



## *Exfoliative cytology*

Is the study of superficial from mucus membrane, renal tubule and also includes the study of those cells which have been scraped or pulled off such surface and also cells found in body fluids for example sputum, peritoneal fluid.

- ✚ Most of techniques employed are for the rapid and early diagnosis of malignancy, particularly in carcinoma of cervix .
- ✚ Most of difficulties encountered in applying these techniques are due to poor preparation and fixation of the smear.
- ✚ It is important that smears are sufficiently thin and that they are put in to fixative while still moist.
- ✚ A high concentration of RNA in cells has been used as an indication of malignancy and for this reason the acridine . Orange technique of Von become popular.

### preparation

The composition and properties of body fluids and secretion differ and they must be handled accordingly.

#### 1) Secretion which are viscid in nature:

E.g .....vaginal, cervical and prostate are smeared directly in to clean glass slide ( no egg albumin) and placed in the fixative immediately.

#### 2) Smear made from specimens that are highly viscous adhere well to slide because of the mucus and for the protein in the material.

### Fixation

To get a good specimen, freshly prepared smear should be immersed immediately in the letter alcohol solution , as exfoliated cells decompose rapidly .Fixation the smear before they are fixed will be poorly preserved and show marked distortion.



### Fixing solution

The universally accepted fixative for papanicolaou smears; it is equal part of 95% ethyl alcohol and ether.

Other solutions used are 95% ethyl or isopropyl alcohol, acetone and glycol

- The smears will be fixed in 15 minutes
- The smear adhere to the slide better if it is completely fixed.

### Staining

Staining smears by using papanicolaou

### Results

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- Nuclei .....blue
- Cytoplasm.....varying shade of pink, blue, green, yellow and orange

### *Difference between paraffin method and freezing method*

Paraffin method	Freezing method
1) Supporting media is paraffin wax	1) Supporting media is ice
2) Continuous ribbon can be obtained	2) Single section (not continuous ribbon)
3) Fixed tissue used	3) Fixed & unfixed tissue can be used
4) Using rotary microtome	4) Freezing microtome & gas CO <sub>2</sub>
5) Thickness can be obtained (4-8) μm	5) Thickness of section can be obtained (10-20) μm