestive of cervical cancer
- Invitations and reminders will be sent by the National Register to screen-eligible women

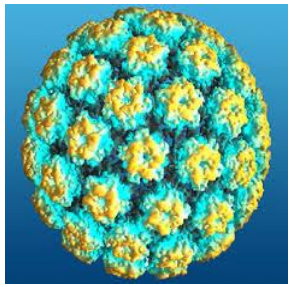
Overview of Cervical Cancer



- **Causes of Cervical Cancer**
- Cervical cancer is primarily caused by persistent infection with high-risk types of **human papillomavirus (HPV).**
- Other factors that may increase the risk of developing cervical cancer include smoking, a weakened immune system, and long-term use of oral contraceptives.

- **Prevalence of Cervical Cancer**
- Cervical cancer is one of the most common cancers in women worldwide.
- It is estimated that there were approximately 604,000 new cases and 342,000 deaths from cervical cancer in 2020.

HPV: the ‘common cold’ of the genitals!



- Up to 80% of people infected in their lifetime; usually resolves within 1 - 2 years
- > 99% cervical cancer linked to oncogenic HPV subtypes
- 14 oncogenic HPV types (16 & 18 more likely to persist detected in 70%–80% cases cervical cancer)
- Penetrative intercourse not strictly necessary; HPV can be transferred to the cervix from an infection at the introitus
- Transmission via genital skin-to-skin contact, vaginal sex, oral sex & anal sex

➢ **Introduction of the Gardasil-9 in 2018!**

HPV vaccination

- The Australian Immunisation Handbook recommends HPV vaccination for specific groups including:

a) younger people aged 9 to 25

b) people with significant immunocompromising conditions

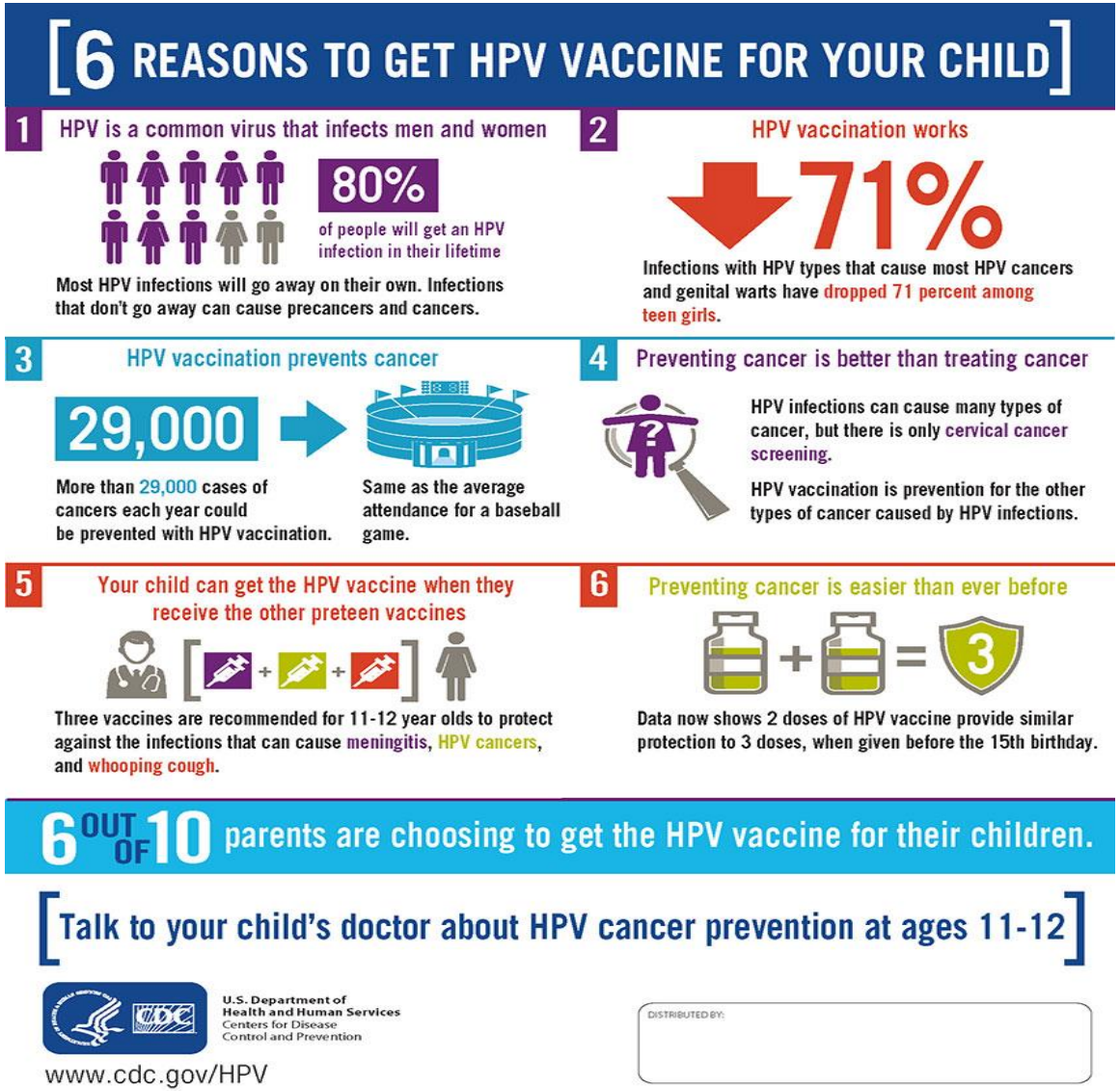
c) men who have sex with men.

- HPV vaccine is **free under the National Immunisation Program** for young people aged approximately 12 to 13 (Year 7).
- The vaccine is primarily provided through **school immunisation programs.**
- A single dose of the HPV vaccine **(Gardasil®9)** is funded under the National Immunisation Program for adolescents aged 12 to 13.
- Adolescents who missed the HPV vaccination at 12 to 13 years of age can catch up for free up to age 26.
- HPV vaccines should not be given to:

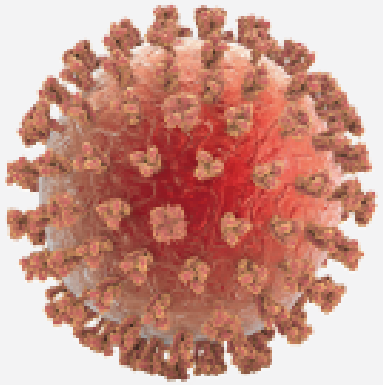
➢ people who have had anaphylaxis after a previous dose of any HPV vaccine or anaphylaxis after any component of an HPV vaccine

➢ people who have had anaphylaxis to yeast (for 9vHPV).

➢ HPV vaccines are not recommended for pregnant women. Breastfeeding woman can receive HPV vaccines.



The link between HPV infection and cervical cancer



HPV INFECTION
(low grade abnormality)

Persistence
&
Progression

Regression

PRE-CANCER
(high grade abnormality,
CIN2/3 or AIS)

Invasion in
small proportion
of women

CERVICAL
CANCER

2% of persistent oncogenic infections associated with cancer; takes about 10 years to develop

CIN 3: up to a 1/3 will progress to invasive cancer within 10–20 years

Explaining changes to the screening age: routine screening not recommended < 25

- Cervical cancer very rare in young women
- Screening < 25 years has not reduced invasive cancer rates or deaths in this age group or in 25-29 year olds
- HPV vaccination already showing a reduction in screen-detected abnormalities in women <25 years of age
- Cervical abnormalities common < 25 years and usually resolve; over-diagnosis and over-treatment not desirable
- History of childhood sexual abuse or early sexual debut (< 14 years, prior to HPV vaccination): consider a HPV test between 20—24 years
- Symptomatic women of **ANY** age should be assessed with a co-test

Peirson L et al Syst Rev 2013;2:35; Kyrgiou M,et al Lancet 2006;367:489-98; Sasieni et al BMJ 2009; Schlect NF J Natl Cancer Inst 2003;95:1336-43

Why is primary HPV testing replacing the Pap test?

- A significant false-negative rate for Pap vs HPV tests (30% vs 2-3%) required more frequent screening to minimise failure to detect disease
- Women who test HPV -ve are at very low risk of HSIL and cancer for at least 5 years
- Compared with cytology, HPV testing provides 60–70% greater protection against invasive cervical cancers; significantly reduced incidence of adenocarcinomas
- Opportunity for self collection in under-screened populations

Renshaw AA et al. Cancer Cytopathology 2001;93:106-10
Dr Guglielmo Ronco et al. Lancet 2014;383:524-32

Changes to the Screening Program

Guideline Updates

The National Cervical Screening Program (NCSP) has undergone several updates to its guidelines over the years.
These updates aim to improve the effectiveness and accuracy of cervical cancer screening.

Increased Screening Intervals

With the introduction of HPV testing, the recommended screening interval increased from every 2 years to every 5 years for most women.
This change is based on evidence that HPV testing is more effective and allows for early detection of cervical abnormalities.

Introduction of HPV Testing

In 2017, the NCSP transitioned from Pap smears to primary human papillomavirus (HPV) testing as the primary screening method.
HPV testing is more sensitive and can detect high-risk HPV types that are associated with cervical cancer.

Self-Sampling Option

In 2020, the NCSP introduced a self-sampling option for eligible women who are reluctant or unable to undergo a clinician-collected cervical sample.
Self-sampling kits allow women to collect their own sample for HPV testing, increasing accessibility to screening services.
2022- Option of self sample available to everyone

Continued Monitoring and Evaluation

The NCSP continues to monitor and evaluate the effectiveness of the screening program and make updates as necessary.
Ongoing research and advancements in technology contribute to the improvement of cervical cancer screening.

