



Department of Public Health and Family Welfare

NATIONAL HEALTH MISSION
GOVERNMENT OF MADHYA PRADESH

2021

VIA FAQs

EFFECTIVE SCREENING OF
**CERVICAL
CANCER**

FOR HEALTHCARE SERVICE PROVIDERS



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**CERVICAL
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Visual Inspection
with Acetic Acid

**Frequently
Asked
Questions**

CERVICAL CANCER

1. What is the cause of cervical cancer?
2. What is human papillomavirus (HPV)?
3. How HPV infection leads to cervical cancer?
4. How does screening for cervical cancer reduce the disease burden?
5. How many types of cervical cancer are there?
6. Does each type of cervical cancer precede by occurrence of precancer lesions?
7. What are the risk factors of cervical cancer?
8. What are the signs and symptoms for cervical cancer?
9. What are the different screening tests for cervical cancer?
10. Should only symptomatic women be screened for cervical cancer?

Q1 *What is the cause of cervical cancer?*

Ans. The primary cause of cervical cancer is the **persistent infection with high-risk type human papillomavirus (HPV)**, a very common virus that is sexually transmitted.

Q2 *What is human papillomavirus (HPV)?*

Ans. Human papillomavirus (HPV) is the **most common viral infection of the reproductive tract**. There are more than 100 types of HPV.

- Most HPV infections usually clear up on their own
- A small proportion of infections specifically with HPV 16 and 18 can persist and progress to cervical cancer

Q3 *How HPV infection leads to cervical cancer?*

Ans. Although most HPV infections clear up on their own but there is a risk that HPV infection may become chronic and precancerous lesions progress to invasive cervical cancer.

- It takes 15 to 20 years for cervical cancer to develop in women with normal immune systems
- It can take only 5 to 10 years in women with weakened immune systems, such as those with untreated HIV infection

Q4 *How does screening for cervical cancer reduce the disease burden?*

Ans. The HPV infection induces a precancerous change known as cervical intraepithelial neoplasia (CIN). CIN can be detected by various screening tests and can be treated by simple techniques.

Detection and treatment of the disease at the precancerous stage prevents development of cervical cancer in the future.

Q5 *How many types of cervical cancer are there?*

Ans. Cervical cancer is of two types-

- **Squamous cell carcinoma**- which arises from the squamous epithelium
- **Adenocarcinoma** -which arises from the columnar epithelium or glandular cells

Q6 *Does each type of cervical cancer precede by occurrence of pre-cancer lesions?*

Ans. Yes, each type of cancer is preceded by the occurrence of a precancerous change.

- Precursor of squamous cell carcinoma is known as **cervical intraepithelial neoplasia (CIN)**
- Precursor of adenocarcinoma is known as **adenocarcinoma in situ (AIS)**

Squamous cell cancers are the most common, accounting for 80–90% of all cervical cancers. Hence, CIN is much more common than AIS.

Q7 *What are the risk factors of cervical cancer?*

Ans. Following are the risk factors for cervical cancer –

- 1 Marriage at young age or becoming sexually active at young age
- 2 Multiple sexual partners
- 3 Lack of hygiene in sexual organs

4

Pregnancy at young age (<17 years) or giving birth frequently

5

Malnutrition, smoking or tobacco consumption

6

Immunity suppressing diseases like HIV- AIDS

7

Chronic HPV infection

Q8

What are signs and symptoms for cervical cancer?

Ans. Following are the signs and symptoms for cervical cancer-

1



Unusual vaginal discharge tinged with blood

2



Post-coital bleeding / Post-menopausal bleeding

3



Foul-smelling or pus-like discharge

4



Dyspareunia - painful intercourse

5

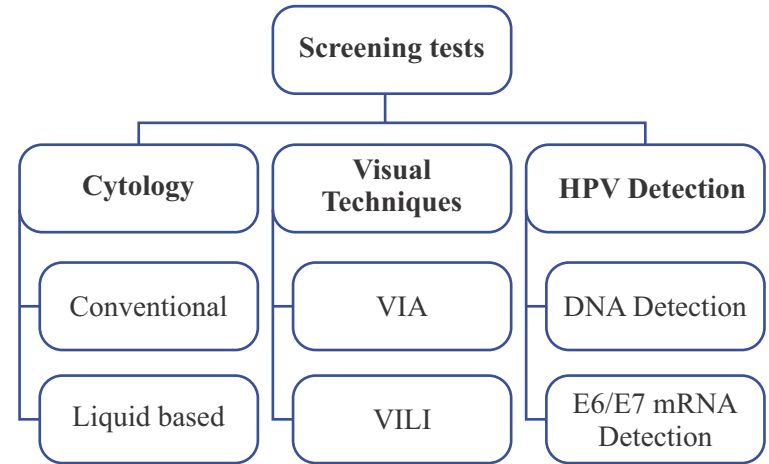


Pain in pelvic area

Q9

What are different screening tests for cervical cancer?

