Cervical Cancer, HPV and Pap Smears.

About Cervical Cancer

- Cervical cancer or cancer of the cervix is the second most common cancer worldwide in women over 15 years of age.¹
  - Worldwide every two minutes a woman dies of cervical cancer.¹²
  - About 500,000 women globally are diagnosed with cervical cancer with an average of 270,000 deaths a year.¹
  - Sexually active women may be at risk of being affected by cervical cancer or the early stages of the disease irrespective of age and lifestyle.³⁻⁸
- In Australia each year approximately 700 women are diagnosed with cervical cancer with around 200 deaths from the disease.⁹
  - Every week, approximately four Australian women die of cervical cancer.⁹
- Every year, around 30,000 Australian women require treatment or follow up for an abnormal Pap smear or pre-cancerous lesion.⁹
  - Every year, around 15,000 women undergo treatment for a high-grade lesion.¹⁰
  - The treatment associated with cervical cancer carries a small risk of causing fertility difficulties such as the inability to become pregnant/or carry a pregnancy safely.¹¹
  - Treatment options to remove pre-cancerous cells include:
    - Wire loop excision (also know as LEEP – Loop Electrosurgical Excision or LLETZ – Large Loop Excision of the Transformation Zone).
    - Cone biopsy, laser treatment or diathermy (heat treatment).
    - In advanced cases when cervical cancer is present and the abnormal cells have spread outside the cervix, a hysterectomy may be required.
    - Treatment for an abnormal Pap smear may also have a significant effect on a woman’s emotional health, with women commonly suffering anxiety, impairment of self-esteem and sexual functioning as a result.¹²,¹³
- Cervical cancer begins in the cervix, typically developing slowly over time and if left untreated, can eventually spread into surrounding areas.¹⁴ The good news is that the disease is almost completely curable when diagnosed in its early stages and treated promptly.
- The Australian Institute of Health and Welfare (AIHW) reports women aged 25-29 years have the highest incidence of severe (high-grade) cervical abnormalities in Australia and the majority (two-thirds) of women who require surgical treatment for cervical cancer or interventions for pre-cancerous lesions each year are aged 25-44 years.⁹
How cervical cancer is detected

• There are usually no symptoms related to the early stages of cervical cancer. Pap smears are the best way to detect the early stages of cervical cancer as they identify cell changes to the cervix.

• Since the introduction of routine Pap smears in Australia through the National Cervical Screening Program, the annual number of cervical cancer deaths has halved.

HPV – the virus that causes cervical cancer

• Cervical cancer is caused by a virus called the Human Papillomavirus (HPV).

• Cervical cancer is a rare outcome of HPV infection.

• HPV is an extremely common sexually-transmitted virus.
  – Around 50-80% of sexually active women will be infected with the virus at sometime in their lives.

• There are over 100 types of HPV, most of which do not cause cervical cancer.
  – Over 40 types of HPV infect the anogenital tract, of these 15 types are oncogenic or cancer-causing virus types that can lead to cervical cancer – most commonly types 16, 18, 45, 31, 33, 52, 35 and 58.
  – HPV types 16 and 18 together account for more than 70 percent of all cervical cancer cases globally. HPV types 31 and 45 are responsible for an additional 10 percent of cervical cancers, worldwide.
  – The other cancer-causing types of HPV account for the majority of the remaining 20 percent of cervical cancers, worldwide.

• Sexually active women may remain at risk of acquiring HPV infection, regardless of age. HPV infection may in some cases, result in an abnormal Pap smear, or cervical cancer itself.
  – Unfortunately, not even condoms can prevent HPV infection as the virus can be spread by genital skin to skin contact, therefore woman who are sexually active may remain susceptible to infection with the virus.
  – Whether a woman is 21 and single or 35 and married, whether she is in a monogamous relationship or has had just one sexual partner, if she is sexually active, she may still be susceptible to HPV infection.

Sexually active women may be at ongoing risk of cervical cancer, regardless of age

• HPV is a very common virus.

• Cervical cancer is a rare outcome of HPV infection.

• Sexually active women may be at ongoing risk of cervical cancer or the early stages of the disease through exposure to HPV.

• There are many types of HPV. Around 100 HPV types can infect humans, 40 of these can infect the genital tract, and 15 HPV types can potentially cause cancer. These cancer causing types are sometimes termed ‘high-risk’.
• Unlike most other viruses, once a woman has been infected with HPV, it does not necessarily mean she will become immune to acquiring it again.\cite{20-25} Thus, even if a woman has been exposed to HPV, she may remain at risk of subsequent infection with the same or different HPV type, and therefore continues to be at risk of developing cervical cancer.\cite{20-25}

• Based on current commercially available tests it is not possible to determine if a woman is currently immune to HPV infection.

• In addition, there is no way of predicting a woman’s future, and therefore her potential exposure to cancer-causing HPV types.

**Pap smears explained**

• A Pap smear is a simple test used to check for abnormal changes to the cells of the cervix and acts as an early warning sign that cervical cancer may develop in the future.\cite{27}

• Cells are collected from the cervix and sent to a laboratory where the cells are tested for anything unusual. If abnormal cell changes are found at screening, further tests will be done to see if treatment is needed.\cite{27}

• An abnormal Pap smear means that some of the cells of the cervix differ from normal cells.\cite{27} Most abnormalities are minor and usually clear up on their own.\cite{20} A severe abnormality can indicate that a woman is at high risk of developing the early stages of cervical cancer.

• Around 30,000 Australian women require treatment or follow-up each year as a result of an abnormal Pap smear.\cite{9}

• Abnormalities are typically classed as low grade or high grade.\cite{29}
  
  – **Low grade abnormalities** – are minor changes to the cells of the cervix that usually disappear on their own. Treatment is not normally required as the body’s natural immune response will clear the virus over time.
  
  – **High grade abnormalities** – are more serious cell changes which can indicate a high risk of developing the early stages of cervical cancer. Usually a high grade result requires surgery to remove the abnormal cells. Treatments vary, depending on the severity of the abnormality.

• If detected early, these cell changes can be treated, which is why current Australian guidelines advise women aged between 18 and 69 years to have a Pap test every two years.

• The combination of vaccination and ongoing Pap smears will provide sexually active women with more effective protection against cervical cancer than Pap smears alone.\cite{30}
References