Self-collection of a vaginal HPV sample

- Alternative for eligible under or never-screened women who have declined invitations to participate in conventional screening

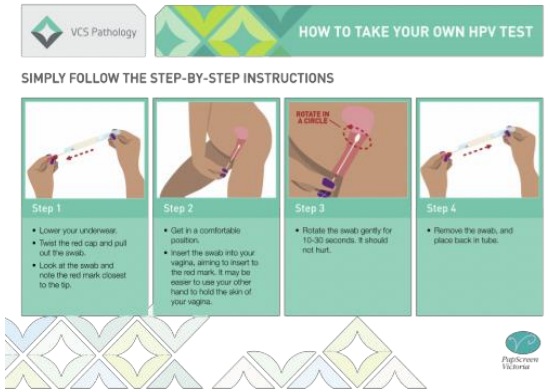
Eligibility:

- 30 years + and **never** had cervical screening & 30 years + and **overdue by 2 years** or longer
- Facilitated by a health professional within a healthcare clinic & Dry flocked swab self-inserted into vagina

WRONG

It's available to everyone now……. Patient choice. If HPV+ result then has to return back to the clinician for Cytology testing (LBC)- Since 2022

Self-collection of a vaginal HPV sample



- Lower sensitivity and specificity than a clinician-collected HPV sample (pooled sensitivity and specificity ratios of 0.88 (0.85-0.91) and 0.96 (0.93-0.99) respectively for CIN 2 or worse

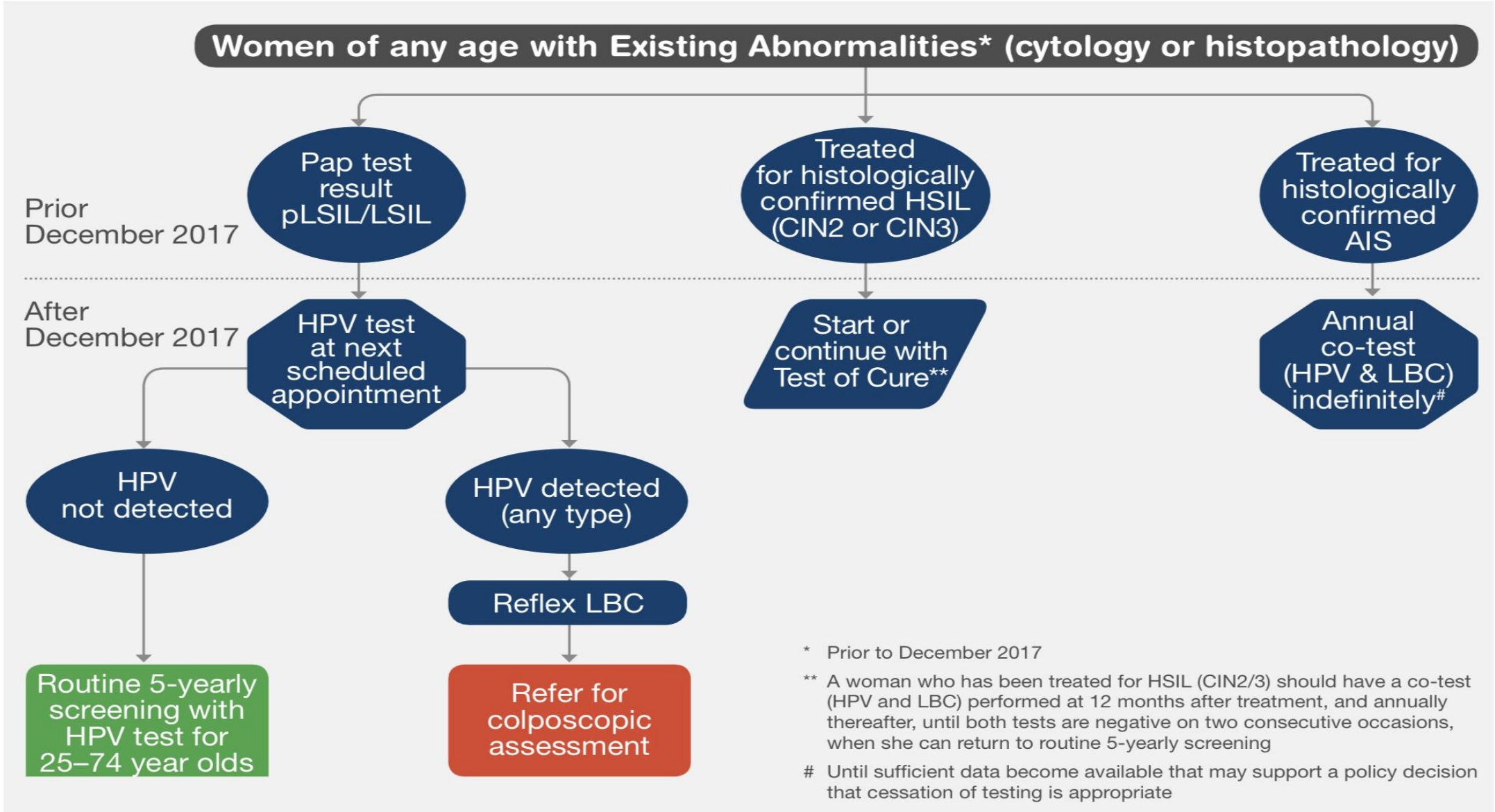
- Cannot perform reflex LBC; if HPV 16 or 18 detected refer directly for colposcopy; other oncogenic HPV requires examination and clinician sample for LBC)

Arbyn M et al. Lancet Oncol 2014; 15: 172-83

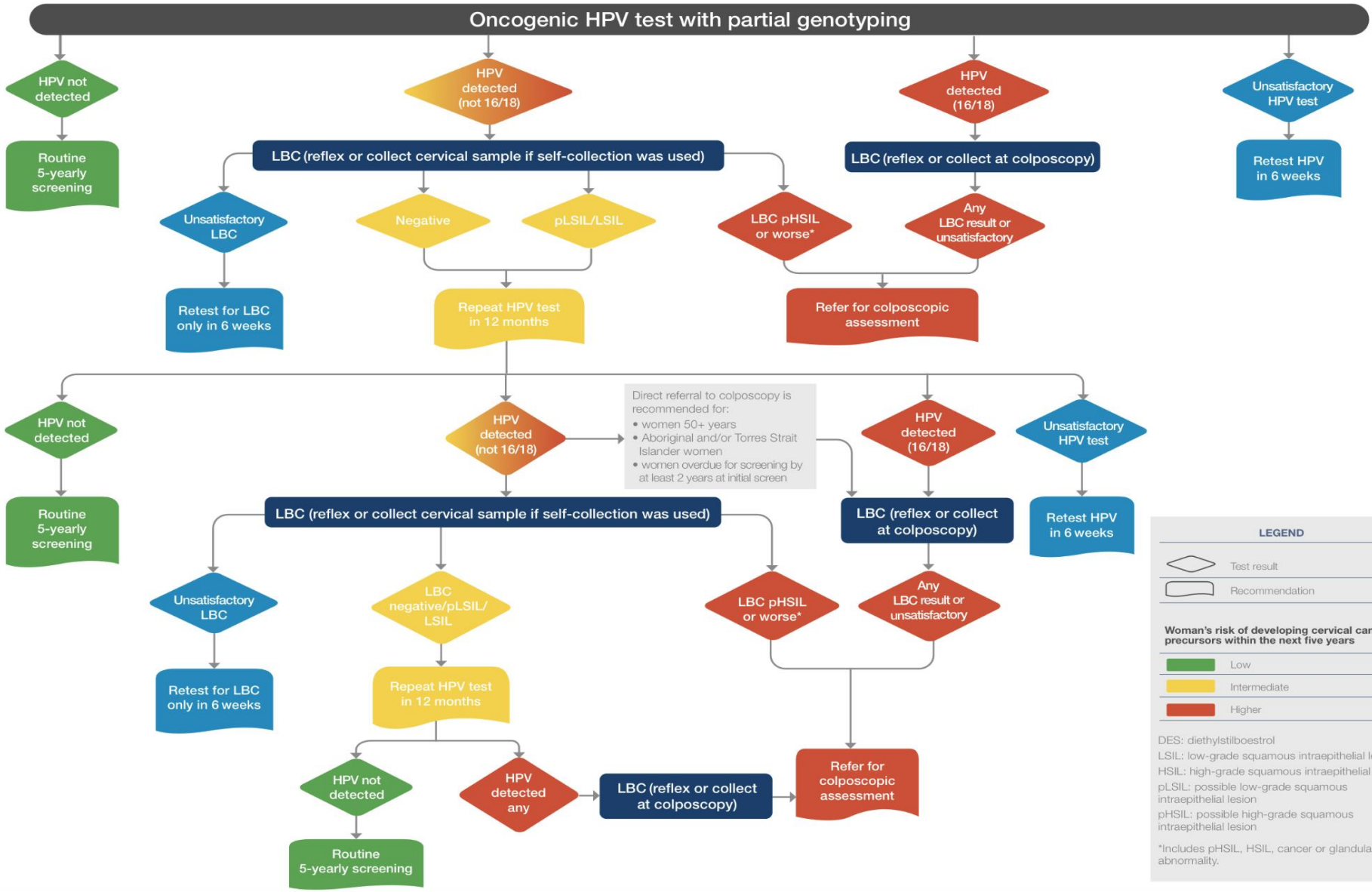
The cervical screening consultation: what's new and what's the same

- Discussion about screening; history taking; informed consent
- Addressing screening barriers and opportunistically screening
- Experience **IS THE SAME FOR THE PATIENT** with speculum examination
- Sample of cells from squamo-columnar junction; no slides!
- Opportunity for self-collection for everyone
- Completion of pathology request form for Cervical Screening Test (history, symptoms, examination)
- Lab performs HPV test +/- reflex LBC
- For specific indications order a **co-test** on the form

TRANSITION TO THE RENEWED NATIONAL CERVICAL SCREENING PROGRAM



CERVICAL SCREENING PATHWAY (CLINICIAN COLLECTED OR SELF-COLLECTED)



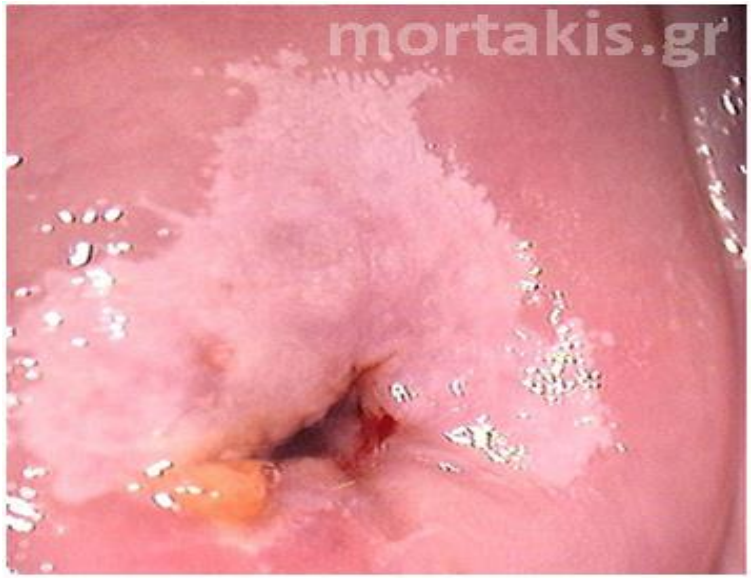
Suggested citation: Cancer Council Australia Cervical Cancer Screening Working Party. Clinical pathway: Cervical screening pathway. National Cervical Screening Program: Guidelines for the management of screen detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding. CCA 2016. Accessible from http://wiki.cancer.org.au/australia/Guidelines:Cervical_cancer/Screening. Updated Dec 2020.