Ans. Following tests are available for cervical cancer screening-



Q10

Should only symptomatic women be screened for cervical cancer?

Ans. No, all the women in the age group of 30-65 years should be screened for cervical cancer using VIA in resource limited settings as early stages of cervical cancer can be symptomless.

However, cervical cancer screening of symptomatic women should be prioritized.

ANATOMY OF CERVIX

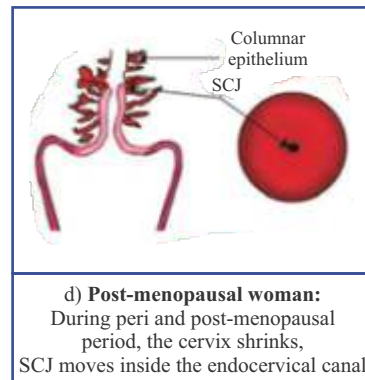
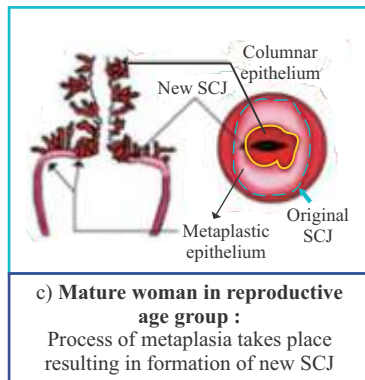
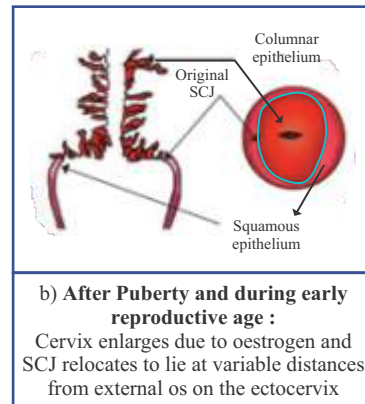
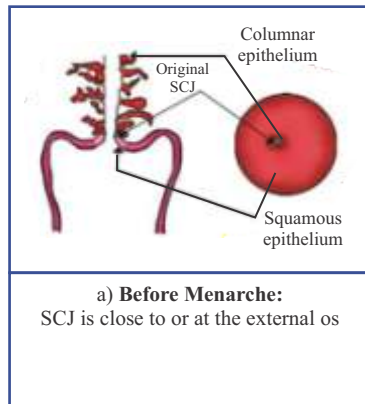
1. At what distance from external os is SCJ located?
2. What are different types of transformation zone?
3. Which epithelium covers the transformation zone?
4. How to identify original SCJ?
5. Why is it critical to identify transformation zone (TZ) correctly during VIA screening?
6. How to identify the extent of transformation zone?

For detailed understanding of anatomy of cervix, refer to the video on the link :
<https://www.youtube.com/watch?v=qHj9DW-XoRI&t=14s>

Q11

At what distance from external os is SCJ located?

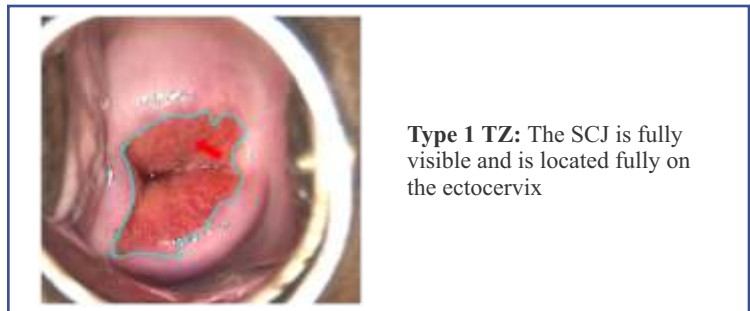
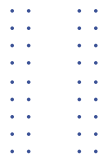
Ans. The location of the SCJ in relation to the external os varies depending on factors such as **age, hormonal status, birth trauma, and certain physiological conditions, such as pregnancy.**



Q12

What are different types of transformation zone?

Ans. Depending on the location and the visibility of the SCJ, the transformation zone (TZ) is categorized into type 1, type 2, or type 3.



