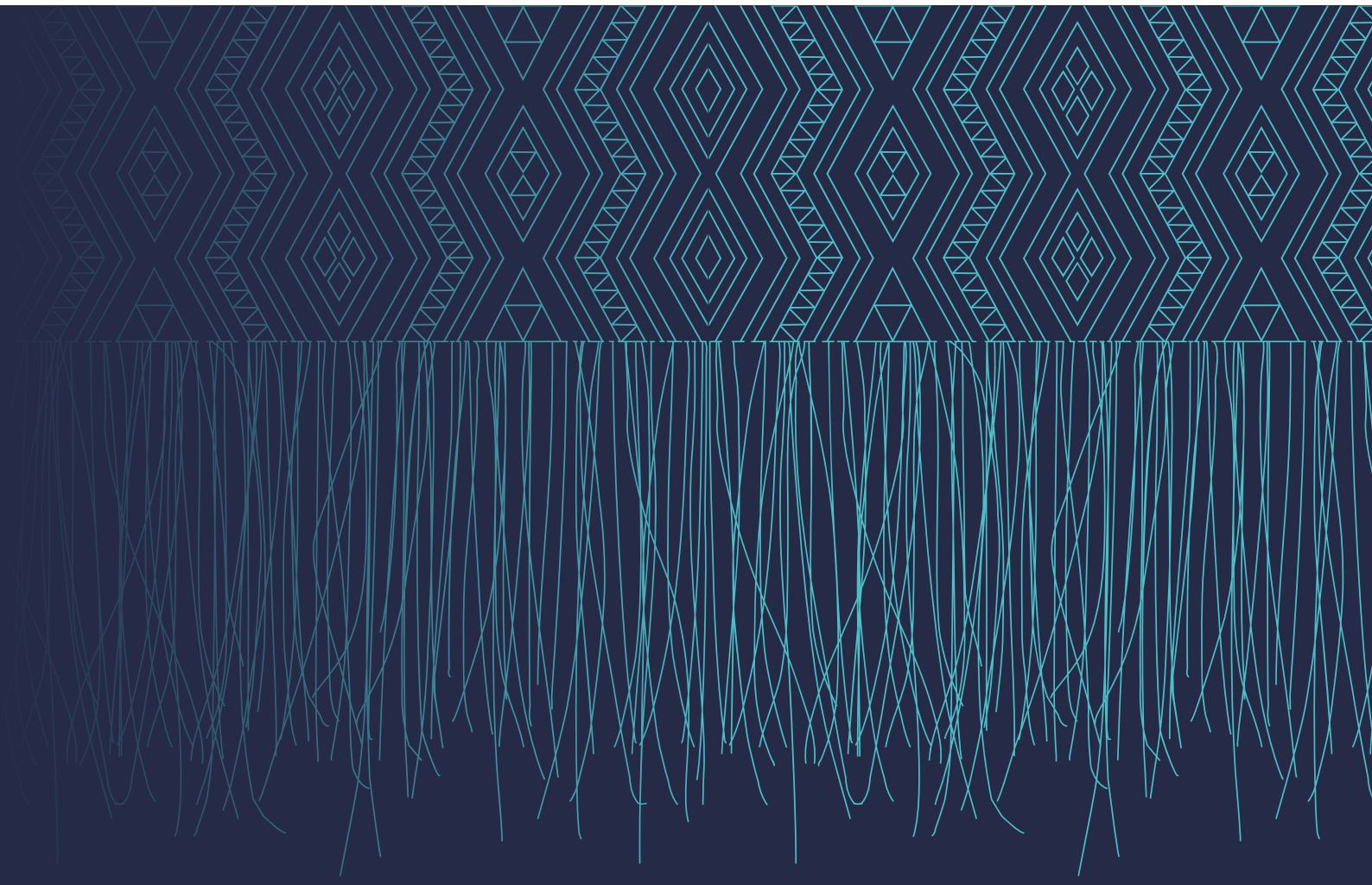
Te Whatu Ora
Health New Zealand

Clinical Practice Guidelines for Cervical Screening in Aotearoa New Zealand

June 2023



Ngā Kupu Whakataki – Foreword

The Clinical Practice Guidelines for Cervical Screening in Aotearoa New Zealand 2023 have been developed for practitioners providing health services across the cervical screening pathway. The guidelines aim to provide a standardised national approach in order to assist providers to achieve best-practice outcomes.

The 2023 guidelines define screening pathways and clinical management guidelines for use when the NCSP changes to primary screening using high-risk HPV (HPV) testing, with an option of self-testing using a vaginal swab for the HPV screening test. This is a major change to the cervical screening programme in Aotearoa New Zealand. Cytology continues to play an important role in the management of those who test positive for HPV.

The guidelines are evidence-based where possible. Where there is insufficient objective evidence available, recommendations are based on the considered judgement of experienced sector experts to provide guidance on best clinical practice. Clinicians should continue to exercise professional judgement and make decisions that reflect individual circumstances, in consultation with their patients.

Within the Aotearoa New Zealand context, the obligations of the Crown to uphold Te Tiriti o Waitangi are central to this pathway. These guidelines are to be used from July 2023 and replace the *Clinical Practice Guidelines for Cervical Screening in New Zealand 2020*.

We acknowledge all those who suffered as a result of the "Unfortunate Experiment" at National Women's Hospital which led to the Cartwright Report 1988, and also those who were affected by the events prior to March 1996 that resulted in the Ministerial Inquiry into the Under-reporting of Cervical Smear Abnormalities in the Gisborne Region, which led to the Health Amendment Act 2004.

Nā koutou i tangi, nā tātou katoa – when you cry, your tears are shed by us all

We honour the passionate voices, both past and present, who have been relentless in advocating for an equitable and high quality programme. Waireti Walters is one such Māori advocate who famously commented:

Know my face before you know my cervix – Waireti Walters

We acknowledge the hard work over many years of the Māori Monitoring and Equity Rōpū, the NCSP Advisory and Action Rōpū, the National Kaitiaki Group, the Parliamentary Review Committees and the numerous community advocacy groups who have also made a major contribution.

We also acknowledge the dedicated cervical screen takers, Support to Screening providers, regional coordinators, primary healthcare, laboratory and colposcopy service providers and others in the cervical screening programme who have worked hard over many years to foster and develop NCSP services. Many individuals have built on and upheld the mana passed from those who have gone before.

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Te Tīmatanga – Introduction

In Aotearoa New Zealand, approximately 180 people are diagnosed with cervical cancer every year and there are about 60 deaths.

There remain significant ethnic disparities, with disproportionately high cancer rates in Māori and Pacific people. 85% of people who develop cervical cancer in Aotearoa New Zealand either have never been screened or have been screened infrequently. Further details can be found in a Review of Cervical Cancer Occurrences in relation to Screening History in Aotearoa New Zealand for the years 2013 to 2017 (Sykes P et al) (see Review of Cervical Cancer Occurrences in relation to Screening History in New Zealand for the years 2013-2017 (nsu.govt.nz)).

The most recent report of national cervical cancer incidence and mortality data at the time of writing is available at: www.nsu.govt.nz/system/files/page/national-cervical-screening-programme-incidence-and-mortality-report-2018-19.pdf

KEY CHANGES

1. The guidelines are written for the introduction of high-risk human papillomavirus (referred to as HPV in these guidelines) as the primary screening test in July 2023.
2. The screening interval following a negative HPV screening test will change to five years, or three years for those who are immune deficient.
3. The Test of Cure follow-up after completely excised HSIL will now occur in primary/community care and will be performed at six months and 18 months post-treatment.
4. A Test of Cure is now accepted as follow-up after completely excised HPV-positive (pre-treatment) Adenocarcinoma in situ (AIS). The first post-treatment visit will usually be in the colposcopy clinic at six months where the first co-test for the Test of Cure will occur. If both results (HPV and cytology) tests are negative, the second co-test will usually occur in primary/community care after a further 12 months.
5. All screening participants should have a negative HPV test prior to exiting the NCSP. An HPV test can be offered up to the age of 74 for those who have not had a recent negative HPV test prior to 69 years of age.

Screening age and interval

Anyone with a cervix or vagina who has ever been sexually active should be offered an HPV primary screening test from age 25 to age 69.

If the HPV screening test result is negative (HPV not detected) the next screening test should occur in five years, or in three years for those who are immune deficient.

All participants should have a negative HPV test before exiting screening.

Those aged between 70 and 74 years who were unscreened or under-screened prior to age 70 should have a negative HPV test before ceasing screening.

1. All potential participants will be notified at 25 years of age when they are eligible for screening, based on information held on the NHI population database. The notification of eligibility for screening will be centrally generated by the NCSP Register. Where a primary/community care provider is not recorded for an individual, information regarding alternative places where screening is available locally will be made available.
2. Participants under 25 years of age who have commenced screening will be recalled at their next indicated appointment.
3. A participant who has a negative screening test for HPV will be recalled in five years, or in three years if immune deficient.
4. Older people who are unscreened or under-screened remain at risk of cervical cancer because of potential undetected cervical lesions (Landy, 2015; Lynge, Lonnberg, Tornberg, 2017). It is therefore important to have adequate screening prior to ceasing screening at age 69.
5. A new recommendation is that people aged between 70 and 74 years who were unscreened or under-screened prior to age 70 should have a negative HPV test before ceasing screening.

Exit testing for participants aged 69 to 74

1. The HPV test is more sensitive than cytology in predicting cervical abnormalities caused by HPV infection. For this reason, for participants aged 69 years and over, a single HPV test with an HPV not detected result is considered enough to safely discharge participants from the NCSP.[39]
2. Participants with a HPV not detected test result reported from age 65 or over (or age 67 or over if immune deficient) and with no subsequent abnormal cytology or histology results can cease screening if they have an HPV result of HPV not detected.
3. Participants between the ages of 70 and 74 who have not had an HPV not detected result in the five years prior to age 70 (or in the three years prior to age 70 if immune deficient) should have an HPV test and can cease screening if the HPV result is not detected.
4. Screening for asymptomatic participants aged 75 years and over is not recommended.

RECOMMENDATIONS – EXIT TESTING FOR PARTICIPANTS AGED 69 TO 74	
R4.13 Participants aged 70-74 years with a test result of HPV not detected (exit testing)	**Evidence-based recommendation** Participants aged 70-74 years who have an HPV not detected screening test result can be discharged from the NCSP.
R4.14 Participants aged 70-74 years with a test result of HPV detected (any type) (exit testing)	**Consensus-based recommendation** Participants aged 70-74 years who have an HPV detected (any type) test result should be referred to colposcopy.
R4.15 Use of vaginal oestrogen before colposcopy for postmenopausal participants	**Practice point** It is recommended that participants aged over 70 years apply vaginal oestrogen every day for three weeks before colposcopy. They should then be tested within two weeks of completing this treatment.

HPV vaccination

HPV vaccination combined with regular screening provides the best protection from cervical cancer. HPV immunisation began in Aotearoa New Zealand in 2008 and has used the nonavalent Gardasil vaccine since 2017. This vaccine protects against seven oncogenic (high-risk) viruses as well as two low-risk types of HPV that cause genital warts.

92% of cancers attributable to HPV can be prevented by Gardasil®9 (CDC, 2019). Widespread vaccination will reduce the incidence of cervical cancer. Cervical abnormalities which still occur will be more difficult to detect when they are less prevalent in the population.

Development of these guidelines

These guidelines build on previous iterations of the clinical practice guidelines and have used a wide variety of evidence-based information including international guidelines from Australia, the United Kingdom, and the Netherlands, as well as a review of current literature. Within the Aotearoa New Zealand context, the obligations of the Crown to uphold Te Tiriti o Waitangi and the Pae Ora (Healthy Futures) Act 2022 are central to this pathway. The Guidelines seek to actively meet the aspirations and needs of Māori.

The 2020 guidelines raised the commencement age for screening from 20 to 25 years and updated other areas where further evidence and clinical experience indicated that changes were required.

Clinical practice guidelines require regular review. HPV is a more sensitive primary screening test than cytology and it is anticipated that coverage for currently unscreened or under-screened people will significantly increase with the introduction of self-testing. It is therefore expected that there will be a significant increase in detection of abnormalities in the first three years after the introduction of HPV primary screening. A further review of these guidelines will be required in about three years' time, after this initial period of increased disease detection passes. New technologies will continue to be introduced to cervical screening and are likely to impact screening pathways in future years.

Section 1

Te Tiriti and Equity

1.1 The National Screening Unit (NSU) has an obligation to uphold the principles of Te Tiriti o Waitangi. These principles are articulated in the Pae Ora (Healthy Futures) Act 2022. These principles include tino rangatiratanga, partnership, active protection, options, and equity. Te Tiriti is fundamental to the rights of Māori.

1.2 The Ministry of Health (2019) defines equity as follows: *"In New Zealand, people have differences in health that are avoidable, unfair, and unjust. Equity recognises that people with different levels of advantage require different approaches and resources to achieve equitable health outcomes*".

The Aotearoa New Zealand Cancer Action Plan 2019–2029 advocates responding to Māori models that are holistic and whānau-centric, addressing racism and discrimination and achieving equity by design (MOH, 2019). Screening providers must recognise and respect Māori views relating to reproductive health including the importance of te whare tangata, whakapapa, whānau, and wellbeing.

1.3 Achieving equitable access to, and through the cervical screening pathway is essential to the overall success of the primary HPV screening programme. Around 85% of participants who develop cervical cancer in Aotearoa New Zealand have either never been screened or have been screened infrequently (see Review of Cervical Cancer Occurrences in relation to Screening History in New Zealand for the years 2013-2017 (nsu.govt.nz)). People of European/other ethnicity have in the past been privileged by the way screening programmes are designed for the 'mainstream' and have higher rates of screening and lower rates of cancer than Māori and Pacific people. Other groups whose needs are not met by a 'mainstream' approach include LGBTI+ people, people with disabilities, people living with mental illness, and people living in rural areas. (For up-to-date screening coverage, please visit: www.nsu.govt.nz/health-professionals/national-cervical-screening-programme/cervical-screening-coverage/monthly.)

1.4 HPV primary screening, effectively implemented, is expected to improve access to screening for participants who are currently under-screened and reduce inequities. However, changing the primary test from cytology to HPV will not achieve equity on its own. The NCSP and providers of screening need to take deliberate steps to progress the goal of achieving equity in all aspects of the programme.

1.5 The NCSP Te Tiriti and Equity Strategy provides more detailed information on the NCSP approach. Close attention will be paid to the development of a range of indicators

through the pathway to track equity, and monitoring information will be available to screening providers.

1.6 Information about evidence-based strategies to support equitable access and outcomes for priority group participants is included in Section 3 of the NCSP Policies and Standards which can be found www.nsu.govt.nz/health-professionals/national-cervical-screening-programme/policies-and-standards.

RECOMMENDATIONS – EQUITY AND SCREENING FOR PRIORITY GROUP PARTICIPANTS	
R1.01 **Te Tiriti o Waitangi obligations**	**Practice point** Services must recognise and actively work towards honouring their responsibilities towards tangata whenua according to the principles of Te Tiriti o Waitangi. This includes engagement with Māori in the delivery of services that meet their needs and aspirations and reflect mātauranga Māori. For more detail, go to: www.health.govt.nz/our-work/populations/maori-health/he-korowai-oranga/strengthening-he-korowai-oranga/treaty-waitangi-principles https://www.health.govt.nz/about-ministry/what-we-do/pae-ora-healthy-futures-act
R1.02 **Commitment to equity in health outcomes**	**Practice point** To reduce health inequities, different approaches are needed to support priority group participants to be screened, and to access assessment and treatment services. For the NCSP, priority group participants are Māori and Pacific participants within the eligible age range for screening, and any eligible person over 30 years who is unscreened or under-screened. Providers are expected to use evidence-based and culturally responsive strategies to support equitable access and outcomes for priority group participants. This will include monitoring access and adjusting approaches where required.

R1.03 Culturally competent/ appropriate services	**Practice point** Cervical screening services must be provided in an environment that respects the culture and the dignity and autonomy of participants. Screening services as much as possible should employ staff who come from the same cultural background as the participants. Screening providers must have appropriate training and expertise to provide culturally safe and mana-enhancing services.
R1.04 Support to Screening Services	**Practice point** Clinical screening services should develop close relationships and arrangements with Support to Screening Services and other local services (e.g. Kaupapa Māori Services, Pacific Health services) which can support participants into screening and through the pathway of follow-up, assessment, and treatment.

Section 2

Transition to HPV primary screening

2.1 Participants in the current cytology-based screening programme will be at different points on the screening pathway and will need to be transitioned safely into the new HPV primary screening pathway.

2.2 These transition recommendations (Figure 1, 2) differ from the primary screening recommendations (Figure 3) and are to be used only when participants are transitioning into the new HPV screening pathway for the first time.

2.3 People who have never been screened and those who are overdue for screening should be invited when the HPV primary screening programme commences.

2.4 People who are up to date with screening with no previous abnormal results (i.e. regularly screened and previously under-screened participants who have had a negative cytology screening test within the last three years) should have a primary screening HPV test at their next scheduled visit.

2.5 Participants with a previous cytology abnormality who have been returned to regular three-yearly cytology screening should have a primary HPV screening test at their next scheduled visit. This includes participants who have successfully completed a Test of Cure following a previous high-grade abnormality.

2.6 Participants with previous ASC-US/LSIL who have not been returned to regular three-yearly cytology screening should have an HPV test at their next scheduled visit and follow the primary screening algorithm (Figure 3).

- If the HPV result is not detected, return to regular interval HPV screening.
- If the HPV test result is HPV 16 or HPV 18 positive, refer to colposcopy regardless of the cytology result.
- If the cytology is possible or definite high-grade, refer to colposcopy regardless of the HPV result.
- If the HPV result is HPV Other positive and the cytology result is negative or ASC-US/LSIL, refer participants who are aged 50 years and older to colposcopy and recall those under 50 years of age for repeat screening (LBC for HPV testing with cytology if required) in 12 months.

2.7 Participants with a previous high-grade squamous abnormality or any previous glandular abnormality (except previous atypical endometrial cells or some categories of AIS, refer R2.08) should complete a Test of Cure before commencing HPV primary screening. If a Test of Cure has not already been successfully completed, co-testing for both cytology and HPV should occur until a Test of Cure is

complete. If referral to colposcopy was recommended in the last cytology report and the colposcopy visit has not occurred, the first event in the new programme should be a colposcopy.

2.8 Participants who have had a previous cytology report of atypical endometrial cells (with no other abnormal screening results) should have a primary screening HPV test at their next scheduled visit if either of the following applies:

- they have already been investigated by specialist services following their report of atypical endometrial cells and been discharged back to primary healthcare
- the cytology report of atypical endometrial cells was more than three years previously.

Where neither of these two conditions applies, referral to specialist gynaecology services is recommended. A Test of Cure is not appropriate as endometrial lesions are HPV negative.

2.9 To ensure that those who are 65 years or older during the transition to HPV primary screening are transitioned appropriately, the NCSP recommends that:

1. Previously unscreened people should be invited for an HPV screening test as soon as HPV primary screening is available.
2. Participants who have had previous abnormal results and are still in active follow-up, i.e. have not been returned to regular three-yearly cytology screening in the cytology-based programme, should follow the guidelines given in this section (above).
3. For immune competent individuals who have never had previous abnormal results and those who have already been returned to three-yearly cytology screening after treatment or follow-up of previous low-grade or high-grade results:
   i. Participants who are 70 years or older on the day of transition to HPV primary screening who have already had an HPV test result of not detected in the previous five years (with no subsequent abnormal cytology or histology results) can cease screening.
   ii. Participants who are 70 years to 74 years on the day of transition to HPV primary screening and who have not had an HPV test result of not detected in the previous five years (with no subsequent abnormal cytology or histology results) should be invited for an HPV primary screening test. If the HPV Test result is not detected, they can cease cervical screening.

2.10 For immune deficient individuals who have previously been screened and have never had previous abnormal results and those who have already been returned to three-yearly cytology screening after treatment or follow-up of previous low-grade or high-grade results:

i. Participants who are 70 years or older on the day of transition to HPV primary screening who have already had an HPV test result of not detected in the previous three years (with no subsequent abnormal cytology or histology results) can cease screening.

ii. Participants who are 70 years to 74 years on the day of transition to HPV primary screening and who have not had an HPV test result of not detected in the previous three years (with no subsequent abnormal cytology or histology results) should be offered an HPV primary screening test. If the HPV Test result is not detected, they can cease cervical screening.

2.11 For those who have already had HPV tests in the current cytology screening programme:

i. Those who have had an HPV not detected result using validated HPV test technology and no subsequent abnormal results in the current cytology programme, should be recalled for an HPV primary screening test five years after their previous HPV not detected screening test (or three years if immune deficient).

ii. Those who are HPV detected in the current pathway should use the appropriate screening algorithm in this document.

RECOMMENDATIONS – TRANSITION TO HPV PRIMARY SCREENING

R2.01 An HPV test replaces a primary cytology screening test	**Practice point** Any clinician-taken LBC sample with a test result of HPV detected (any type) will have a reflex cytology test carried out on the same sample. Where a swab-collected sample is positive for HPV Other, participants should have an LBC cytology assessment to determine the next step in the screening pathway. Where a swab-collected sample is positive for HPV 16 or 18, participants should be referred directly to colposcopy where a cytology sample will be taken at the time of colposcopy.
R2.02 Recall for screening	**Practice point** Those who have participated in the primary cytology screening pathway and have not had any previous abnormality or have been returned to regular screening after treatment/follow-up, should be recalled for a HPV screening test at their next visit (as scheduled based on the cytology primary screening pathway).
R2.03 HPV testing for participants in follow-up after ASC-US/LSIL	**Practice point** Participants with ASC-US/LSIL in the cytology screening programme who have not returned to regular 3-yearly screening should have an HPV test at their next scheduled visit. • Participants with an HPV not detected test result can return to regular interval screening. • Participants with an HPV detected Other result should have a cytology test to determine the next step. Where the cytology result is negative or ASC-US/LSIL, refer participants who are aged 50 years and older to colposcopy and recall those under 50 years of age for repeat screening (LBC for HPV testing with cytology if required) in 12 months. Where the cytology result is high-grade, referral to colposcopy should occur. • Participants with a test result of HPV detected Other and an unsatisfactory cytology result should be recalled for a repeat LBC test for cytology in three months' time. • Participants with a test result of HPV detected type 16 or 18 should be referred to colposcopy with any cytology result, including unsatisfactory cytology. If the HPV test was a swab collected sample and a cytology result is not available, then an LBC sample for cytology will be taken at the colposcopy visit.

