Northern Ireland Cervical Screening Laboratory

Cervical Sample Taker Update:

Laboratory Processes

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Thursday 18th June 2026

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Learning Objectives

- Overview of primary HPV testing
- Completing the request form
- Cervical sample pathway within the laboratory
- Reasons for sample rejections
- Use of pink bags
- Failsafe

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Primary hrHPV testing

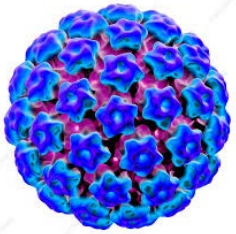
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High risk HPV



- >100 types
- At least 14 are high risk types, known to be associated with cervical cancer
- hrHPV is associated with development of cervical intraepithelial neoplasia (CIN)
- 99.7% of cervical cancer is associated with high risk HPV*
- HPV types 16 and 18 are responsible for >70% cervical cancer
- hrHPV interferes with the normal cell cycle, causing unregulated cell division
- We currently test for 16, 18 and ‘other’ (31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, and 68)

*Walboomer, J., Jacobs, M., Manos M. et al (1999) Human papillomavirus is a necessary cause of invasive cancer worldwide. Journal of Pathology. 189(1): 12-19.

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Resources

HPV testing in combination with liquid-based cytology in primary cervical screening (ARTISTIC): a randomised controlled trial. Kitchener, Henry C et al. The Lancet Oncology, Volume 10, Issue 7, 672 - 682

Cervical Screening: What you should know



UK NSC HPV recommendation

The UK NSC recommends that the NHS Cervical Screening Programme should adopt the test for Human Papillomavirus (HPV) as a primary screening test.

High risk HPV is found in 99.7% of cervical cancers. Over three quarters of sexually active women will acquire the infection at some time in their lives. It is most common in women under 35 years. Most infections are transient and are cleared by the woman's immune system.

Currently, the cervical screening programme offered to women aged 25-64 test uses cytology. It only tests for HPV in women who have been found to have a low grade abnormality or have had treatment for an abnormality.

Evidence suggests screening for HPV will be a more effective way to let women know whether they have any risk of developing cervical cancer. It will reduce the number of women who would need to go on to have cytology screening to those who are HPV positive only.

Key findings supporting the UK NSC recommendation

- the HPV vaccination offered to girls aged 12 to 13 strengthens the rationale for primary HPV screening. The vaccination will offer prevention of HPV and result in a falling number of women who remain at risk of catching HPV and developing cervical cancer
- a primary test for HPV will save more lives by determining a woman's risk earlier. Work to assess extending the screening interval with HPV screening is ongoing. This will follow once confirmatory pilot data and other international evidence is reviewed by the UK NSC
- HPV testing means that if the woman tested does not have high risk HPV, her chances of developing a cancer within five years are very small

Histology of CIN

- Invasive squamous cell cervical cancers are preceded by a long phase of pre-invasive disease, collectively referred to as cervical intraepithelial neoplasia (CIN)
- CIN may be categorized into grades 1, 2 and 3 depending upon the proportion of the thickness of the epithelium showing mature and differentiated cells
- Most cervical abnormalities caused by HPV infection are unlikely to progress to high-grade CIN or cervical cancer
- Most low-grade CIN regress or do not progress to high-grade lesions
- High-grade CIN carries a much higher probability of progressing to invasive cancer

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- Aim of cervical screening is to prevent cervical cancer through the identification and treatment of high grade cervical intraepithelial neoplasia (CIN2+)

	Regression %	Persistence %	Progression to CIN3 %	Progression to cervical cancer %
CIN1	57	32	11	1
CIN2	43	35	22	1.5
CIN3	32	56	-	12

Colposcopy and treatment of cervical intraepithelial neoplasia: a beginners' manual, Edited by J.W. Sellors and R. Sankaranarayanan (IARC Screening Group)

Completing the request form

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Request Form

Cervical Screening

LAB USE ONLY

Date Recd: Recd by:

Patient Identification ADDRESSOGRAPH PREFERRED

HEALTH AND CARE NUMBER (BLOCK CAPITALS) URGENT REQUESTS, CONTACT LABORATORY

SURNAME SEX M F

PREVIOUS SURNAME

FIRST NAME(S)

DATE OF BIRTH

ADDRESS

POST CODE

Source of Specimen

- 1.GP
- 2.NHS COMMUNITY CLINIC
- 3.GUM CLINIC
- 4.NHS HOSPITAL
- 5.PRIVATE
- 6.COLPOSCOPY
- 7.OTHER

FHSA CODE:

- (NI) NORTHERN IRELAND
- (T) TEMPORARY H&C PATIENT
- (RI) REPUBLIC OF IRELAND

DATE OF TEST

DATE OF LMP

Specimen Type (Tick ONLY one)

- (CX) CERVICAL
- (XCX) CERVICAL X2
- (VT) VAULT

Reason for Specimen (Tick ONLY one)

- 1.FIRST SPECIMEN
- 2.CALL/RECALL
- 3.REQUESTED SCREENING
- 4.PREVIOUS INADEQUATE
- 5.PREVIOUS ABNORMAL SPECIMEN
- 6.CLINIICALLY INDICATED
- 7.FAMILY PLANNING
- 8.OPPORTUNISTIC
- 9.FOLLOW UP POST Tx

Sender GP/ Clinician Details

DETAILS

Condition of Patient (Tick ONLY one)

- 1.PREGNANT
- 2.POST-NATAL
- 3.OCP
- 4.IUCD
- 5.HRT
- 6.POST MENOPAUSAL
- 7.IMMUNOSUPPRESSED

Cervix Visualised YES NO

Condition of Cervix

- 1.NORMAL
- 2.ERODED
- 3.SUSPICIOUS

Smear Taker information

SMEAR TAKER CODE:

Clinical Details (incl: previous treatment / cytology)

GP Details (if not sender)

DETAILS: DO NOT SEND COPY REPORT

Signature: _____

Laboratory Use ONLY

SCR	Name	CODE	DATE
Pr Sc			
R			
F			
Med			

(1)Cytology Report:

(2)Cytological Pattern (Result)

Inadequate specimen	(1)
Negative	(N/2)
Borderline change in squamous cells	(B/8)
Borderline change in endoCx cells	(E/9)
Low grade dyskaryosis	(M/3)
High grade dyskaryosis (moderate)	(7)
High grade dyskaryosis (severe)	(4)
High grade dyskaryosis ?Invasive	(5)
?Glandular neoplasia of endoCx type	(6)
?Glandular neoplasia (non-cervical)	(G)
Non Cytology test undertaken	(X)

(3)HPV /Infection (Result)

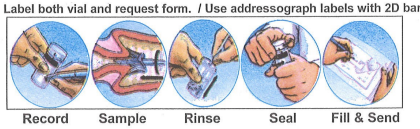
HPV: W1, W2, W3, W4, W5, W6, W7, W8, W9, WU	
Fungal hyphae	(FH)
Trichomonas Vaginalis	(T)
Actinomyces like organisms	(AL)
Suggest herpes virus infection	(CC)

(4)Management Suggested (Action)

Routine recall	(NR)
Return to Routine Recall	(RR)
Repeat cytology is advised in XX months	( )
Referred to Colposcopy	(XC)
Referred urgently to Colposcopy	(XR)
Refer to Gynaecologist	(RG)

Please note:

Send all specimens promptly to laboratory. / Do not use expired ThinPrep Vial.
Do not leave brush head in vial. / Align torque lines on vial and lid. / Remove plastic seal fully / Do not cover vial toggles with stickers.
Label both vial and request form. / Use addressograph labels with 2D barcode when available.



Record Sample Rinse Seal Fill & Send

Do NOT use lubricant.

See laboratory handbook for details of tests and sample requirements.