Type 1 TZ: The SCJ is fully visible and is located fully on the ectocervix



Type 2 TZ: The SCJ is fully visible (with or without an endocervical speculum) and is located either fully or partially within the endocervical canal

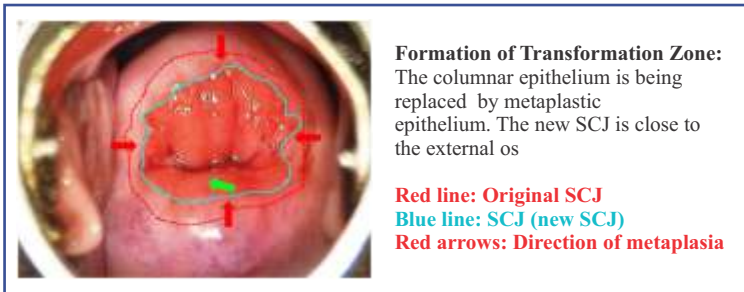


Type 3 TZ: The SCJ is within the endocervical canal and is only partially visible or not at all visible, even using an endocervical speculum

Q13 Which epithelium covers the transformation zone?

Ans. The transformation zone (TZ) is the area of the cervix where the columnar epithelium has been replaced by or is being replaced by the metaplastic epithelium.

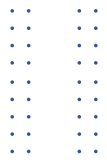
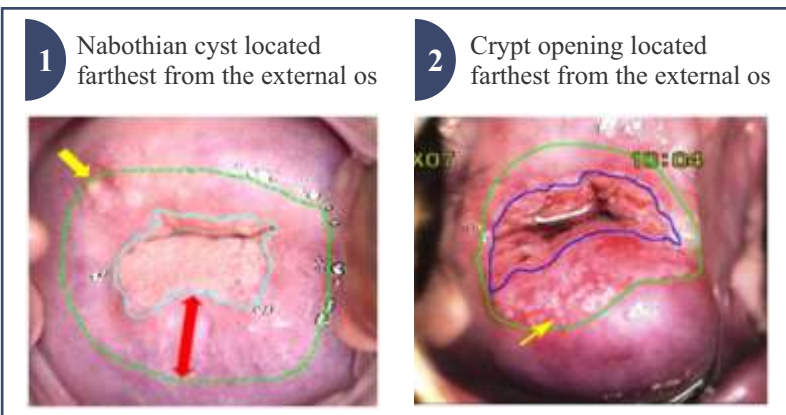
- It is an area of partially squamous, partially columnar, and partially metaplastic epithelium.



Q14 How to identify original SCJ?

Ans. Original SCJ is the junction between original squamous epithelium and metaplastic epithelium. It is not easily identifiable as it does not have any definite margin.

It is identified by the location of-



- 3** If there is an acetowhite patch connected to the SCJ, the farthest extent of the patch



Green circles: Original SCJ

Q15 Why is it critical to identify transformation zone (TZ) correctly during VIA screening?

Ans. It is crucial to identify the TZ correctly, because all cervical precancers and cancers that originate from the squamous epithelium are initially located in the TZ.

Q16 How to identify the extent of transformation zone?

Ans. The transformation zone (TZ) is the area on the ectocervix where metaplasia takes place.

The TZ can be identified by the presence of -

- Metaplastic epithelium
- Nabothian cysts or crypt openings
- Islands of columnar epithelium

In fully mature squamous epithelium, none of the features of metaplasia may be visible.

VIA SCREENING

1. What is VIA?
2. What are the advantages of VIA over cytology-based tests?
3. Which items should be part of VIA tray?
4. Women in which age group should be screened using VIA?
5. Should married women under 30 years of age be screened using VIA?
6. Should VIA examination be done during pregnancy?
7. Is it necessary to take written consent before VIA screening?
8. Can normal saline or tap water be added in glacial acetic acid to dilute it to 5%?
9. Why is it important to freshly prepare 5% acetic acid before screening?
10. After inserting speculum, how to identify if cervix is adequately exposed?
11. What should be done if the woman does not allow insertion of speculum during VIA screening and feels pain?
12. What should be done if after inserting speculum, cervix is not visualized or partially visualized?
13. What should be done if the cervix is not exposed properly due to lax vaginal walls?
14. Is it necessary to clean the cervix with normal saline before application of 5% acetic acid?
15. What should be explained to women during counselling for VIA?

Q17 *What is VIA?*

Ans. VIA – Visual inspection with acetic acid - is a screening test that aims to detect precancer lesions of cervix and early cervical cancers.