RECOMMENDATIONS – TRANSITION TO HPV PRIMARY SCREENING	
R2.04 HPV testing for those with past cytologic glandular abnormalities	Participants with a previous glandular abnormality (any category except previous atypical endometrial cells or some categories of AIS, refer R2.08) should complete a Test of Cure before commencing HPV primary screening. Participants who have had a previous cytology report of atypical endometrial cells should have a primary screening HPV test at their next scheduled visit if either of the following applies: • they have already been investigated by specialist services following their report of atypical endometrial cells and discharged back to primary healthcare • the cytology report of atypical endometrial cells was more than three years previously. Where neither of these two conditions applies, referral to specialist gynaecology services is recommended. A Test of Cure is not appropriate as endometrial lesions are HPV negative.
R2.05 Colposcopic management of prior cytology detected abnormalities should continue	**Practice point** Participants who have been referred for colposcopy following a cytologic abnormality in the cytology screening programme should continue their colposcopic management according to these guidelines.
R2.06 Prior treatment and Test of Cure	**Practice point** Participants treated for HSIL (CIN2/3) in the cytology screening programme and who are undergoing or have not yet started a Test of Cure, should complete a Test of Cure in accordance with these guidelines. Participants having a Test of Cure with a test result of HPV detected (any type) and an unsatisfactory cytology result should be referred to colposcopy.
R2.07 Test of Cure	**Practice point** Participants undergoing a Test of Cure in either screening pathway should continue to have annual co-testing (HPV and LBC) until they have tested negative on both tests on two consecutive occasions 12 months apart.

RECOMMENDATIONS – TRANSITION TO HPV PRIMARY SCREENING	
R2.08 Prior treatment for AIS	**Practice point** Those who have been treated for HPV positive AIS in the cytology screening programme should have an initial colposcopy after treatment with both HPV and cytology. If all tests and investigations are negative, they can be discharged to primary/community care for the second co-test to complete a Test of Cure. Those who have been treated for HPV negative AIS in the cytology screening programme should have annual co-testing for life unless they have had a total hysterectomy with negative margins. Those who have been treated for AIS with unknown HPV status and have not had a total hysterectomy should have annual co-testing for life.
R2.09 Education and awareness for participants and whānau	**Practice point** Guiding participants and whānau through the change and what this means for them is particularly important during the transition to the HPV primary screening programme.

Figure 1: Transition to HPV primary screening – participants with no previous abnormal results, those with low-grade cytology results only and those with previous high-grade results who have already completed a Test of Cure

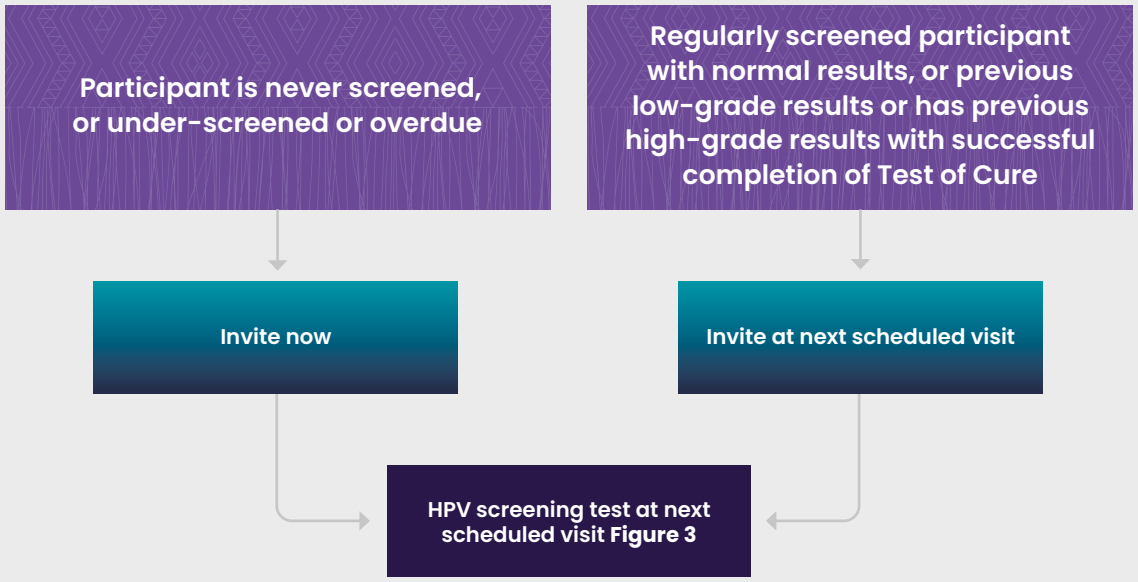
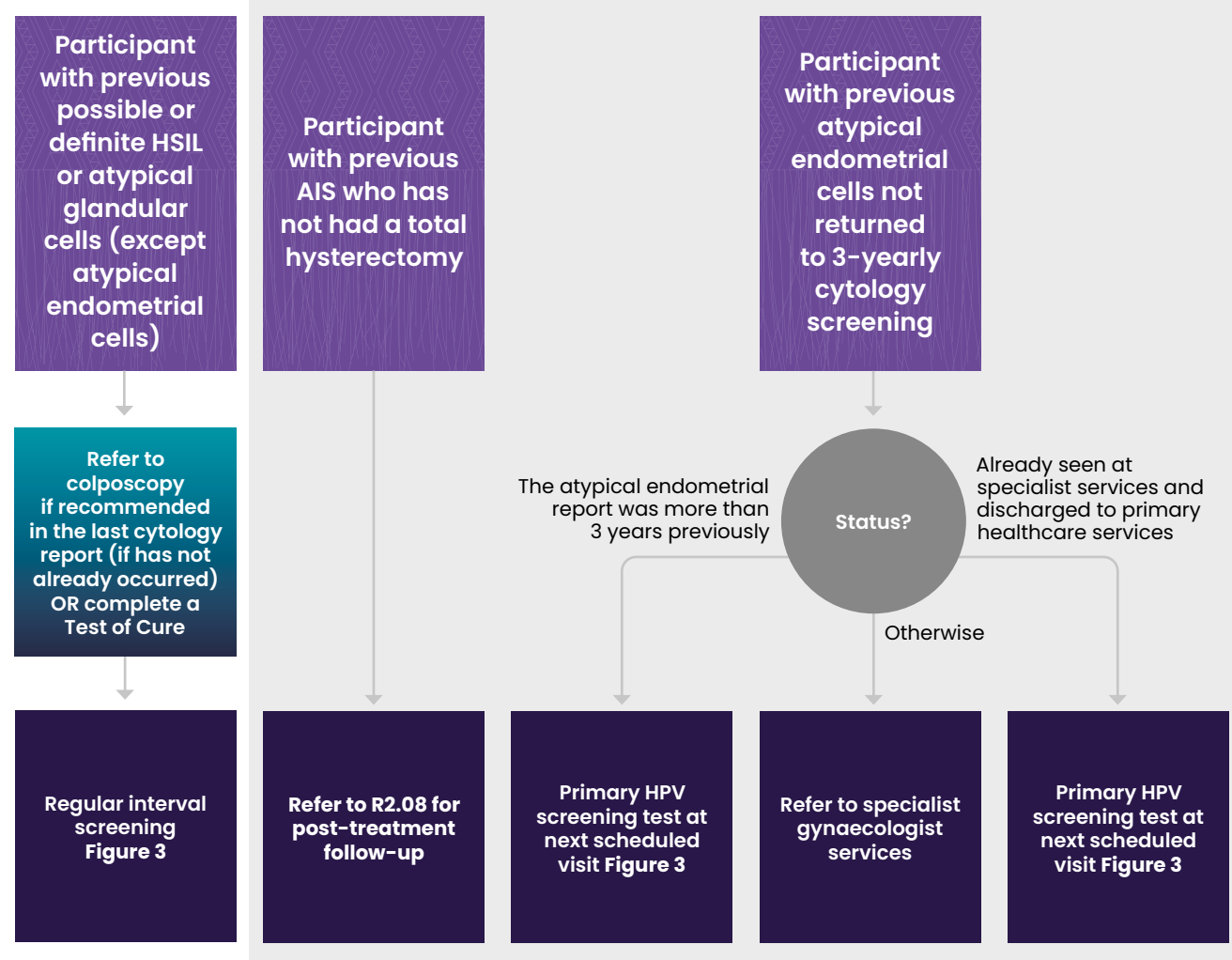


Figure 2: Transition to HPV primary screening – participants with previous high-grade results and not returned to regular screening



Section 3

Managing participants with invalid HPV test results and/or unsatisfactory cytology sample

3.1 When the NCSP transitions to the primary HPV screening test there will occasionally be samples where the HPV test result is invalid because of issues with technical processing, or samples which are unsuitable for analysis because of LBC vial or HPV collection tube leakage.

3.2 For cytology, a small number of samples will be unsatisfactory for evaluation.

3.3 For liquid based cytology (LBC) samples, the first (primary) test performed on the sample will be a screening test for HPV. If this test result is 'HPV detected (any type)', a reflex cytology test will be performed on the sample.[25 26]

3.4 For swab-collected samples the test will be the same test for HPV but cytology will not be performed as this is unreliable using a swab sample.

Invalid HPV tests

3.3 HPV tests can be invalid because of the effects of inhibitory substances or because there is insufficient cellular material present (usually none). If this occurs, then the test will be reported as invalid with a recommendation for a repeat sample.

3.4 If the HPV test is invalid on an LBC sample, cytology will be reported where possible. This may facilitate the repeat HPV test to be a swab sample, as repeat cytology will not be required.

3.5 Invalid HPV tests may be repeated without any time delay. Invalid tests should be repeated as soon as practicable.

Unsuitable for analysis HPV tests

3.6 LBC vials and HPV collection tubes that have leaked on receipt in the laboratory will not be processed. The test will be reported as unsuitable for analysis because of LBC vial or HPV collection tube leakage.

3.7 If the HPV test is not performed because of LBC vial leakage and there is a sufficient volume of fluid remaining in the LBC vial, cytology will be reported. This may facilitate the repeat HPV test to be a swab sample as repeat cytology will not be required.

3.8 Unsuitable for analysis HPV tests may be repeated without any time delay and should be repeated as soon as practicable.

Unsatisfactory cytology

3.9 An LBC preparation can be unsatisfactory for evaluation for a range of reasons, only some of which are a result of sampling technique.

3.10 If the sample is unsatisfactory, the laboratory will report the reason why, and recommend a repeat sample.

3.11 A repeat LBC sample for cytology should be taken 6-12 weeks after the first sample.

Reporting invalid or unsuitable for analysis HPV tests and unsatisfactory cytology in combined results reports

3.12 When both HPV and cytology are reported on the same LBC sample, the results will be reported in one report with one recommendation based on both results. This will still occur if the HPV test result is invalid or unsuitable for analysis if cytology has been performed, and will also occur for samples where an HPV result is available but the cytology result is unsatisfactory.

RECOMMENDATIONS – INVALID OR UNSUITABLE FOR ANALYSIS HPV TESTS AND/OR UNSATISFACTORY CYTOLOGY RESULTS	
R3.01 Laboratories should attempt to make an adequate repeat preparation for an unsatisfactory LBC test	**Practice point** For an unsatisfactory LBC result, laboratories should make further attempts to achieve an adequate preparation, after dealing with any technical problems that can be resolved.
R3.02 Report cellular abnormality for unsatisfactory LBC specimens with abnormal cells	**Practice point** Any LBC specimen with abnormal cells should not be reported as unsatisfactory. The identified cellular abnormality should be reported.
R3.03 Management of an unsatisfactory cytology sample result	**Practice point** If the LBC test is unsatisfactory, then the LBC test should be repeated no sooner than six weeks' and no later than three months' time. If the reason for the unsatisfactory sample has been identified, then the problem should be corrected, if possible, before the repeat sample is collected. Participants with a test result of HPV detected 16 or 18 must be referred to colposcopy, regardless of whether or not they have an unsatisfactory cytology result. Participants with HPV detected Other with two consecutive unsatisfactory cytology results should be referred for colposcopy.

RECOMMENDATIONS – INVALID OR UNSUITABLE FOR ANALYSIS HPV TESTS AND/OR UNSATISFACTORY CYTOLOGY RESULTS	
R3.04 Management of an invalid HPV test result	**Practice point** If the HPV test result is invalid or unsuitable for analysis, the HPV test may be repeated without any time delay. Where possible, cytology should be reported on any LBC sample where the HPV result is invalid or unsuitable for analysis to allow the repeat HPV sample to be a vaginal swab sample, as if cytology has been reported on the initial sample, a swab sample for the repeat HPV test is sufficient.
R3.05 Use of vaginal oestrogen for postmenopausal participants before a cervical sample is taken	**Practice point** It is recommended that postmenopausal participants apply vaginal oestrogen every day for three weeks before repeat cytology testing. Participants should be tested within two weeks of discontinuing oestrogen treatment.
R3.06 Notifying participants and whānau about requiring a repeat sample	**Practice point** Participants and whānau should be informed and reassured that unsatisfactory screening samples occur and that it is not their fault.

Section 4

Management of participants after HPV testing

4.1 HPV testing refers to testing for high-risk HPV types (HPV). HPV types are those types of HPV that are associated with the development of invasive cervical cancer. These HPV types are also commonly referred to as oncogenic HPV types.

4.2 In the new pathway, primary HPV testing will include partial HPV genotyping to distinguish HPV types 16 and 18 from another 12 HPV types, collectively known as HPV Other.

4.3 All screening tests have false positive and false negative results. The HPV test is a more sensitive test for CIN2+ with a better negative predictive value than the current cytology primary screening test, so there will be fewer false negative tests in the new pathway compared with the current pathway.[7 8 9]

4.4 Because cytology has greater specificity than HPV testing for detecting CIN2+,[18] it will be used as a secondary test to triage participants with HPV Other test results.

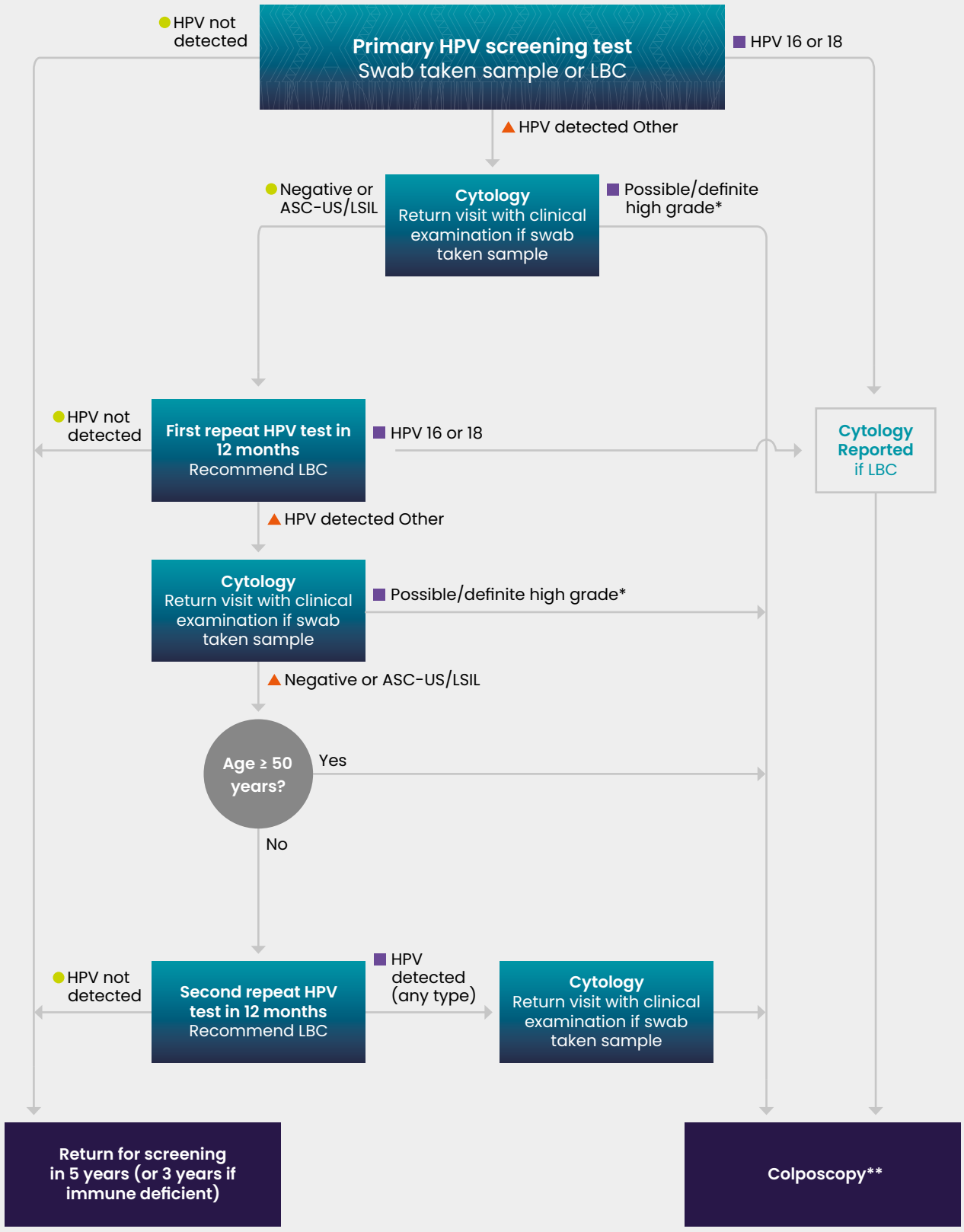
- The revised screening pathway will triage participants under 50 years of age with HPV Other and negative/ASC-US/LSIL cytology to a repeat HPV test in 12 months with a further test 12 months subsequently if the second test event shows HPV Other with negative/ASC-US/LSIL cytology. These participants will have three testing events before referral to colposcopy.
- Participants aged 50 years of age or older with HPV Other and negative/ASC-US/LSIL cytology will be triaged to a repeat HPV test in 12 months. If the second test event shows HPV Other with a negative/ASC-US/LSIL cytology result, referral to colposcopy should occur. These participants will have two testing events before referral to colposcopy.
- If cytology shows positive or definite high-grade change, or HPV 16 or 18 is detected at any time at any age, referral to colposcopy should occur.[20]

4.5 Where HPV 16 or 18 is detected on a swab-collected sample, referral to colposcopy will follow for all participants when the result is reported.

4.6 The terms used to describe HPV test results in this document are:

- HPV not detected
- HPV detected
  - HPV detected 16
  - HPV detected 18
  - HPV detected Other
- HPV detected (any type)
- HPV test invalid
- HPV test unsuitable for analysis.

Figure 3: Cervical screening pathway: HPV primary screening for asymptomatic participants



Risk of cervical cancer precursors: ● Low ▲ Medium ■ High

LBC – Liquid Based Cytology

*Possible/definite high grade cytology includes ASC-H, HSIL, SCC, atypical glandular cells, AIS and adenocarcinoma.
**Refer to Section 9 for specialist referral of atypical or malignant endometrial cells

HPV not detected

4.7 Where HPV types are not detected, participants are at very low risk of cervical intraepithelial neoplasia grade 3 (CIN3) and cervical cancer for at least five years.[7 8 9]

RECOMMENDATION – HPV NOT DETECTED	
R4.01 HPV not detected See Figure 3.	**Evidence-based recommendation** Participants with an initial screening test result of 'HPV not detected' should be re-screened in five years.

HPV detected Other

HPV detected Other and negative/ ASC-US/LSIL cytology results

4.8 Participants with swab-collected samples positive for HPV Other will require a liquid based cytology (LBC) test for cytology. Participants with HPV detected Other and negative/ASC-US/LSIL LBC results are at lower risk of having precancerous cell changes than participants with HPV types 16 or 18.[20 21 27]

4.9 HPV Other types typically clear within 12 months for an estimated 67% of infections. Once these infections have cleared (i.e. are not detected), participants are at very low risk of significant cervical disease for the next five years.[1]

4.10 This means that for participants with HPV detected Other and low-grade cytology it is appropriate to delay referral for colposcopic assessment to allow the infection to resolve spontaneously.

4.11 This approach will avoid many unnecessary colposcopies and the associated harm (such as overtreatment and anxiety) for participants with cervical abnormalities caused by HPV Other infections that, in most cases, will resolve without medical intervention.[19 21 27]

4.12 The following findings and practices support the appropriateness of this approach.

- The management of participants with infection of HPV Other identified at the first 12 month repeat requires a test that can provide both HPV and cytology i.e. a liquid-based cytology (LBC) sample.
- The further management of participants with persistent HPV Other at 12 months will be determined by age.
- Participants over 50 years will be referred for colposcopy if the HPV result is HPV detected (any type) 12 months after the initial test irrespective of the cytology result.
- Participants under 50 years with persistent HPV Other and with cytology which is negative, ASC-US or LSIL will have a further recall for a liquid-based cytology (LBC) sample in primary care after a further 12 months.[20]

- If the HPV Other remains positive at the third test in participants under 50, they will be referred to colposcopy irrespective of the cytology result.
- The NCSP will closely monitor outcomes for these participants as part of monitoring and evaluation so that follow-up data is available the next time that these guidelines are reviewed.