NATIONAL CERVICAL SCREENING PROGRAM
A joint Australian, State and Territory Government Program

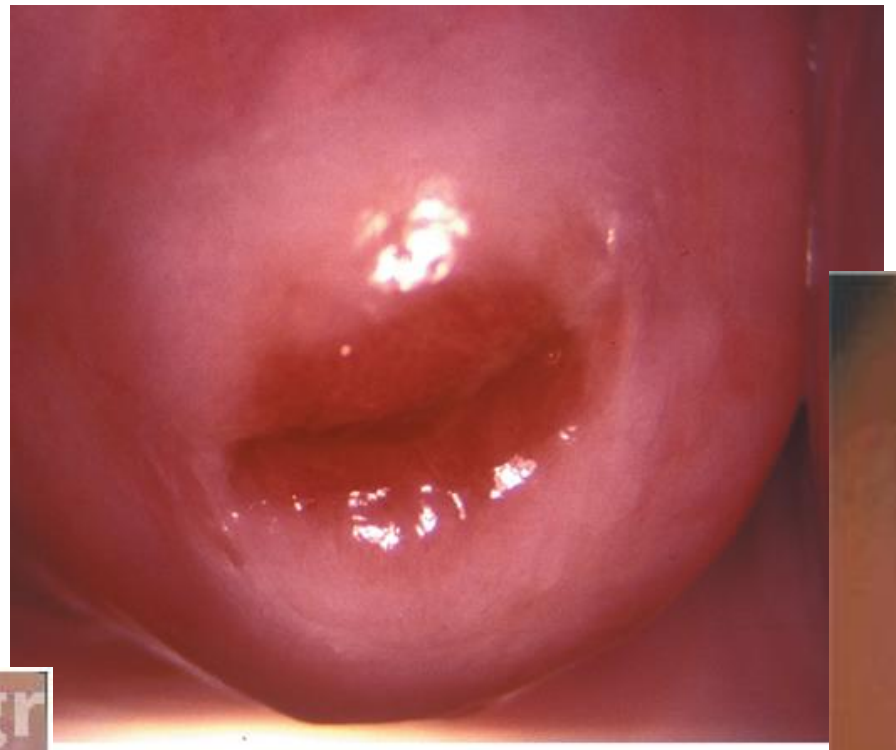
Australian Government Department of Health