It involves naked eye examination of cervix after application of 5% acetic acid using a white light source.

Q18 *What are the advantages of VIA over cytology-based tests?*

Ans. VIA has following advantages over cytology-based tests-

- VIA does not require laboratory infrastructure
- VIA can be performed by various categories of health personnel (general practitioners, nurses, etc.) after a short period of training
- The consumables are affordable and readily available
- Test results are available immediately
- Immediate availability of the results enables management of the test-positive women during the same visit
- The sensitivity of VIA is higher than or similar to that of cytology, especially in resource limited low cost, minimal infrastructure settings

Q19 *Which all items should be part of tray to conduct VIA screening?*

Ans. Following items should be included in the VIA tray-

Equipment	Consumables
➤ Cusco's speculum	➤ Examination gloves
➤ Sponge holding forceps	➤ Cotton balls



Equipment	Consumables
➤ Measuring cylinder or syringe	➤ Glacial acetic acid
➤ Container to store 5% acetic acid	➤ Distilled water
	➤ Normal saline
	➤ Sanitary pad/ tampons
	➤ Lubricant jelly

- Additionally, white light source is needed to visualize the cervix clearly.








Q20 *Women in which age group should be screened using VIA screening?*

Ans. As per the guidelines of Government of India, **all the women in the age group of 30-65 years should be screened** for cervical cancer using VIA examination, every 5 years.

Q21 *Should married women under 30 years of age be screened using VIA?*

Ans. Women under 30 years of age who experience the following complaints should be screened using VIA-

- 1  Unusual vaginal discharge tinged with blood
- 2  Post-coital bleeding
- 3  Foul-smelling or pus-like discharge
- 4  Dyspareunia - painful intercourse
- 5  Pain in pelvic area

Q22 *Should VIA examination be done during pregnancy?*

Ans. VIA examination should be avoided during pregnancy due to the technical difficulty in conducting test, because of hypertrophied cervix and excess mucus.

It should **NOT** be performed during-



Menstruation



Within 12 weeks
of childbirth



Within 12 weeks
of abortion

In such cases woman should be advised to come for VIA screening after menstruation or after 12 weeks of childbirth or abortion.

Q23 *Is it necessary to take written consent before VIA screening?*

Ans. Explicit consent is required prior to screening-



1 If consent form is available, written consent should be taken



2 In absence of written form, verbal consent can also be taken

Q24 *Can normal saline or tap water be added in glacial acetic acid to dilute it to 5%?*

Ans. No, normal saline or tap water cannot be added. **Only distilled water can be used** to dilute glacial acetic acid to 5%.

Q25 *Why is it important to freshly prepare 5% acetic acid before screening?*

Ans. Acetic acid absorbs moisture from the atmosphere. This causes the solution to get diluted easily thereby reducing its potency. **Once prepared solution should only be used for next 24 hours.**

Q26 *After inserting speculum, how to identify if cervix is adequately exposed?*

Ans. The cervix should be exposed in such a way that the external os is positioned at the centre of the open speculum blades.

Q27 *What should be done if the woman does not allow insertion of speculum during VIA screening and feels pain?*

Ans. If the woman experiences pain during insertion of speculum-

1 Reassure her, select a different sized speculum and be gentle

2 More lubricant jelly can also be applied on the speculum

Q28 *What should be done if after inserting speculum, cervix is not visualized or partially visualized?*

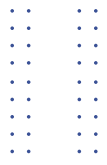
Ans. If cervix is not visualized or partially visualized -

1 Close the speculum partially, loosen the screw and manoeuvre to expose the cervix

2 Bigger size speculum can also be chosen if required

Q29 *What should be done if the cervix is not exposed properly due to lax vaginal walls?*

Ans. Sometimes in multiparous women exposure of the cervix may be difficult because of lax vaginal walls.



In such situations -

1 A large speculum should be used

2 Alternatively, a non-lubricated condom or the finger of a large glove (with its end cut off) can be slipped over the speculum blades before inserting speculum

This holds the lateral vaginal walls between the speculum blades out of the line of vision and enables proper visualization of the cervix.



Put condom or cut finger of a glove on speculum to expose the cervix

Q30 *Is cleaning the cervix with normal saline before application of 5% acetic acid a necessary step in VIA?*

Ans. No, it is not a necessary step. It is done to clean the cervix for proper visualization when it is covered with excessive mucous discharge.