HPV detected Other and high-grade cytology

4.13 Participants with HPV detected Other and cytology reported as ASC-H, HSIL, AIS or any cytologic glandular abnormality (except atypical endometrial cells) are at higher risk of having cervical cancer precursors and should be referred directly to colposcopy.

RECOMMENDATIONS – HPV DETECTED OTHER	
R4.02 HPV detected Other and a cytology result of negative or ASC-US/LSIL See Figure 3.	**Evidence-based recommendation** Where participants have an HPV detected Other test result and a cytology result of negative or ASC-US/LSIL, they should have repeat HPV testing in 12 months.
R4.03 Repeat HPV test at 12 months (following HPV detected Other and a cytology result of negative or ASC-US/LSIL) See Figure 3.	**Evidence-based recommendation** If the 12-month repeat test result is HPV not detected, the participant should be advised to return to regular interval screening. If the 12-month repeat test result is HPV detected (any type), cytology should be performed, and the next step based on Figure 3.
R4.04 HPV detected Other and ASC-H, HSIL, or any glandular abnormality (except atypical glandular endometrial cells) cytology result See Figure 3.	**Consensus-based recommendation** Where participants have a test result of HPV detected Other and an ASC-H, HSIL, or any glandular abnormality (except atypical endometrial cells) cytology, they should be referred to colposcopy. Where atypical endometrial cells are reported on a cytology specimen the participant should be referred for gynaecologic assessment as long as there is no co-existent cytology abnormality requiring referral to colposcopy.
R4.05 HPV detected Other and a cytology result suspicious of or definite for invasive cancer See Figure 3.	**Consensus-based recommendation** Where participants have a test result of HPV detected Other with a cytology result suspicious of or definite for invasive cancer, they should be referred to a colposcopist for urgent evaluation within two weeks.

HPV detected 16 and 18

4.14 Collectively, HPV 16 and 18 are associated with a higher concurrent and future risk of having cervical cancer precursors than other HPV types. Worldwide, HPV 16 and 18 together account for up to 70% of cervical cancers.[28 29]

4.15 Among Aotearoa New Zealand participants with cervical cancer who have HPV (any type), approximately 65% have HPV 16 or 18. This prevalence is not significantly different between Māori and non-Māori.[28 29]

4.16 HPV prevalence in Aotearoa New Zealand participants with cervical cancer is very similar to other countries such as Australia and the United Kingdom despite differences in the proportion of the 25 to 30 age group population that is vaccinated. This means that the findings from research based on other similar countries should be applicable to Aotearoa New Zealand. [12]

4.17 For participants with HPV 16 or 18 and negative cytology the estimated risk of cancer is as high as 0.3%.[30]

4.18 All participants with HPV 16 or 18 will be referred for colposcopy when the HPV result is received.

- Priority to be seen at colposcopy should be given to participants who have high-grade change on cytology.
- Where no cytology specimen is available, priority should be given to over 30-year-olds who are unscreened or under-screened. These participants should be seen in 20 working days.
- Participants with a high-grade screening history where the participant has not been returned to regular screening after the high-grade result, and the HPV test is now positive for HPV 16 or 18, should also be seen within 20 working days.
- Under 30-year-olds and participants with a negative or low-grade screening history should be seen within 30 working days.

4.19 Where the sample is an LBC sample, cytology will automatically be reported if the HPV test is positive for any HPV type, including HPV 16 or 18.

RECOMMENDATIONS – HPV DETECTED 16 OR 18

R4.06 HPV detected 16 or 18 See Figure 3.	**Evidence-based recommendation** Participants with HPV detected 16 or 18 will be referred to colposcopy, which may be informed by the result of a cytology test reported prior to the colposcopy.

RECOMMENDATIONS – HPV DETECTED 16 OR 18	
R4.07 HPV detected 16 or 18 and a cytology result suspicious of or definite for invasive cancer See Figure 3.	**Consensus-based recommendation** Participants with a test result of HPV detected 16 or 18 and a cytology result suspicious of or definite for invasive cancer (any type) should be referred to a colposcopist or gynecological oncology unit for urgent evaluation.
R4.08 Referral of participants with HPV detected 16 or 18 and unsatisfactory cytology See Figure 3.	**Practice point** When the cytology test is unsatisfactory, but the participant has HPV detected 16 or 18 test results, they should be referred directly to colposcopy. Another LBC sample should be collected for cytology at the time of colposcopy. See Section 3: Unsatisfactory cytology screening results.
R4.09 Referral of participants with HPV detected 16 or 18 and a cytology result of ASC H/HSIL, or any glandular abnormality See Figure 3.	**Practice point** Participants with HPV detected 16 or 18 and a cytology result of ASC-H/HSIL, or any glandular abnormality (except atypical endometrial cells) should be referred for colposcopic assessment at the earliest opportunity and seen within 20 working days of the receipt of the referral.
R4.10 Referral of participants with HPV detected 16 or 18 and low grade or negative cytology should be referred to colposcopy	**Practice point** These participants should be referred for colposcopic assessment and seen within 30 working days.
R4.11 HPV detected 16 or 18 results from a swab-collected sample	**Practice point** Where a HPV detected (16 or 18) result is from a swab-collected sample, referral to colposcopy will follow for all participants. Participants will be referred directly to colposcopy where a cytology sample will be taken during the colposcopic examination. Participants over 30, never screened or more than two years overdue for screening, should be seen within 20 working days.
R4.12 Ensure participant and whānau know what HPV is	**Practice point** Participants and whānau should be provided with advice and reassurance regarding HPV.

Section 5

Colposcopy

5.1 The aim of diagnostic colposcopy after an abnormal cervical screening test is to assess the nature, severity, and extent of the abnormality. To do so, it is necessary to visualise the cervix and external os and identify the squamocolumnar junction, exclude invasive disease, map, and type the transformation zone (TZ), identify any visible abnormalities, and target the most abnormal area(s) for biopsy.

5.2 Systematic examination of the whole lower genital tract and accurate, concise recording of the findings are required to produce the highest sensitivity and best positive predictive value (PPV) for diagnosing high-grade abnormalities. This approach is also essential in determining if treatment is required, and for planning the most appropriate mode, timing, and extent of therapy.

Documentation and terminology

5.3 A necessary part of high-quality patient management is to thoroughly document the participant's medical record. It is essential to record the results of consultations, examinations, and treatments electronically so that colposcopy data can be submitted readily to the NCSP Register. It is recommended that colposcopists record an annotated diagram of the cervix and vagina or a digitally captured image and ensure that complete and accurate data is sent to the NCSP Register in accordance with the NCSP's Policies and Standards.

RECOMMENDATIONS – SCREENING SUPPORT	
R5.01 **Support person**	**Practice points** Ensure participants and whānau are aware they can bring a support person to their appointment.
R5.02 **Support to Screening Services**	**Practice points** Clinical screening services should develop close relationships and arrangements with Support to Screening Services and other local services (e.g. Kaupapa Māori services, Pacific Health services) which can support participants into screening and through the pathway of follow-up, assessment, and treatment.

History, examination, and investigation

5.4 Best practice is supported by history taking at colposcopy, which should be relevant, concise, and accurately recorded. At a minimum, the colposcopist should find out and record the following information:

- primary reason for referral (usually from the referring healthcare professional), for example, abnormal screening test, postcoital bleeding, abnormal cervical appearance, or other
- screening history, previous colposcopies, and treatments
- parity
- menstrual history or any abnormal bleeding
- past gynaecological history, including risk factors for cervical disease
- past medical and surgical history with reference to immune deficiency due to disease or treatment
- current medication and allergies
- current status for smoking/ tobacco use
- HPV vaccination status
- relevant family history, including diethylstilbestrol (DES) exposure.

Colposcopic examination of the cervix and vagina

5.5 The colposcopist should perform a systematic examination of the lower genital tract, including the cervix, vagina, vulva, perineum, and perianal area.

Macroscopic examination

5.6 After visual inspection of the vulva, perineum, and perianal skin, the colposcopist should identify the cervix using a bivalve speculum and observe it with the naked eye and then with the colposcope. The vagina can be inspected through the entire length on slow removal of a partially open speculum.

Colposcopic examination

Cervix

5.7 The cervix should be examined under low-power magnification before applying acetic acid to:

- exclude clinically invasive disease
- note the presence of inflammation, infection, or atrophy.

Dilute acetic acid (3-5%) is applied to the cervix, allowing for typing of the TZ and to determine the extent and degree of any abnormality.

Anus and anal canal

5.8 Participants who are diagnosed with cervical dysplasia or who are immune deficient are at increased risk of anal intraepithelial neoplasia (AIN) and anal cancer. Anoscopy, along with its findings and subsequent management, is outside the scope of this document. It is usually practised by specially trained colposcopists, sexual health physicians, or colorectal surgeons.

RECOMMENDATIONS – COLPOSCOPIC EXAMINATION OF THE CERVIX AND VAGINA	
R5.03 Use of acetic acid and iodine at colposcopy	**Practice point** Acetic acid should be applied for enough time for aceto-white changes to become apparent, usually 1½ to two minutes. This is especially important when the lesion is low-grade, or the patient is oestrogen deficient as aceto-white areas may take more time to become visible. It is recommended that Lugol's Iodine be used if no obvious lesion is found with the application of acetic acid.
R5.04 Colposcopy and vaginal intraepithelial neoplasia (VAIN)	**Practice point** When the LBC report predicts a squamous abnormality and no cervical lesion is colposcopically visible, careful colposcopic examination of the vagina should be performed to exclude VAIN, using acetic acid and Lugol's Iodine.
R5.05 Repeat LBC not routinely necessary at time of colposcopy	**Practice point** It is not necessary to routinely take a cervical cytology sample at the time of colposcopy. However, it may be useful to do so in certain circumstances, such as where: • the participant has been referred based on a swab-collected HPV test and no cytology was collected prior to the colposcopy test • there has been a delay in attending for colposcopy for longer than six months since the referral cytology test was taken • the referral cytology was unsatisfactory • oestrogen treatment has been given prior to colposcopy.

Biopsy

5.9 The colposcopically-directed biopsy should be taken from the most abnormal area of the cervix. Evidence indicates that in larger lesions, higher-grade abnormalities will be more centrally placed; taking more than one biopsy will detect more high-grade disease and taking random four biopsies from abnormal areas has the highest sensitivity for detecting cervical intraepithelial neoplasia grade 2 or higher (CIN2+).[32 33 34 35 36] However, the random four-quadrant biopsy technique will cause more discomfort and is not usual practice.

RECOMMENDATIONS – BIOPSY	
R5.06 **Biopsy of high-grade lesions**	**Consensus-based recommendation** The cervix should be biopsied when there is a high-grade (ASC-H/HSIL) LBC result, and the colposcopic appearance shows major change (see IFCPC definition in appendix 1) and the entire transformation zone (TZ) is visible (type 1 or type 2 TZ).
R5.07 **Biopsy any visible lesion if suspicious for invasion**	**Practice point** Any lesion suspicious for superficially invasive or invasive carcinoma should be biopsied.
R5.08 **Biopsy of low-grade lesions**	**Practice point** Taking a biopsy when the participant has ASC-US/LSIL cytology and a colposcopic impression of low-grade disease is usual practice to confirm the diagnosis.

Imaging

5.10 Participants who are referred for evaluation with abnormal glandular cytology, especially those with atypical glandular cells, may not always have a colposcopically-detectable lower genital tract abnormality. In this situation, imaging/ultrasound of the upper genital tract could be performed. Imaging may detect gross disease of the upper genital tract, as abnormalities in these sites may be the cause of the screen-detected abnormal glandular cells. Further investigation, such as endometrial sampling, to exclude an endometrial origin for atypical glandular cells, may be required.

RECOMMENDATION – IMAGING	
R5.09 Upper genital tract imaging	**Practice point** Upper genital tract imaging may be performed in cases where no lower genital tract abnormality is detected after referral with an abnormal glandular LBC result (including atypical glandular cells).

Colposcopy – treatment

Decision to treat

5.11 Participants should understand the indication for their treatment. Information about the procedure and potential complications should be given and consent obtained.

5.12 Most treatments can be completed under local anaesthesia as an outpatient procedure.

5.13 Some treatment modalities are associated with obstetric complications and neonatal morbidity. The aim is to excise the smallest amount of cervical tissue necessary to clear disease.[40 41]

RECOMMENDATIONS – DECISION TO TREAT	
R5.10 Colposcopy prior to treatment	Usual practice in Aotearoa New Zealand.
R5.11 Histological confirmation before treatment	**Consensus-based recommendation** Treatment should be reserved for participants with histologically confirmed HSIL (CIN2/3) or AIS, except for participants requiring diagnostic excisional biopsy. In some circumstances it may be appropriate to take a 'see and treat' approach. A participant may be suitable for see and treat if all of the following apply: • they have been fully informed and are already prepared for possible treatment • their cytology and colposcopic appearance are concordant and HSIL • the lesion and TZ are completely visible • a return visit after diagnostic biopsy may not be possible or may cause hardship for the participant • ideally it should be reserved for participants who have completed child-bearing.
R5.12 Biopsy before ablative treatment	**Consensus-based recommendation** Participants must have a cervical biopsy before any ablative treatment.
R5.13 Pathology review of discordant test results	**Consensus-based recommendation** For participants who have had a colposcopy with significant discordance between the cytology and histology, the colposcopist should discuss the results with the reporting pathologist(s), who should review the cytology and histology, before the colposcopist determines the management plan. Ideally, this review should be part of a colposcopy multidisciplinary meeting.
R5.14 Referral to a more experienced colposcopist	**Practice point** In some clinical situations, the colposcopist should consider referral to a more experienced colposcopist, including for: • suspected or histologically confirmed invasive disease • adenocarcinoma in situ • abnormalities in pregnancy • participants with multifocal lower genital tract disease.

RECOMMENDATIONS – MULTIDISCIPLINARY/CONCORDANCE CONSULTATION AND MEETINGS	
R5.15 Multidisciplinary/ concordance consultation and meetings	**Practice point** When there is any concern about patient management, it is good practice to seek a second opinion from a colleague.
R5.16 The role of multidisciplinary team review	**Practice point** A multidisciplinary team discussion is required when: • dealing with complex cases where there is discordance between histopathology and referral cytology (e.g. HSIL cytology results, with negative or LSIL histology) • where treatment is not urgent and therefore it is possible to take the required time to review the findings and optimise the management plan. When there is a clinical need for multidisciplinary team review between multidisciplinary meetings, consultation with the cyto/ histopathologist is recommended.

RECOMMENDATION – TREATMENT	
R5.17 Colposcopy at time of treatment	**Practice point** All treatments should be performed under colposcopic vision, except for cold-knife cone biopsy.

Treatment modalities

5.14 Treatment is achieved by complete excision of the atypical TZ, by cold-knife cone biopsy, or electrosurgery.

5.15 The amount of cervical tissue to be excised should be determined by the:[37 38 39]

- type of TZ
- size and extent of the lesion
- known or suspected final histology.

Note: The planned depth of excision should be recorded and where possible, the extent of the excision should be measured.

Training

5.16 All therapeutic colposcopists should have undergone approved, recognised and supervised training and have demonstrated competence in the therapy or therapies that they use.

Excision

5.17 Excisions are stratified as type 1, 2 or 3, according to the length of cervical tissue excised. It is important to establish the stratification of the excision type and as Aotearoa New Zealand colposcopists do not routinely use the measurements specified by the IFCPC, a modification of the IFCPC definition has been suggested.

5.18 The definitions of the treatment types (modified from the IFCPC) are:[37 39]

- type 1 excision (for type 1 TZ): usually to 8 mm and no more than 10 mm length of cervical tissue excised
- type 2 excision (for type 2 TZ): no more than 15 mm length of tissue excised
- type 3 excisions (for type 3 TZ): equivalent to cone biopsy and > 15 mm length. This treatment type should be used for participants with:
  - suspected invasive disease
  - proven or suspected glandular disease
  - a type 3 TZ with proven or suspected high-grade disease.

5.19 The specimen should be removed in one piece. Specimens in two or more pieces may create difficulties in histological assessment, particularly in the interpretation of margins, completeness of excision, and the evaluation of invasive disease. This practice is very important if the participant's initial cytology result is AIS or AIS is histologically confirmed.

5.20 In participants who have a very large ectocervical TZ, it may be necessary to remove the TZ in two pieces. This should rarely be required and only in unusual situations. It is important that the endocervical and stromal margins are suitable for pathological interpretation, that the specimens are accurately oriented and labelled, and that the whole lesion is removed.

RECOMMENDATIONS – EXCISION

R5.18 **Excision specimen quality and pathology**	**Consensus-based recommendation** Excisional therapy should aim to remove the entire transformation zone: • with a predetermined length of cervical tissue (type 1, 2 or 3 excision) • in one piece, with minimal distortion or artefact to the final histological specimen. This last factor is critical for the management of suspected or histologically confirmed AIS.

RECOMMENDATIONS – EXCISION	
R5.19 Excision specimen quality and pathology, and very large ectocervical lesion	**Practice point** A very large ectocervical lesion may have to be removed in two pieces so that the entire lesion is taken out. In this case, it is still important that the endocervical and stromal margins are suitable for pathological interpretation and that the specimens are accurately oriented and labelled.
R5.20 Excisional techniques and surgical competency	**Practice point** Colposcopists should use the excisional techniques with which they are comfortable and competent and that produce the best histological specimen.

Cold-knife cone biopsy

5.21 Historically, cold-knife cone biopsy has been the recommended procedure in suspected cases of glandular disease and invasion. Current evidence indicates that it carries the best rates of single specimens and achieved length > 15 mm (type 3 excision) compared with other excisional modalities. Conversely it also has higher reported rates of short-term and long-term complications, including primary haemorrhage and subsequent pre-term labour.[40 41]

5.22 However, a meta-analysis reported that all excisional procedures used to treat cervical intraepithelial neoplasia seem to be associated with adverse obstetric morbidity.[41]

Loop diathermy excisions (LLETZ or LEEP) that remove large amounts of cervical tissue probably have the same effect as cold-knife cone biopsies. Given the design of published observational studies, treatment cannot be identified as the only reason for observed differences in perinatal mortality and severe premature delivery between treated and non-treated participants.[40 41]

RECOMMENDATION – COLD-KNIFE CONE BIOPSY	
R5.21 Cold-knife cone biopsy	**Practice point** Cold-knife cone biopsy should be performed in an operating theatre, under general or regional anaesthesia, by a gynaecologist competent in the technique.

Loop diathermy (LEEP or LLETZ)

5.23 Loop diathermy (LEEP or LLETZ) is the most used therapy for CIN in Aotearoa New Zealand. Disposable loops are available in a wide variety of profiles and sizes. The loop size should be determined at the time of the treatment colposcopy to meet the width of the TZ and the planned type of excision.

5.24 Diathermy settings should be significantly higher than those used in most open or laparoscopic surgeries to reduce thermal artefact (this should be minimised to 0.2 mm). It is imperative for the clinician to find out the recommended power settings from the electrosurgical system manufacturer.

5.25 Note that each clinician will have a personal preference (to suit their surgical technique, loop size, speed of excision, and other factors) that determines their personal 'best settings' for electrosurgical procedures.

5.26 Extensive application of coagulation current should be avoided, especially at the endocervical margin, which rarely bleeds.

RECOMMENDATIONS – LOOP DIATHERMY (LEEP OR LLETZ)	
R5.22 Loop excisional biopsy technique	**Practice point** Optimal practice is to make a single pass of the loop, side to side or posterior to anterior, to produce a specimen in one piece.
R5.23 Loop 'top-hat' excisions should be avoided (LEEP or LLETZ)	**Practice point** The 'top-hat' excision technique using a wire loop, in which a second piece of endocervical tissue is removed after the first excision, is more difficult to interpret histologically and should be reserved for participants where the affected ectocervical area is very wide.

Other treatment considerations

Treatment at first visit

5.27 Most participants do not need to consider this option. It is recommended that participants should have an adequate colposcopic assessment and a colposcopically-directed biopsy at the first visit. This will provide histological confirmation of the colposcopic impression and inform the need for definitive treatment that is usually performed later.

5.28 Treatment at the first visit may be appropriate if participants meet all of the following criteria:

- referral cytology test result is HSIL
- colposcopic impression is high-grade disease
- TZ is completely visible (type 1 or 2)
- invasive cancer has been excluded
- the lesion is suitable for treatment under local anaesthetic.

RECOMMENDATION – TREATMENT AT FIRST VISIT (ASC-US/LSIL)

R5.24 Do not treat at first visit with a cytology report of a low-grade lesion	**Practice point** Participants who have an ASC-US/LSIL cytology result should not be treated at the first visit.

Treatment of endocervical adenocarcinoma in situ (AIS)

5.29 Participants with a proven glandular abnormality who wish to remain fertile should be treated with local excision. Some colposcopists may also perform a post-excision endocervical curettage at the time of the excision.[41] A participant presenting with a definite high-grade glandular abnormality on cytology has a 24% or greater chance of having invasive adenocarcinoma in the excision specimen.

5.30 A type 3 excision should be performed. If this is via LLETZ, it should be in a single pass. Cone biopsy is preferable if a single pass LLETZ is not possible.[44 45 46 47 48 49]

5.31 Evidence indicates that in participants under 35 years of age a more conservative type 2 excision can be offered initially, if the participant is counselled about the possibility of repeat therapy. Any incomplete margin will require a repeat excision.[44 45 46 47]

RECOMMENDATION – TREATMENT OF ENDOCERVICAL ADENOCARCINOMA IN SITU (AIS)

R5.25 Cold-knife cone biopsy and AIS	**Practice point** Predicted or histologically confirmed AIS should be treated by a type 3 excision (usually a cold-knife cone biopsy) performed in an operating theatre, under general or regional anaesthesia, by a gynaecologist competent in the technique.