Cancer Council

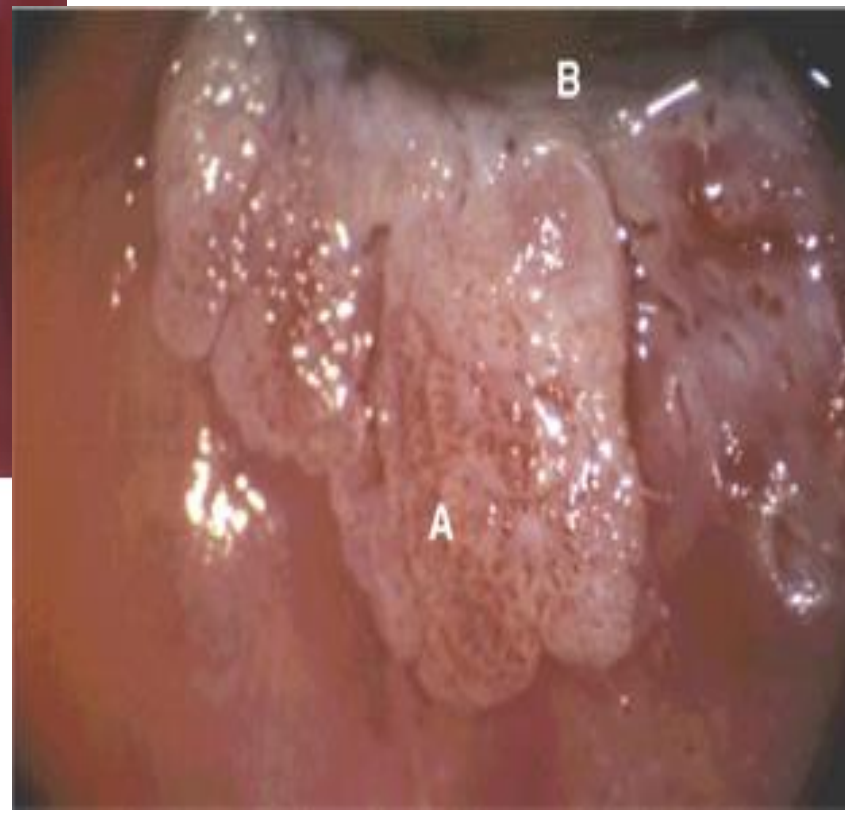
CIN-1



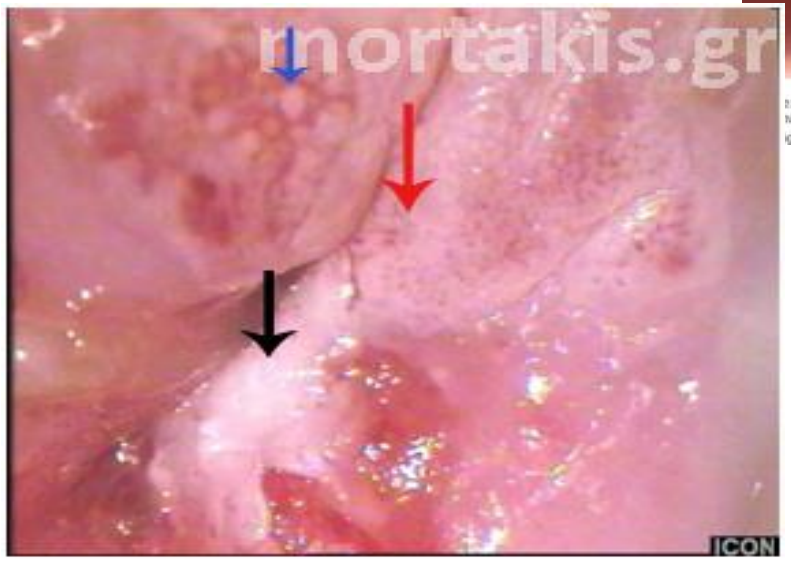
Normal T1TZ



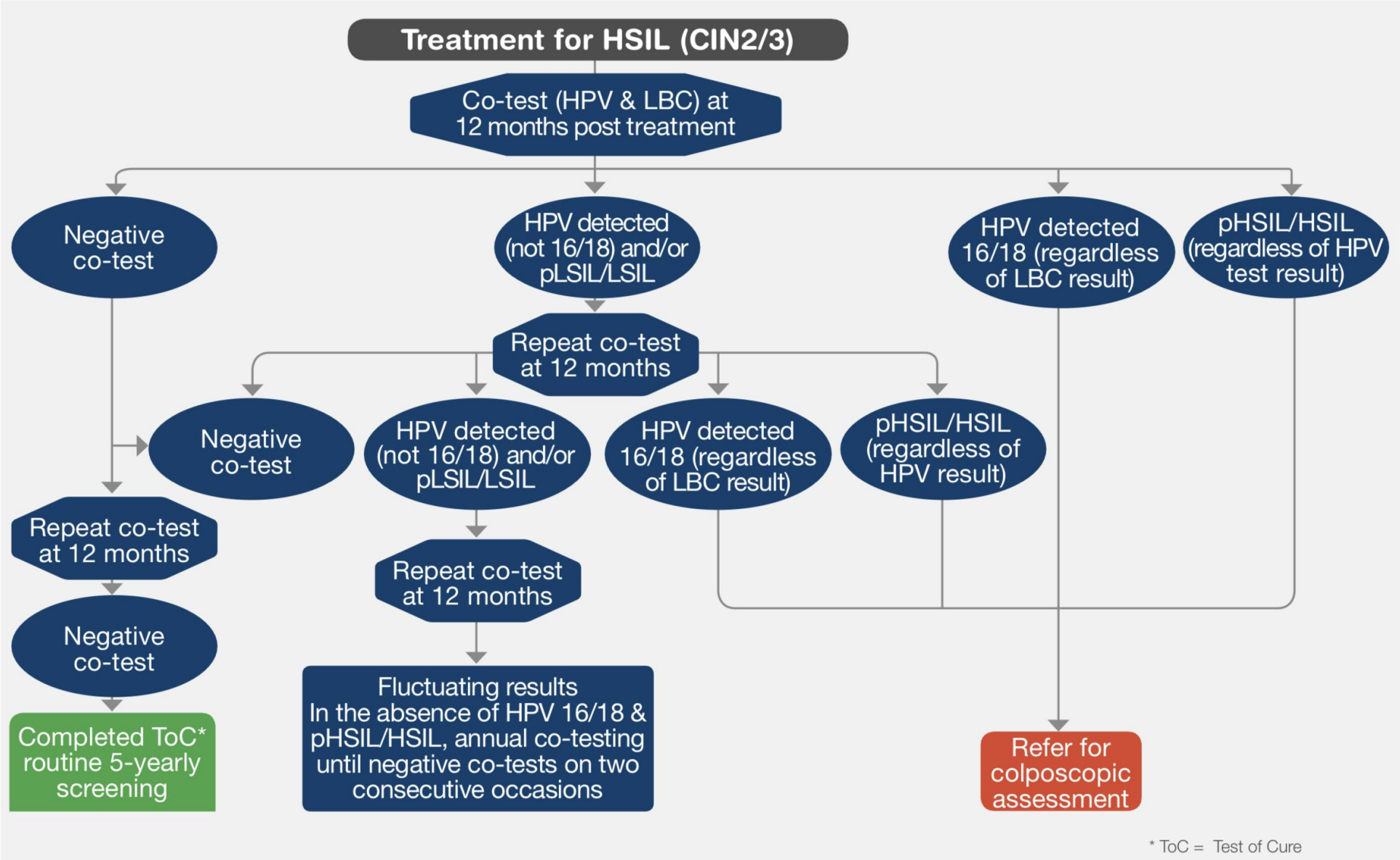
Invasive disease



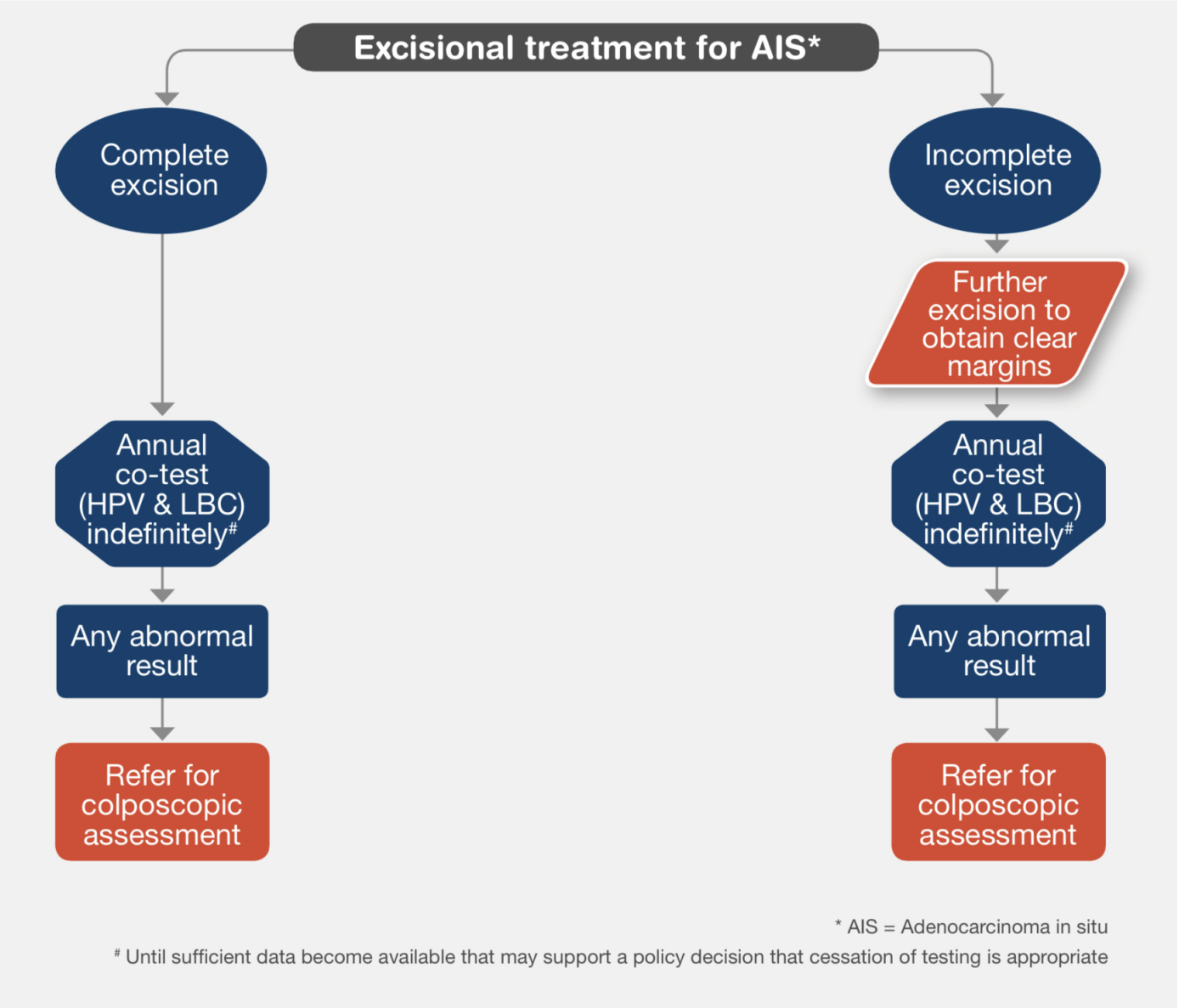
CIN-3



TEST OF CURE FOLLOWING TREATMENT FOR HIGH-GRADE SQUAMOUS ABNORMALITIES



FOLLOW UP AFTER EXCISIONAL TREATMENT FOR AIS



* AIS = Adenocarcinoma in situ

Until sufficient data become available that may support a policy decision that cessation of testing is appropriate

Screening for specific populations:

- Pregnancy & Postpartum
- Post-menopause
- Early sexual activity
- Immune-compromise (screen every 3 years)
- Post-hysterectomy
- DES-exposure in utero
- Transgender men with a cervix (consider a short course of vaginal oestrogen)
- Women with abnormal vaginal bleeding or an abnormal appearing cervix

Screening for specific populations

- Pregnancy – perform if due (use a broom-type sampler brush NOT a cytobrush or combi-brush)

➢Self-collection not recommended

- Postpartum - screen > 6 weeks after delivery; if breastfeeding or no menses, consider prior short course vaginal oestrogen
- Post-menopausal – no recommendation for routine vaginal oestrogen; consider if vaginal dryness/superficial dyspareunia **or** if reflex LBC unsatisfactory due to atrophy, insufficient cells or inflammation **or** prior to colposcopy

- Post menopause and Transgender men with short cervix
- A short course of topical oestrogen therapy could be considered in post-menopausal women, people experiencing vaginal dryness, anyone who has previously had poor sample pickup, or trans men who opt for a clinician-collected sample, prior to collecting the sample,
- for example daily for a period of at least 2 weeks, ceasing 1-2 days prior to the appointment.
- The reason for this should be explained (to reduce discomfort from the speculum and to improve the diagnostic accuracy of LBC)

- Early sexual activity or sexual abuse histoty- Can consider having HPV vaccination earlier than 12-13yrs age

- Des Exposure in utero- Annual co-test and colposcopy annually indefinitely

Screening in specific populations: immunocompromised

Immune-deficiency - HIV +ve or solid organ transplant recipients screen 3 yearly if normal screening history

Consider 3 yearly screening in other immune-deficient women:

- congenital primary immune deficiency
- immunosuppressant therapy
- bone marrow transplant recipients
- screening young women(20-24 years) if immune deficient for more than 5 years.

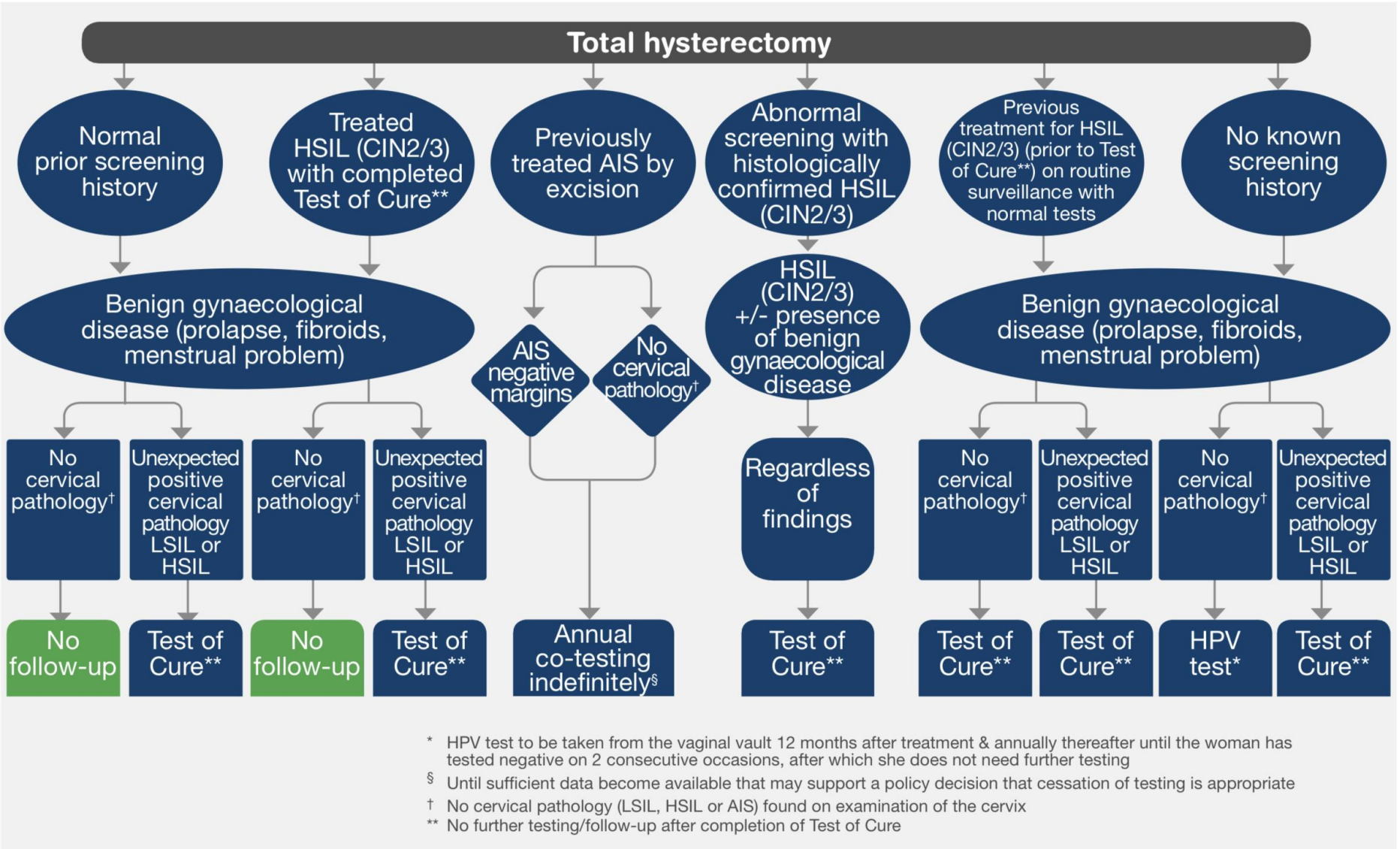
+ve HPV (any type) referral for colposcopy (with experienced gynaecologist) regardless of LBC result.

Abnormal vaginal bleeding (post-coital, intermenstrual, postmenopausal)

- Malignancy uncommon but must be excluded; consider pregnancy, STIs, polyps, coagulopathies, ovulatory disorders, endometrial disorders, vaginal atrophy, hormonal contraception
- Women of **ANY** age with signs or symptoms suggestive of cervical cancer should have a **co-test**
- **Co-test: a HPV DNA test AND liquid based cytology** on the same sample
- Co-test has high negative predictive value for HSIL/CIN3
- **Do not delay co-test** due to the presence of blood: co-testing improves reduced sensitivity of individual tests

Management of co-test results……..