Q31 *What should be explained to women during counselling for VIA?*

Ans. Following information should be provided during counselling-

- Importance of screening for cervical cancer
- About the VIA test and how it is performed

- VIA test results and their implications
- Availability of safe and simple treatment methods if test results are abnormal
- Importance of follow-up visits

VIA

INTERPRETATION

1. Is abnormal epithelium of the cervix identifiable before application of 5% acetic acid?
2. Is it possible to differentiate between low grade and high-grade lesions with VIA examination?
3. What changes occur in normal columnar epithelium after application of 5% acetic acid?
4. How to differentiate between acetowhiting due to squamous metaplasia vs VIA positive?
5. What should be the interpretation of VIA if the leukoplakia becomes acetowhite after application of 5% acetic acid?
6. If acetowhite patch/lines appear on cervix after application of 5% acetic acid, is the result always VIA positive?
7. What are the observations for suspicious for invasive cancer?

Q32 *Is abnormal epithelium of the cervix identifiable before application of 5% acetic acid?*

Ans. A cervix with abnormal epithelium or precancerous lesion looks healthy to the naked eye. To make neoplastic lesions visible, 5% acetic acid is liberally applied to the cervix for 1 minute.

Neoplastic lesions on the ectocervix become visible as white patches after application of 5% acetic acid.

Q33 *Is it possible to differentiate between low grade and high-grade lesions with VIA examination?*

Ans. The density of the acetowhitening is directly proportional to the grade of the cellular abnormality.

1 CIN1 lesion appears thinly acetowhite

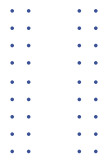


Low grade lesion:
Thin acetowhite area

2 High-grade abnormalities (CIN2 +) have more cellular proteins and appear densely acetowhite.



High grade lesion:
Dense acetowhite area



3 Invasive cancers have a high amount of cellular protein, high number of abnormal cells and appear dense, chalky white plaque, which may be partially obliterated by bleeding on contact



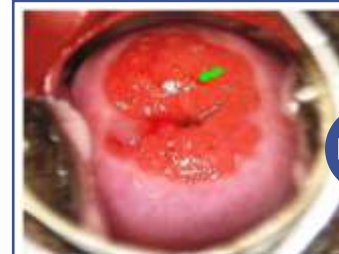
Suspicious of invasive cancer:
Thick, dense acetowhite area with raised margins that bleeds on touch

Q34 *What changes occur in normal columnar epithelium after application of 5% acetic acid?*

Ans. Following changes occur after application of 5% acetic acid-

- 1.** Granular surface of epithelium becomes prominent
- 2.** Columnar epithelium temporarily appears white
- 3.** Original red color is regained after few seconds

Temporarily acetowhitening of columnar epithelium is normal and should not be considered VIA Positive



Before application of acetic acid:
Red velvety appearance of columnar epithelium

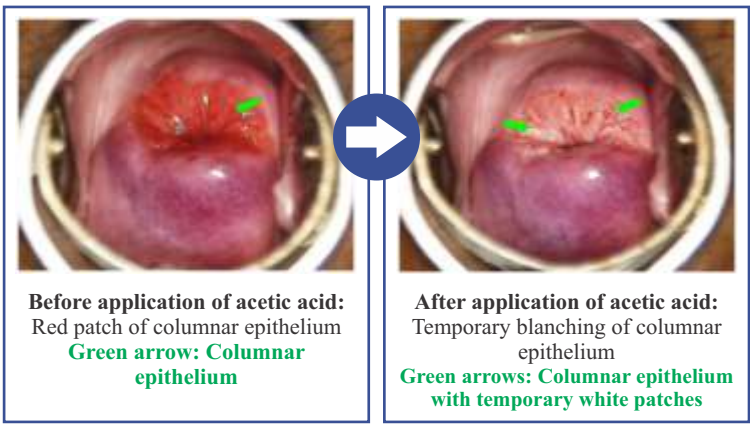
Green arrow: Columnar epithelium



After application of acetic acid:
Granular appearance of columnar epithelium becomes prominent