Repeat treatment

5.32 Disease may recur after an excisional procedure. If, after an excision the HSIL (CIN2/3) extends to the endocervical (deep) or stromal (lateral) margins of the specimen, the incidence of recurrence is higher. However this is not high enough to justify routine repeat excision, in the absence of glandular or invasive disease.[50 51 52]

5.33 However, participants aged 50 years and over with involved margins, and participants in whom adequate subsequent colposcopic examination and follow-up cytology cannot be guaranteed, should be offered repeat excision and, in some cases, hysterectomy.[50]

RECOMMENDATION – REPEAT TREATMENT	
R5.26 Repeat excision not necessarily required for incomplete excision of high-grade lesions	**Practice point** Participants who have incomplete excision of HSIL (CIN2/3) with positive endocervical or stromal margins do not necessarily require immediate repeat excision and could be offered Test of Cure (HPV and cytology) surveillance, except for: • participants aged 50 years or over • participants who may not be compliant with recommended follow-up • participants in whom subsequent adequate colposcopy and follow-up cytology cannot be guaranteed.
R5.27 Recurrent disease after ablation	**Practice point** If high-grade disease recurs after previous ablation, treatment should be by excision.

Superficially invasive squamous cell cancer (SISCCA)

5.34 Participants diagnosed as FIGO Stage IA1[53] squamous carcinoma after local excision do not require further excision if all of the following criteria are satisfied:[53 54 55]

- the margins are clear of CIN and invasive disease
- there is no evidence of lymphovascular space invasion
- a gynaecological pathologist has reviewed the case and it has been discussed at a gynaecological oncology multidisciplinary meeting.

RECOMMENDATION – SUPERFICIALLY INVASIVE SQUAMOUS CELL CANCER	
R5.28 Role of repeat excision in superficially invasive squamous cell cancer (previously called 'micro-invasive')	**Practice point** In the presence of a superficially invasive squamous carcinoma, if HSIL (CIN2/3) extends to any excision margin, a repeat excision (usually by cold-knife cone biopsy) is recommended. Management should be discussed at a gynaecological oncology multidisciplinary meeting.

Section 6

Management of a discordant LBC report, colposcopic impression, and histopathology results

Discordant results

6.1 Some clinical scenarios present difficulties for diagnosis and management when LBC results are discordant with colposcopic or histopathological reports for participants referred for colposcopy based on their HPV and cytology results.

6.2 The following clinical scenarios are considered in this section:

- normal colposcopic findings following a referral with a low-grade or high-grade cytology result.

Type 3 TZ (unsatisfactory) colposcopy following a cytology report of a low-grade or high-grade result

6.3 Multidisciplinary meetings between colposcopists, histopathologists and cytopathologists are recommended to determine the best management for each discordant case. See NCSP Policies and Standards, sections 5 and 6, and the Te Whatu Ora multidisciplinary meeting guidelines (www.health.govt.nz/publication/guidance-implementing-high-quality-multidisciplinary-meetings and the cancer MDT template HISO 10038.4 Cancer Multidisciplinary Meeting Data Standard).

RECOMMENDATION – MANAGEMENT OF DISCORDANT RESULTS	
R6.01 Colposcopists should manage discordant results	**Practice point** Where participants have discordant colposcopy and cytology results, a colposcopist should supervise their care until both the colposcopist and the participant have agreed with the proposed management plan.
R6.02 Multidisciplinary meetings should manage discordant results	**Practice point** Discordant results should be managed through review of individual cases by a multidisciplinary team that includes colposcopists, histopathologists, and cytopathologists.

RECOMMENDATIONS – NORMAL COLPOSCOPY FOLLOWING A NEGATIVE/ ASC-US/LSIL CYTOLOGY RESULT (TYPES 1 AND 2 TZ)

R6.03
Normal colposcopy following negative/ ASC-US/LSIL cytology results
See Figure 4.

Consensus-based recommendation

For participants with HPV detected (any type), negative/ASC-US/LSIL cytology results, and normal colposcopy, the HPV test should be repeated in 12 months.

- Participants with an HPV not detected result at 12 months should be returned to regular interval HPV screening.
- For participants with an HPV detected Other and a cytology result of negative/ ASC-US/LSIL:
  - those who are immune deficient should be referred to colposcopy
  - those who are immune competent should have a further liquid based cytology (LBC) sample for an HPV test and cytology in another 12 months.
- Participants with HPV detected any type and ASC-H/HSIL or any glandular abnormality cytology (except atypical endometrial cells with no other reason for specialist referral) at 12 months should be referred directly to colposcopy.
- Participants with HPV detected Other and atypical endometrial cells (with no other high grade cytology result) should be referred to a specialist gynaecologist.
- Participants with HPV detected 16 or 18 at 12 months should be re-referred directly to colposcopy.
- Where participants have HPV detected (any type) and normal colposcopy, and the MDM cytological review downgrades the initial cytology result to negative, management should be based on the amended cytology report (i.e. repeat HPV test in 12 months).

For participants with HPV detected (any type), negative/ASC-US/LSIL cytology results, and normal colposcopy, who have had HPV Other and negative/LSIL/ASC-US cytology at 12 months who have now had further testing at a second recall at 24 months post-discharge from colposcopy:

- those with an HPV not detected result at 24 months should be returned to regular interval HPV screening.
- those with an HPV detected (any type) should be referred to colposcopy

Recommendations – normal colposcopy following a negative/ASC-US/LSIL cytology result (Type 3 TZ)

6.4 There is currently insufficient high-level evidence to guide the management of discrepancies between cytological findings and colposcopic impression in participants who have test results of HPV detected (any type) or who have a negative/ASC-US/LSIL cytology result, and type 3 TZ colposcopy.[56] The following consensus-based recommendations and practice points are considered a conservative, safe approach, but they may require review as more information becomes available from future research.

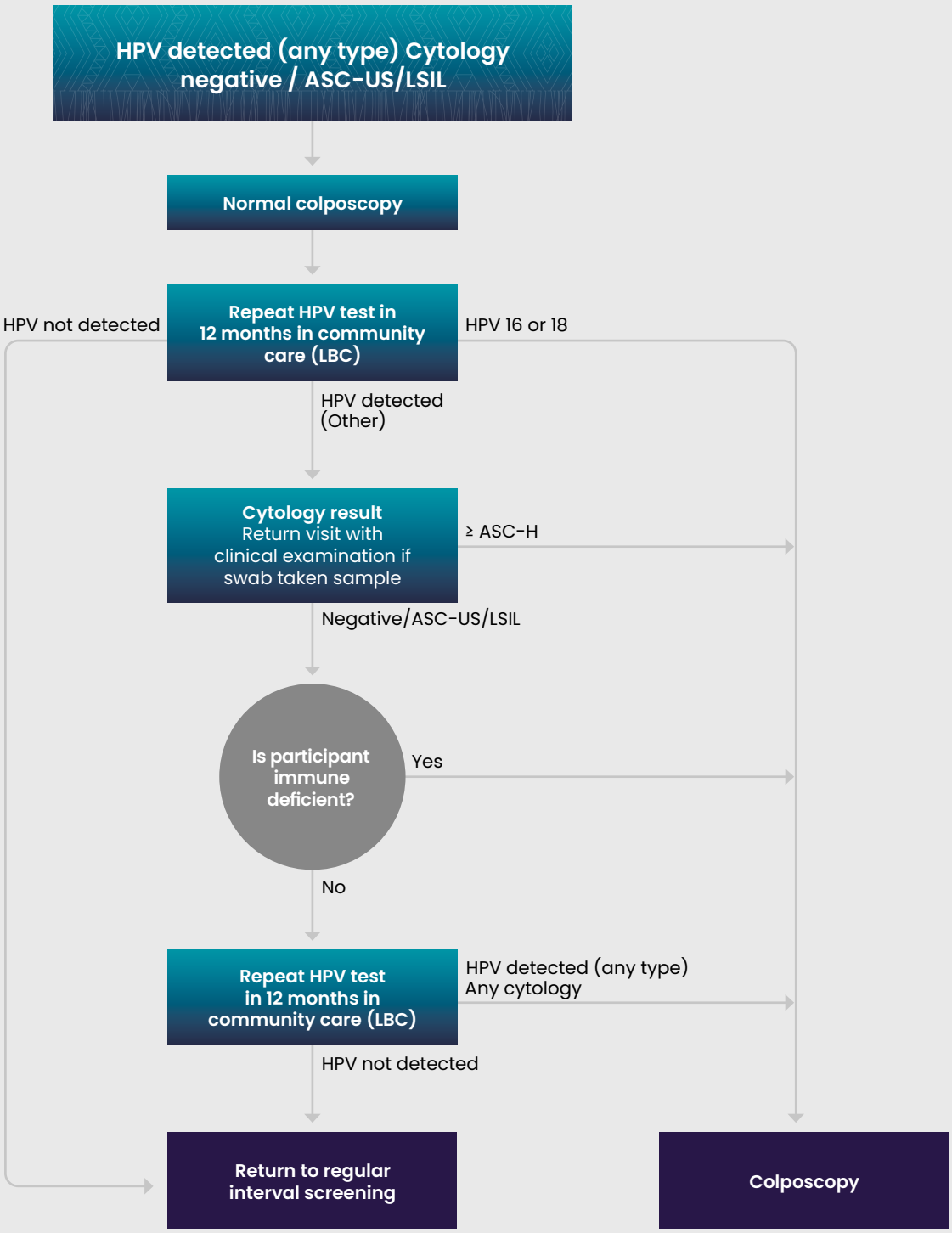
RECOMMENDATIONS – NORMAL COLPOSCOPY FOLLOWING A NEGATIVE/ASC-US/LSIL CYTOLOGY RESULT (TYPE 3 TZ)

R6.04 Role of diagnostic excision of the transformation zone after type 3 TZ (unsatisfactory) colposcopy See Figure 4.	**Consensus-based recommendation** Where asymptomatic participants have HPV detected (any type), type 3 TZ colposcopy, and no cytological, colposcopic or histological evidence of a high-grade lesion, further diagnostic procedures, such as diagnostic excision of the transformation zone, should not routinely be performed.
R6.05 Type 3 TZ at colposcopy and ASC-US/LSIL cytology – cytological review prior to observation See Figure 5.	**Practice point** Where participants with HPV detected (any type) have an ASC-US/LSIL cytology result taken before referral or at colposcopy and a type 3 TZ colposcopy, and observation (watch and wait) is advised, they should have a cytological review to confirm the low-grade cytology result and if: • ASC-US/LSIL is confirmed, observation is appropriate • the cytology is upgraded to ASC-H/HSIL, then excision should be considered.
R6.06 Role of diagnostic excision after type 3 TZ colposcopy in the absence of high-grade cytology Exceptions to R6.10, R6.12 and R6.14	**Practice point** Diagnostic excision of the TZ can be offered to certain groups of participants with HPV detected (any type), a negative or ASC-US/LSIL cytology result, and a type 3 TZ colposcopy. These participants include those: • who have completed child-bearing • who are anxious about cancer risk • aged over 50 years • about whom there is doubt about future attendance.

RECOMMENDATION – ROLE OF ENDOCERVICAL CURETTAGE FOR PARTICIPANTS WITH A TYPE 3 TZ FOLLOWING A LOW-GRADE CYTOLOGY RESULT

R6.07 Role of endocervical curettage (ECC) in type 3 TZ (unsatisfactory) colposcopy following cytology prediction of ASC-US/LSIL See Figure 4.	**Practice point** Evidence to support the use of ECC is limited. However, ECC may be appropriate for participants with HPV detected (any type), persistent ASC US/LSIL cytology reports and a type 3 TZ colposcopy. A negative result is not reassuring.

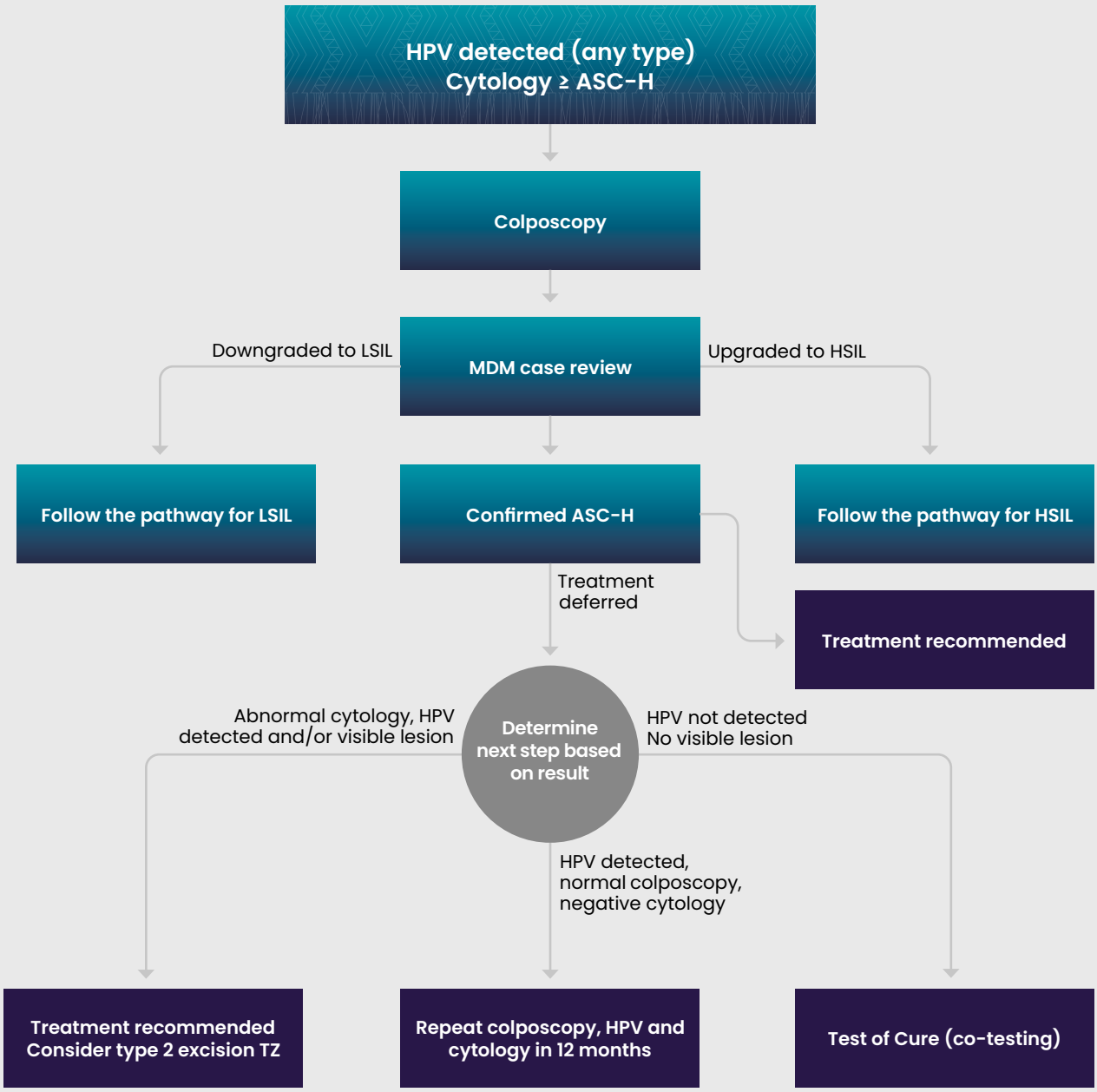
Figure 4: Normal colposcopy following HPV detected (any type) and a cytology result that is negative/ASC-US/LSIL



RECOMMENDATIONS – NORMAL COLPOSCOPY FOLLOWING AN ASC-H CYTOLOGY RESULT (TYPES 1 AND 2 TZ)

R6.08 Normal colposcopy following an ASC-H cytology result; consider diagnostic excision of the transformation zone See Figure 5.	**Consensus-based recommendation** For participants with HPV detected (any type), a type 1 or 2 TZ and no visible lesion at colposcopy, and an ASC-H cytology test result confirmed at MDM review, diagnostic excision of the transformation zone should be considered, though observation is an option (see practice point 5.05). It is important to complete a full colposcopic examination of the vagina using acetic acid and Lugol's Iodine before proceeding to excisional treatment of the TZ. If the cytology result is amended to ASC-US/LSIL on review, colposcopic follow-up in 12 months is required.
R6.09 Normal colposcopy following an ASC-H cytology result: diagnostic excision or observation See Figure 5.	**Practice point** In the following circumstances, it may be appropriate for a participant to defer treatment provided that the participant is fully informed: • an HPV detected (any type) test result • a type 1 or 2 TZ colposcopy • no visible lesion at colposcopy • an ASC-H cytology result on cytology review • concerns about the possibility of unnecessary treatment (their colposcopist may have similar concerns). It is important to address other treatable factors that may influence cytological appearances. These participants, particularly younger participants with concerns about adverse pregnancy outcomes, can be offered observation. In this case: • the HPV and cytology test and colposcopy should be repeated in six months. Based on the repeated test results, diagnostic excision should be reconsidered • if the test result is HPV not detected the cytology is negative, and the colposcopic impression is unchanged, a co-test should be repeated in 12 months. If that test result is again HPV not detected and the cytology is negative, the participant can return to regular interval screening.
R6.10 Downgrading of discordant results See Figure 5.	**Consensus-based recommendation** Where participants have HPV detected (any type), type 1 or 2 TZ and no visible lesion at colposcopy, and the cytological review downgrades the initial cytology result to negative/ ASC-US/LSIL, management should be based on the amended cytology result (i.e. repeat HPV test in 12 months).

Figure 5: Normal colposcopy following HPV detected (any type) and a cytology result that is ≥ ASC-H



RECOMMENDATIONS – NORMAL COLPOSCOPY FOLLOWING AN HSIL CYTOLOGY RESULT (TYPES 1 AND 2 TZ)	
R6.11 Normal colposcopy following initial LBC report of HSIL: cytological review	**Practice point** For participants with HPV detected (any type), an initial HSIL cytology result, type 1 or 2 TZ and no visible lesion at colposcopy, cytological review is recommended to confirm a high-grade cytological abnormality before excisional treatment.
R6.12 Normal colposcopy following cytology prediction of HSIL: exclude vaginal intraepithelial neoplasia (VAIN)	**Practice point** When the colposcopic impression is discordant with a referral HSIL cytology result, vaginal examination with a colposcope is indicated to exclude a VAIN lesion before treatment with diagnostic excision.
R6.13 Normal colposcopy following cytology prediction of HSIL: diagnostic excision of transformation zone	**Consensus-based recommendation** For participants with HPV detected (any type), and HSIL cytology result on cytopathology review, type 1 or 2 TZ and no visible lesion at colposcopy, diagnostic excision of the TZ should be performed.
R6.14 Downgrading of discordant results	**Consensus-based recommendation** For participants with HPV detected (any type), type 1 or 2 TZ and no visible lesion at colposcopy, and the cytopathology review downgrades the cytology result to negative/ASC-US/LSIL, management should be based on the review cytology result (i.e. repeat HPV test in 12 months).

RECOMMENDATIONS – COLPOSCOPY FOR PARTICIPANTS WITH A TYPE 3 TZ AFTER CYTOLOGY RESULTS OF ASC-H/HSIL	
R6.15 Cytopathology review: type 3 TZ colposcopy following an ASC-H/HSIL cytology result	**Practice point** Cytopathology review should be considered for participants with HPV detected (any type), and referral cytology ASC-H/HSIL and a type 3 TZ colposcopy. This is particularly important when the initial cytology result is ASC-H because ASC-H has a lower PPV for high-grade disease and the subsequent excision specimens show no evidence of cervical pathology in 45-50% of cases.
R6.16 Diagnostic excision: type 3 TZ colposcopy after cytology result of ASC-H/HSIL	**Consensus-based recommendation** Participants with HPV detected (any type), ASC-H/HSIL cytology confirmed after cytopathology review, and a type 3 TZ colposcopy should have a diagnostic excision of the TZ.

Section 7

Management of histologically confirmed low-grade squamous abnormalities

7.1 Based on Lower Anogenital Squamous Terminology (LAST) the histology of low-grade HPV-associated squamous lesions are reported as LSIL (CIN1).[57]

7.2 Current guidelines do not recommend treatment for histologically confirmed LSIL (CIN1) or lesser lesions because they are an expression of a productive HPV infection.[58] This approach continues under the new pathway.

7.3 Before beginning any diagnostic treatment, timely expert review of cytology and histology is recommended for participants with low-grade histology results that are discordant with preceding high-grade cytology findings. Clinicians may need to spend extra time reviewing results and providing advice to participants.

RECOMMENDATIONS – MANAGEMENT OF HISTOLOGICALLY-CONFIRMED LSIL	
R7.01 HPV test 12 months after histologically confirmed LSIL (≤ CIN1)	**Consensus-based recommendation** Participants who have an HPV detected (any type) test result with a cytology report of either negative or ASC-US or LSIL, and confirmed normal or LSIL histology should have a repeat HPV test in 12 months, using a liquid based cytology (LBC) sample so that the sample is suitable for cytology if required. If the repeat HPV test result at 12 months is: • HPV not detected, the participant should be advised to return to regular interval screening • HPV detected Other and a negative/ASC-US/LSIL cytology result, the participant should have a repeat HPV test in 12 months – If participants are immune deficient, they should be referred to colposcopy • HPV detected Other and ASC-H/HSIL cytology, the participant should be referred for colposcopy. If invasion is suspected or definite refer urgently to colposcopy • HPV detected 16 or 18, the participant should be referred to colposcopy.