VAGINAL SCREENING AFTER TOTAL HYSTERECTOMY



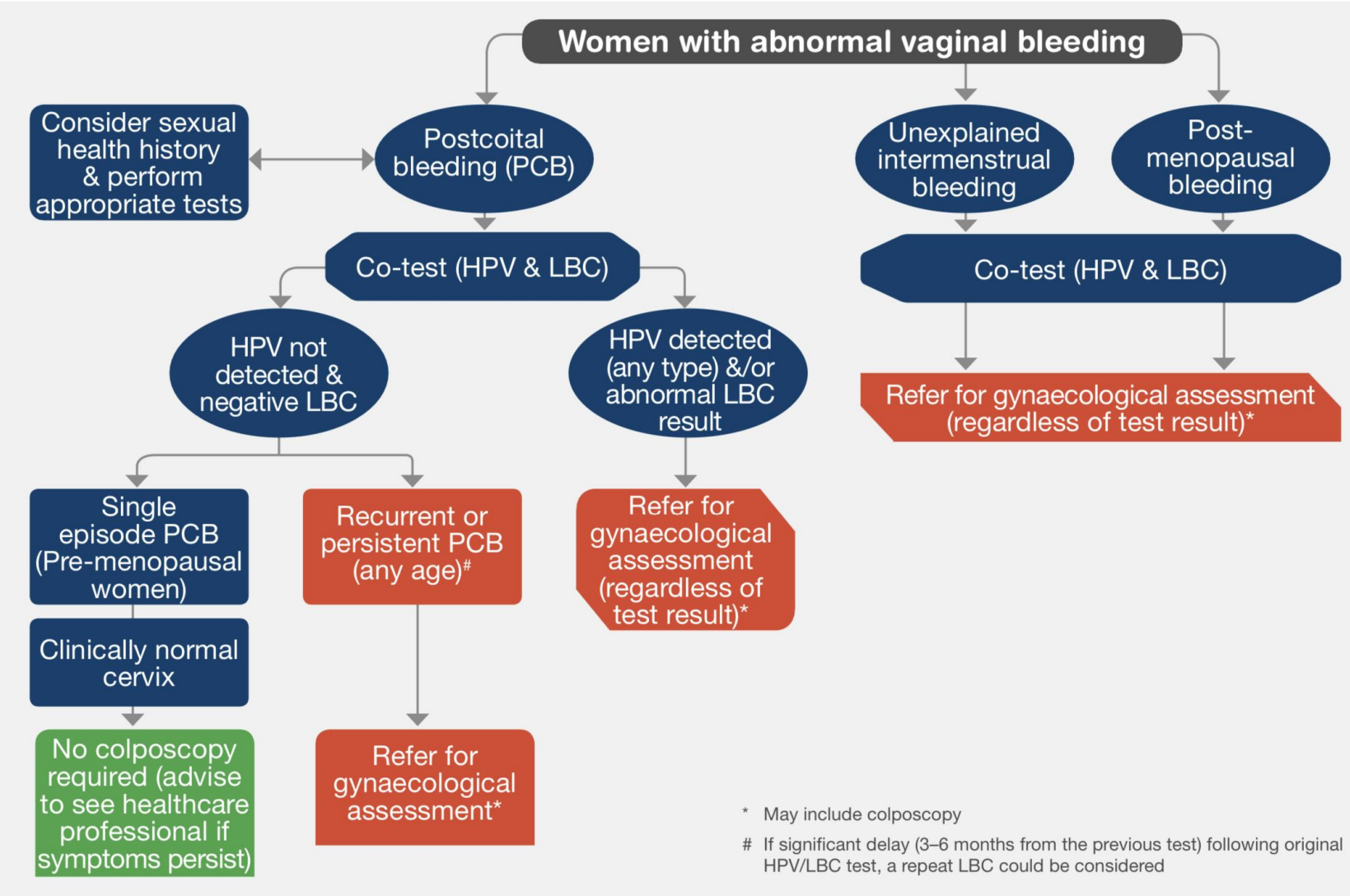
* HPV test to be taken from the vaginal vault 12 months after treatment & annually thereafter until the woman has tested negative on 2 consecutive occasions, after which she does not need further testing

§ Until sufficient data become available that may support a policy decision that cessation of testing is appropriate

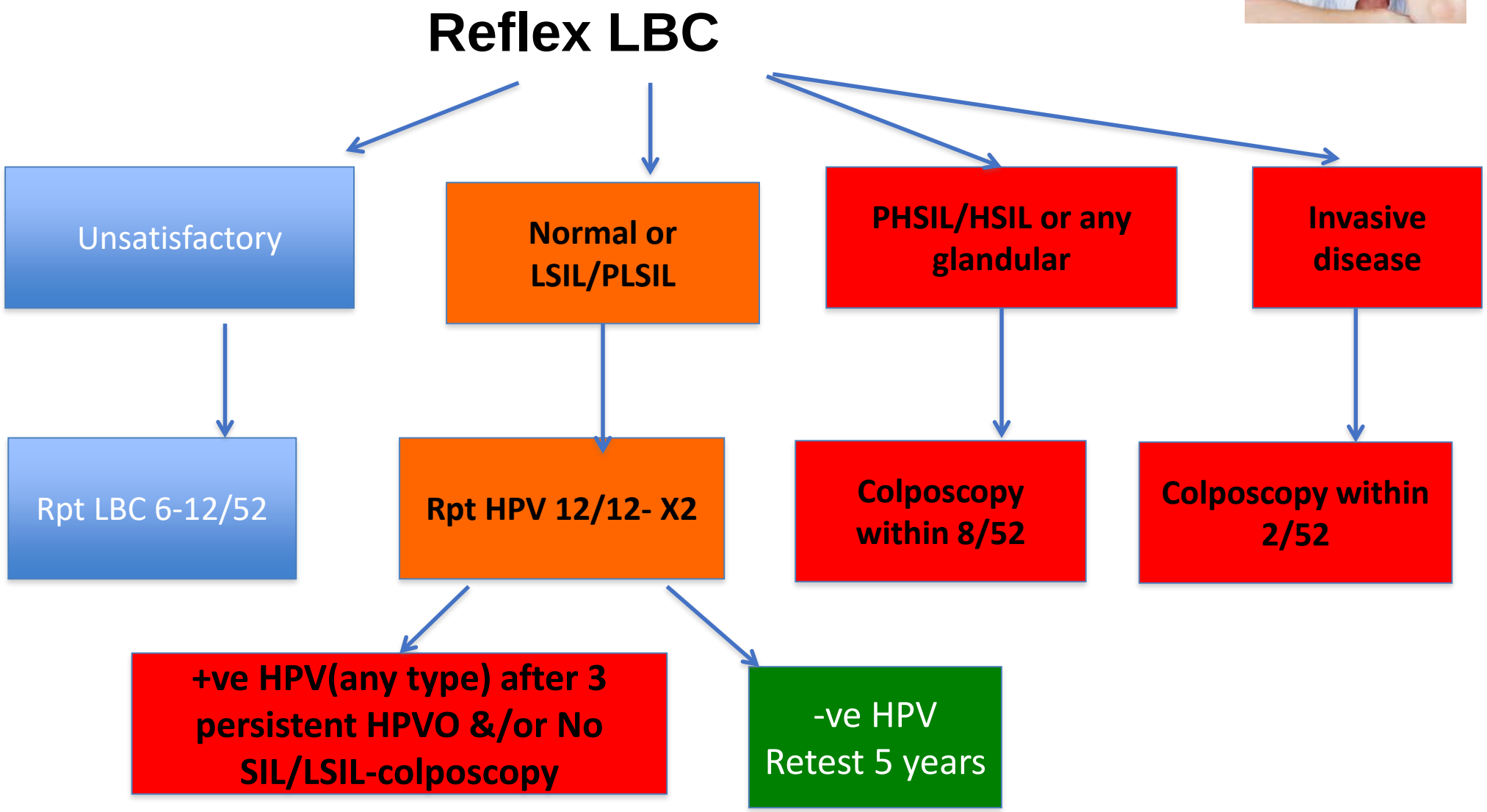
† No cervical pathology (LSIL, HSIL or AIS) found on examination of the cervix

** No further testing/follow-up after completion of Test of Cure

INVESTIGATION OF WOMEN WITH ABNORMAL VAGINAL BLEEDING



Clare is +ve for HPV (non 16/18): what do you do?



Clare has a glandular abnormality?

All glandular abnormalities refer to an expert gynaecologist for colposcopy

including “Atypical endocervical/glandular cells of undetermined significance”

Follow up of completely excised AIS:

- annual co testing indefinitely
- any abnormal result refer for a colposcopy

Some groups are more likely to be under or never-screened

- Aboriginal and Torres Strait Islander
- Culturally & Linguistically Diverse (CALD)
- History of sexual trauma and/or domestic violence
- Living in a rural or remote areas,
- Identify as lesbian, bisexual, or same sex attracted
- Transgender men (with a cervix)
- Older women
- Women with disabilities (intellectual or physical)
- Women from lower socioeconomic status
- Women who have received the HPV vaccine

How to improve screening uptake?

- Cultural awareness-including language barriers
- Provide educational leaflets and posters
- Stress importance of cervical screening as a preventative measure - prevents cancer
- Asking if prefer to see a female colleague
- Consider self-collection for eligible women

Conclusions

- **Reduction in Cervical Cancer Cases**
- The National Cervical Screening Program in Australia has played a crucial role in reducing the number of cervical cancer cases.

- **Reduction in Mortality Rates**
- The program has also contributed to a significant decrease in cervical cancer mortality rates, saving many lives.

Nov 2023- Govt target of eradication of Cervical cancer

Australia to become the first country in the world to eliminate cervical cancer, with the release of the National Strategy for the Elimination of Cervical Cancer and a $48.2 million investment to support implementation.

The National Strategy aims to eradicate cervical cancer as a public health issue in Australia by 2035.

The $48.2 million investment over four years, will improve access to screening and follow up services, as well better data access to target vaccination efforts.

The new targets include extending the 90% HPV vaccination target to boys, so all children are safe from HPV. It also extends the 70% screening target to 5-yearly participation for 25- to 74-year-olds rather than just twice in a lifetime.