Green arrow: Columnar epithelium



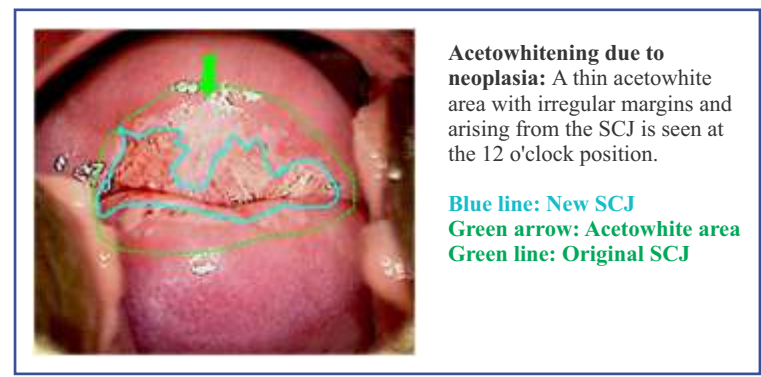
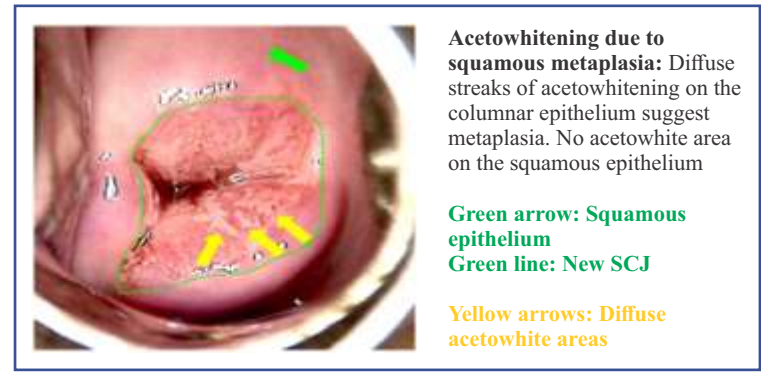
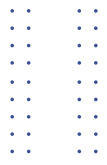


Q35 *How to differentiate between acetowhitening due to squamous metaplasia vs VIA positive?*

Ans. Acetowhitening due to squamous metaplasia and VIA positive is differentiated based on -

1. Colour intensity of acetowhite patch
2. Margins of acetowhite patch

Squamous Metaplasia	VIA Positive
Thin, transparent and patchy acetowhite areas	Dense acetowhite areas
Without any definite margin, blending with rest of the cervix	Well defined margins



Q36 *What should be the interpretation of VIA if the leukoplakia becomes acetowhite after application of 5% acetic acid?*

Ans. Leukoplakia located within the TZ and close to the SCJ should be considered as VIA-positive, especially if the leukoplakic patches turn dense white after application of acetic acid.

These require further evaluation, because a cervical precancer or cancer may remain hidden underneath these areas.

Q37 *If acetowhite patch/lines appear on cervix after application of 5% acetic acid, is the result always VIA positive?*

Ans. . No, all acetowhite appearances of cervix should not be considered as VIA positive. Changes in the cervix should be carefully observed after application of 5% acetic acid for 1 minute.

- If no white patch is visible after 1 minute, then the screening result is VIA negative, which indicates that the cervix does not have any pre-cancer or cancer
- However, if there is a white patch, it may or may not be positive- refer table below for categorization of results
- Any growth or ulcer on the cervix which bleeds at touch should be considered as suspected cancer

VIA Category	Description of the findings
VIA Negative	<ol style="list-style-type: none"> 1. No acetowhite area 2. Columnar epithelium appearing temporarily white 3. Polyps with faint acetowhite colour 4. Nabothian cysts appearing white 5. Line-like acetowhitening at the SCJ 6. Patchy acetowhite areas without any definite margin 7. Thin acetowhite areas with tongue-shaped projections towards the external os 8. Acetowhite areas away from the SCJ
VIA Positive	<ol style="list-style-type: none"> 1. Distinct, opaque acetowhite area that appears quickly and stay for long, with well defined margin, close to SCJ, in the TZ

Suspicious of Invasive Cancer

1. Irregular surface that bleeds on touch
2. Thick, dense large acetowhite areas with raised margin that may bleed on touch
3. Presence of cauliflower growth and ulcers on cervix

Q38

What are the observations for suspicious for invasive cancer?

Ans. The following observations after application of acetic acid are reported as suspicious of invasive cancer:

- **Thick, dense large acetowhite area**



VIA suspicious of cancer:

Red arrows: Dense acetowhite area

Large dense acetowhite area raised from the surface.

(histopathology): squamous cell carcinoma)

- **Irregular surface**



VIA suspicious of cancer:

Raised undulating surface with contact bleeding.

(histopathology): squamous cell carcinoma)

Red arrow:Irregular surface with bleeding

CONDITIONS OF CERVIX

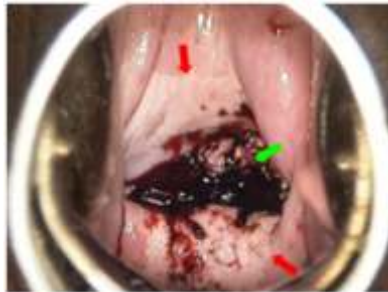
> Obvious growth



VIA suspicious of cancer:
Large ulceroproliferative growth with bleeding.

