

# HPV IN PREGNANCY

FLAME LECTURE 101

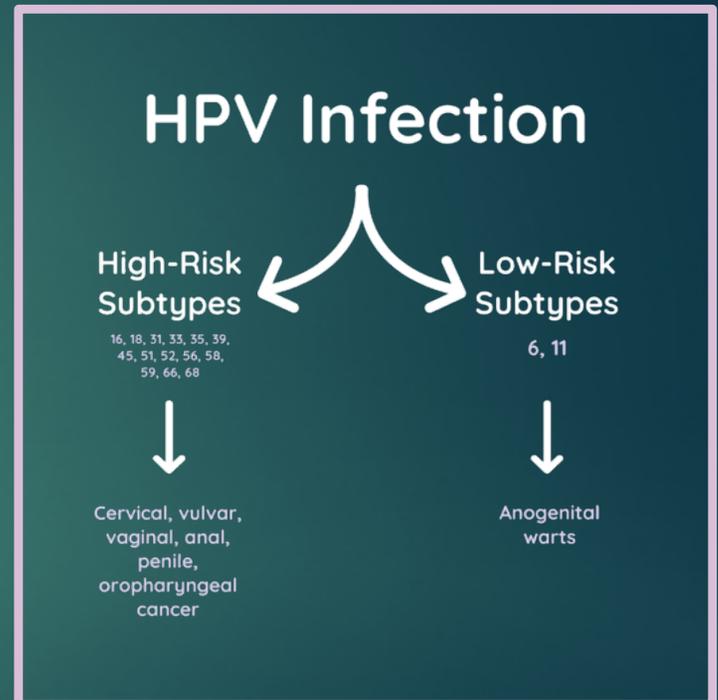
HARKEY 6.16.22

# LEARNING OBJECTIVES

- ▶ Identify the following medical and surgical conditions in pregnancy and discuss the potential impact of the conditions on the gravid patient and the fetus/newborn, as well as the impact of pregnancy (if any) on each condition, and the appropriate initial evaluation: infectious diseases - HPV
- ▶ Prerequisites:  
NONE
- ▶ See also:
  - ▶ Screening for cervical cancer
  - ▶ Treatment of cervical dysplasia
  - ▶ Pathogenesis of cervical cancer

# HPV PATHOPHYSIOLOGY

- ▶ Human papillomaviruses (HPV) are a family of double-stranded DNA viruses that infect epithelium
- ▶ HPV infection can cause a variety of pathologies in various tissues, including cancer (vulvar, vaginal, cervical, anal, penile, oropharyngeal) and genital warts
- ▶ Different HPV types cause different pathologies
  - ▶ HPV is the most common sexually transmitted STI
  - ▶ Most sexually active adults will be infected by HPV at some point
  - ▶ Infection is often asymptomatic and clears on its own

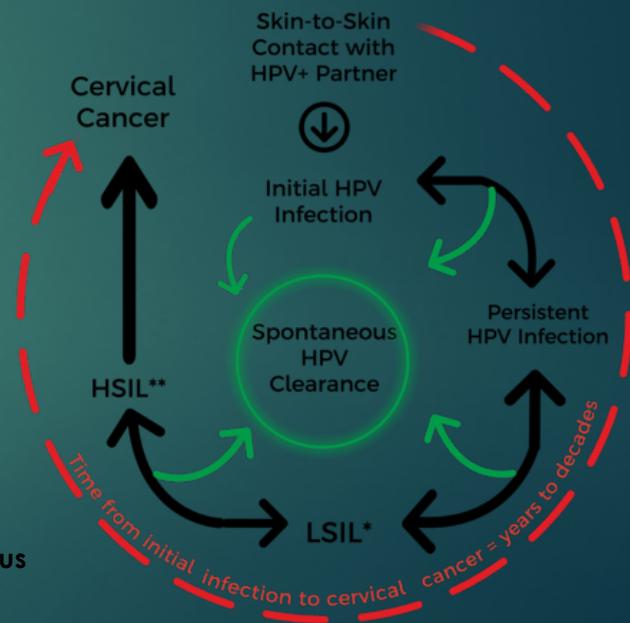


# HPV PATHOPHYSIOLOGY

- ▶ HPV is spread by skin-to-skin contact from an HPV+ partner; penetration is not required for transmission
- ▶ Infection is often asymptomatic and clears on its own within 1-2 years
- ▶ High-risk subtypes of HPV are necessary, but NOT sufficient, for development of cervical CA
- ▶ Cervical cancer is a slow-growing disease and develops over the course of years to decades
- ▶ Vaccination, regular screening, and early intervention for suspicious lesions decrease incidence of cervical cancer

