Update on NZ NCSP Primary HPV Screening

Dr Narena Dudley
Lead Colposcopist
Waikato Hospital
NIGHTSHIFT IS AWESOME
WHAT DAY IS IT???
**NCSP achievements**

- Our NCSP is one of the most successful cervical screening programmes in the world.

### Incidence and Mortality Rates* Cervical Cancer 2012

<table>
<thead>
<tr>
<th>Country</th>
<th>Incidence</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>4.3</td>
<td>1.0</td>
</tr>
<tr>
<td>New Zealand</td>
<td>5.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Australia</td>
<td>5.5</td>
<td>1.6</td>
</tr>
<tr>
<td>United States</td>
<td>6.6</td>
<td>2.2</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>7.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Zambia</td>
<td>58.0</td>
<td>19.9</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>34.5</td>
<td>21.7</td>
</tr>
</tbody>
</table>

*per 100,000 women (age standardized)  
Ref: GLOBOCAN
Incidences and Mortality by Cancer Type for NZ Women 2012

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Incidence</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>85.0</td>
<td>17.1</td>
</tr>
<tr>
<td>Colorectal</td>
<td>33.5</td>
<td>13.7</td>
</tr>
<tr>
<td>Melanoma</td>
<td>33.1</td>
<td>2.8</td>
</tr>
<tr>
<td>Lung</td>
<td>23.2</td>
<td>19.2</td>
</tr>
<tr>
<td>Uterine Body</td>
<td>13.9</td>
<td>2.4</td>
</tr>
<tr>
<td>Non-Hodgkin Lymphoma</td>
<td>9.6</td>
<td>2.9</td>
</tr>
<tr>
<td>Ovary</td>
<td>8.0</td>
<td>5.1</td>
</tr>
<tr>
<td>Leukaemia</td>
<td>7.3</td>
<td>2.7</td>
</tr>
<tr>
<td>Thyroid</td>
<td>7.2</td>
<td>0.3</td>
</tr>
<tr>
<td>Kidney</td>
<td>5.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Pancreas</td>
<td>5.4</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>Uterine Cervix</strong></td>
<td><strong>5.3</strong></td>
<td><strong>1.4</strong></td>
</tr>
</tbody>
</table>

Cervical cancer in New Zealand:
12th in incidence
16th in mortality

Ref: GLOBOCAN
Why are we doing so well?

• national coordination and one NCSP Register
  – national policies and standards across the NCSP
  – national management guidelines for women with abnormal results
• high population screening coverage
• high quality laboratory and colposcopy services
• systematic monitoring of all aspects of the screening pathway
• a workforce who are passionate about cervical cancer prevention
Reducing the incidence and mortality of cervical cancer

Cervical Cancer registrations and mortality in New Zealand, 1990-2011

Age-standardised rate, females (per 100,000 population)

Year

Registrations
Mortality
WHY CHANGE TO PRIMARY HPV SCREENING

• To improve screening and prevention of cervical cancer
• Despite the 50% reduction in deaths since introduction of NCSP, there is still
• 150 women diagnosed with cervical cancer/year
• 50 women die/yr from this preventable disease
• 50% of these women never screened
• 1/3 screened irregularly or infrequently

• High risk – NZ Maori, PI, Asian, never screened, >5y
AIM

• To ensure that all New Zealand Women, HPV vaccinated and unvaccinated, have access to a cervical screening program that is acceptable, effective, efficient and based on current evidence.”

• Cervical smears sensitivity 53-55%, specificity 96%
• HPV testing sensitivity 94-96%, specificity 90-94%
Where to from here?

• Primary strategy: Immunisation
  o Prevents women developing persistent HPV infections so cervical lesions don’t develop

• Secondary strategy: Primary HPV Screening
  1. HPV is a more sensitive test
  2. A negative HPV test gives greater reassurance than a negative cytology result
  3. HPV testing is a fully automated test so there is less variability in performance of the test
1. HPV testing - a more sensitive test

- increased *sensitivity* of HrHPV testing for identifying risk of disease compared with cytology (the risk is also identified earlier)

- cytology is more *specific* than HPV testing for identifying lesions that have already occurred
2. A negative HPV test gives greater reassurance than a negative cytology test

- Efficacy of HPV-based screening for prevention of invasive cervical cancer: follow up of four European randomised controlled trials
  - Italy - NTCC
  - Netherlands - POBASCAM
  - Sweden - Swedescan
  - England – ARTISTIC

- RCT using HPV-based screening (experimental arm), or cytology based screening (control arm)

- Involved 176,464 women aged 20-64 years

Cumulative incidence of invasive cervical carcinoma in women with a negative entry test

- HPV-based screening provides 60–70% greater protection against invasive cervical carcinomas compared with cytology.