(**histology:** squamous cell carcinoma)

> Necrosis



VIA suspicious of cancer:
Raised dense acetowhite area with ulceration and central necrosis.

(**histopathology:** squamous cell carcinoma)

Red arrows: Dense acetowhite areas
Green arrow: necrosis

> Ulceration



VIA suspicious of cancer:
Cervix replaced by ulcerative growth.

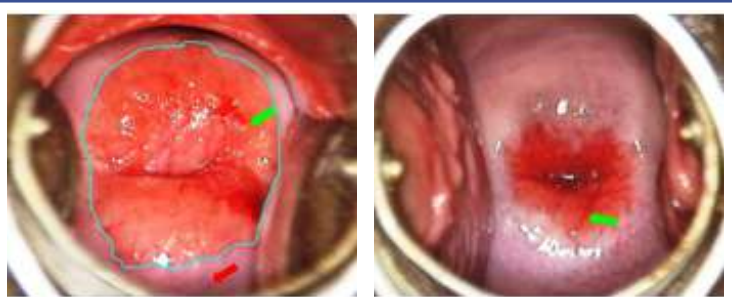
(**histopathology:** squamous cell carcinoma)

1. Is ectopy or ectropion a pre-malignant condition?
2. Is squamous metaplasia a pre-malignant condition?
3. Difference between cervical condyloma and leukoplakia on visual examination?
4. Are cervical condyloma and leukoplakia present only in TZ or entire cervix?
5. Does nabothian cyst require any treatment?

Q39 *Is ectopy or ectropion a pre-malignant condition?*

Ans. Ectopy is a **normal physiological condition** in which columnar epithelium is present on the ectocervix.

- Observed in most women during pregnancy
- Rarely, may cause postcoital or contact bleeding, which the woman finds troublesome
- In case of persistent mucoïd vaginal discharge, may be treated with cryotherapy or thermal ablation



Green Arrow: Columnar epithelium on ectocervix indicating ectropion

Q40 *Is squamous metaplasia a pre-malignant condition?*

Ans. Squamous metaplasia is a **normal process** of replacement of the columnar epithelium by immature squamous epithelium.

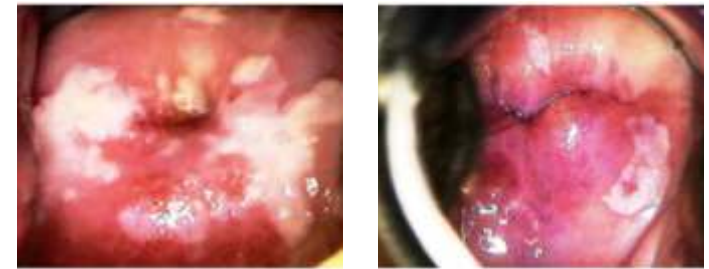


Squamous Metaplasia

Q41 *Difference between cervical condyloma and leukoplakia on visual examination?*

Ans. Leukoplakia appears as a smooth-surfaced, white area on the cervix that cannot be removed or scraped off.

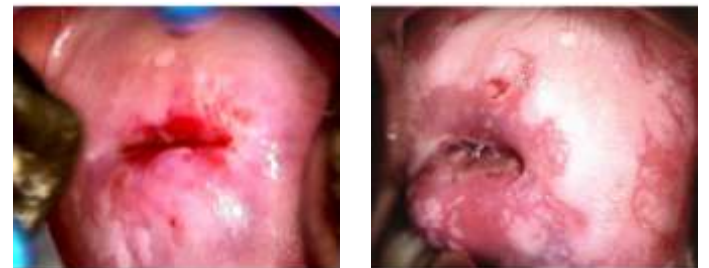
- All leukoplakia patches in the transformation zone should be biopsied or excised as they can hide high-grade premalignant lesions or even cancer underneath



Leukoplakia

Cervical condyloma appear as -

- Raised, grey-white areas
- Anywhere on cervix (within or outside the transformation zone)
- May be accompanied by similar lesions in the vagina and vulva



Cervical Condyloma

Q42 *Are cervical condyloma and leukoplakia present only in TZ or entire cervix?*

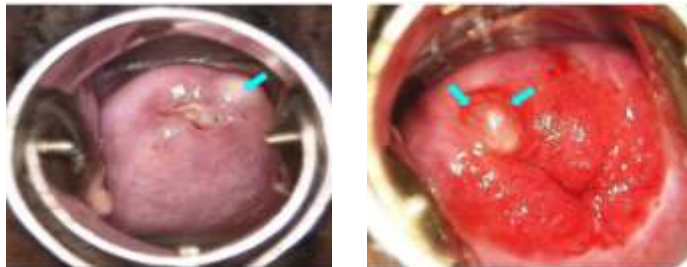
Ans. Cervical condyloma and leukoplakia are not restricted to transformation zone. They can be present in the entire cervix.