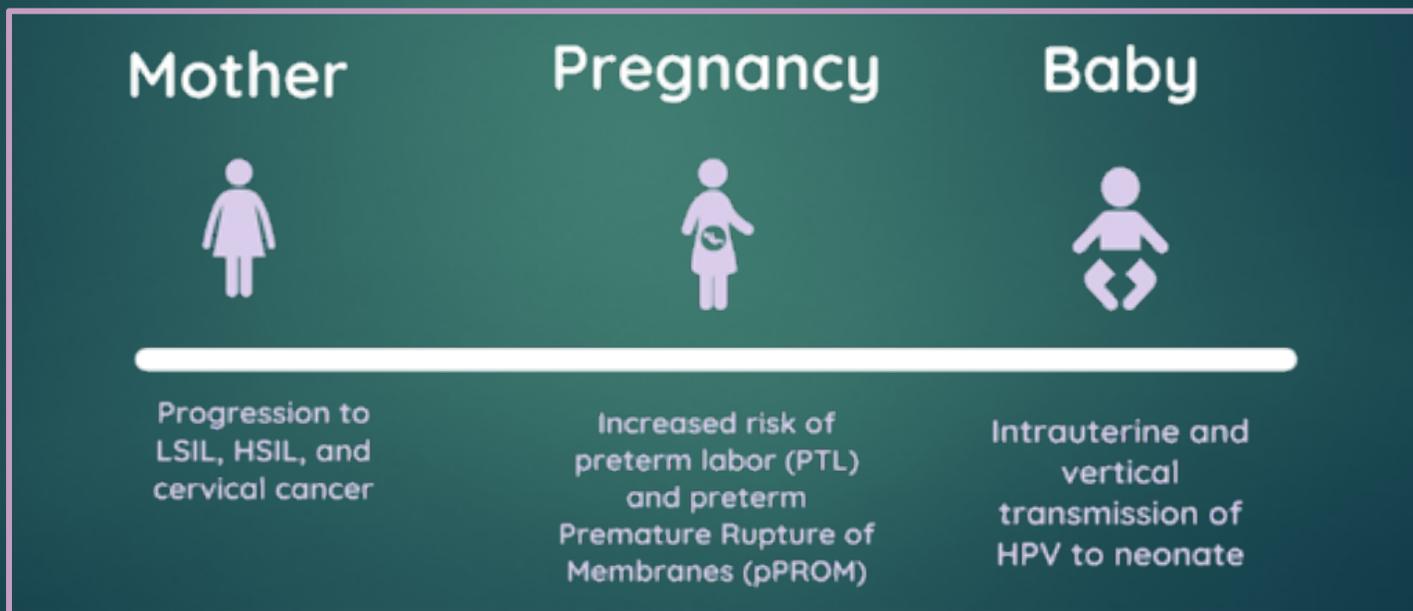
\*LSIL: Low-grade Squamous Intraepithelial Lesion

\*\*HSIL: High-grade Squamous Intraepithelial Lesion



# HPV AND PREGNANCY: SPECIAL CONCERNS

- ▶ As an immunocompromised state, pregnancy is assoc. w/ persistent HPV infxn and worsening of genital warts
- ▶ HPV infection has the ability to affect the mother, pregnancy, and baby:



# HPV AND PREGNANCY: SPECIAL CONCERNS

- ▶ There is conflicting evidence regarding whether vaginal deliveries increase risk of HPV transmission compared to c-sections
  - ▶ Complications of neonatal infection include juvenile-onset recurrent respiratory papillomatosis (JORRP), oral mucosa infection, and genital infection
    - ▶ Rate of JORRP is low
    - ▶ Available evidence suggests that children clear HPV infection within the first few years of life
  - ▶ There is also conflicting evidence as to whether vaginal delivery may influence regression of cervical dysplasia

# EFFECT OF HPV INFECTION ON PREG

- ▶ CIN is associated with increased risk of PPROM, PTL, and PTB
- ▶ Treatment (including LEEP, LLETZ, and CKC) prior to pregnancy is also associated with increased risk of:
  - ▶ Preterm labor
  - ▶ Preterm birth
  - ▶ Low birth weight
  - ▶ NICU admission
- ▶ Risk increases with:
  - ▶ Increasing depth and/or volume of excision
  - ▶ Increasingly radical nature excision method
    - ▶ LEEP safer than CKC

\*Based off a Cochrane review including studies with low or very low quality of evidence; must be interpreted with caution

# TESTING AND TREATMENT IN PREG

## Testing Guidelines

- ▶ CDC recommends that women continue to receive routine cervical cancer screening while pregnant
- ▶ There are no guidelines recommending additional testing during pregnancy if not already indicated by patient history

## Treatment Guidelines

- ▶ Colposcopy is considered safe during pregnancy and is not associated with adverse obstetric outcomes
- ▶ Excision, including LEEP and CKC, should be delayed until after pregnancy unless malignancy is suspected

# Vaccination

- ▶ Nonavalent HPV vaccine currently available in the United States (Gardasil 9)
- ▶ Vaccination during pregnancy is not recommended given lack of available safety data
  - ▶ Safety data that are available from accidental administration during pregnancy have been reassuring
- ▶ Women who become pregnant during vaccine series should delay additional vaccination until after delivery
- ▶ Pregnancy testing prior to vaccination is not necessary



# PEARLS

- ▶ Pregnancy is an opportunity to review routine screening; pregnant women should continue routine cervical cancer screening as indicated by their prior testing history
- ▶ Active HPV infection increases the risk of preterm labor and PPROM
- ▶ HPV infection during pregnancy may result in neonatal HPV infection, but most infections will clear within a few years
- ▶ Colposcopy is safe during pregnancy; LEEP and CKC should be deferred until after delivery unless malignancy is suspected
- ▶ LEEP and CKC prior to pregnancy are associated with increased risk of preterm labor and low birthweight babies
- ▶ Vaccination during pregnancy is likely safe but is not currently recommended

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