Figure 2: Cumulative detection of invasive cervical carcinoma
*Observations are censored 2.5 years after CIN2 or CIN3 detection, if any.
Cumulative incidence of invasive cervical carcinoma in women with negative entry test

<table>
<thead>
<tr>
<th></th>
<th>3.5 years</th>
<th>5.5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experimental arm</strong> (HPV-based)</td>
<td>4.6 per 10^5 (1.1 – 12.1)</td>
<td>8.7 per 10^5 (3.3 – 18.6)</td>
</tr>
<tr>
<td><strong>Control arm</strong> (cytology based)</td>
<td>15.4 per 10^5 (7.9 – 27.0)</td>
<td>36.0 per 10^5 (23.2 – 53.5)</td>
</tr>
<tr>
<td><strong>Rate ratio was 0.30</strong> (0.15 – 0.60)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

At longer intervals, HPV-based screening provides 60 – 70% greater protection against invasive cervical carcinomas compared with cytology.

Guglielmo Ronco et al  Lancet 2014;383:524-532
ARTISTIC Follow up: 3rd round

- Cumulative rates of CIN2 + 3 correlated with baseline HPV status and cytology

<table>
<thead>
<tr>
<th>Baseline status</th>
<th>Cumulative HSIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal cytology</td>
<td>20.5%</td>
</tr>
<tr>
<td>HPV Positive</td>
<td>20.12%</td>
</tr>
<tr>
<td>Normal cytology</td>
<td>1.41%</td>
</tr>
<tr>
<td>HPV Negative</td>
<td>0.87%</td>
</tr>
<tr>
<td>&gt;50 yo HPV Negative</td>
<td>0.16%</td>
</tr>
</tbody>
</table>

- Negative HPV confers greater protection over a longer period than negative cytology
- Could extent screening intervals if HPV negative (up to 10 years if >50)

Kitchener et al Eur J Cancer 2011
3. **HPV testing is fully automated so there is less variability in performance**

- The variable sensitivity of cytology for detecting abnormal cases is well documented.

- Cytology relies on humans who vary in skill and whose performance can vary over time.

- HPV testing is an automated test in which the variables that could affect the test can be controlled. This allows predictability of performance.
Future directions - Changing the primary laboratory test

Cytology is the current screening test

HPV Testing will be the screening test in the future
Primary HPV Screening

• High risk HPV testing (hrHPV) with partial genotyping and cytology triage every 5 years
  – a *hrHPV test:* reported as “Detected” if at least one of 14 different subtypes of HPV are present
  – *partial genotyping:* identifying whether HPV subtypes 16 or 18 are present. The other subtypes are collectively reported as “other”.
  – *cytology triage* means using cytology to determine the management of some women who are hrHPV positive.
Why partial genotyping?

Figure 2. Prevalence of individual HPV type by ethnic group (Maori or non-Maori) in 227 histologically confirmed samples

HPV detectable in 90% of cervical cancers
Why cytology triage?

• many women who are “hrHPV other” positive will have a productive viral infection that will clear naturally

• cytology is more specific than HPV testing for identifying women with cervical lesions
  
  – Those with normal or low grade cytology will have a repeat HPV test at 12 months to see if the HPV infection has persisted

  – Women with high grade cytology will go to colposcopy
Screening pathway for asymptomatic women

HPV test

- Negative hrHPV
  - Routine 5 yearly screening

- +ve hrHPV other types
  - Repeat HPV test in 12 months
    - Cell changes low grade or less
      - Negative hrHPV
        - Routine 5 yearly screening
    - +ve hrHPV any type
      - Laboratory automatically adds on LBC test