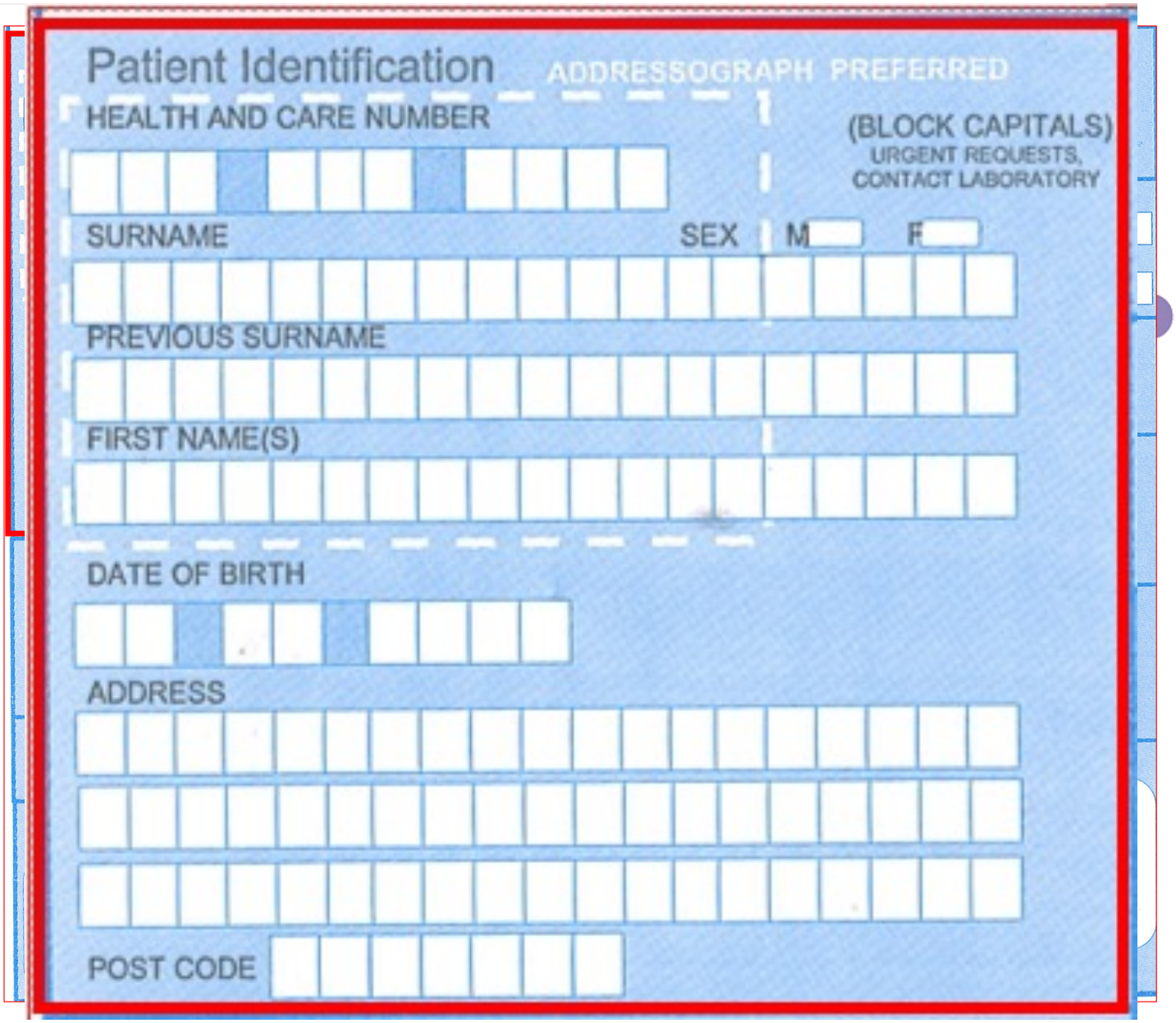
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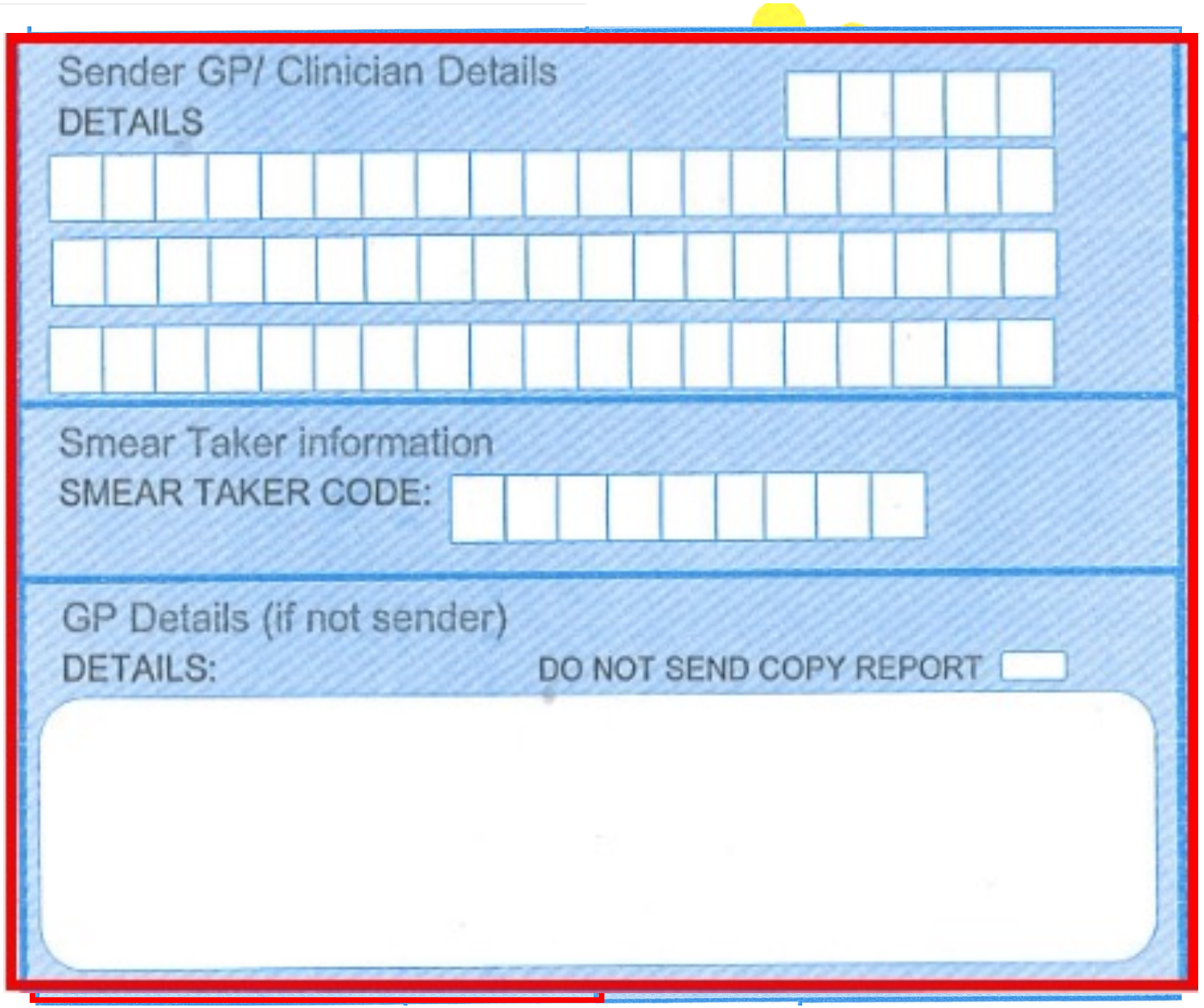
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PID