RECOMMENDATIONS – MANAGEMENT OF HISTOLOGICALLY-CONFIRMED LSIL	
R7.02 CIN1 should not be treated	**Consensus-based recommendation** Where participants have an HPV detected (any type) test result with a negative/ASC-US/LSIL cytology report, have undergone colposcopy, and have histologically confirmed LSIL(CIN1), they should not be treated, because these lesions are an expression of a productive HPV infection.
R7.03 Diagnostic excision when confirmed cytology is HSIL	**Consensus-based recommendation** Where participants have an HPV detected (any type) test result with an HSIL cytology report (confirmed after cytology review), have undergone colposcopy, and have a histologically confirmed HPV/CIN1 lesion, they should be offered diagnostic excision of the transformation zone. Before diagnostic excision, the entire lower genital tract should be examined.
R7.04 Option for observation when confirmed cytology is ASC-H	**Consensus-based recommendation** Where participants have a HPV-detected (any type) test result with an ASC-H cytology report (confirmed after cytology review), have undergone colposcopy, and have a histologically confirmed HPV/CIN1 lesion, they should be offered diagnostic excision of the transformation zone. • If a participant with these findings wishes to defer diagnostic excision, the HPV test and colposcopy should be repeated in six months. Based on the repeated test results, diagnostic excision should be reconsidered. • They can be offered observation by co-testing (HPV and cytology) in a further 12 months. • If, at 12 months, the HPV test results are HPV not detected, and the cytology test is negative, co-testing should be repeated until both tests are not detected/negative on two consecutive annual tests, to complete a Test of Cure. • If, at 12 months, the repeat HPV test is HPV detected (any type) or cytology test is ASC-H/HSIL or glandular abnormalities, the participant should be referred for colposcopy and diagnostic excision of the transformation zone should be encouraged.

RECOMMENDATIONS – MANAGEMENT OF HISTOLOGICALLY-CONFIRMED LSIL	
R7.05 Criteria for observation	**Practice point** Participants should not be offered observation unless the following conditions are met: • the colposcopy is adequate • the transformation zone is completely visualised (type 1 or type 2) • LSIL (≤CIN1) has been confirmed on histopathological review. See appendix 1 for IFCPC definition.
R7.06 Cytology and histology review is essential when there are discordant results	**Practice point** For participants with a test result of HPV detected (any type) with a biopsy result of CIN1 or less after an ASC-H/HSIL cytology result, both the cytology and the histology should be reviewed at an MDM, and the outcome of the review documented before making specific management recommendations.

Section 8

Management of histologically confirmed high-grade squamous abnormalities

Diagnosis

8.1 Based on Lower Anogenital Squamous Terminology (LAST), the histology of high-grade squamous lesions will be reported as HSIL (CIN2) or HSIL (CIN3).[57]

8.2 Histological diagnosis of HSIL (CIN2/3) is necessary before undertaking treatment, except in certain circumstances. Treatment undertaken at the time of initial colposcopic assessment is known as treatment at first visit or see and treat (see practice point R5.11 on page 34).

RECOMMENDATION – DIAGNOSIS PRIOR TO TREATMENT	
R8.01 Histological diagnosis before treatment	**Consensus-based recommendation** For participants who have a visible lesion at colposcopy, histological confirmation of a high-grade lesion is recommended before undertaking definitive treatment.

Treatment

8.3 HSIL is the expression of persistent HPV infection that has the potential to progress to invasive carcinoma.

8.4 Based on studies on the natural history of cervical infections with HPV types, an estimated 30-50% of untreated CIN2 and about 15% of CIN3 regress spontaneously. About 5% of CIN2 and 14-31% of CIN3 are estimated to progress to invasive cancer.[59 60 61]

8.5 Untreated HSIL is more likely to regress in participants aged under 25 years and in pregnant participants.[62 63 64 65 66 67 68 69]

8.6 Although not all participants with HSIL will develop cervical cancer, the practice of treating all cases of HSIL (CIN2/3) is a highly effective way of reducing a participant's risk of subsequent cervical cancer. Some participants with HSIL may be treated unnecessarily; however, it is not possible to identify these participants in advance and the benefits of this practice outweigh the harms.[71 72 73 74]

8.7 To treat HSIL (CIN2/3) adequately, the entire lesion and TZ must be excised or destroyed. In Aotearoa New Zealand, usual practice is to remove lesions by excisional treatment. Ablative treatment is an option, but excisional

treatment methods are preferred. Moreover, ablation should only be performed by colposcopists who are skilled in the practice. (See **Section 5: Colposcopy**.)

8.8 Hysterectomy as a primary treatment of HSIL (CIN2/CIN3) may also be an option for participants who are not considering a future pregnancy and have associated gynaecological disease.

HSIL (CIN2)

8.9 Although CIN2 lesions were previously thought to be an intermediate state between CIN1 and CIN3, they are now known to be a mixture of productive HPV viral infection and preneoplastic change.[57 70]

HSIL (CIN3)

8.10 With CIN3, dysplastic cells are present in more than two-thirds of the entire thickness of the epithelium but with no signs of invasion into the stroma. Almost all CIN3 lesions can be attributed to persistent infection by HPV types.[71] CIN3 is a primary endpoint in longitudinal studies of the natural history of the HPV infection pathway. Therefore, statistical modelling provides the only other data on the time period from CIN3 to invasive cancer.[1]

8.11 Although not all CIN3 lesions progress to invasive cancer, based on current evidence, CIN3 lesions need to be treated to reduce the risk of further progression to invasive cancer.[12 70]

RECOMMENDATIONS – TREATMENT OF HSIL (CIN2)	
R8.02 Treatment for HSIL (CIN2)	**Consensus-based recommendation** Participants with a histological diagnosis of CIN2 should be treated in order to reduce the risk of developing invasive cervical carcinoma. See practice point R8.03 for exceptions.
R8.03 HSIL (CIN2) and observation	**Practice point** It may be acceptable to offer a period of colposcopic observation to some participants who have a histological diagnosis of HSIL (CIN2) where they: • have discordant histology and ASC-US/LSIL LBC results • have focal minor changes on colposcopy and HSIL (CIN2) on histology • were recently treated for HSIL (CIN2) • have not completed childbearing. A colposcopist should undertake this observation.

RECOMMENDATION – TREATMENT OF CIN3	
R8.04 Treatment for HSIL (CIN3)	**Consensus-based recommendation** Participants with a histological diagnosis of HSIL (CIN3) should be treated to reduce the risk of developing invasive cervical carcinoma.

Invasive carcinoma

RECOMMENDATION – INVASIVE CARCINOMA	
R8.05 Referral of participants with invasive disease	**Consensus-based recommendation** A participant with a histologically confirmed diagnosis of invasive or superficially invasive squamous cell carcinoma should be referred to a gynaecological oncologist or a gynaecological cancer centre for multidisciplinary team review.

Test of Cure after treatment for HSIL (CIN2/3)

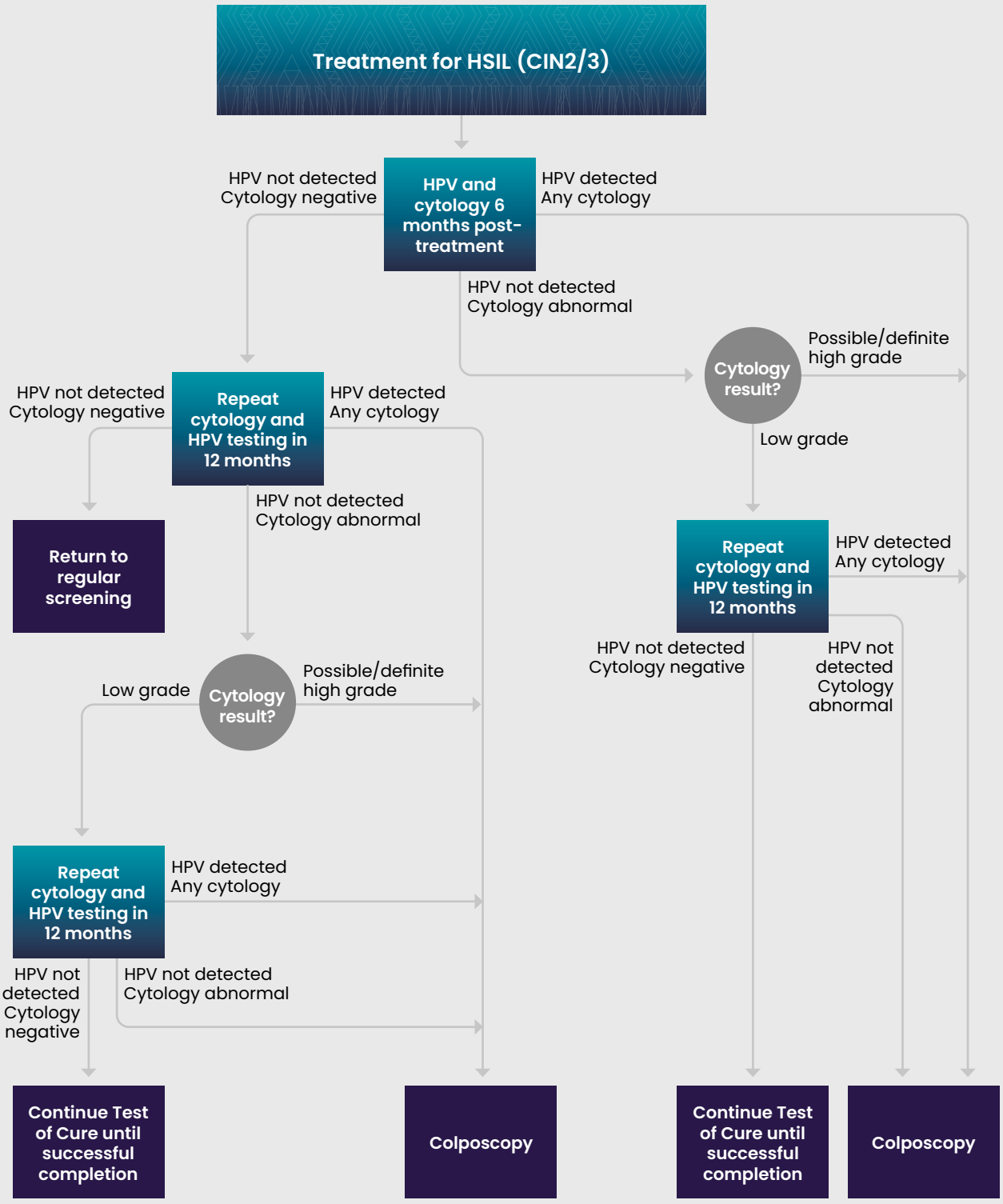
8.12 These guidelines will continue to recommend the use of an HPV and cytology co-test as a Test of Cure for participants treated for high-grade lesions (ASC-H or greater), and those who have a history of high-grade squamous abnormalities (not necessarily histologically confirmed or treated).

8.13 Participants who have been treated for a high-grade squamous lesion (HSIL (CIN2/3)) continue to be at a higher risk of recurrence and invasive cervical cancer for 10-25 years.[73 73 74 75 76] This greater risk highlights the importance of continuing surveillance after treatment to detect residual or recurrent disease.

8.14 The combination of testing using HPV and cytology as aco-test is used as a Test of Cure following treatment of HSIL (CIN2/3), based on the high negative predictive value of the co-test to detect participants at risk of recurrence.[12]

RECOMMENDATIONS – TEST OF CURE AFTER TREATMENT FOR HSIL (CIN2/3)	
R8.06 Test of Cure after treatment for HSIL (CIN2/3) See Figure 6.	**Consensus-based recommendation** Participants who have been treated for CIN2 or CIN3 should have co-testing (HPV and cytology) performed at six months and 18 months after treatment. If the histology from the treatment shows complete excision, the participant's primary/community care sample taker should perform Test of Cure surveillance at six and 18 months post treatment. If the histology from the treatment specimen does not show complete excision, these participants will be followed up in a colposcopy clinic. When the participant has tested negative for both tests on two consecutive occasions, they can return to regular interval screening.
R8.07 Abnormal Test of Cure results: HPV detected Other See Figure 6.	**Consensus-based recommendation** If, any time post-treatment, the participant has a positive HPV test result and a cytology result of negative/ASC-US/LSIL, they should return to colposcopy. For those with a negative HPV test, if at any time post treatment the participant has two consecutive co-test cytology results of low-grade cytology, they should be referred to colposcopy.
R8.08 Abnormal Test of Cure post results: cytology ASC-H/HSIL or glandular abnormality See Figure 6.	**Consensus-based recommendation** If, at any time during Test of Cure, the participant has a cytology report of ASC-H/HSIL or any glandular abnormality, they should be referred for colposcopic assessment, no matter what their HPV status is.

Figure 6: Test of Cure following treatment for HSIL (CIN2/3)



Section 9

Management of glandular abnormalities

9.1 An estimated 78% of adenocarcinomas are associated with HPV 16 or 18 infection.[83] Primary HPV screening has been found to be more effective than primary cytology in preventing adenocarcinoma.[78]

9.2 Aotearoa New Zealand uses The Bethesda Reporting System (NZ modified) and will move to the 2014 version (TBS2014) when HPV primary screening with the new NCSP Register commences (See **appendix 1**).

9.3 All those with atypical glandular cell (AGC) results are managed as high risk.

9.4 For AGC cytology results, participants should be referred to colposcopy except that where atypical endometrial cells are reported and there is no other reason for referral to colposcopy, referral should be for specialist gynaecology assessment instead. If a glandular lesion is confirmed at colposcopy, level 3 excision, dilation, and curettage (D&C) are recommended; if a glandular lesion is not confirmed, then a multidisciplinary meeting informs future management decisions.

RECOMMENDATIONS – MANAGEMENT FOR PARTICIPANTS WITH ATYPICAL GLANDULAR CELLS (AGS) ADENOCARCINOMA IN SITU (AIS) AND ADENOCARCINOMA	
R9.01 Colposcopy referral for AGC See Figure 7.	**Evidence-based recommendation** Participants with atypical glandular cell (AGC) cytology should be referred to a gynaecologist except where there is another reason for referral to colposcopy.
R9.02 Management of AGC with normal colposcopic findings and type 1 or 2 TZ and no visible lesion	**Consensus-based recommendation** Participants who have a test result of HPV detected (any type) with AGC cytology **should** have a multidisciplinary team review.
R9.03 Cytology confirmed at cytological review See Figure 7.	**Consensus-based recommendation** If atypical glandular cells are confirmed on cytology review, type 3 excision and dilation and curettage (D&C) are recommended. If atypical endometrial cells (AG2) or other non-cervical abnormality is confirmed on cytology review and there is no suspicion of a cervical lesion, then investigation and treatment should be in accordance with management of other suspected gynaecological malignancy.

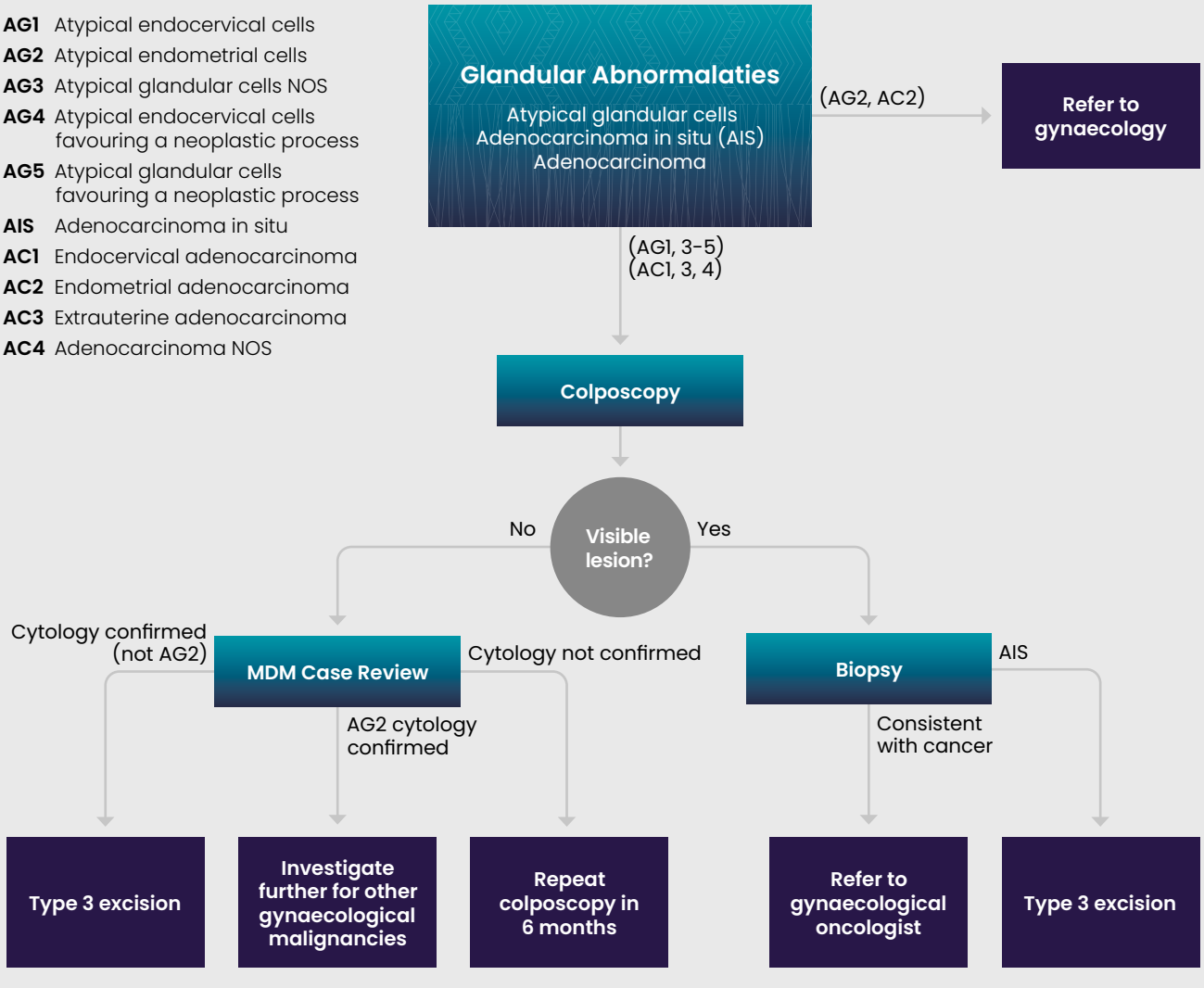
RECOMMENDATIONS – MANAGEMENT FOR PARTICIPANTS WITH ATYPICAL GLANDULAR CELLS (AGS) ADENOCARCINOMA IN SITU (AIS) AND ADENOCARCINOMA	
R9.04 Cytology not confirmed at cytological review See Figure 7.	**Consensus-based recommendation** Participants where atypical glandular cell cytology was not confirmed at cytology review should be managed in accordance with recommendations from a multidisciplinary review.
R9.05 Upper genital tract imaging	**Practice point** Upper genital tract imaging may be performed in cases where no lower genital tract abnormality is detected after a referral with an abnormal glandular cell cytology result (including atypical glandular cells).
R9.06 Management of atypical glandular cells with abnormal colposcopic findings and type 1 and/or type 2 TZ See Figure 7.	**Evidence-based recommendation** Participants with AIS confirmed on punch biopsy should have a type 3 excision. If AIS is histologically confirmed without prior HPV testing, the test should be undertaken before treatment.
R9.07 Management of atypical glandular cells with abnormal colposcopic findings and type 1 and/or type 2 TZ See Figure 7.	**Evidenced-based recommendation** Participants with histologically confirmed findings of malignancy should be referred to a gynaecological oncologist.
R9.08 Participants with a type 3 TZ See Figure 7.	**Evidence-based recommendation** Participants with a type 3 TZ should have the atypical/abnormal glandular cytology reviewed and if confirmed should proceed to type 3 excision. Participants with a type 3 TZ and cytology not confirmed on review should be managed in accordance with the recommendation of a multidisciplinary review.
R9.09 Colposcopy referral for AIS See Figure 7.	**Consensus-based recommendation** Diagnostic excision should be performed.

RECOMMENDATION – ADENOCARCINOMA

R9.10 **Referral to colposcopist for participants with a cytology result of invasive disease**	**Consensus-based recommendation** Participants with invasive adenocarcinoma cytology should be urgently referred to a colposcopist to assess and confirm the diagnosis, except that where the cytology result confirms endometrial carcinoma, and there is no co-existing reason requiring referral to colposcopy, urgent referral should be to a gynaecologist. Urgent referrals should occur irrespective of the HPV result. Once the adenocarcinoma diagnosis is confirmed, referral to a gynaecological oncologist will be needed.

Figure 7: Management for participants with atypical and abnormal glandular abnormalities

AG1 Atypical endocervical cells
AG2 Atypical endometrial cells
AG3 Atypical glandular cells NOS
AG4 Atypical endocervical cells favouring a neoplastic process
AG5 Atypical glandular cells favouring a neoplastic process
AIS Adenocarcinoma in situ
AC1 Endocervical adenocarcinoma
AC2 Endometrial adenocarcinoma
AC3 Extrauterine adenocarcinoma
AC4 Adenocarcinoma NOS



Treatment of glandular lesions

RECOMMENDATIONS – EXCISION OF THE ENDOCERVICAL TRANSFORMATION ZONE	
R9.11 Specimen for histological assessment of glandular abnormalities	**Practice point** When diagnostic excision is performed while investigating glandular abnormalities, the method chosen should ensure that a single, intact specimen with interpretable margins is obtained for histological assessment.
R9.12 A type 3 excisional biopsy should be performed	**Practice point** A type 3 excision should be performed by the method the gynaecologist feels most comfortable with. The depth and extent of the excisional treatment should be tailored to the participant's age and fertility requirements.
R9.13 Cone biopsy excision margins and multifocal AIS	**Practice point** Multifocal disease has been reported in cases of AIS, though most lesions are unifocal. If the margin is close but apparently excised close surveillance by Test of Cure, as recommended in these guidelines, is considered appropriate. In this situation, further excision is not considered necessary.