- +ve hrHPV types 16/18
  - Laboratory automatically adds on LBC test
  - Colposcopy
    - Pathway to be determined by findings at colposcopy

Key:
- Low
- Medium
- High
  - Risk of developing cervical cancer
Key points

• Woman still need to have regular samples taken but at a 5-year screening interval rather than 3 yearly

• HPV testing will be done first, with cytology as a second test for all hrHPV positive women

• The recommended age to commence screening will rise to 25 years

• Same screening pathway for unvaccinated and vaccinated women

• Self-sampling may become a possibility for certain groups of women

• The NCSP Register will need significant change
# Primary HrHPV Screening

<table>
<thead>
<tr>
<th>Decided</th>
<th>To Be Decided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultation Complete</td>
<td>Which hrHPV test</td>
</tr>
<tr>
<td>Minister approved and announced pathway</td>
<td>Changes to Guidelines</td>
</tr>
<tr>
<td>Planned Implementation late 2018</td>
<td>Changes to Standards</td>
</tr>
<tr>
<td>Screening age 25-70</td>
<td>A new Register</td>
</tr>
<tr>
<td></td>
<td>Place for Self-Testing</td>
</tr>
</tbody>
</table>
Public consultation myths

- HPV testing only works in a vaccinated population
- Cytology is perfect
- Current screening picks up all the cancers
- Current screening is effective for all
- We don’t have NZ data
NCSP Policies and Standards

• Guidelines for the Management of Women with an Abnormal Smear

• NCSP Policies and Standards cover all parts of the programme (colposcopy, laboratories, Register, sample taking, regional services)

• Section 3 covers responsibilities for sample takers
  • Training
  • Quality
  • Improving women’s participation
  • Providing information
  • Infection control
  • Taking a smear
  • Communication
  • Information required by the laboratory
  • Referral and follow up
Guiding principles remain the same

- deliver a best practice national cervical screening programme
- improve equitable access to screening for women in all population groups
- be acceptable to women
- maintain and improve safety and quality of screening for enrolled women
- maintain a skilled and competent workforce to deliver the programme
- maintain and improve the NCSP-Register’s capability required to support the programme.
Coverage revisited

- 50% of women in New Zealand who develop invasive cancer have not been screened
- Another 30% are under-screened

- Changing from cytology to HPV testing will not assist women who have never been screened

- Increasing the screening coverage for women in New Zealand remains as important as before

- Self-sampling has some potential to assist with this
HPV Immunisation

- Available through participating schools, family doctors, local health centres and some Family Planning clinics.
- Primary care can follow up girls who were not vaccinated in the school based programme.
- Together, immunisation and screening will offer the most effective protection against cervical cancer.
- Protects against 90% of HPV-related cervical cancers (including high-risk HPV 16 and 18).
- Also protects against other HPV related cancers and genital warts (HPV 6 and 11).
- Immunised or not, women still need to participate in regular cervical screening, as the vaccine does not protect against all hrHPV types.
- Cohort born 2002 - HPV immunisation coverage: 74% for Maori, 70% for Pacific, 74% Asian, and 60% Other (Average 66%) ie better for Pacific, Asian and Māori.
Changes to HPV Immunisation 2017

- HPV immunisation is now funded for everyone aged 9–26 (inclusive) including boys and young men.

- Gardasil 9 replaces the existing Gardasil vaccine. The vaccine is given as two doses to those aged 14 years and under, and three doses to those aged 15 years and older.

- Free vaccinations provided as part of the School Based Vaccination Programme to children aged 11 and 12 years.
Informing women of abnormal results

• There are sometimes complaints where sample takers have not informed women of their abnormal smear result

• The NCSP-Register letters are a good back up but the primary responsibility is with the sample taker

• This is important for women to understand and be able to ask questions and get further information or support if they need it.
Start Screening at Age 25

- Presented to Technical Reference Group
- Presented to National Screening Advisory Group
- Approved by Government
- Australian decision made
- Europeans to start age 30
- UK has affirmed age 25
Commence screening age 25

NSU Website: Evidence supporting the decision to stop screening in women aged 20-24 years

High incidence HPV and CIN.
Low risk of cancer.