- All details required, may use addressograph
- HCN mandatory – will be rejected without this



- All details required
- Please write neatly!
- Smear taker code is important and must be on record with screening office



Please complete **all** relevant details

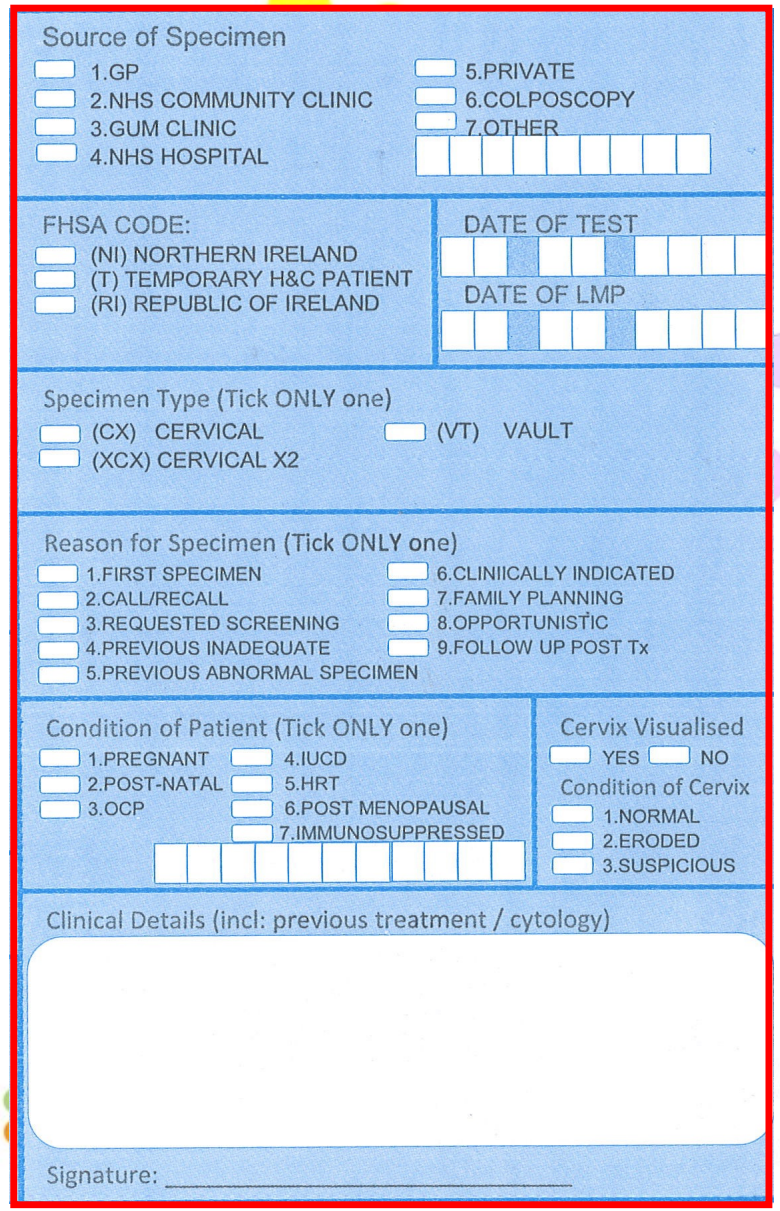
Helpful to include date of test even if present on addressograph sticker