Heavy Menstrual Bleeding

Causes and Management

Definition and Prevalence

❖Heavy menstrual bleeding (HMB), also known as **menorrhagia**, refers to excessive or prolonged menstrual bleeding that interferes with a woman's physical, social, emotional, and/or material quality of life.

❖ It is characterized by a blood loss of **more than 80 mls per menstrual cycle** or bleeding lasting longer than 7 days.

- Common gynecological problem affecting a significant number of women in Australia.
- approximately **25% of women** in Australia experience HMB at some point in their reproductive years.
- The prevalence of HMB tends to increase with age, with higher rates observed in women aged **35-49 years**.

Causes of HMB

1. Hormonal

   a. PCOS
   b. Perimenopause
   c. Underactive thyroid

2. Changes within the Uterus

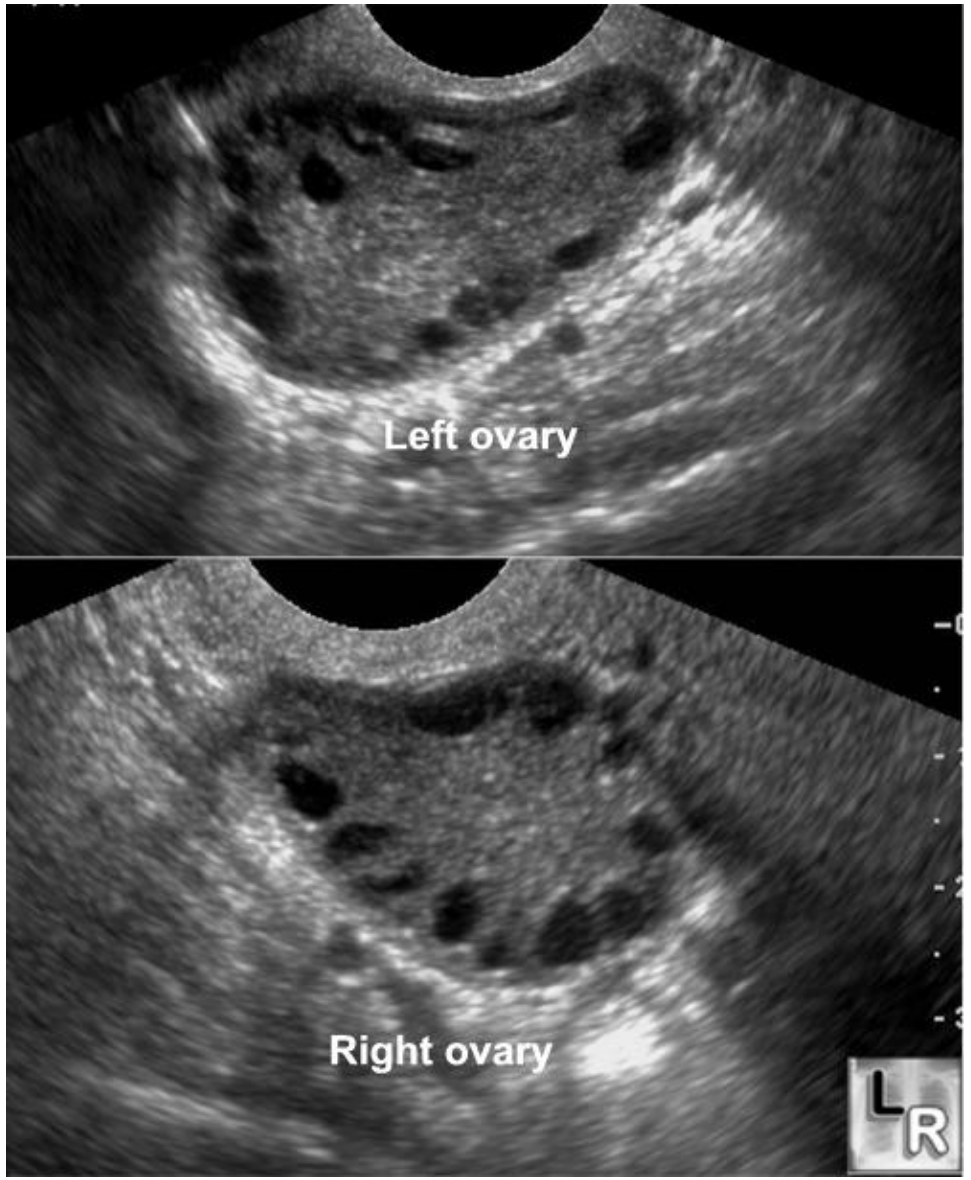
   a. Fibroids
      a. Polyps
   b. Adenomyosis or Endometriosis
   c. Endometrial hyperplasia- Typical Vs Atypical
   d. Endometrial cancer- Inc risk with Age >45, Wt>90kgs, Nullip, Fam h/o Endometria/Ovarian/Bowel cancer, PCOS, Genetic disorder.

1. Blood disorders

   a. On blood thinners
   b. VWD, Haemophilia, Throbocytopenia
   c. Uncommonly- Liver and Kidney disease.

Hormonal

- **PCOS**- HMB (Irregular) caused Anovulatory cycles and hyper-oestrogenism (Multiple immature follicles) leading to thickening of endometrial lining- Risk of EH/Cancer
- **Perimenopause**- (Irregular)
  - ❑ During the menopausal transition, HMB common due to both endocrine abnormalities and uterine structural abnormalities.
  - ❑ In this group, intermittent anovulation often occurs and results in extended periods of estrogen production unopposed by progesterone, resulting in continued proliferation of the endometrium.
- **Hypothyroidism-** Endocrinal abnormality

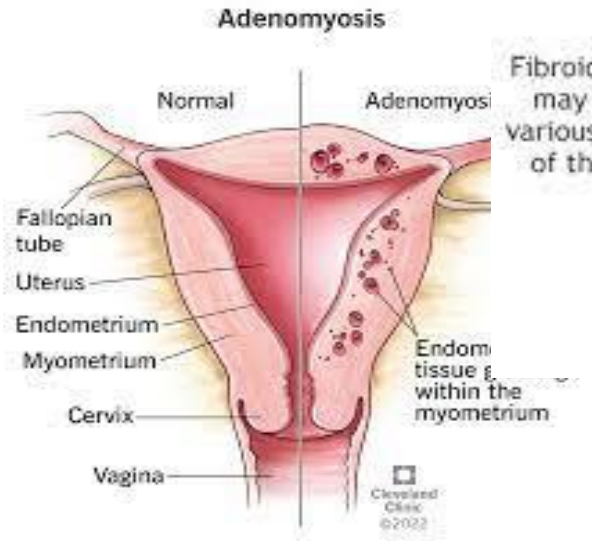


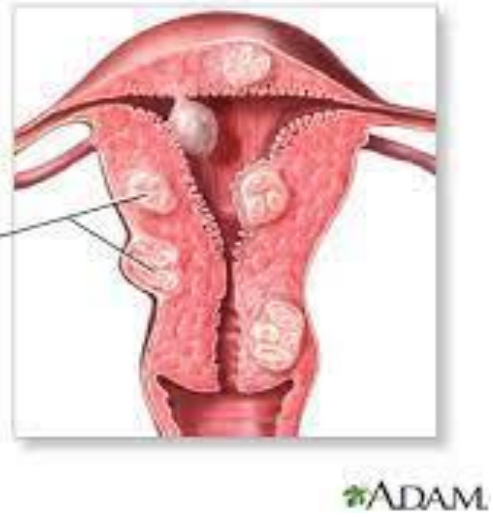
Causes and Risk Factors

Uterine Fibroids

Uterine fibroids are non-cancerous growths in the uterus that can cause heavy bleeding.

Uterine Sarcoma- Rare



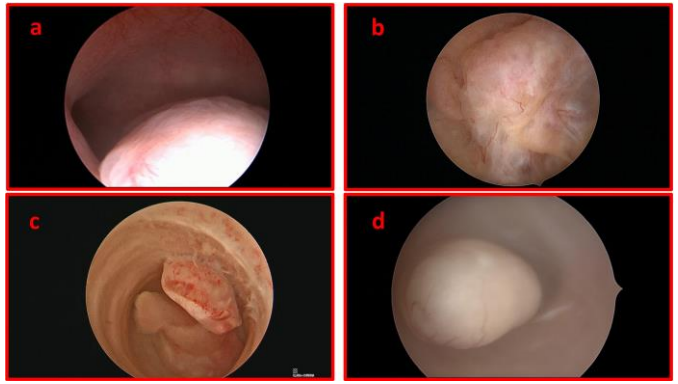


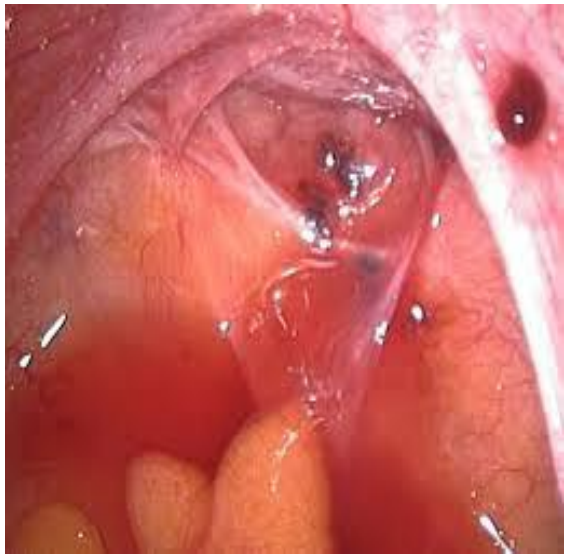
Adenomyosis

Adenomyosis is a condition in which the tissue that normally lines the uterus grows into the muscular walls of the uterus. It can cause heavy and prolonged menstrual bleeding.

Endometriosis

Ectopic endometrial tissues in the pelvis





Polyp

Excessive growth of endometrial lining.