Follow-up

Recommendations – follow-up after excisional treatment for AIS

9.5 If a participant has been treated for HPV positive AIS and the final histology demonstrates clear margins, the first follow-up should be at colposcopy.

9.6 If colposcopy, cytology, and HPV testing are all negative at the first post-treatment colposcopy visit, the participant may be discharged for a second co-test (HPV and cytology) with a primary/community care practitioner in 12 months to complete the Test of Cure. Once the Test of Cure has been completed successfully, the participant may return to regular interval screening.[79]

9.7 Any abnormality at any further testing event should be referred to colposcopy.

9.8 If HPV testing prior to treatment was not detected or is unknown the participant should have co-testing annually for life.

RECOMMENDATIONS – FOLLOW-UP AFTER EXCISIONAL TREATMENT FOR AIS	
R9.14 Follow-up of completely excised HPV positive AIS	**Consensus-based recommendation** Participants with histologically confirmed HPV positive AIS who have undergone complete excision with adequate margins should have their first follow-up with colposcopy cytology and HPV testing at six months. If all tests are negative, follow-up HPV and cytology should be repeated in 12 months. If the Test of Cure has been completed the participant can return to regular interval screening.[79] If a participant has any abnormal result from follow-up co-testing (HPV and LBC), they should be referred for colposcopic assessment.
R9.15 Repeat excision for incompletely excised AIS	**Consensus-based recommendation** If AIS is incompletely excised at the endocervical or deep stromal margins (not the ectocervical margins), or if the margins cannot be assessed, further excision to obtain adequate margins should be performed. If the margin is less than 5mm the laboratory will report the margin as closely excised.
R9.16 Role of hysterectomy in AIS	**Consensus-based recommendation** Where participants have been treated for AIS by excision with clear margins, there is no evidence to support completion hysterectomy. In this situation, hysterectomy is not recommended.
R9.17 Follow-up of completely excised HPV negative or HPV status unknown AIS	Co-testing annually for life.

9.9 Cytology reported as consistent with a malignant neoplasm requires urgent referral to colposcopy.

Section 10

Screening after total hysterectomy

10.1 Total hysterectomy involves removing the uterus with all of the cervix and closing the top of the vaginal canal, creating a vaginal vault. Removing the cervix eliminates the risk of developing cervical cancer and removes the need for cervical cytology. Total hysterectomy is commonly performed for benign reasons; infrequently it is used to treat participants with high-grade cervical lesions.

10.2 Where hysterectomy has been the treatment of HPV positive AIS, the first post treatment assessment should be done at the colposcopy clinic. If HPV and cytology are negative these participants should complete a Test of Cure at their primary/community provider and then cease screening.

10.3 Participants treated for high-grade squamous disease are at higher risk for secondary vaginal intraepithelial neoplasia (VAIN) or recurrence of previously treated cervical or vaginal cancer. However, VAIN is less common than CIN and the incidence of vaginal cancer is rare compared with the incidence of cervical cancer.[80]

10.4 Based on the high negative predictive value of co-testing to identify participants at risk of recurrence, the new guidelines recommend that after treatment for HSIL by hysterectomy, those who have completed the Test of Cure pathway with vault cytology can stop screening.

10.5 Under these guidelines, those who have:

- had a hysterectomy for benign reasons with negative histology can cease screening after the hysterectomy if they have a normal screening history, if they have had high-grade disease in the past and have completed a Test of Cure, or have previously had LSIL and had returned to regular interval screening prior to hysterectomy
- unresolved HSIL (CIN2/3) prior to the hysterectomy (non-completion of a Test of Cure) or HSIL (CIN2/3) in the hysterectomy specimen, should undergo a Test of Cure and can stop screening after negative annual co-tests on two consecutive occasions
- an unknown screening history and a hysterectomy for benign reasons with negative pathology can stop screening after one HPV not detected test result on a vaginal vault sample.

10.6 These guidelines are supported by recent modelling using Aotearoa New Zealand data.[12]

RECOMMENDATIONS – SCREENING AFTER TOTAL HYSTERECTOMY	
R10.01 Total hysterectomy for benign disease See Table 1 and Figure 9.	**Consensus-based recommendation** Where participants with a normal cervical screening history have undergone hysterectomy for benign disease (e.g. menorrhagia, uterine fibroids or utero-vaginal prolapse) and have no cervical pathology at the time of hysterectomy, they do not require further screening or follow-up.
R10.02 Total hysterectomy after completed Test of Cure See Table 1 and Figure 9.	**Consensus-based recommendation** Where participants: • have had a total hysterectomy with no evidence of cervical pathology, and • have previously been successfully treated for CIN2 or CIN3, and • have completed a Test of Cure, either prior to or after the hysterectomy they do not require further follow-up. They should be considered as having the same risk for vaginal neoplasia as the general population who have never had CIN2 or CIN3 and have had a total hysterectomy. If there is unexpected CIN2 or CIN3 in the cervix at the time of hysterectomy, then participants require follow-up with annual co-testing (HPV and cytology) from the vaginal vault until they have tested negative on both tests on two consecutive occasions. If there is unexpected LSIL (CIN1) in the hysterectomy specimen, participants require HPV testing six months after the hysterectomy as follow-up and should follow the appropriate pathway depending on the HPV test result.
R10.03 Total hysterectomy after HPV positive adenocarcinoma in situ (AIS) See Table 1 and Figure 9.	**Consensus-based recommendation** Based on the high negative predictive value of co-testing to identify participants at risk of recurrence, the new guidelines recommend that after treatment for HPV positive AIS where a Test of Cure was not completed before the hysterectomy, those who have completed the Test of Cure pathway with vault samples can stop screening.

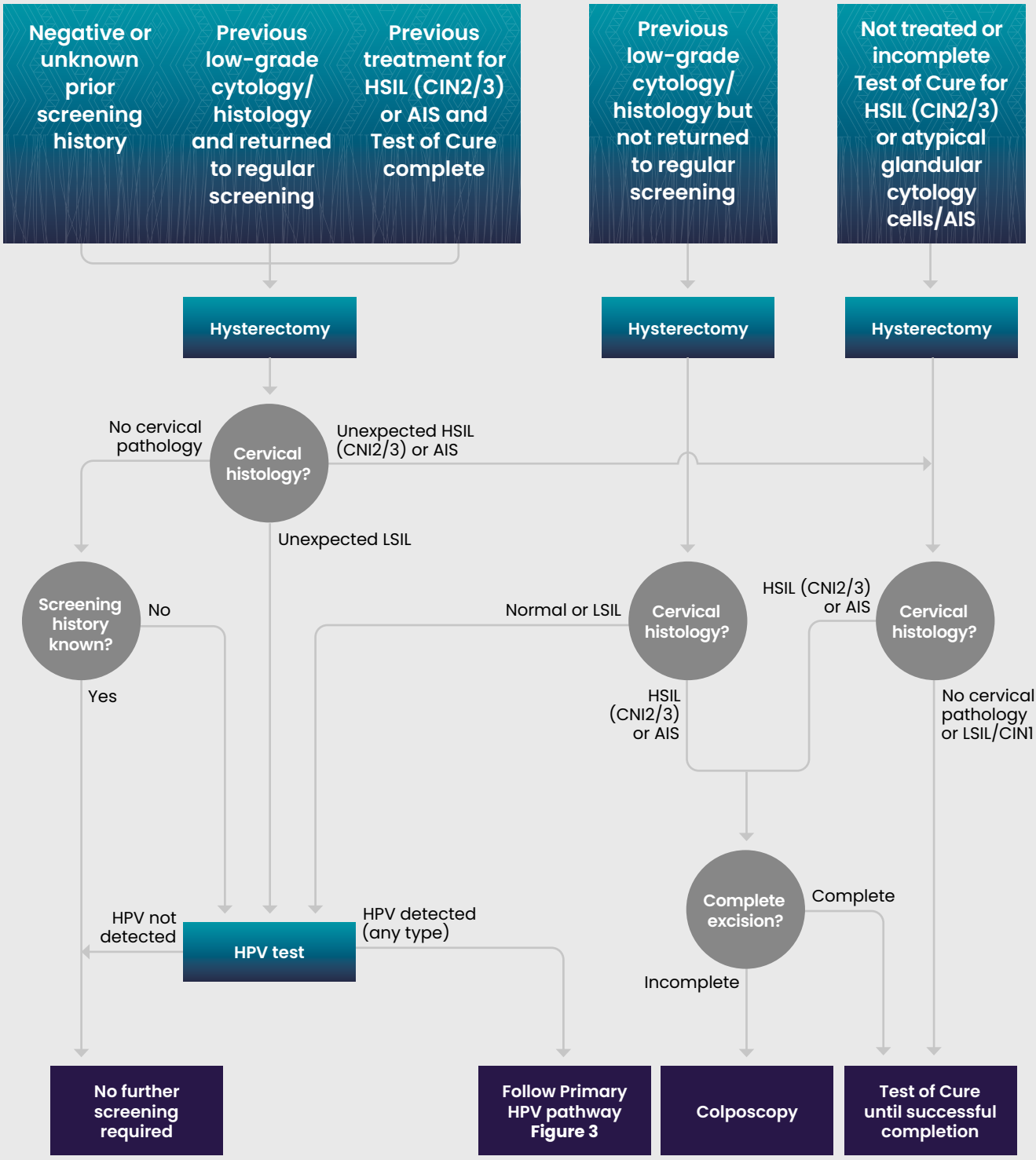
RECOMMENDATIONS – SCREENING AFTER TOTAL HYSTERECTOMY	
R10.04 Total hysterectomy for treatment of high-grade CIN in the presence of benign gynaecological disease See Table 1 and Figure 9.	**Consensus-based recommendation** Where participants have a hysterectomy as definitive treatment for histologically confirmed HSIL (CIN2/3) in the presence of benign gynaecological disease, irrespective of cervical margins, they should have a co-test (HPV and cytology) on a sample from the vaginal vault at six months after treatment and annually after that until the participant has tested negative by both tests on two consecutive occasions. After two such negative co-tests, no further testing is required.
R10.05 Total hysterectomy after histologically confirmed HSIL (CIN2/3) without a Test of Cure See Table 1 and Figure 9.	**Consensus-based recommendation** Where participants: • have been treated for histologically confirmed HSIL (CIN2/3), and • are under surveillance, or have returned to regular interval screening without a Test of Cure, and • have had a total hysterectomy with no evidence of cervical pathology they should have co-testing (HPV and cytology) from the vaginal vault at six and 18 months and annually thereafter until they have tested negative on two consecutive occasions. After two such negative co-tests no further testing is required. See recommendation R7.07 Test of Cure after treatment for HSIL.
R10.06 Total hysterectomy and no screening history See Table 1 and Figure 9.	**Consensus-based recommendation** Participants who have undergone total hysterectomy, with no evidence of cervical pathology, and whose screening history is not available, should have one negative HPV test on a vault sample before stopping screening.
R10.07 Colposcopy referral for any positive co-test result following total hysterectomy See Table 1 and Figure 9.	**Practice point** Where participants have had a hysterectomy and are under observation with co-testing (HPV and cytology) and have HPV detected (any type) and/or any abnormal cytology results, they should be referred for colposcopic assessment.

RECOMMENDATIONS – SCREENING AFTER TOTAL HYSTERECTOMY	
R10.08 Total hysterectomy after genital tract cancer See Table 1 and Figure 9.	**Practice point** Participants who have been treated for cervical or endometrial cancer are at risk of recurrent cancer in the vaginal vault. These participants should be managed according to the New Zealand Gynaecological Cancer Group's follow-up guidelines for endometrial and cervical cancer (www.health.govt.nz/publication/gynaecologic-cancer-follow-new-zealand-gynaecological-cancer-group-guidelines), and will be guided by their specialist about appropriate observation and care. They will no longer be the subject of these guidelines.
R10.09 Vaginal bleeding following total hysterectomy See Table 1 and Figure 9.	**Practice point** Participants who have vaginal bleeding after hysterectomy should be assessed by their GP or gynaecologist regardless of the results of any surveillance tests.
R10.10 Screening after subtotal hysterectomy	**Practice point** Participants who have undergone subtotal hysterectomy (the cervix is not completely removed) should follow these guidelines for cervical screening, depending on their previous cervical screening history. Any detected abnormality should be managed according to these guidelines.

TABLE 1: VAGINAL SCREENING AFTER TOTAL HYSTERECTOMY

Prior screening history	Indication for hysterectomy	Cervical pathology in histology specimen	Recommended follow-up
Negative / previous ASC-US/LSIL returned to regular screening	Benign gynaecological disease (e.g. fibroids, prolapse, menstrual problems)	No cervical pathology	No further screening
		LSIL (CIN1) excised or not	HPV test (follow Fig. 3)
		HSIL (CIN2/3) or AIS, Completely excised	Test of Cure
		HSIL (CIN2/3) or AIS, Incompletely excised	Colposcopy
Previous ASC-US/LSIL not returned to regular screening		No cervical pathology	HPV Test (follow Fig.3)
		LSIL (CIN1) excised or not	HPV test (follow Fig. 3)
		HSIL (CIN2/3) or AIS, Completely excised	Test of Cure
		HSIL (CIN2/3) or AIS, Incompletely excised	Colposcopy
Treated HSIL (CIN2/3) with completed Test of Cure		No cervical pathology	No further screening
		LSIL (CIN1) excised or not	HPV test (follow Fig. 3)
		HSIL (CIN2/3) or AIS, Completely excised	Test of Cure
		HSIL (CIN2/3) or AIS, Incompletely excised	Colposcopy
Abnormal screening with diagnosed HSIL (CIN2/3) or AIS prior to hysterectomy, untreated or incompletely treated	HSIL (CIN2/3) or AIS +/- associated benign gynaecological disease	No cervical pathology or low grade	Test of Cure
		HSIL (CIN2/3) or AIS, Completely excised	Test of Cure
		HSIL (CIN2/3) or AIS, Incompletely excised	Colposcopy
Previous treatment for HSIL (CIN2/3) or AIS Incomplete Test of Cure	Benign gynaecological disease (e.g. fibroids, prolapse, menstrual problems)	No cervical pathology or low grade	Test of Cure
		HSIL (CIN2/3) or AIS, Completely excised	Test of Cure
		HSIL (CIN2/3) or AIS, Incompletely excised	Colposcopy
No known screening history		No cervical pathology or low grade	HPV at 6 months post hysterectomy
		HSIL (CIN2/3) or AIS, Completely excised	Test of Cure
		HSIL (CIN2/3) or AIS, Incompletely excised	Colposcopy

Figure 8: Screening after total hysterectomy



Section 11

Screening in pregnancy

11.1 Approximately 5% of pregnant participants will have abnormal cervical cytology.[84 85] For some participants, pregnancy may be the first opportunity for cervical screening.

11.2 A swab-collected sample is safe in pregnancy.

11.3 A cervical cytology sample can be taken during pregnancy if the participant is due to have a test, if they have never had a test, or if there have been specific indications or recommendations for a follow-up test.

11.4 Pregnant participants with HPV detected 16 or 18, or HPV detected Other and ASC-H/HSIL/any glandular abnormality cytology result, should be referred to colposcopy. Although conservative management is recommended during pregnancy,[86 87] colposcopic assessment is important to exclude the presence of invasive cervical cancer, confirm the presence of pre-invasive disease, and reassure the participant that it is safe to continue with their pregnancy.

11.5 Changes to the cervix during pregnancy make colposcopic assessment more challenging. A colposcopist experienced in examination of the cervix in pregnancy should perform the examination because of the difficulty in differentiating between changes that result from pregnancy and those due to cervical pathology.[91]

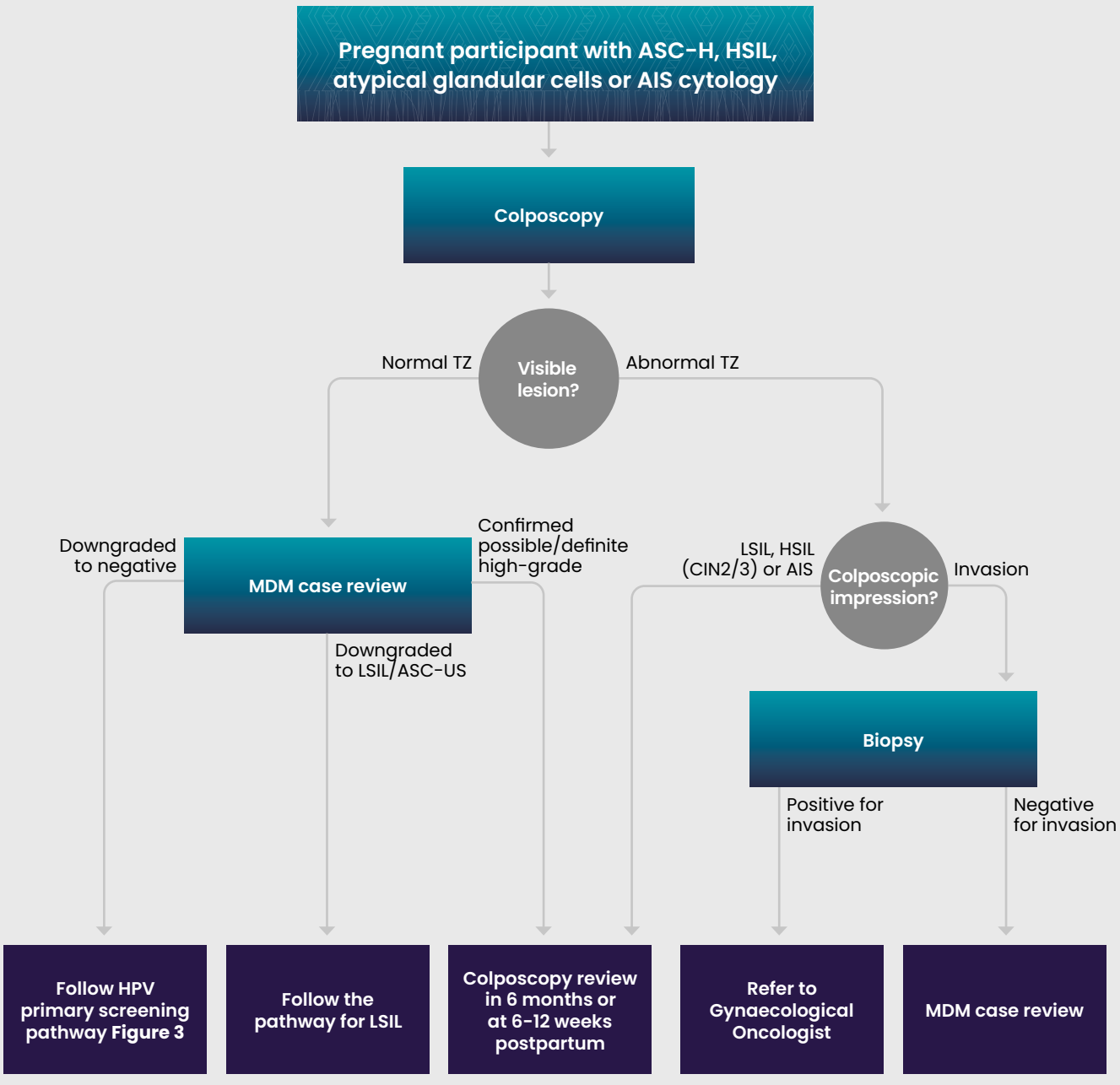
11.6 While a biopsy is not recommended in pregnancy, this may be required, especially when invasive disease is suspected. Evidence indicates that it is safe to biopsy the cervix during pregnancy.[87] There may be a risk of excess bleeding[86] but the risk of an undiagnosed cervical cancer in pregnancy outweighs this risk. When invasive disease is suspected or confirmed in pregnancy, expert management by a gynaecological oncologist is essential due to the increased risk of poor pregnancy outcomes.

11.7 Because treatment is associated with an increased risk of pregnancy complications,[88] HSIL diagnosed during pregnancy should be treated after delivery.[88] This approach is safe as CIN progresses to invasive disease during pregnancy in only 0-3% of cases.[63 87 88 90] Almost all these cases are superficially invasive and amenable to curative treatment. CIN may regress postpartum.[86 89 90]

RECOMMENDATIONS – SCREENING IN PREGNANCY	
R11.01 Cervical screening in pregnancy	**Practice point** Routine antenatal care should include a review of the participant's cervical screening history. Participants who are due or overdue for screening should be screened. A participant can be safely screened at any time during pregnancy. For clinician-taken samples a cervibroom is the recommended sampling instrument. A cytobrush or combi-brush should not be inserted into the cervical canal because of the risk of associated bleeding, which may distress participants.
R11.02 HPV detected Other with negative/ASC-US/LSIL cytology results	**Consensus-based recommendation** Pregnant participants with HPV detected Other and a negative/ ASC US/LSIL cytology result should have a repeat HPV test in 12 months.
R11.03 HPV detected Other with cytology results of ASC-H/ HSIL or any glandular abnormality in pregnancy	**Consensus-based recommendation** Pregnant participants with HPV detected Other and an ASC-H/HSIL cytology result or any glandular abnormality should be referred for colposcopic assessment as soon as practicable and not deferred until the postpartum period.
R11.04 HPV detected 16 or 18 in pregnancy	**Consensus-based recommendation** Pregnant participants with an HPV detected 16 or 18 result should be referred for colposcopic assessment as soon as practicable regardless of their cytology test result and not deferred until the postpartum period.
R11.05 Referral of pregnant participants with invasive disease	**Consensus-based recommendation** Pregnant participants should be referred and seen within two weeks by an experienced gynaecological oncologist for multidisciplinary team review and management in the following situations. • The cytology result indicates invasive disease. • The colposcopic impression is invasive or superficially invasive squamous cell carcinoma of the cervix. • There is histologically confirmed diagnosis of invasion (any type) or superficially invasive squamous cell carcinoma of the cervix.
R11.06 Colposcopy during pregnancy	**Consensus-based recommendation** The aim of colposcopy in pregnant participants is to exclude the presence of invasive cancer and to reassure the participant that their pregnancy will not be affected by the presence of an abnormal cervical screening test result.