Vault smears are not part of the screening programme and should not be requested in primary care

If **clinically indicated** or **suspicious** cervical appearance are ticked – it can be helpful to write why, and whether the patient has been referred to gynae

Condition of patient – you don't need to tick any boxes if none are relevant

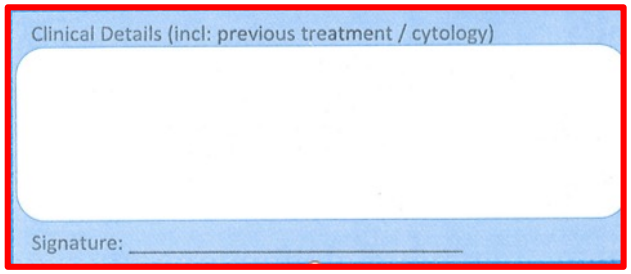
Cervix visualised – if you tick 'no' the sample will be reported as inadequate


Source of Specimen
1.GP
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3.GUM CLINIC
4.NHS HOSPITAL
5.PRIVATE
6.COLPOSCOPY
7.OTHER
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Cervix Visualised
YES
NO
Condition of Cervix
1.NORMAL
2.ERODED
3.SUSPICIOUS
Clinical Details (incl: previous treatment / cytology)
Signature: _____

Clinical details

Helpful!

Last smear
Colposcopy history
Bleeding
Atrophic changes
Smear hx outside of NI / NHS
Infection – esp Cat 3
Urgent – including reason
Patient at colposcopy ×
Postnatal – include duration
Swabs taken for HSV
Breastfeeding
Details of OCP



Not required!

Smoking history
Cervix visualised
Sterilised
Strings visualised
NVD / CS
Negatives – e.g. 'no PV bleeding'

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Laboratory Use ONLY

BCR	Name	CODE	DATE
Pr Sc			
R			
F			
Med			

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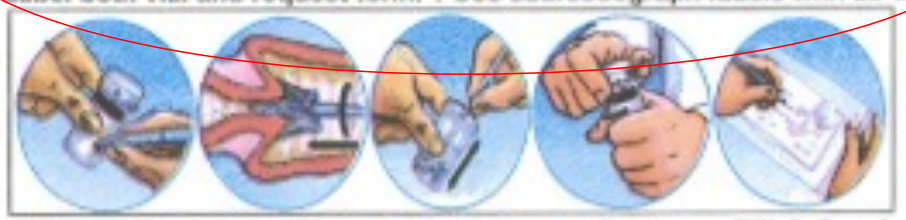
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Do NOT use lubricant.

See laboratory handbook for details of tests and sample requirements.

Category 3 samples



Please ensure the form and vial are labelled with a hazard warning label. This allows us to take additional precautions and ensures the safety of our staff.