Causes and Risk Factors

• Endometrial Hyperplasia

- irregular proliferation of the endometrium
- if left untreated will progress to carcinoma

- **RISK FACTORS : High BMI,PCOS,Estrogen secreting Ov tumours, Unopposed estrogen use**

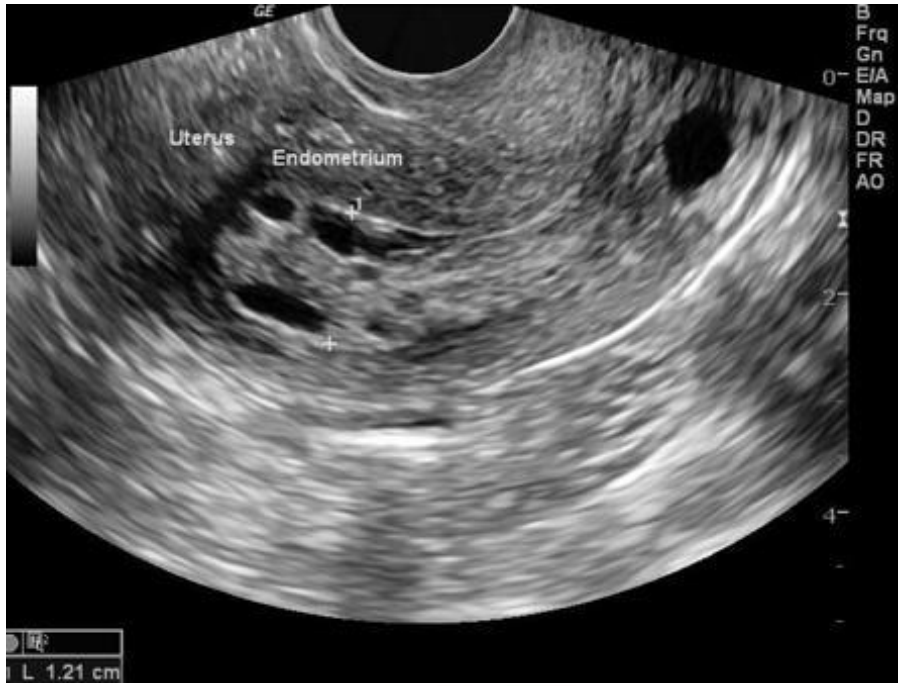
- TVS best= Postmenopause ET=4mm, Premenopause=7mm

(i) Hyperplasia without atypia

- Women should be informed that the risk of endometrial hyperplasia without atypia progressing to endometrial cancer is less than 5% over 20 years.
- Treatment with progesterone has a higher disease regression rate compared with observation alone. (80%)
- FIRST LINE- PROGESTERONE (LNG IUS), SECOND LINE- TAH+/- BSO
- Endometrial surveillance 6-months once At least two consecutive 6-monthly negative biopsies should be obtained prior to discharge.

ii) Hyperplasia with atypia

- endometrial biopsy.-every 3 months until 2consecutive negative biopsies are obtained.
- After 2 consecutive negative endometrial biopsies, long-term follow-up every 6–12 months is recommended until a hysterectomy is performed.
- FIRST LINE OF TREATMENT:POSTMENOPAUSE: TAH+BSO
- PREMENOPAUSE: TAH+/-BSO



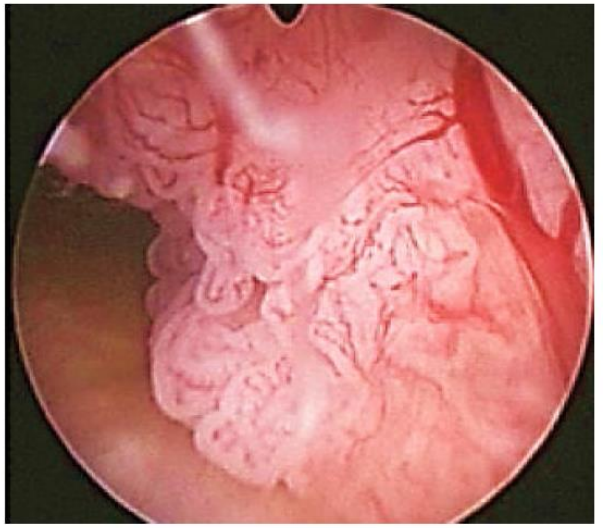


Figure 1: Endometrial carcinoma during histeroresectoscopy

Diagnosis & Investigation

Diagnosis

Diagnosing heavy menstrual bleeding involves a comprehensive evaluation of a woman's medical history, physical examination , and laboratory tests.

Investigations:

- Blood tests- FBC, Iron studies, TFT, Hormone levels (PCOS/Perimenopause). Don’t forget to check CST!
- Pelvic USS- TVS ideal, MRI pelvis (in some cases- not routine)
- Pipelle outpatient endometrial sample (95% sensitive)
- Hysteroscopy D&C- Gold standard

Treatment Options- Conservative (Lifestyle change), Medical and surgical.

Address the reversible factors like use of unopposed estrogen, management of endocrinal abnormalities, reduction of BMI.

1)Lifestyle Changes

- Dietary modifications, such as increasing iron-rich foods to prevent anaemia.
- Regular exercise to promote overall health and hormonal balance.
- Stress management techniques to reduce the impact of stress on menstrual cycles.

2) Medical Management

Non-Hormonal:

- Tranexamic acid to reduce blood loss during menstruation +/-Nonsteroidal anti-inflammatory drugs (NSAIDs) to reduce pain and inflammation (Synergistic effect)

Hormonal

1. COCP to regulate menstrual cycles and reduce bleeding- Levellen/ Microgynon (rule out contraindications), Brenda (PCOS), Yasmin (PCOS),
2. POP- Micronor, Slinda (Drosperinon) not on PBS, Vissane (Dienogest) for Endometriosis related symptoms.
3. Progestrone Implants- Depoprovera and Implanon.
4. Oral Progestin therapy to stabilize the endometrium and reduce bleeding.- NET, Provera- To stop the acute blood loss, usually used till a definitive therapy is planned.
5. IUS (Mirena)- Intrauterine Progesterone Implant- 93% effective in reducing blood loss over 3-12months.
6. GnRH agonist (Zoladex)- Fibroids shrining pre surgery, Endometriosis management, More than 6months use associated with bone thinning and hence has to be used with an addback hormone therapy.
7. Newer drug Oral GnRH antagonist **Ryeqo**- Recently approved by TGA for use in pain control of endometriosis. Not covered by PBS. Combination of Relugolix, Estradiole and NET. Single-pill alternative

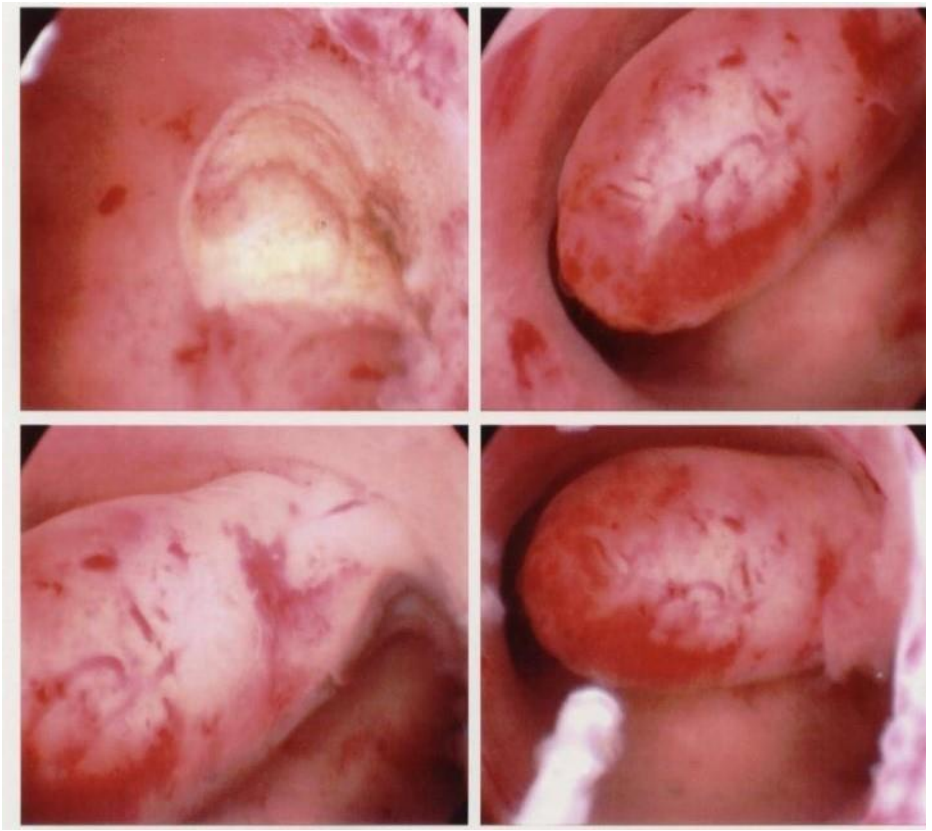
Surgical Management

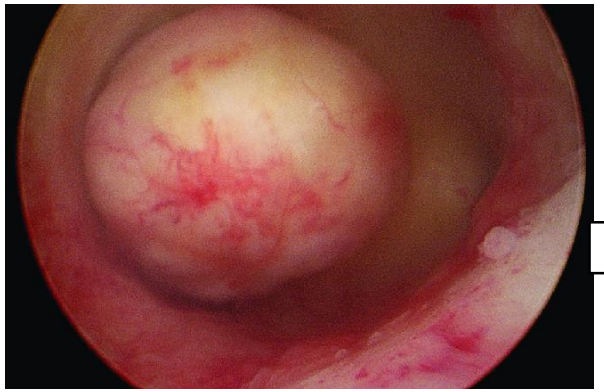
- Hysteroscopy to visualize and treat abnormalities in the uterus + Polypectomy and Hysteroscopic Fibroid resection
- Endometrial ablation- Thermal Balloon (Cavaterm) Vs Radiofrequency impedance control (Novasure-91% effective) to remove or destroy the lining of the uterus.

