

# Cervical Intra-epithelial Neoplasia

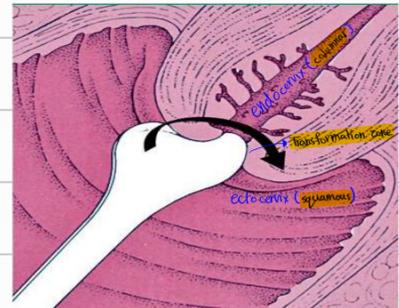
Done by :

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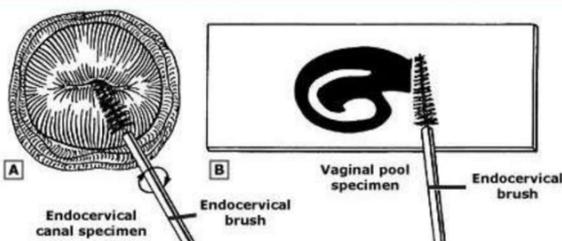
- ★ CIN = Pre-Cancerous Lesions → due to **Persistent** high risk HPV infection
- ★ Cervical cancer in general it is → STDs
- ★ Main Causative organism → **HPV**
  - high risk → Cancer → 16, 18
  - Low risk → warts → 6, 11
- ★ it takes 10-20 years from initial HPV infection → CIN → invasive cervical cancer
- ★ in developed country → **Screening programs** → detect lesions early, long before cancer develops
- ★ Screening programs :-
  - ① PAP Smear (cytology)
  - ② HPV DNA Testing
  - ③ Combination of the two tests (Co-testing)
- Age **< 21** years → **no** screening
- Age **21-29** years → Pap smear **every 3 years**
- Age **30-65** years → Pap smear **every 3 years** or HPV testing **every 5 years** or Co-testing **every 5 years**
- Age **> 65** years → **stop** if adequate prior negative screening and no high risk factors

\* cells are obtained from Ectocervix & Endocervix to evaluate → **Transformation Zone**  
(area at greatest risk for Neoplasia) (area between old & new squamo-columnar junction)

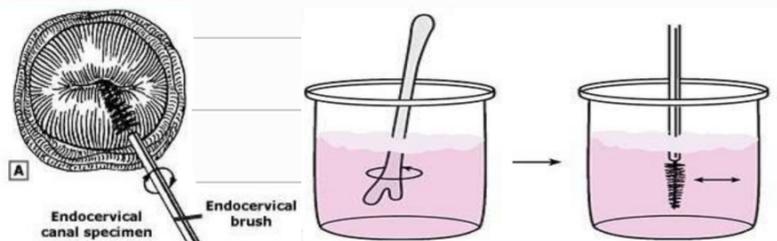
\* Method for preparing a specimen :-  
(for Cytology)



## ① Conventional Pap Smear



## ② Liquid-based thin layer cytology



## \* Cytologic Analysis of Pap smear :-

① Normal

② Atypical Squamous Cells of Undetermined Significance (ASCUS)

- slightly abnormal cells → repeat testing or HPV testing

③ Low grade Squamous Intraepithelial Lesion (LSIL)

- if persistent → Colposcopy + Biopsy

- **CIN I** (mild dysplasia) → Lower 1/3 of epithelium affected

\* Management → expectant (high rate of spontaneous regression)

④ High grade Squamous Intraepithelial Lesion (HSIL)

- Colposcopy + Biopsy

- **CIN II** (moderate dysplasia) → Lower 2/3 of epithelium affected

- **CIN III** (severe dysplasia) (carcinoma in situ) →

full thickness affected but intact basement membrane

\* Management →

① Ablative therapy: Cryotherapy, CO<sub>2</sub> Laser, Cold coagulation, Diathermy

② Excisional therapy: Cold knife conization, Laser conization, LEEP, LLETZ

③ Hysterectomy

## ★ Factors associated with development of High grade lesions :-

① Subtype (Low risk - high risk)

② Persistence of infection (at least 6-12 months)

③ Viral load

## ★ Risk factors in pathogenesis :-

① Immunosuppression (HIV infection, AIDS, Immunosuppressive therapy)

② Cigarette Smoking

③ Herpes simplex virus & chlamydia, other STDs infection → marker of exposure to HPV

④ OCPs → (indirect) → long term use + positive HPV → ↑ risk of cervical carcinoma

⊗ other →

Genetic, Familial, Dietary, Endogenous hormonal factors → Not play a role in development of CIN

# ★ Diagnostic Procedure:

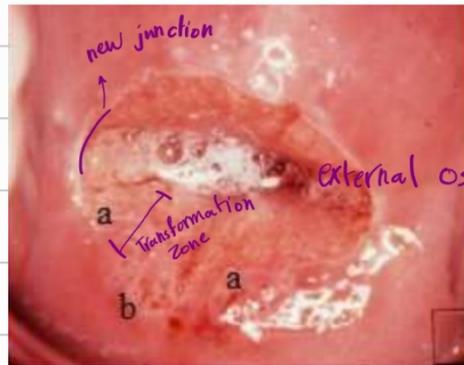
① Colposcopy :- (for Normally Looking cervix)

\* Indications →

- ① Persistent ASCUS or ASCUS with positive high risk HPV subtypes
- ② ASC suggestive of high grade lesion
- ③ Atypical Glandular cells
- ④ HSIL
- ⑤ suspicious of Invasive Cancer
- ⑥ Malignant cells present
- ⑦ Persistent (2 consecutive years) positive testing for high risk HPV with normal cytology

\* Steps in exam →

- ① examine cervix using low power (inflammation, infection, leukoplakia, punctation, mosaicism, abnormal vessels)
- ② use green filter & normal saline
- ③ apply 5% acetic acid



5% ACETIC ACID

(the entire Transformation Zone including Squamo-Columnar Junction & borders of all lesions → must be visualized to be satisfactory)

④ apply Lugol's iodine solution



Squamous epithelium  
Columnar epithelium



Squamous epithelium  
Columnar epithelium has not taken up iodine

\* Squamous → take up iodine

\* Columnar → Not take up iodine

(to aid in delineating potential Biopsy site)

- ⑤ Map of abnormal area (Acetowhite lesions, leukoplakia, punctation, mosaicism, vague borders, abnormal vessels)
- ⑥ Perform endocervical curettage
- ⑦ Perform cervical biopsy (2 or more)