Risks arising from colposcopy smears in GP

- Incomplete information may be provided on request form
- Generates incorrect management / auto-authorisation will be applied if test negative
- Results in duplicate referrals to colposcopy
- May mean premature or inappropriate return to normal recall for some patients
- Some results do not transfer correctly downstream to NHAIS (this affects call recall)
- Result will not go to the colposcopy basket on Encompass since they are not listed as the sender - i.e. they will not see the result unless they actively look for it
- Test doesn't show on Encompass until report is authorised – early repeat samples will be rejected

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Sample Pathway



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OASIS
OASIS
MIXED RECYCLING

Lab equipment

2 Roche instruments are required to perform the HPV test:

1: Pre-analytical instrument – PRIME
Located – Basement floor, Institute of Pathology



2: Cobas 8800
Located – Kelvin Building



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What happens in the lab?

1. HPV testing
2. Authorised if negative for hrHPV – normal recall
3. If positive – a slide is prepared which goes to screener
4. Then goes to rapid review or checking
5. If cytology is negative – report authorised for repeat in 1 year
6. If cytology positive – goes to consultant for reporting

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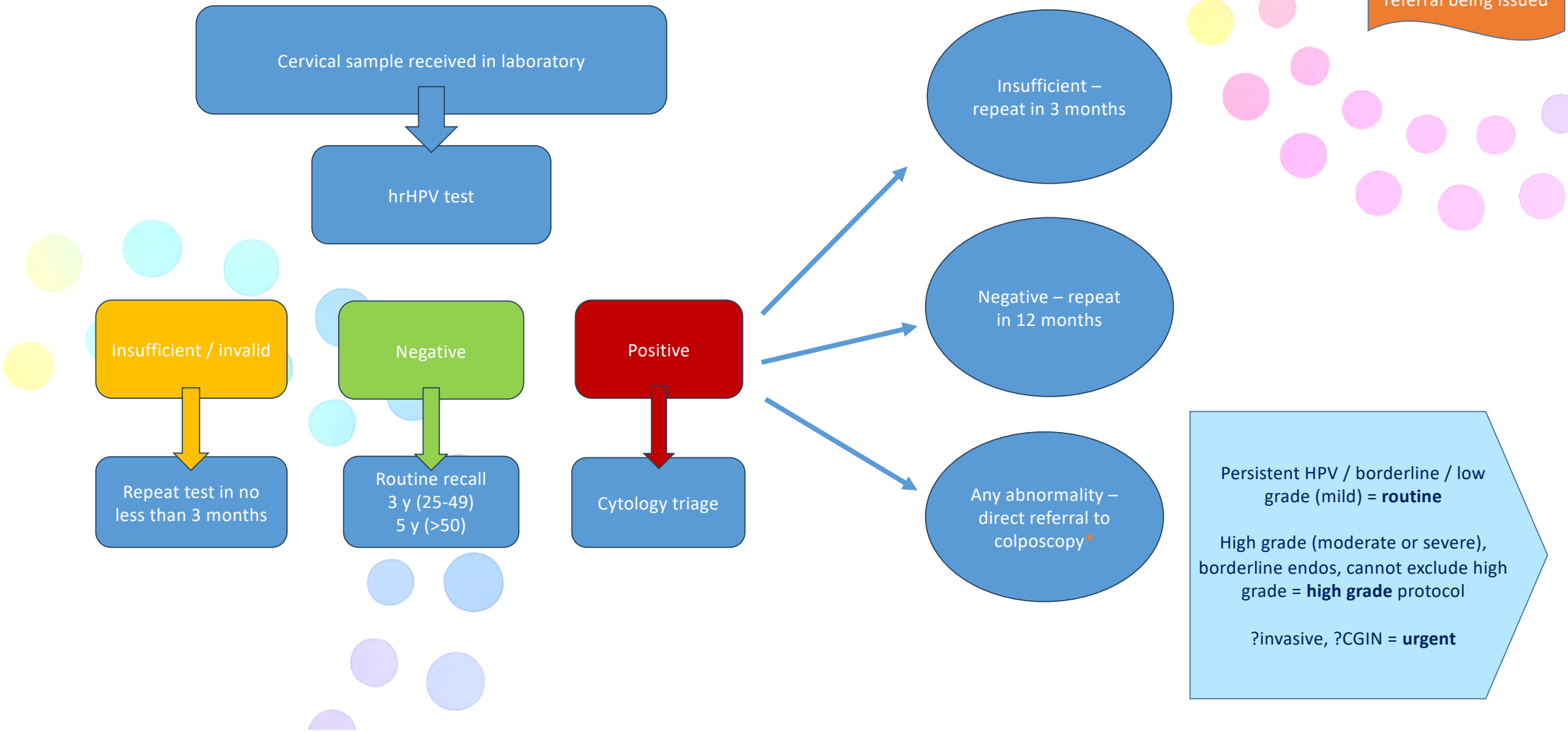