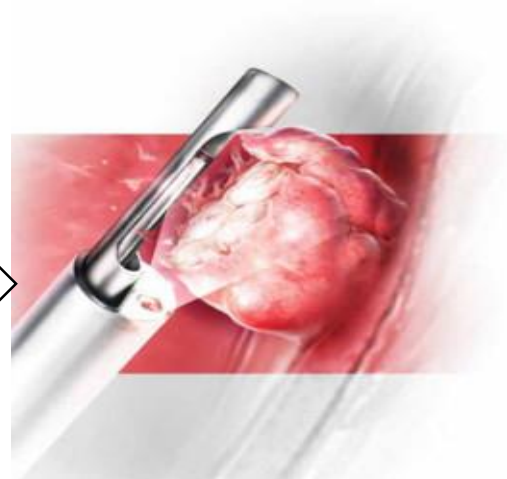
Pre-requisite: Permanent, holds good for 7-8yrs, Must have completed family, Understand not a contraception but pregnancy is contraindicated, Does not treat pain, Cannot be performed if has endometrial hyperplasia

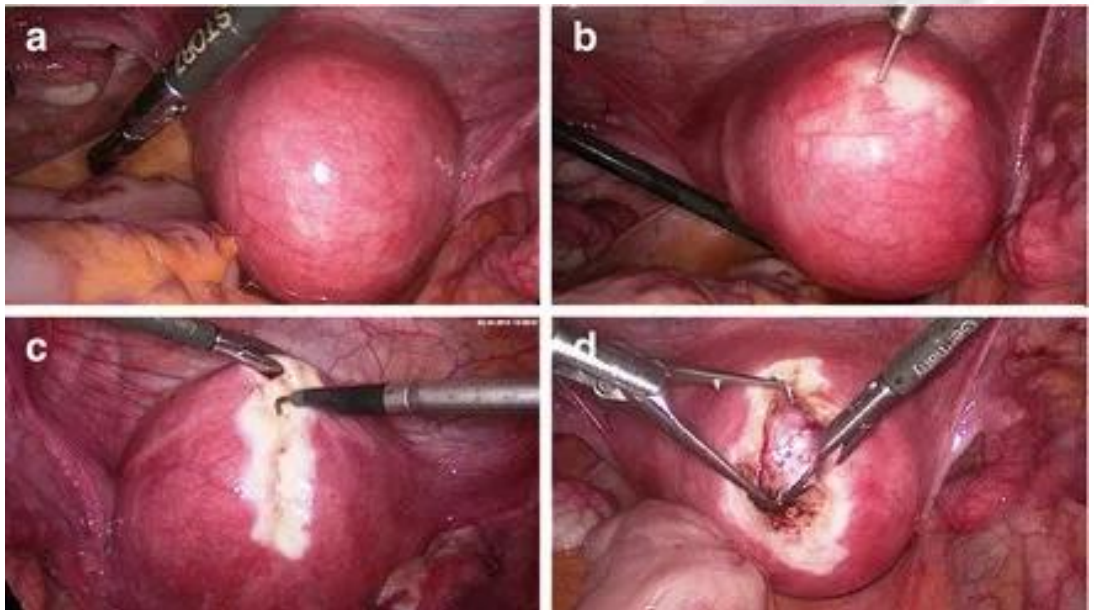
- Laparoscopic Surgery- Endometriosis resection or Fibroid resection.
- Uterine artery embolization to block the blood supply to the uterus and reduce bleeding- for selected Fibroid cases- Works better for certain fibroids only and has got complications associated with it.
- HIFU or MRgFUS (High intensity focused USS ablation)- Focused ultrasound energy is used to heat fibroids until the tumor is ablated. MR imaging is used to target the fibroid and to monitor successful therapy. The treatment takes about 3 hours, has few side effects- Not enough studies available to recommend as a standard practice and not Medicare rebatable. Available only in Melbourne in Australia. Fertility sparing.
- Hysterectomy (Open/Laparoscopic/Vaginal) to remove the uterus, often considered a last resort with or without Ovarian conservation

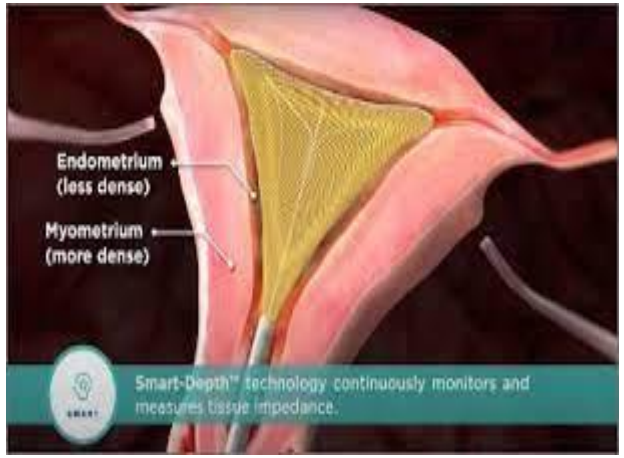
Surgeries for Endometrial Polypectomy& Fibroid resection(Hysteroscopic/Laparoscopic/Open)

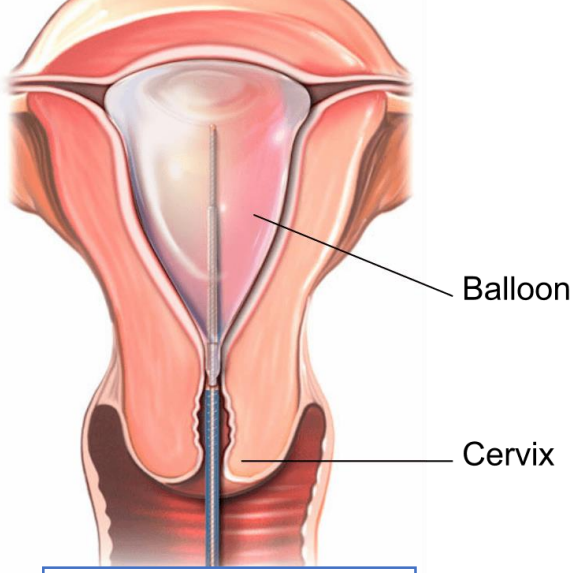




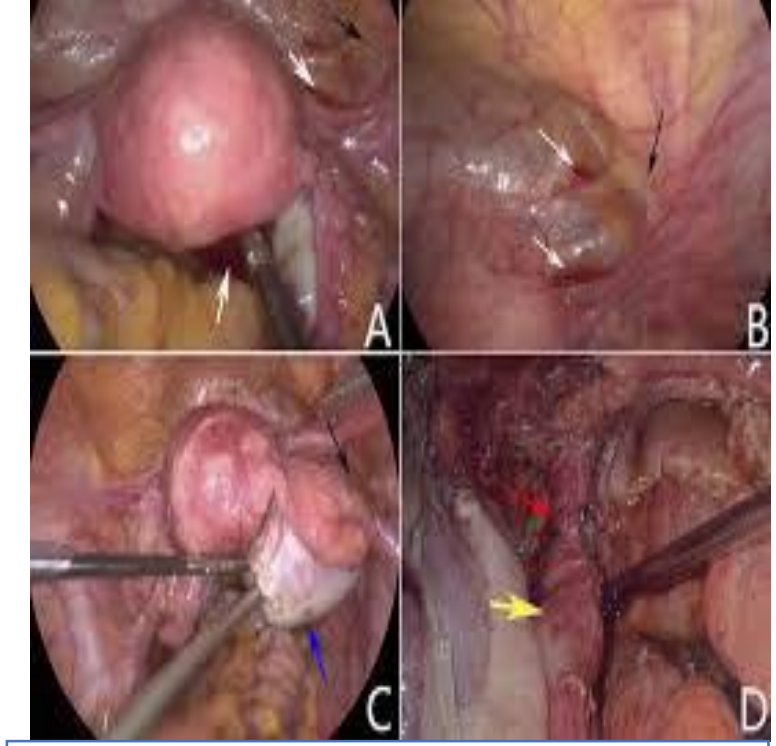




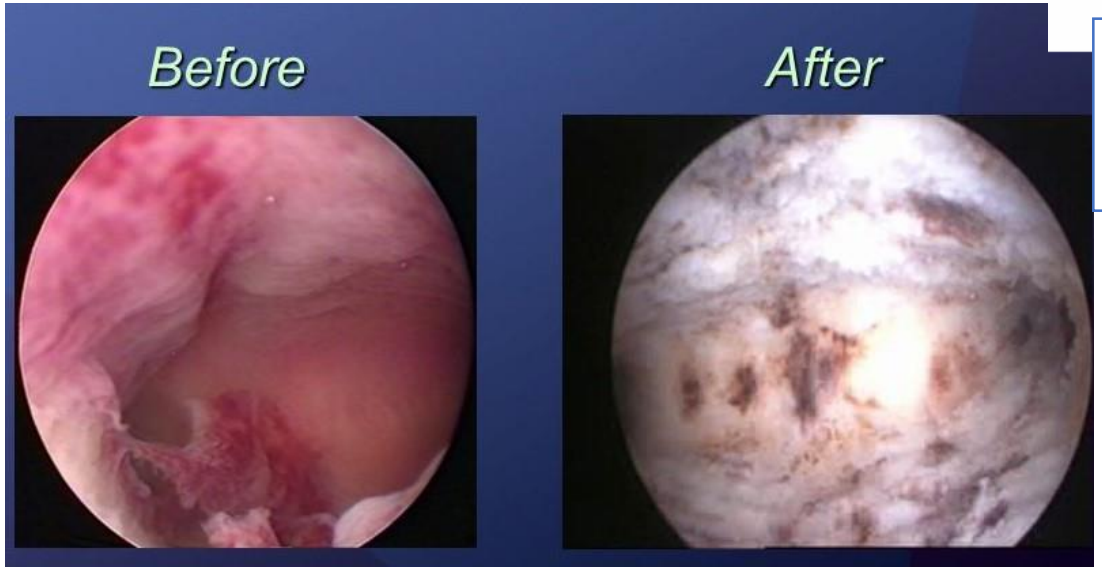




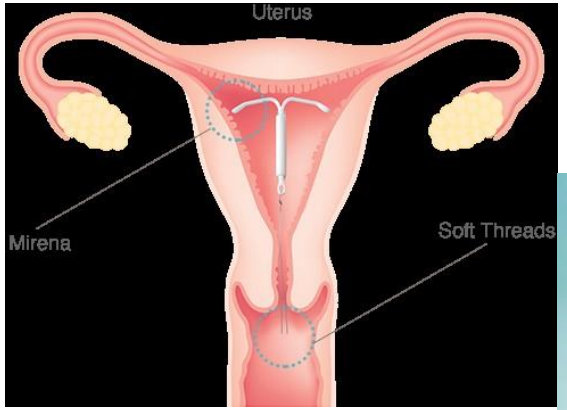
Cavaterm endometrial ablation



Endometriosis resection.



Novasure endometrial ablation



Mirena

Impact on Quality of Life

Physical Impact

- Cause fatigue and weakness, leading to decreased productivity and missed work or school days.
- Result in iron-deficiency anemia, causing symptoms such as dizziness, shortness of breath, and pale skin.
- The pain and discomfort associated with heavy menstrual bleeding can interfere with daily activities and quality of sleep.

Emotional Impact

- cause emotional distress, including feelings of frustration, anxiety, and depression.
- Leads to reduced self-esteem and feelings of embarrassment or shame.
- The unpredictability and inconvenience of heavy menstrual bleeding can affect social and intimate relationships.

Questions ?

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