Spontaneous regression
Potential harm intervention
Impact of HPV vaccination

P Sasieni BMJ 2009;339:b2968
Cervical cancer incidence by age

Five-year average cervical cancer incidence, by age (age-standardised, per 100,000)

Average for five-year period prior to NCSP (1985-1989)

% change in cervical cancer incidence in 2009-2013 compared to pre-NCSP (1985-1989)

25-49 yrs: ↓ 49%
50-69 yrs: ↓ 66%
70+ yrs: ↓ 58%
20-24 yrs: increase
## Results – by age

Incidence of cervical cancer in NZ by age, and ratio of the rate in 2009-2013 compared to 1985-1989 (SRR)

<table>
<thead>
<tr>
<th>Cervical cancer incidence rate (ASR)</th>
<th>1985-1989</th>
<th>2009-2013</th>
<th>SRR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>All ages</td>
<td>16.8</td>
<td>7.4</td>
<td>0.44</td>
<td>(0.4 - 0.48)</td>
</tr>
<tr>
<td>20-69 years</td>
<td>22.4</td>
<td>9.9</td>
<td>0.44</td>
<td>(0.4 - 0.49)</td>
</tr>
<tr>
<td>20-24</td>
<td>1.3</td>
<td>3.3</td>
<td>2.55</td>
<td>(1.22 - 5.3)</td>
</tr>
<tr>
<td>25-49</td>
<td>23.0</td>
<td>11.7</td>
<td>0.51</td>
<td>(0.45 - 0.57)</td>
</tr>
<tr>
<td>50-69</td>
<td>27.7</td>
<td>9.3</td>
<td>0.34</td>
<td>(0.28 - 0.4)</td>
</tr>
<tr>
<td>70+</td>
<td>24.0</td>
<td>10.1</td>
<td>0.42</td>
<td>(0.33 - 0.54)</td>
</tr>
</tbody>
</table>

_SRR less than 1 indicates reduction compared to pre-NCSP period; SRR greater than 1 indicates an increase_
Cervical cancer incidence by ethnicity

Five-year average cervical cancer incidence, by age (age-standardised, per 100,000)

Note:
Cervical cancer incidence rates are approximately twice as high in Māori women as in non-Māori women, but a similar relative reduction has been seen in both groups since the NCSP commenced for women in the screening age range.
Co-testing: Increased cost, minimal benefit

Gage et al J Natl Canc Inst 2014
Colposcopy workload

• Colposcopy referrals
  ◦ Predicted increase in colposcopies with Co-testing would be 23-25% above the current program
  ◦ Primary HPV with partial genotyping and triage would increase 1-15%
Guidelines for Cervical Screening in NZ

• Incorporate key NCSP policies such as recommendations as to the age to start screening, how often to screen and when to stop.

• Based on extensive review of evidence together with expert advice from a wide range of medical practitioners, epidemiologists and consumer representatives.

• Set the screening pathway – what do with women who have had normal or abnormal smears and when to request an HPV test.
Preventing Cervical Cancer

• First line strategy is Immunisation
• Second line is Primary HrHPV Screening
Challenges

• Equity
  – Immunisation
  – Participation in regular screening

• Reduce DNAs
  – Communication
  – Education
Transitional from pre-renewal NCSP to renewed NCSP

**Women with Existing Abnormalities* (cytology or histopathology)

**Prior May 2017**
- Pap test result pLSIL/LSIL
  - HPV test when due for next screening test
    - Positive HPV test (any type)
      - Reflex liquid-based cytology
        - Routine 5-yearly screening with HPV test
    - Negative HPV test
      - Refer for colposcopic assessment

**After May 2017**
- Treated for histologically confirmed HSIL (CIN2 or CIN3)
  - Start or continue with Test of Cure#
    - Annual co-test (HPV & LBC) until they have tested negative by both tests on two consecutive occasions when she can return to routine 5 yearly screening

**Treated for histologically confirmed AIS**
- Annual co-test (HPV & LBC) indefinitely**

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* Prior to May 2017
**Until sufficient data become available that may support a policy decision that cessation of testing is appropriate.
DONE WITH MY PRESENTATION...