09/05/2025 11:19
ThinPrep®


18/04/2025 13:37
ThinPrep®

Sample Pathway



Sample Rejections

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Rejections

- Incomplete details - **No HCN**
- Unlabelled form or vial
- Mismatch between form and vial – patient name / DoB / HCN
- Leaking or damaged sample
- Vial out of date – need 6 week window before expiry
- Illegible vial / form / both
- Inappropriate request form

Consequence – repeat test required – 3 month interval
Potential delayed investigations / treatment and associated anxiety

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Examples of Errors at Source

- 64 year old patient, ticked post-natal
- Patient's sample labelled with 15 year old daughter's details
- Sample and form labelled as 78 year old man

Once samples are recorded on our LIMS system, they cannot be removed from the patient's record

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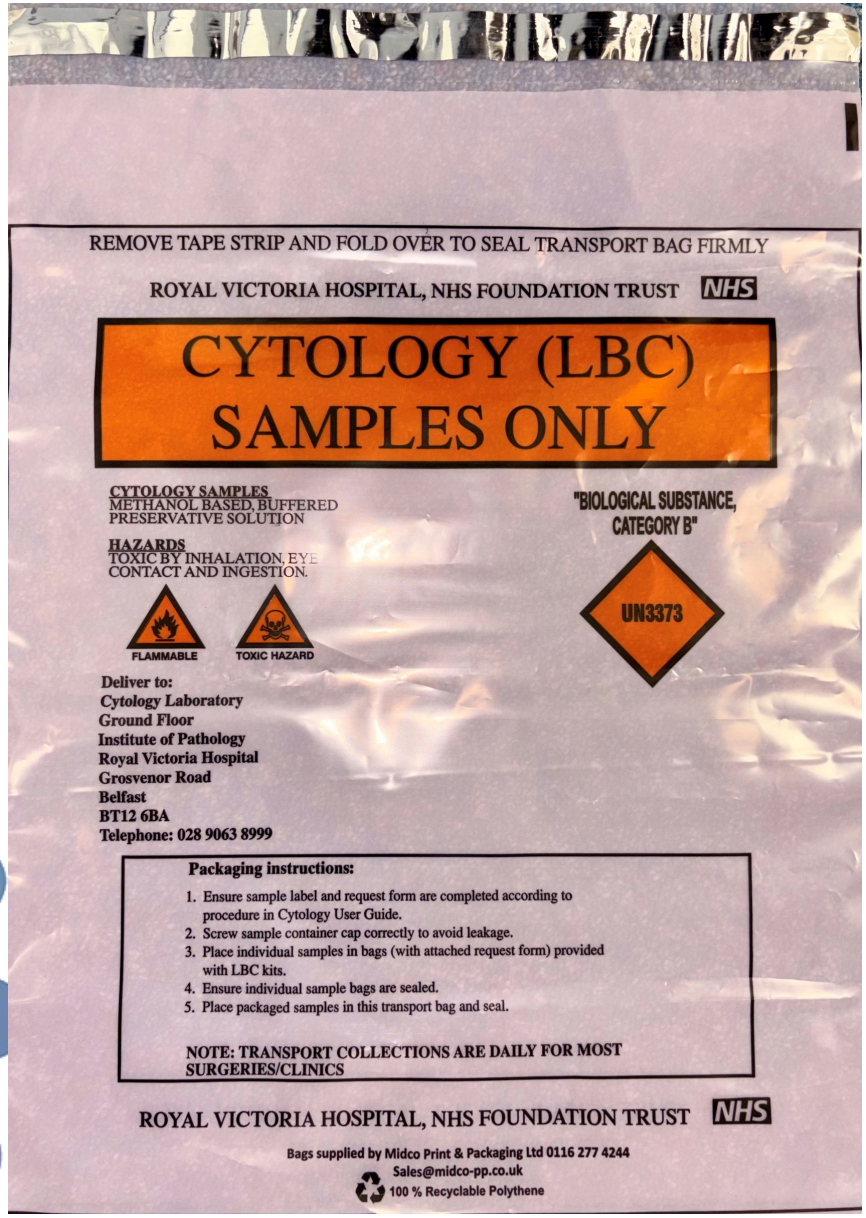
Use of Pink Bags