RECOMMENDATIONS – SCREENING IN PREGNANCY	
R11.07 Colposcopy during pregnancy	**Practice point** Colposcopy during pregnancy should be undertaken by a colposcopist experienced in assessing participants during pregnancy.
R11.08 Cervical biopsy in pregnancy usually unnecessary	**Consensus-based recommendation** Biopsy of the cervix is usually unnecessary in pregnancy, unless invasion is suspected colposcopically, or the cytology report suggests invasive disease.
R11.09 Defer treatment until after pregnancy	**Consensus-based recommendation** Definitive treatment of a suspected high-grade lesion, except lesions that are suspicious of or definite for invasive cervical cancer, can be deferred until the postpartum period.
R11.10 Postpartum follow-up assessment	**Practice point** If a follow-up assessment cytology, HPV test and/or colposcopy is required postpartum, it should be performed at least six weeks after delivery. This interval is optimal to reduce the risk of cytology interpretation difficulties due to oestrogen deficiency or unsatisfactory cytology. The HPV test and cytology test could be taken at the time of a postpartum check or at the time of the colposcopic assessment.
R11.11 Vaginal oestrogen before postpartum colposcopy	**Practice point** If participants who are breastfeeding use vaginal oestrogen cream/pessaries before colposcopy, it may improve visualisation of the cervix and the quality of the cytology sample. Daily use for two weeks then stopping about three days before colposcopy is recommended.

Figure 9: Management of pregnant participant with possible/definite high-grade in situ cytology (ASC-H, HSIL, Atypical glandular cells, AIS)



Section 12

Screening for participants who experienced early sexual activity

12.1 Vaccination in the current school-based programme is the best protection for this group.

12.2 It may be appropriate to perform a cervical screening test in participants aged under 25 years if they have a history of sexual abuse or became sexually active before the age of 14 years.

12.3 Around 1% of girls have had sexual intercourse by the time they are 13 years, and this is commonly as a result of sexual abuse.[97 91] It is very common for young participants to become sexually active between the ages of 14 and 16 years.[92]

12.4 HPV infection often occurs shortly after first sexual activity.[92] Adolescent participants are more likely to be infected with HPV than older participants because the process of squamous metaplasia of the cervical transformation zone is more active during adolescence and is therefore more vulnerable to infection.[93 94]

12.5 Most HPV infections are transient and are cleared in adolescents and young participants within 36 months without the detection of cervical intraepithelial neoplasia.[94] HPV infections that do not clear (are persistent) are associated with an increased risk of developing cervical cancer.[95] Participants who started having sex or were sexually abused at a younger age may have a higher risk of carcinogenesis over time because they may develop persistent HPV infections at a younger age.[96]

12.6 Evidence indicates that childhood sexual abuse survivors have higher rates of anogenital HPV infection than other individuals.[96 97] Because anogenital HPV infections are transmitted mainly by skin-to-skin or mucosa-to-mucosa contact, penetrative sexual intercourse is not essential for person-to-person transmission of anogenital types of HPV. HPV can be transferred to the cervix from original infection near the vaginal entrance. Therefore, genital skin-to-skin contact, vaginal sex, oral sex and anal sex may all facilitate person-to-person transmission of anogenital types of HPV.[98]

RECOMMENDATIONS – PARTICIPANTS WHO EXPERIENCED EARLY SEXUAL ACTIVITY	
R12.01 Routine cervical screening is not recommended in participants under the age of 25 years	**Evidence-based recommendation** Cervical screening is not recommended in asymptomatic participants under the age of 25 years.
R12.02 Participants with abnormal vaginal bleeding	**Consensus-based recommendation** Participants at any age who have signs or symptoms suggestive of cervical cancer should be referred for appropriate investigation to exclude genital tract malignancy. See recommendation R15.01 on page 81.

Section 13

Screening for immune deficient participants

13.1 The prevalence of HPV infections in HIV-positive participants is higher than the general population.[99] Participants with HIV may have multiple HPV types. Meta-analysis of HIV infected participants with HPV and HSIL were more likely to have a HPV 16 or 18 infection than participants without HIV.[99 100]

13.2 Early studies note that antiretroviral therapy did not reduce the incidence of cervical cancer.[102] Studies date from the period where antiretroviral therapy was only given to patients with low CD4 counts rather than the current treatment which is given as soon as HIV is diagnosed.

13.3 Renal transplant patients have been reported as having prevalence rates of HPV infection ranging from the same as the general population to significantly higher.

13.4 Most of the data for participants with solid organ transplants report a higher incidence of cancer and precursor lesions.[101 103 104]

13.5 Studies on participants with haemopoietic stem cell transplants are also limited but these participants should be included in this group.

13.6 Medications that are immunosuppressant include Adilmumab, Azathioprine Cyclosporin, Infliximab, Methotrexate, Fingolimod, Natalizumab, Dimethyl Fumarate, Teriflunamide. Glatiramer Acetate and Interferon Beta have limited information but participants on these medications qualify for increased surveillance. This list is not exhaustive and is subject to change.

13.7 The following recommendations are based on evidence that applies to participants within the categories described above.

RECOMMENDATION – SCREENING INTERVAL FOR IMMUNE-DEFICIENT PARTICIPANTS	
R13.01 Immune deficient participants with a test result of HPV not detected	**Consensus-based recommendation** Participants who are immune deficient and who have an HPV not detected test result should be screened every three years with an HPV test. This recommendation is in accordance with the World Health Organization guidelines for screening and treatment of precancerous lesions for cervical cancer prevention.

RECOMMENDATIONS – MANAGEMENT OF ABNORMALITIES IN IMMUNE DEFICIENT PARTICIPANTS	
R13.02 Immune deficient participants with an HPV detected (any type) test result	**Consensus-based recommendation** Immune deficient participants who have an HPV detected (any type) test result should be referred to colposcopy, informed by the result of a cytology test where possible.
R13.03 Colposcopy assessment and treatment in immune deficient participants	**Consensus-based recommendation** A colposcopist should assess and treat immune deficient participants with screen-detected abnormalities.
R13.04 Colposcopy of whole lower genital tract in immune deficient participants	**Consensus-based recommendation** The entire lower anogenital tract should be assessed, because for immune deficient participants, the same risk factors apply for cervical, vaginal, vulval, perianal and anal lesions.
R13.05 Treatment in immune deficient participants	**Consensus-based recommendation** When treatment of the cervix is considered necessary in immune-deficient participants, excisional methods should be used.
R13.06 Histological abnormalities of the cervix in immune deficient participants	**Practice point** Participants with histologically confirmed abnormalities should be managed according to the same guidelines as participants who are not immune deficient. See also: Section 7: Management of histologically confirmed low grade squamous abnormalities, Section 8: Management of histologically confirmed high-grade squamous abnormalities, and Section 9: Management of glandular abnormalities.
R13.07 Test of Cure for treated immune deficient participants	**Practice point** Immune deficient participants who are treated for HSIL (CIN2/3) should have follow-up with Test of Cure as recommended in these guidelines. Participants who complete Test of Cure should return to three-yearly screening with an HPV test.

SPECIAL RECOMMENDATIONS FOR IMMUNE-DEFICIENT PARTICIPANTS

R13.08 Screening before solid organ transplantation	**Practice point** Participants aged between 25 and 74 years should have a review of their cervical screening history when they are added to the organ transplant waiting list and while they remain on the waiting list. The purpose of this review is to confirm they are up to date with recommended screening for the general population. Participants who are overdue for screening, or become due while on the waiting list, should be screened with an HPV test so that any abnormalities can be investigated or treated as necessary before transplantation and the start of immunosuppressive therapy.
R13.09 Screening participants with a new diagnosis of HIV	**Practice point** Participants aged between 25 and 74 years who have a new diagnosis of HIV should have a review of their cervical screening history to ensure they are up to date with screening in line with the recommended three-yearly interval for this group.
R13.10 Other groups that may require special consideration	**Practice point** The groups listed below could be considered for screening every three years with an HPV test in accordance with the recommendation for HIV-positive participants and solid organ transplant recipients: • participants with congenital (primary) immune deficiency • participants who are being treated with immunosuppressive therapy for autoimmune disease (e.g. inflammatory bowel disease, systemic lupus erythematosus, rheumatoid arthritis, neuromyelitis optica, and sarcoidosis) • allogenic bone marrow transplant recipients treated for graft versus host disease.
R13.11 Regular screening for immune-deficient participants	**Practice point** Participants who are immune deficient should be educated about the increased risk from HPV infection and encouraged to attend for regular screening.
R13.12 Young participants with long-term immune deficiency	**Practice point** For young participants who are sexually active, and who have been immune deficient for more than five years, a single HPV test between 20 and 24 years of age could be considered on an individual basis (regardless of HPV vaccination status).
R13.13 Guidance for immune deficient participants and their healthcare professionals	**Practice point** It is important that a clinical immunology specialist guides immune deficient participants and their healthcare professionals who are using these guidelines.

Section 14

Screening for participants exposed to diethylstilbestrol

14.1 Diethylstilbestrol (DES) was prescribed to some pregnant women in Aotearoa New Zealand from the 1940s until the early 1970s to prevent miscarriage by stimulating the synthesis of oestrogen and progesterone in the placenta.[106] DES is a transplacental carcinogen, and participants who were exposed to DES in utero before 18 weeks have an increased risk of clear cell carcinoma of the vagina and cervix but not other forms of gynaecologic cancer.[106] The risk has been calculated at 1.5/1000. These women are at increased risk of breast cancer.

Approximately 1,000 women in Aotearoa New Zealand were prescribed the drug and the last prescription was 1973.

14.2 Vaginal adenosis is a known precursor of clear cell adenocarcinoma that affects from 24-88% of DES-exposed participants and fewer than 4% of unexposed participants.[104]

14.3 All participants known to have been exposed to DES should see a colposcopist as an initial assessment.

14.4 In the absence of vaginal adenosis these participants should have routine screening and referred on the same basis as any other patient.

14.5 Participants who do have vaginal adenosis should remain under the care of the colposcopy units and be seen annually.

14.6 There is no clear evidence that daughters of participants who were exposed to DES in utero are at a higher risk of clear cell carcinoma of the vagina or of other cervical or vaginal neoplasms than participants without this maternal history.[106]

RECOMMENDATIONS – CERVICAL SCREENING FOR PARTICIPANTS EXPOSED TO DIETHYLSTILBESTROL	
R14.01 Cervical screening for DES exposed participants	**Consensus-based recommendation** Participants exposed to DES in utero should be offered initial colposcopy to determine if they have vaginal adenosis. If vaginal adenosis is present these participants should be seen annually at colposcopy. If vaginal adenosis is absent these participants should return to regular interval screening.
R14.02 Colposcopy for abnormalities in DES exposed participants	**Consensus-based recommendation** Participants exposed to DES in utero who have a screen-detected abnormality should be managed by a colposcopist.
R14.03 Cervical screening for daughters of participants exposed to DES	**Practice point** No evidence of an adverse effect on the daughters of participants exposed to DES in utero has been found. These participants should be screened in accordance with the NCSP policy.

Section 15

Investigation of abnormal vaginal bleeding

15.1 This section has been added as an aid to the primary care practitioner and is not specifically part of the screening pathway. The most important message from this section is that symptomatic participants need to be examined. It is recognised that individual localities have pathways for the management of abnormal bleeding. This section is not meant to supersede those pathways but to be a reminder and a general guide.

15.2 Where there is any doubt or concern the local gynaecology service should be consulted.

15.3 Cervical screening is recommended for participants aged 25 to 69 years who have no symptoms to detect pre-cancerous cell changes before they become cancer. The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) recommends that cervical cancer should be excluded in all participants with persistent abnormal vaginal bleeding. These guidelines include recommendations for participants with abnormal vaginal bleeding.[107] Their purpose is to help healthcare professionals to appropriately care for participants with intermenstrual bleeding (IMB) or postcoital bleeding (PCB), which may include testing and/or referral to a specialist gynaecologist.

15.4 IMB is defined as vaginal bleeding at any time other than during normal menstruation or following sexual intercourse. PCB is vaginal bleeding after sexual intercourse.

15.5 IMB and other irregular bleeding patterns are common. Although most participants investigated for abnormal vaginal bleeding do not have serious disease, abnormal vaginal bleeding can be associated with genital tract malignancy and premalignant conditions, as well as other conditions such as polyps, adenomyosis, leiomyomas, coagulopathies, ovulatory disorders, endometrial disorders, and iatrogenic causes.[107 108] PCB in particular warrants investigation because it may be a symptom of cervical cancer.[109 110]

15.6 Abnormal vaginal bleeding is relatively common in the 20 to 24 age group though Aotearoa New Zealand data on the numbers presenting is not available. An unpublished dataset from Scotland estimated that around one in 600 participants per year aged 20-24 presented with PCB. IMB is more common, and it may be that 0.5-1% of participants in this age group present with abnormal vaginal bleeding each year. Applying these estimates, we would expect approximately 1,600 participants in Aotearoa New Zealand would present with abnormal

bleeding each year and the number presenting with PCB would be around 800. However, it is noted that rare cancers do occur between screening episodes in participants aged 25 to 70 and in the under age 25 group (expect up to five per year based on Aotearoa New Zealand data), and we expect this will fall with increasing vaccination coverage. The delay in diagnosis is often secondary to delayed examination of the cervix and pelvis after self-referral for abnormal bleeding. A hallmark symptom of cervical cancer is post-coital bleeding. The critical intervention is a speculum and pelvic examination.

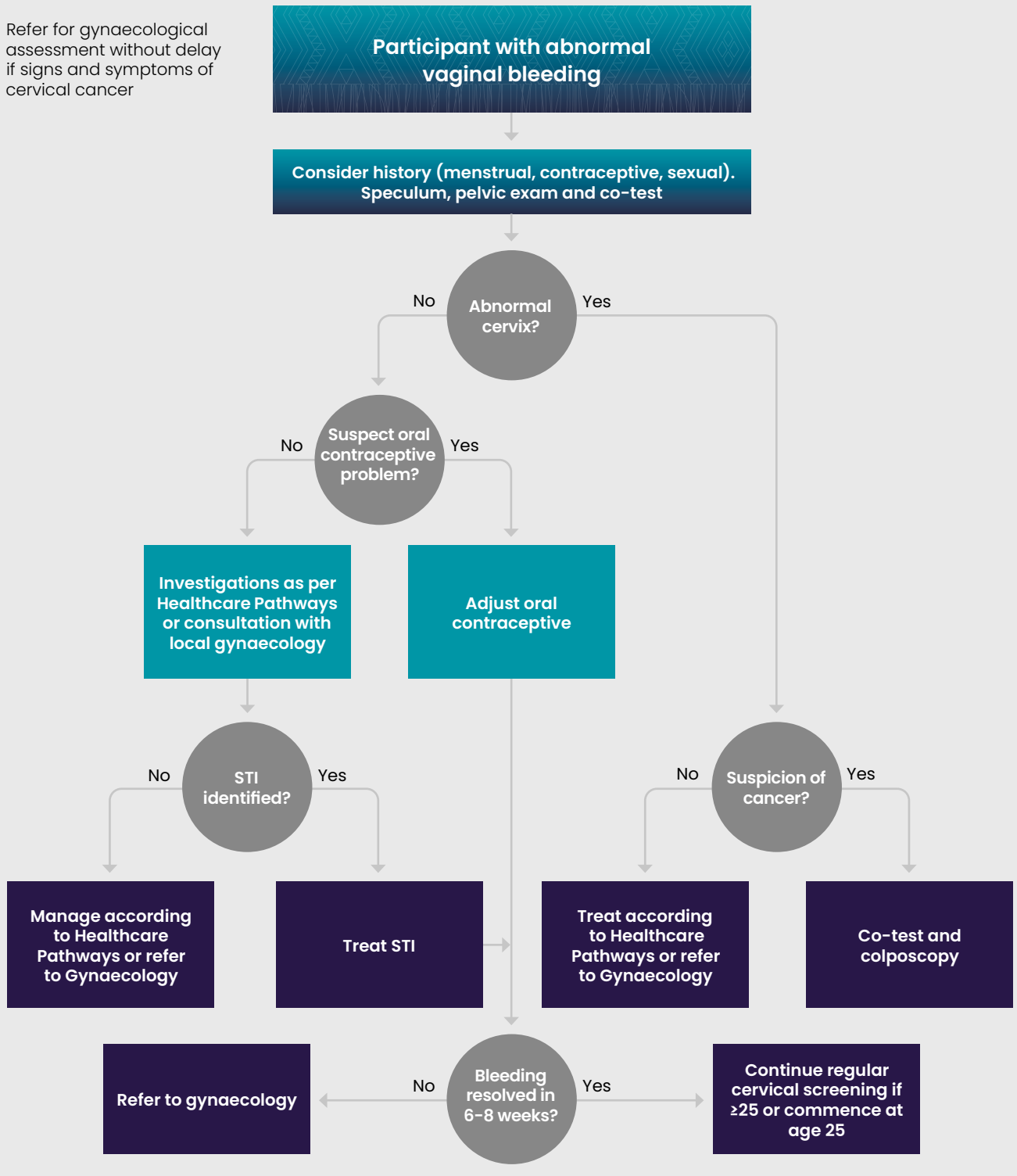
15.7 Participants under age 25 should be properly evaluated for abnormal vaginal bleeding. This includes a thorough history (menstrual, contraceptive, and sexual). If there is a suspected oral contraceptive problem, then it is appropriate to modify the oral contraceptive. If there is PCB, persistent bleeding or other signs and symptoms suggestive of malignancy, a speculum and pelvic examination must be performed. At this point in time a co-test is also recommended. The outcomes of this will be closely monitored in the first two years to establish the benefits and risks of a co-test in this age group who present with symptoms.

15.8 Participants within the screening age group of 25-70 presenting with abnormal vaginal bleeding should have a thorough history (menstrual, contraceptive, and sexual), and a speculum and pelvic examination. IMB and PCB should be evaluated as above and co-testing (cytology and HPV test) performed if screening is due or cervical abnormality is suspected. Referral should be in accordance with local pathways or in consultation with the local gynaecology group.

RECOMMENDATIONS – INVESTIGATION OF ABNORMAL VAGINAL BLEEDING	
R15.01 Abnormal vaginal bleeding and testing for HPV and cytology See Figure 11.	**Consensus-based recommendation** Participants at any age who have signs or symptoms suggestive of cervical cancer should have a clinical examination and a co-test (HPV and cytology). They should also be urgently referred for appropriate clinical investigation to exclude genital tract malignancy. • The co-test should not be delayed due to the presence of blood. • The referral should not be delayed while waiting for the co-test results. • The participant's recent cervical screening history should be considered.
R15.02 Postcoital bleeding in pre-menopausal participants	**Consensus-based recommendation** Where pre-menopausal participants have a single episode of postcoital bleeding, a clinically normal cervix, and HPV not detected and negative cytology test results, they do not need to be referred for colposcopy. If postcoital bleeding recurs or persists, despite a negative co-test (HPV and cytology), participants should be referred to a gynaecologist for appropriate assessment, which may include colposcopy, to exclude genital tract malignancy. (See recommendation R15.06 for postmenopausal participants.)
R15.03 Postcoital bleeding and sexually transmitted infections	**Practice point** Sexually transmitted infections, including chlamydia infection, should be considered, and when appropriate excluded, in all participants presenting with postcoital bleeding. It is necessary to obtain a sexual health history and perform appropriate tests and investigations.

RECOMMENDATIONS – INVESTIGATION OF ABNORMAL VAGINAL BLEEDING	
R15.04 Symptomatic participants with cytology results of suspicious of or invasive cervical cancer'	**Consensus-based recommendation** Participants with symptoms and a cytology result of suspicious of or definite for invasive cervical cancer should be urgently referred for colposcopic assessment.
R15.05 Participants with intermenstrual bleeding may require specialist referral See Figure 11.	**Consensus-based recommendation** Participants with persistent and/or unexplained intermenstrual bleeding require appropriate investigation. They should be referred for specialist gynaecological assessment, regardless of any test results.
R15.06 Postmenopausal participants with vaginal bleeding require referral See Figure 11.	**Consensus-based recommendation** Participants with any postmenopausal bleeding, including postcoital bleeding, should be examined and have a co-test prior to referral for specialist gynaecological assessment to exclude genital tract malignancy. The co-test should not be delayed due to the presence of blood. The referral should not be delayed while waiting for the co-test results.

Figure 10: Investigation of participants with abnormal vaginal bleeding (inter-menstrual or post-coital)



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Appendix 1: Ngā Kupu Tautuhi – Terminology

HPV test results

The terms used in Aotearoa New Zealand to describe HPV test results are:

- HPV not detected
- HPV detected 16 or 18
- HPV detected Other
- HPV detected (any type)
- HPV test invalid
- HPV test unsuitable for analysis because of LBC vial/HPV Collection tube leakage

Cervical/vaginal cytology test results

The NCSP uses *The Bethesda System for Reporting Cervical Cytology 2014* (The Pap test and Bethesda 2014 Nayar et al. Acta Cytologica 015;59:121–132 DOI: 10.1159/000381842) for reporting cervical/vaginal cytology samples. The New Zealand modified version is available on the NCSP website: *The Bethesda System 2014 (New Zealand Modified): Codes and descriptors* www.nsu.govt.nz/system/files/resources/bethesda_august_2014.pdf.