NOW I HAVE TO ANSWER QUESTIONS
Colposcopy indicated by LSIL (Draft)

Women with a positive HPV test (any type), negative LBC or pLSIL/LSIL & normal colposcopy T1-2, TZ

- Repeat HPV test at 12 months
- Negative HPV
  - Repeat HPV test at 12 months
  - Negative HPV
  - Reflex liquid-based cytology
  - Routine 5-yearly screening

- Positive HPV (not 16/18) & negative LBC report or pLSIL/LSIL
  - Repeat HPV test at 12 months
  - Positive HPV (any type)
  - Reflex liquid-based cytology
  - Routine 5-yearly screening

- Positive HPV (16/18) & LBC report or pHSIL/HSIL
  - Repeat HPV test at 12 months
  - Negative HPV
  - Reflex liquid-based cytology
  - Routine 5-yearly screening

Women with a positive HPV test (any type), negative LBC or pLSIL/LSIL & colposcopy abnormal T1-2, TZ and histology HSIL-CIN2/3

- Treat by ablation or excision

- Positive HPV (not 16/18)
  - Repeat HPV test at 12 months
  - Positive HPV (any type)
  - Refer for colposcopic assessment

- Positive HPV (16/18)
  - Repeat HPV test at 12 months
  - Refer for colposcopic assessment
  - Reflex liquid-based cytology

Women with a positive HPV test (any type), negative LBC or pLSIL/LSIL & Type 3 TZ (unsatisfactory) colposcopy*

- Repeat HPV test at 12 months
- Negative HPV
  - Repeat HPV test at 12 months
  - Negative HPV
  - Reflex liquid-based cytology
  - Routine 5-yearly screening

- Positive HPV (any type)
  - Repeat HPV test at 12 months
  - Negative HPV
  - Reflex liquid-based cytology
  - Refer for colposcopic assessment
  - Routine 5-yearly screening

*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.
Colposcopy indicated by HSIL
(overview)

Normal colposcopy following LBC prediction of HSIL

- Positive HPV (any type) normal colposcopy & pLSIL/LSIL
  - Repeat HPV test at 12 months (based on reviewed cytological report)
  - Diagnostic excisional procedure (Based on HPV LBC result)

- Type 3 TZ (Unsatisfactory) colposcopy following LBC prediction of HSIL
  - Positive HPV (any type), pHSIL/HSIL & Type 3 TZ* colposcopy
    - Diagnostic excision of the transformation zone

Colposcopy indicated by HSIL

Colposcopy visible lesion T1 – T2, TZ = Biopsy of lesion

- Histology LSIL
  - Women who opt to defer treatment
  - Diagnostic of transformation zone
  - Repeat HPV at 6 months & colposcopy

- Histology HSIL (CIN2-3)
  - Review cytology & histology
  - Repeat HPV test at 12 months

- Treat by ablation or excision
  - Review cytology

Histology HSIL

Diagnostic excisional procedure (Based on HPV LBC result)
Different types of TZ

Type 1: completely ectocervical
- fully visible
- small or large ectocervical component

Type 2: has an endocervical component
- fully visible
- may have ectocervical component which may be small or large

Type 3: has an endocervical component
- is *not* fully visible
- may have ectocervical component which may be small or large
Colposcopy

LBC: High grade Glandular- AIS

Colposcopy

Type 1-2 TZ

Normal TZ

Type 3 Excision TZ*

Cytopathologic review

Type 3 Excision TZ*

High grade epithelial abnormality

Overt Cancer

Refer to Gynaecological Oncologist

Type 3 TZ

Type 3 Excision TZ*

* Usually a cone biopsy
ToC following treatment for high-grade squamous abnormalities

Test of cure after treatment for CIN2 & CIN3

Co-test (HPV & LBC) at 12 months post-treatment

Positive HPV (not 16/18) or pLSIL/LSIL, or both

Repeat co-test (HPV & LBC) at 12 months

Positive HPV 16/18

pHSIL/HSIL (regardless of HPV test result)

Negative HPV & negative LBC

Repeat co-test (HPV & LBC) at 12 months

Negative HPV & negative LBC

Positive HPV (not 16/18) or pLSIL/LSIL, or both

Repeat co-test at 12 months (HPV & LBC)

Positive HPV 16/18

pHSIL/HSIL (regardless of HPV result)

In the absence of HPV 16/18 & the absence of pHSIL/HSIL, a woman should continue to have annual co-testing (HPV & LBC) until she has tested negative by both tests on two consecutive occasions, when she can then return to routine 5-yearly screening.

