



THE AUSTRALASIAN COLLEGE  
OF DERMATOLOGISTS

## Warts

**Also known as...**Human Papillomavirus, Verrucae Vulgaris or Papillomas

### What are they?

Warts are abnormal growths of the skin and mucosa caused by an infection with the human papillomavirus (HPV).

### What causes them?

The HPV family is made up of more than 100 different types. The common types in the skin include HPV-1, HPV-2, HPV-4 and HPV-27. These cause skin warts that are common in childhood and tend to disappear with increasing age.

About 90% of all genital warts are caused by low-risk types such as HPV-6 and HPV-11. However, there are high-risk types such as HPV-16 and HPV-18 that are known to cause cancers.

### How do you get them?

The infection is transmitted by direct person-to-person skin contact from an HPV infected person, from one part of the body to another in the same person, or indirectly through contaminated surfaces such as public areas (e.g. swimming pool, gymnasium). It can take up to a year for the wart to appear for the first time.

HPV infects the cells in the outer layer of the skin, causing them to grow and form a wart.

Warts are common in school-aged children but may arise at any age. They are more numerous and persistent in people who are immunosuppressed.

### What do they look like?

Many people who become infected with HPV quite rapidly develop immunity and so do not develop any warts or other symptoms.

The appearance of warts will differ in certain body sites.

- **Common warts** are often found on the hands and feet. However, they can also occur in other areas such as the elbows or knees. Common warts have a characteristic cauliflower-like or spiky surface. They are typically rough, hard and raised above the surrounding skin.

- **Flat warts** are most commonly found on the arms, face or forehead. They can be numerous and are typically flatter than the common wart.
- **Plantar warts** occur on the soles of the feet and may be painful with pressure (e.g. walking or standing).
- **Subungual or periungual warts** form under the fingernail (subungual), around the fingernail or on the cuticle (periungual). They may be more difficult to treat than warts in other locations.
- **Mucosal warts** can appear on the lips, inside the cheeks and nose, the airway and in genital areas.

### What problems can occur with them?

Most warts on the skin will disappear of their own accord.

In children, even without treatment, 50% of warts disappear within 6 months and 90% resolve within 2 years.

Warts are more persistent in adults, but may resolve eventually. Some warts, such as plantar warts, may persist and become large and painful. Periungual warts can distort nail growth.

The high-risk types of HPV (e.g. HPV-16 and HPV-18) have the potential to cause cancers such as cervical cancer, penile cancer, oral or anal cancers, and some types of skin cancer. Cancer developing in common warts is rare.

Individuals with reduced immunity (e.g. immunosuppressant medication, HIV-infection) may develop multiple warts that are difficult to treat.

In rare cases, a child can acquire HPV from an infected mother during delivery. This may result in warts appearing inside the airway causing hoarseness of the voice.

Warts are contagious.

### How are they diagnosed?

Warts are often diagnosed through a clinical examination. A doctor may use dermoscopy (skin surface microscopy) to distinguish warts from similar spots such as seborrhoeic keratoses (commonly known as “age warts”). In rare cases, a skin biopsy may be needed to confirm the diagnosis.

### How are they treated?

Many people choose not to treat warts because treatment can be uncomfortable and troublesome.

Treatments should not cause any scarring as most warts may disappear on their own.

Once started, it is important to persist with the treatment until the wart is gone.

Pregnant women or those planning pregnancy should avoid certain treatments and discuss this with the treating doctor before commencing treatment.

### **Local therapy**

- **Occlusion**
  - Keeping the wart covered with tape may speed up resolution.
- **Local destructive therapies**
  - The most common and effective of these are topical acids such as salicylic acid or cryotherapy (liquid nitrogen spray or freezing). The success rate is in the order of 70% after several treatments.
  - Electrosurgery (curettage and cautery), excision and laser removal are used less commonly due to the potential for recurrence and scarring.
- **Topical cytotoxic and immunomodulatory therapies** include podophyllin, imiquimod, topical [retinoids](#), bleomycin injection and diphencyprone (immunotherapy).

### **Systemic therapy**

- Oral [retinoids](#) and interferon may be used when warts are particularly extensive, and must be administered under the guidance of an experienced doctor.

There are many other therapies available but the clinical evidence for their effectiveness is lacking.

### **Prevention**

HPV vaccinations are available to prevent anogenital warts. Vaccination prevents initial infection with HPV types 16 and 18 which cause most of the HPV associated cancers. Vaccination may also protect against HPV types 6 and 11 which cause 90% of genital warts.

### **Follow up**

Individuals on a treatment plan must be followed up on a regular basis to monitor the effectiveness of the treatment and potential adverse reactions such as redness, swelling or blistering. Many treatments will need to be repeated or different treatments may need to be combined in order to eradicate the wart.

### **Related Articles**

- [Which home remedies for warts really work?](#)

This information has been written by Dr Shelley Ji Eun Hwang, A/Professor Pablo Fernandez-Penas and Dr Kate Borchard