The Bethesda System 2014 (New Zealand Modified): cytology result terminology

Unsatisfactory for evaluation

Negative for intraepithelial lesion or malignancy

- Includes non-neoplastic findings, reactive change, the presence of organisms and normal endometrial cells in a person 45+ years of age

Epithelial cell abnormalities: squamous cell

- Atypical squamous cells
  - of undetermined significance (ASC-US)
  - cannot exclude HSIL (ASC-H)
- Low-grade squamous intraepithelial lesion (LSIL)
- High-grade squamous intraepithelial lesion (HSIL)
  - HSIL with features suspicious for invasion
- Squamous cell carcinoma (SCC)

Epithelial cell abnormalities: glandular cell

- Atypical glandular cells (AGC)
  - atypical endocervical cells
  - atypical endometrial cells
  - atypical glandular cells (NOS)
  - atypical endocervical cells, favour neoplastic
  - atypical glandular cells (NOS) favour neoplastic
- Endocervical adenocarcinoma in situ (AIS)

- Adenocarcinoma
  - endocervical
  - endometrial
  - extrauterine
  - not otherwise specified (NOS)
- Carcinoma NOS

Other malignant neoplasms

In Aotearoa New Zealand, the term *low-grade* encompasses ASC-US and LSIL (HPV/CIN1).

The term *high-grade* encompasses ASC-H, HSIL (CIN2/CIN3), HSIL with features suspicious of invasion, SCC, atypical glandular cells (AGC), AIS, adenocarcinomas, and other malignant neoplasms.

All Aotearoa New Zealand laboratories use standardised NCSP codes for reporting results to the NCSP Register. These codes are:

BETHESDA 2014 TERMINOLOGY	NCSP REGISTER CODE
Unsatisfactory for evaluation (reason specified)	UA-UG
Satisfactory for evaluation	S1
Satisfactory for evaluation. No endocervical/transformation zone component present	S2
Negative for intraepithelial lesion or malignancy: repeat normal screening interval	R1
- reactive change	OT1
- normal endometrial cells in a participant 45+years of age	OT2
- atrophy	OT3
- organisms present (specify)	O1-5
Atypical squamous cells of undetermined significance (ASC-US)	ASL
Atypical Squamous cells cannot exclude HSIL (ASC-H)	ASH
LSIL (HPV/CIN1)	LS
HSIL (CIN2/CIN3)	HS1
HSIL with features suspicious for invasion	HS2
Squamous cell carcinoma (SCC)	SC
Atypical endocervical cells	AG1
Atypical endometrial cells	AG2
Atypical glandular cells	AG3
Atypical endocervical cells favouring a neoplastic process	AG4
Atypical glandular cells favouring a neoplastic process	AG5
Adenocarcinoma in situ (AIS)	AIS
Abnormal glandular cells consistent with endocervical adenocarcinoma	AC1
Abnormal glandular cells consistent with endometrial adenocarcinoma	AC2
Abnormal glandular cells consistent with extrauterine adenocarcinoma	AC3
Abnormal glandular cells consistent with adenocarcinoma	AC4
Abnormal cells consistent with a malignant neoplasm	AC5
Abnormal cells consistent with carcinoma (NOS)	AC6

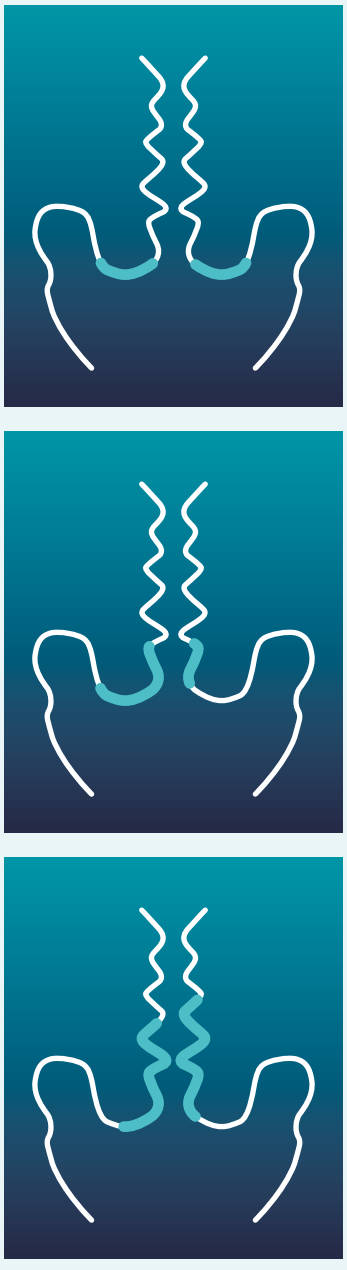
Colposcopy terminology

In Aotearoa New Zealand, 2011 International Federation for Cervical Pathology and Colposcopy (IFCPC) nomenclature is recommended for colposcopists.

The colposcopist should assess and record the following.

- Adequate/inadequate: Record whether the cervix has been visualised or not and include the reason if inadequate (e.g., vaginal stenosis, cervix obscured by inflammation, bleeding, scarring).
- Squamocolumnar junction visibility: Record whether the internal margin of the TZ is completely visible, partially visible, or not visible.
- Classify the TZ as type 1, 2 or 3 according to the visibility of all or part of the upper limit of the squamocolumnar junction.
  - Type 1 – the whole TZ, including all the upper limit, is ectocervical.
  - Type 2 – the upper limit of the TZ is partly or wholly visible in the canal and is completely visible around 360 degrees.
  - Type 3 – part or the entire upper limit of the TZ cannot be seen in the canal. The outer limit may be visible on the ectocervix or in the canal, or it may not be visible (Figure A.1).

Figure A.1: Transformation zone types



Type 1
- TZ is ectocervical
- TZ is fully visible
- Ectocervical component, large or small

Type 2
- TZ has ectocervical component
- TZ is fully visible
- Ectocervical component variable, large or small

Type 3
- TZ has ectocervical component
- TZ not fully visible
- Ectocervical component variable, large or small

Normal colposcopic findings

The colposcopist should assess the following.

- Identify the outer limit of the original squamocolumnar junction.
- Identify the columnar epithelium, and upper limit of the TZ.
- Look for and note the following normal findings: ectopy, metaplastic squamous epithelium (mature or immature), nabothian cysts, crypt (gland) openings, deciduosis in pregnancy or atrophy.

Abnormal colposcopic findings (after application of acetic acid)

Aceto-white changes:

- minor (Grade 1)
  - thin aceto-white epithelium; irregular geographic border
  - fine mosaic, fine punctation
- major (Grade 2)
  - dense aceto-white epithelium, rapid appearance of aceto-whitening, cuffed crypt (gland) openings
  - coarse mosaic, coarse punctation, sharp border, inner border sign, ridge sign.

Suspicious for invasion

Atypical vessels:

- additional signs (suspicious for invasion): fragile vessels, irregular surface, exophytic lesion, necrosis, ulceration (necrotic), tumour/gross neoplasm suspicious for invasion.

Lugol's staining (Schiller's test) if performed:

- stained/non-stained.

Location of the lesion:

- inside or outside the TZ
- location of the lesion by clock position.

Size of the lesion:

- number of cervical quadrants the lesion covers
- size of the lesion (as percentage of cervix).

Miscellaneous findings:

- stenosis (partial or complete), congenital anomaly, post-treatment consequences, endometriosis, congenital TZ, condyloma, polyp (ectocervical/endocervical) inflammation.

Excision treatment types

This includes stratification and measurement of treatment excision specimens (Australian modification of IFCPC excision nomenclature).

Excisional treatment by whatever mode defined by the length of cervical tissue excised as:

- type 1 < 10 mm
- type 2 > 10 mm and < 15 mm
- type 3 > 15 mm.

Cervical/vaginal histopathology terminology

All cervical/vaginal histopathology is reported in concordance with the following Royal College of Pathologists of Australasia (RCPA) structured reporting protocols:

1. *RCPA Structured Reporting Protocol for Excisions and Colposcopic Biopsies Performed for the Diagnosis and Treatment of Pre-invasive Cervical Neoplasia* (1st edition 2017) available at www.rcpa.edu.au/getattachment/9ed056b7-6bcc-4885-a243-925053302e3b/Protocol-Cervical-pre-neoplasia.aspx
2. *RCPA Cervical Cancer Structured Reporting Protocol* (1st Edition 2013), available at: www.rcpa.edu.au/getattachment/2dfcc534-547d-455a-837b-79bfeb2b60e7/Protocol-Cervical-cancer.aspx

Aotearoa New Zealand has adopted the Lower Anogenital Squamous Terminology (LAST). The LAST nomenclature encompasses pre-invasive and early-invasive HPV-associated squamous epithelial lesions of the lower anogenital tract including the cervix.[57] For in-situ squamous lesions, LAST uses a two-tiered nomenclature system which aligns with the current understanding of HPV pathogenesis.[55] The two descriptors for in-situ squamous lesions are LSIL and HSIL, which may be sub-categorised using the intraepithelial neoplasia (–IN) terminology.

LSIL (CIN1) and HSIL (CIN2/3)

- low-grade squamous intraepithelial lesion (LSIL) includes HPV-related changes and CIN1
- high-grade squamous intraepithelial lesion (HSIL) includes CIN2 and CIN3
- p16 immunohistochemistry may be used to distinguish benign/reactive conditions from SIL and also to differentiate LSIL and HSIL.

Superficially invasive squamous cell carcinoma (SISCCA)

- the term microinvasive carcinoma is no longer recommended because of variable definitions. Under LAST, the term superficially invasive squamous cell carcinoma (SISCCA) should be used
- the International Federation of Gynecology and Obstetrics (FIGO) staging is included in histopathology reports where this can be determined in the biopsy.[111 112]

Adenocarcinoma in situ (AIS)

- is a glandular pre-invasive lesion arising in the endocervix[112]
- the term 'glandular dysplasia' is no longer used in Aotearoa New Zealand but has been historically and may be in use internationally to describe glandular atypia that does not meet diagnostic criteria for AIS.[113]

Invasive cervical cancers

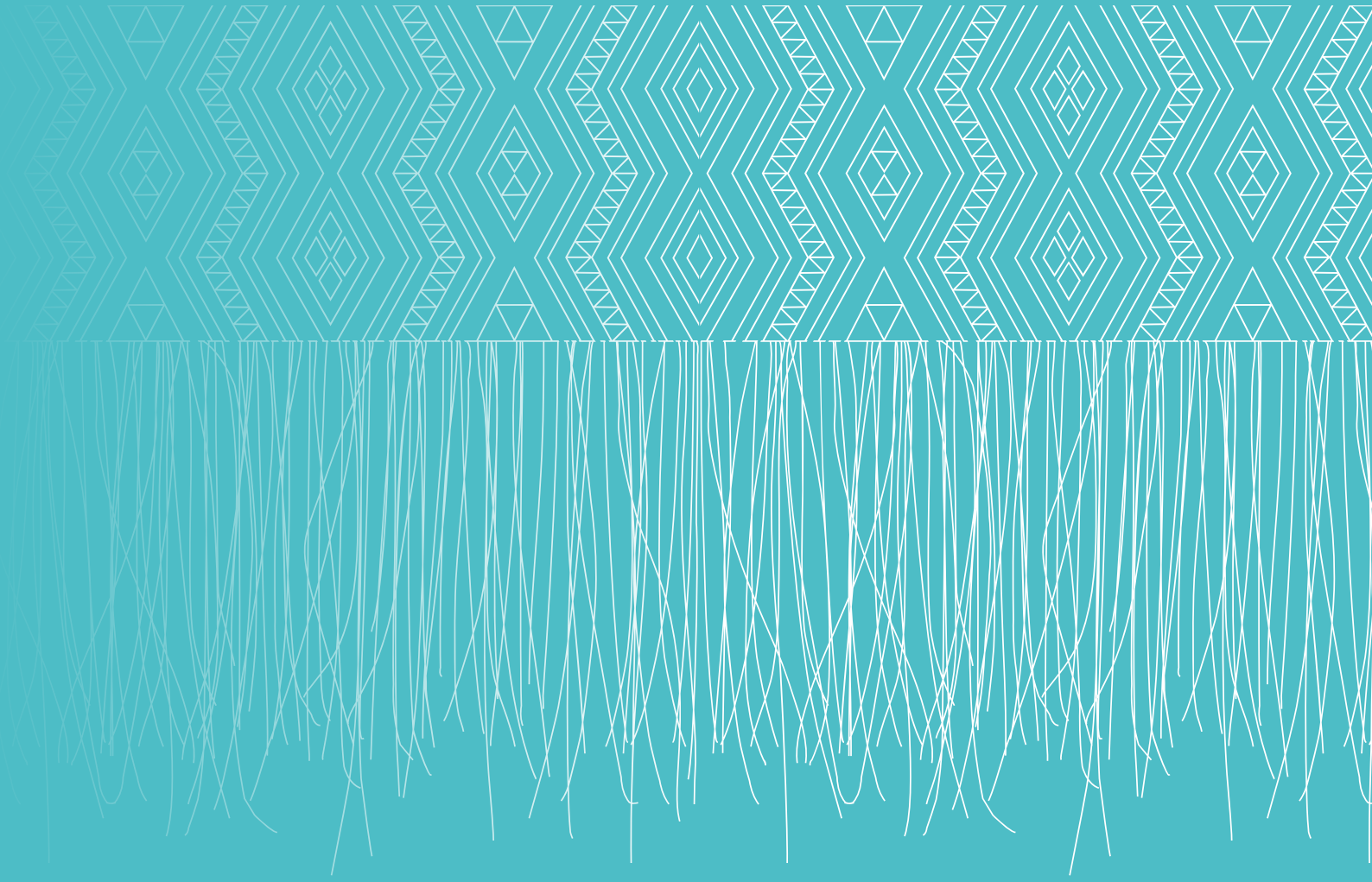
Reports of invasive cervical squamous cell carcinoma or endocervical adenocarcinoma should include the HPV status of the malignancy (HPV-related, HPV-independent, or HPV-unknown).

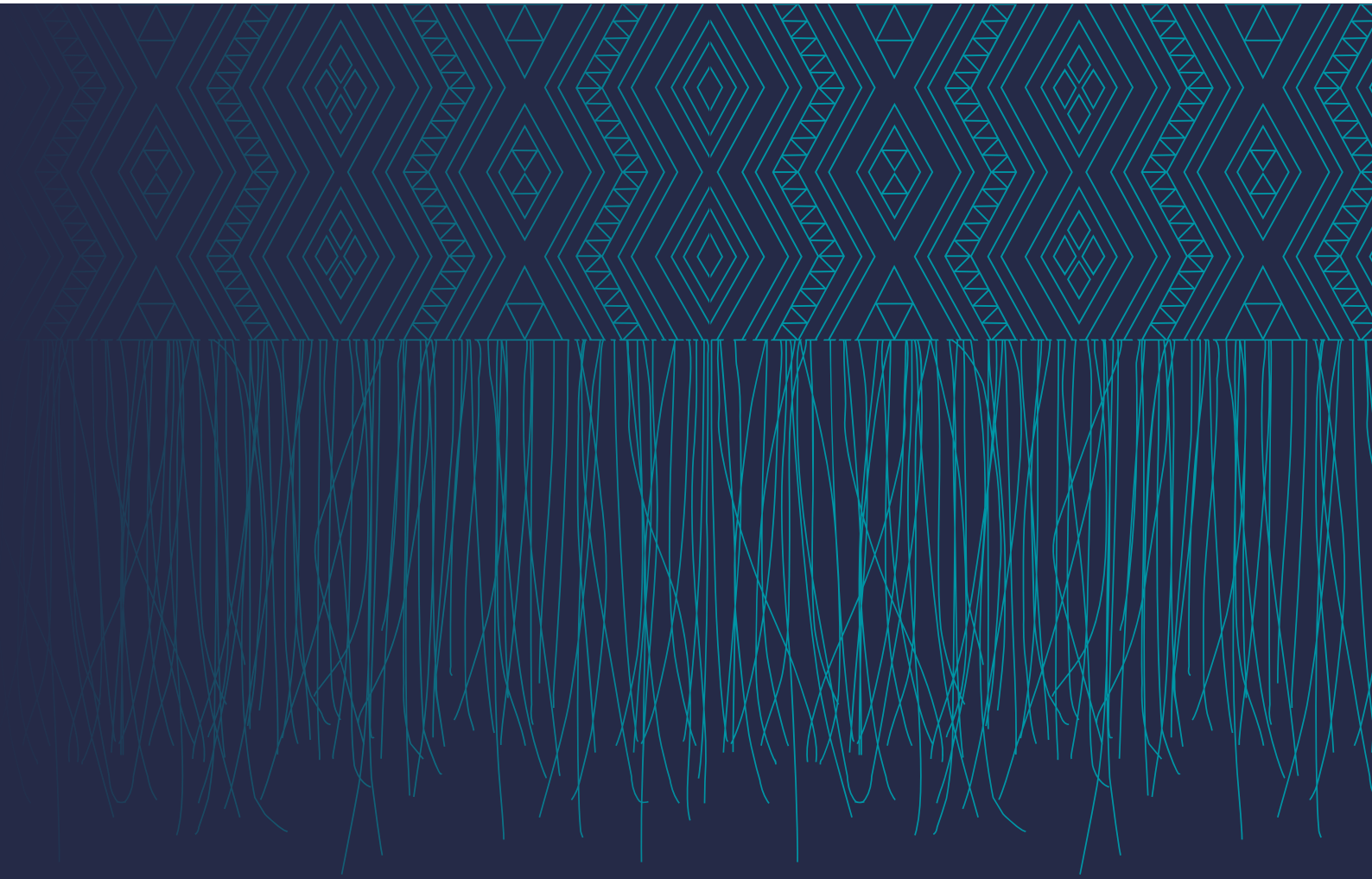
Ngā Whakapotonga – Abbreviations and definitions

AC	Adenocarcinoma. Cervical cancer arising from the glandular cells lining the endocervical canal rather than the squamous cells that cover the outer surface of the cervix
AGC	Atypical glandular cells (replaces the previously used term 'AGUS')
AIS	Adenocarcinoma in situ. High-grade precancerous change in the glandular (endocervical) cells of the cervix
ASC-US	Atypical squamous cells of undetermined significance
ASC-H	Atypical squamous cells – cannot exclude HSIL
Biopsy	A sample of tissue taken during a colposcopy
CIN	Cervical intraepithelial neoplasia. Abnormal squamous cell changes in the surface epithelial layers of the cervix. These changes are not invasive cancer, but a small proportion of cases would develop into cancer if not treated. CIN is graded as low-grade CIN1 or high-grade CIN2 or 3: CIN3 is the most severe
Colposcopist	A health professional with expertise in colposcopy
Colposcopy	Examination using a colposcope. This magnifies the cervix and vagina so that a clinician can detect abnormal areas
Coverage	The proportion of people aged 25–69 years who have had a screening result recorded on the NCSP Register
Cytology test	Microscopic examination of cells from an LBC sample
Cytology and histology review	A review of cytology and histology slides by a pathologist/cytologist. This may be undertaken during multidisciplinary case review by health professionals (e.g. a pathologist, colposcopist, cytologist and colposcopy nurse)

D&C	Dilatation and curettage
Dysplasia	Older terminology referring to all grades of precancerous lesions: mild (CIN1), moderate (CIN2) or severe (CIN3)
Ectocervix	The outer surface of the cervix, usually covered by squamous cells
Endocervix	The lining of the canal in the centre of the cervix, usually lined by endocervical glandular cells
Endometrium	The tissue lining the uterus
Histology	Microscopic examination of a sample of tissue
HPV	Human papillomavirus
HPV	High-risk human papillomavirus
HSIL	High-grade squamous intraepithelial lesion (equivalent to CIN2/3)
LBC	Liquid based cytology. The type of collection system specimen used for both cytology and HPV testing. The sampled cells are put into a liquid preserving solution in a small plastic vial
Low-grade abnormality	Encompasses possible LSIL (ASC-US) and definite LSIL in cytology samples. In histology samples, 'low-grade' encompasses HPV infection and CIN1
LSIL	Low-grade squamous intraepithelial lesion involving mild changes encompassing HPV effect and CIN1
MDM	Multidisciplinary meeting

NCSP	National Cervical Screening Programme
RANZCOG	Royal Australian and New Zealand College of Obstetricians and Gynaecologists
RCPA	Royal College of Pathologists of Australasia
SCC	Squamous cell carcinoma. A type of cervical cancer arising from squamous cells
Test of Cure	HPV testing and cytology (co-testing) on two occasions 12 months apart. The person can return to regular interval screening if HPV testing and cytology are negative on two occasions 12 months apart (i.e. successful completion of the Test of Cure)
Transformation zone	The region of the cervix where the glandular (columnar) precursor cells have changed or are changing to squamous cells (a normal physiological process)
Triage	The clinical process of assigning people into follow-up or treatment pathways based on their clinical risk
Unsatisfactory cervical cytology test	An inadequate cytology test that cannot be reported by the laboratory
Type 1, 2 or 3 excision	Depending on the type of transformation zone and the length of the endocervix removed, an excision can be of type 1, type 2 or type 3. A type 1 excision is adequate for a purely ectocervical lesion, whereas a type 3 excision is required if the endocervical extent of the lesion is not visible
Vault sample	A sample taken from the top of the vagina in people who have had their cervix removed as a result of a hysterectomy





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