- **Epidemiology:**
  - There are 500,000 new cases identified each year with 200,000 deaths!
  - Cervical cancer is the 3rd most common gynecological cancer worldwide and it is preventable with screening and detection in early stages.
  - It is not very common among GCC countries (when compared with other countries worldwide) due to our religious restrictions which limit the chances of getting STDs (especially with Human Papilloma Virus- HPV).
- **Risk factors of cervical cancer:**
  - The most common cause is HPV (types: 16 and 18; in addition to 31, 33 and 45 which are also associated with increased risk of malignancy).
  - Sexual behavior (e.g. multiple sexual partners).
  - Early adolescence (e.g. early menarche).
  - Smoking.
  - Multiparity with low socioeconomic status (this is associated with less screening for the disease).
- **Clinical features of cervical cancer:**
  - Post-Coital bleeding (most common).
  - Menstrual irregularities.
  - Vaginal discharge.
  - Pressure symptoms especially when the tumor is large and invading adjacent pelvic structures (e.g. bladder or rectum).
  - Cachexia and pain (in advanced cases).
- **How to diagnose cervical cancer?**
  - With speculum examination, the cervix is eroded and ulcerated with the presence of growth.
  - A pap smear will be done (which is going to show the presence of abnormal cells most commonly in the transformation zone which is the junction between endocervix that is characterized by columnar epithelium and ectocervix that is characterized by stratified squamous non-keratinized epithelium).
  - Then, you will evaluate the condition with colposcopy (the cervix is stained with acetic acid which will stain areas of the cervix with abnormal cells white in color).
  - Next step will be obtaining a colposcopy directed biopsy (excisional or cone biopsy).
- **Pap smear classification:**
  - **Bathesda system:**
    - ✓ Normal cells (same size and nucleus is not dense).
    - ✓ Inflamed cells (characterized by the presence of leukocytes).
    - ✓ Dysplastic cells (presence of abnormal cells).
    - ✓ Malignant cells (pyknotic nucleus, cells varying in size and shape with increased nucleus-cytoplasmic ratio):

ASC-US	Atypical Squamous Cell of Undetermined Significance
ASC-H	Atypical Squamous Cell can't rule out HSIL
LSIL	Low-grade Squamous Intraepithelial Lesion; corresponding to CIN-I and involving 1/3 of the epithelium.
HSIL	High-grade Squamous Intraepithelial Lesion; corresponding to CIN-II (2/3 of epithelium) or CIN-III (the whole epithelium) or CIS.
Squamous cell carcinoma	Biopsy is expected to show histologic findings of invasive cancer

- **Types of cervical cancer:**
  - Squamous cell carcinoma (90% of cases).
  - Adenocarcinoma (5% of cases only).
  - Clear cell carcinoma (rare!).
- **Spread of cervical cancer:**
  - **Direct spread:**
    - ✓ Vagina.
    - ✓ Uterus and parametrium.
    - ✓ Urinary bladder.
    - ✓ Rectum.
  - **Lymphatic spread**: sacral, obturator, internal iliac, external iliac or common iliac lymph nodes.
  - **Hematogenous spread.**
- **Staging of cervical cancer is clinical:**

Stage-0	Carcinoma-In-Situ (CIS)
Stage-I (most common at diagnosis)	Limited to the cervix: • Ia1: invasion is ≤ 3 mm deep. • Ia2: invasion is > 3 mm but ≤ 5 mm deep. • IB: invasion is > 5 mm deep
Stage-II	Spread adjacent to cervix (involving part of the vagina and part of paramterium).
Stage-III	Spread is further from the cervix (involving the whole vagina and paramterium).
Stage-IV	Involvement of bladder/rectum or distant metastasis

- **Management of cervical cancer according to histology:**
  - **CIN-1:** observation or ablation (e.g. cryotherapy; laser) or excision (e.g. LEEP; cold-knife cone).
  - **CIN-II or CIN-III:** ablation or excision.
  - **Hysterectomy is done with recurrent CIN-II or CIN-III.**
  - **Invasive cervical cancer:**
    - ✓ Stage Ia1: total simple hysterectomy.
    - ✓ Stage Ia2: modified radical hysterectomy.
    - ✓ Stage IB: radical hysterectomy or pelvic radiation.
    - ✓ For all other stages: radiation and chemotherapy are indicated.