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REMOVE TAPE STRIP AND FOLD OVER TO SEAL TRANSPORT BAG FIRMLY
ROYAL VICTORIA HOSPITAL, NHS FOUNDATION TRUST
NHS
CYTOLOGY (LBC) SAMPLES ONLY
CYTOLOGY SAMPLES
METHANOL BASED, BUFFERED PRESERVATIVE SOLUTION
HAZARDS
TOXIC BY INHALATION, EYE CONTACT AND INGESTION.
"BIOLOGICAL SUBSTANCE, CATEGORY B"
UN3373
FLAMMABLE
TOXIC HAZARD
Deliver to:
Cytology Laboratory
Ground Floor
Institute of Pathology
Royal Victoria Hospital
Grosvenor Road
Belfast
BT12 6BA
Telephone: 028 9063 8999
Packaging instructions:
1. Ensure sample label and request form are completed according to procedure in Cytology User Guide.
2. Screw sample container cap correctly to avoid leakage.
3. Place individual samples in bags (with attached request form) provided with LBC kits.
4. Ensure individual sample bags are sealed.
5. Place packaged samples in this transport bag and seal.
NOTE: TRANSPORT COLLECTIONS ARE DAILY FOR MOST SURGERIES/CLINICS
ROYAL VICTORIA HOSPITAL, NHS FOUNDATION TRUST
NHS
Bags supplied by Midco Print & Packaging Ltd 0116 277 4244
Sales@midco-pp.co.uk
100 % Recyclable Polythene

1



Collect sample and accurately complete request form and sample container.

2



Secure sample and place in the bag attached to the request

3



Seal the bag by pulling on the protective paper

4



Press to seal the bag

5



Place the sealed sample and attached request form into the pink transport bag

6



Fill with no more than 5 samples and seal by pulling off the foil and pressing.

Leave for Laboratory transport pickup.

Consumables

Screenlink will supply ThinPrep LBC vials, brushes, request forms & transport bags.

Phone: 00353 1 4605270
Or via link on their webpage:
https://screenlink.net/order-supplies/

Only use the approved regional request form for the Northern Ireland Cervical screening Laboratory - other forms may result in sample rejection.





Only place cervical cytology samples in the pink transport bags.
Do not use for bloods or other laboratory samples as this will cause delay or rejection of these items.



Failsafe

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What is failsafe?

‘Failsafe processes make sure that as far as possible the cervical screening programme (CSP) takes the correct action following a cervical screening test, or that a valid reason for not taking that action is known and recorded’

- Cervical screening call and recall administration provider
- GPs providing cervical screening services
- Laboratory failsafe (including direct referral)
- Colposcopy clinics (including discharge process)

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Failsafe responsibilities in primary care

Clinical Governance Issue

- Assist an informed choice about whether to participate
- Respect those wishing to be ceased and notifying the call and recall service
- Act on non-responder notifications
- Notify call recall about individuals no longer eligible (e.g. absence of cervix, pelvic RTX)
- Review prior notification lists from call and recall services and revise accordingly
- Ensure participants are informed of their test result and discuss with them if required
- Arrange screening for patients with a cervix who are not registered as female
- Refer for further investigation and treatment where necessary (e.g. needing colposcopy but has moved area; discharged following previous non-attendance at colposcopy; additional referrals outside of colposcopy specialty)
- Act on the non-responder notification from the colposcopy clinic
- Cooperate and engage with failsafe enquiries from the laboratory

https://www.gov.uk/government/publications/cervical-screening-cytology-reporting-failsafe/cervical-screening-failsafe-guidance#failsafe-in-primary-care

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Summary

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Take home messages

Cervical screening is a pathway, not a diagnostic test

- Don't ignore signs or symptoms
- Smears may be unreliable in people with high suspicion of disease
- Remember the recognised disbenefits of population screening programmes – false results, overtreatment, anxiety, false reassurance

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Additional Learning

- NHS CSP guidelines
- NHSE e-learning for healthcare hub: https://portal.e-lfh.org.uk/
- Lab tour – please contact lab for tour if required; visit dates planned and hopefully a video!
- Handouts available with detailed information about sample transport and laboratory failsafe

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Contact Details

Failsafe Office:
CxCytoLabFailsafe@belfasttrust.hscni.net
02895047851 / 02896155650 / 02895043411

HPV Laboratory:
DL-HPV.Tests@belfasttrust.hscni.net

PHA Screening Office:
screening.cervical@hscni.net
screening.bso@hscni.net

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Questions?

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