# **DYSPLASIA** (ABNORMAL CERVICAL CELLS)

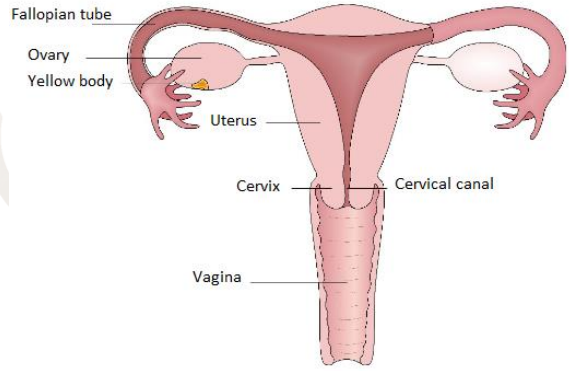
## FACTS

- Cervical cell changes are a precursor to cervical cancer and are caused by a virus of the HPV family (Human Papilloma Virus)
- Cell changes occur frequently **but only very rarely** develop into cervical cancer.
- There are no symptoms from cell changes
- The test for cell changes consists of using a small brush to take a tiny cell sample from the cervix
- Women aged 23 to 65 years are regularly invited for screening for cell changes

Cervical cell changes are not the same as cervical cancer!
Dysplasia (cell changes) mean that the normal cervical cells start changing and look different. In most cases the cells will return to normal again, but in some rare cases the changes get worse and develop into cervical cancer. That is why it is recommended that women between 23 and 65 years old are regularly screened so that any cell changes can be identified and treated in a timely manner.

## WHY DO CELLS CHANGE?

Cervical cell changes are caused by an infection by a virus, Human Papilloma Virus (HPV). HPV is an entire family of virus- more than 100 different types virus – but only about 12 of these cause cervical cell changes. The virus is transmitted during sexual intercourse and over 80% of Danish women will at some point in their life be infected with one or more of these viruses. The infection is symptomless and typically disappears after 8 to 18 months, but in a few cases it will remain in the mucous membranes and can lead to cell changes.
Cell changes do not appear if you have not been infected by the virus. That is why young women are now offered a vaccination against the most dangerous forms of HPV virus. That way, the number of infected women and therefore also the number of cases of cell changes and ultimately the number of cases of cervical cancer can be reduced.




## WHAT ARE CELL CHANGES?

Cell changes are precursors to cancer. We don't know whether in a given patient these early stages will in fact develop into cancer and we don't know either precisely how long it will take, but is so slow that it is sufficient to screen otherwise healthy women once every three years. We estimate that approximately 15% of cases of cell changes will develop into cervical cancer within 10 years – if the cell changes are not removed before!

## HPV AND CELL CHANGES

We know that in reality everybody is exposed to HPV, but we don't know why some people develop cell changes and others don't. Persistent HPV infection is a prerequisite for cervical cell changes (dysplasia) and for cervical cancer. The lifetime risk of HPV infection is about 80% for Danish women, while the lifetime risk of cervical cancer is around 1%.

## REGULAR SCREENING FOR CELL CHANGES

Women aged 23 to 49 are offered a test of cervical cells every 3 years and women aged 50 to 64 every 5 years.

## THE TWO SCREENING METHODS

There are two kinds of methods of being screened for cervical cancer. A cell-based screening and HPV-based screening. In both methods, a sample of cells are taken from the cervix. The difference between the two methods is therefore not in how the sample of cells are removed, but in how the Pap test will subsequently be investigated. The screening method also affects how long it takes before you are invited to a screening again. Both cell-based and HPV-based screenings are probably both good methods to find the women who are at risk of developing cervical cancer. The HPV-based ones are probably more sensitive and specific, but since you don't know, the two tests will go on parallel in a large experiment.

## WHO WILL BE SCREENED AND HOW

Women in the age group 23-29 are offered cell-based screening every three years. Women aged 60-64 are offered HPV-based screening every five years. From January 2021, an expiriment was introduced in Region H with HPV-based screening side by side with cell-based screening for women aged 30-59 years. Women aged 30-59- years, born on an odd date, will have an HPV-based screening performed as the first examination. If it is negative, the next test is carried out after 5 years. If HPV is found in the sample, the sample is also examined for cell changes.

Women in the age group 30-59 years, born on a straight date, as before, will be offered a cell-based screening. Women aged 30-49 are invited every three years, while women aged 50-59 are invited every five years. Both cell-based and HPV-based screening are tried and tested methods to find the women who are at risk of developing cervical cancer. By using both methods side by side in the screening programme, the advantages and disadvantages of the methods can be investigated.

There is no reason to do more frequent screenings, even if there is a family history of cervical cancer as the illness is not hereditary. The test is called a PAP test or smear test. The test is usually done at your GP's surgery. If the test shows abnormal cells, you will be referred to a gynaecologist for a tissue sample from the cervix.

- HPV Infection with a high-risk virus type
- Chronic HPV infection with a high-risk virus type
- Progressive cell changes (dysplasia)
- Cervical cancer

It is the HPV types 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66 and 68 (high-risk HPV types), that cause serious cell changes and cancer. A small minority (3 -7%) of women aged 30 to 50 are infected with these high-risk types of HPV regardless of their level of sexual activity. Women who have both a chronic infection with a high-risk type of HPV and serious cell changes are at particular risk of developing cervical cancer.

| Risk of developing cervical cancer | |
|---|---|
| All women | 1:5.000 (0.02 %) |
| HPV-positive | 1:1.000 (0.1 %) |
| Slight cell changes (CIN 1) | 1:100 (1 %) |
| Moderate cell changes (CIN 2) | 1:20 (5 %) |
| Serious and very serious cell changes (CIN 3) | 1:7 (14 %) |

## PAP / SMEAR TESTS & CERVICAL CYTOLOGY

Cervical cancer exist in all age groups. To prevent cervical cancer, women aged 23 to 49 are offered a PAP test once every 3 years and women aged 50 to 65 once every 5 years.

The PAP test flags up a risk only: it identifies those women who are more at risk and therefore need a further investigation of cell changes. The procedure is in accordance with the guidelines from The Danish Society for Obstetrics & Gynecology (DSOG; www.dsog.dk).

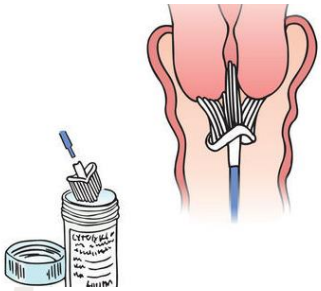
At a smear test, loose cells are gathered from the cervix with a little brush. It takes less than 30 seconds and is painless.

## FOR MORE INFORMATION:

https://www.sundhed.dk/borger/patienthaandbogen/kvindesygdomme/sygdomme/celleforandringer/

## OVERVIEW OF THE SCREENING PROGRAM

- 23-29 years screening every 3 years, cytology
- 30-49 years, even date of birth, screening every 3 years, cytology
- 50-59 years, even date of birth, screening every 5 years, cytology
- 30-59 years, odd date of birth, screening every 5 years, HPV test
- 60-64 years final screening examination, HPV test
- Control of unsuitable sample
- Control of cell changes
- Control of HPV-positive home test sample



## WHO CAN I CALL WITH QUESTIONS?

You are welcome to call Kvindeklinikken during telephone hours on 36 46 71 40.

Revised September 2022. To be revised on an ongoing basis and certainly no later than September 2025, before in case of any significant changes.