Negative HPV & negative LBC

Completed ToC Routine 5-yearly screening

Positive HPV (not 16/18) or pLSIL/LSIL, or both

Repeat co-test at 12 months (HPV & LBC)

Positive HPV 16/18

pHSIL/HSIL (regardless of HPV result)

Reflex liquid-based cytology

Refer for colposcopic assessment
Glandular abnormalities

Follow-up after excisional treatment for AIS

- Complete excision
  - Annual co-test (HPV & LBC) indefinitely*
    - Any abnormal result
      - Refer for colposcopic assessment
  - Any abnormal result
    - Refer for colposcopic assessment

- Incomplete excision
  - Further excision to obtain clear margins
    - Annual co-test (HPV & LBC) indefinitely*
      - Any abnormal result
        - Refer for colposcopic assessment
  - Any abnormal result
    - Refer for colposcopic assessment

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

**Total Hysterectomy**

- Normal prior screening history
  - Benign gynaecological disease (prolapse, fibroids, menstrual problem)
  - Benign

- Treated CIN2+ with completed Test of Cure*
  - No cervical pathology
    - No follow-up
    - Test of Cure**
  - Positive cervical pathology CIN2+
    - No follow-up
    - Test of Cure

- Previously treated AIS by excision
  - AIS negative margins
    - Test of Cure indefinitely #
  - NO cervical pathology
    - Test of Cure

- Abnormal screening with diagnosed CIN2+
  - CIN2+ +/- presence of benign gynaecological problem
    - Benign
    - No known screening history
    - Benign

- Previous treatment for CIN2+ (prior to Test of Cure*) on routine surveillance with normal tests
  - No cervical pathology
  - No follow-up
  - Test of Cure

- No cervical pathology
  - Positive cervical pathology CIN1 or CIN2+
    - No follow-up
    - Test of Cure

- Previous treatment for CIN2+ (prior to Test of Cure*) on routine surveillance with normal tests
  - Positive cervical pathology CIN2+
    - No cervical pathology
    - No follow-up
    - Test of Cure

- Positive cervical pathology CIN2+
  - No cervical pathology
    - No follow-up
    - Test of Cure

- Positive cervical pathology CIN2+
  - Positive cervical pathology CIN2+
    - HPV test *
    - Test of Cure

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

*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

* No further testing/follow up after completion of Test of Cure
Immune deficient women

- **Immune deficient**
  - Screening HPV test 3 yearly

- **Positive HPV (any type)**
  - Colposcopy
    - Reflex LBC result
    - Assess entire lower genital tract

- **Histologically confirmed abnormalities**
  - Histologically confirmed abnormalities managed according to these guidelines

  - **HSIL-CIN 2/3**
    - Excisional treatment recommended
    - Test of Cure completed
    - Return to routine HPV testing every 3-years

  - **AIS**
    - Type 3 Excisional TZ
    - Annual LBC/HPV testing*

- **No confirmed histological abnormality**
  - Follow up based on HPV/LBC/colposcopy in accordance with these guidelines

* Until sufficient data become available to support return to 3 yearly screening
Women with abnormal vaginal bleeding

- **Post-coital bleeding (PCB)**
  - Co-test (HPV & LBC)
    - Negative HPV & negative LBC
      - Single episode PCB (Pre-menopausal women)
        - Clinically normal cervix
          - No colposcopy required (Advise to return if symptoms persist)
    - Positive HPV (any type) &/or abnormal LBC result
      - Recurrent or persistent PCB (any age)
        - Refer for gynaecological assessment that may include colposcopy #

- **Intermenstrual bleeding**
  - Co-test (HPV & LBC)
    - Refer for gynaecological assessment (regardless of test result) *

- **Postmenopausal bleeding**
  - Co-test (HPV & LBC)
    - Refer for gynaecological assessment (regardless of test result) *

* may include colposcopy

# if significant delay (3-6 months from the previous test) following original HPV/LBC test, a repeat LBC could be considered