Q43 *Does nabothian cyst require any treatment?*

Ans. Nabothian cysts are physiological conditions and **do not require any treatment.**

Other features of nabothian cyst include-

- Appears as a small pearly white blister on the ectocervix
- Has a smooth lining, with branching blood vessels visible on its surface
- Are a feature of the mature TZ and may be single or multiple in number



Blue Arrow- Nabothian Cyst

INFECTION PREVENTION PRACTICES

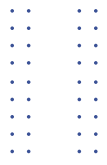
1. How disinfection should be done? Are there different processes to clean different equipment?
2. Can multiple VIA screening be conducted by washing the equipment with warm water after every screening?
3. How to decontaminate various surfaces in cervical cancer screening facility?
4. What will happen if we do not clean the instruments properly as per the guidelines?

Q46

**How disinfection should be done?
Are there different processes to clean different equipment?**

Ans. Three main steps are involved in disinfection are -

1. **Decontamination** - Immediately after use, the instruments and other items should be placed in a 0.5% chlorine solution for 10 minutes
2. **Cleaning** refers to scrubbing the instruments with a brush (an old tooth brush can be used as well), using detergent and water to remove blood, other body fluids, organic material, tissue and dirt.
3. **Sterilization or high-level disinfection** (HLD) eliminates all microorganisms (bacteria, viruses, fungi, and parasites), including bacterial endospores, from instruments and other items.
 - Sterilization is performed using autoclave
 - HLD is performed by boiling, steaming, or using chemicals.
 - If sterilization is not available, HLD is the only acceptable alternative.



**A GUIDE TO PROCESSING INSTRUMENTS USED IN
CERVICAL CANCER SCREENING**

Instruments/ consumables	Process required	Suggested Procedures
Vaginal speculum, biopsy forceps, endocervical curette, endocervical speculum, vulsellum forceps, insulated speculum, vaginal side-wall retractor	Decontamination, cleaning followed by sterilization or HLD	Autoclaving or HLD by boiling
Gloves	Decontamination, cleaning followed by sterilization	Autoclaving in wrapped packs
Colposcope, LEEP equipment, cryotherapy equipment, cryo gas cylinder, cold coagulator with probe, examination table, halogen lamp, instrument trolley, trays	Decontamination	Wipe with ethyl alcohol

Q47

Can multiple VIA screening be conducted by washing the equipment with warm water after every screening?

Ans. No, after conducting VIA screening equipment must be disinfected using three steps disinfection process before reuse.

Q48

How to decontaminate various surfaces in cervical cancer screening facility?

Ans. Decontamination of surfaces is done by wiping the surfaces with 0.5% chlorine solution or 60–90% ethyl or isopropyl alcohol.



1 The examination table should be decontaminated after every screening



2 Other equipment and the floor of the healthcare facility should be decontaminated on a daily basis at the end of the day or periodically.

Q49

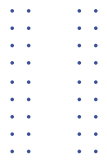
What will happen if we do not clean the instruments properly as per the guidelines?

Ans. Spread of infection can occur if proper precautions are not taken

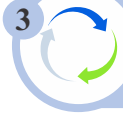
The following are standard universal precautions of infection prevention:



1 Washing hands before and after examining each woman



2 Wearing of gloves when touching broken skin, mucous membranes, blood or other body fluids, soiled instruments, gloves and medical waste



3 Processing of instruments using appropriate procedures as per the guidelines after use



4 Disposal of wastes as per standard guidelines



5 Maintaining environmental cleanliness

References

1. Atlas of visual inspection of the cervix with acetic acid for screening, triage, and assessment for treatment, IARC, WHO
2. Atlas of Colposcopy: Principles and Practice, IARC, WHO
3. Trainees' Handbook - Training of Health Staff in VIA, HPV detection test and cryotherapy, WHO
4. Colposcopy and treatment of cervical intraepithelial neoplasia: a beginners' manual, Edited by J.W. Sellors and R. Sankaranarayanan