



## **PLANTAR WARTS (VERRUCAS)**

### **What are the aims of this leaflet?**

This leaflet has been written to help you understand more about plantar warts. It tells you what they are, what causes them, what can be done about them, and where you can find out more about them.

### **What are plantar warts?**

Warts are localised thickenings of the skin, and the term 'plantar warts' is used for those that occur on the soles of the feet (the 'plantar' surface). They are also known as *verrucae*.

### **What causes plantar warts?**

Warts are caused by infection in the outer layer of the skin (epidermis) with a virus called the 'human papilloma virus'. There are many different strains of this virus, and plantar warts are usually due to just a few of these strains. Infection makes the skin over-grow and thicken, leading to a benign (non-cancerous) skin growth (the wart).

Plantar warts are caught by contact with infected skin scales – for example from the floors of public locker rooms, shower cubicles and the areas around swimming pools. The virus is not highly contagious, and it is unclear why some people develop plantar warts while others do not. The virus enters the skin through tiny breaks in the skin surface. Moistness and maceration of the skin on the feet probably makes infection with the virus easier.

### **Are plantar warts hereditary?**

No.

## **What are the symptoms of plantar warts?**

In most cases plantar warts cause no symptoms. Some plantar warts can be uncomfortable, particularly if they are present on a weight-bearing area. 'Mosaic' warts (see below) are usually painless.

## **What do plantar warts look like?**

Plantar warts can occur anywhere on the soles and toes, and often affect the weight-bearing areas. They vary in size from just a few millimetres to more than one centimetre. They may have a rough surface that protrudes from the skin surface. Close inspection with a magnifying glass may reveal small black dots. An individual may have one or many verrucas, and can also have warts elsewhere on the body. The term 'mosaic wart' is used for tightly packed clusters of small plantar warts that resemble a mosaic.

## **How will plantar warts be diagnosed?**

The diagnosis is usually based on the clinical appearance. Sometimes it can be difficult to tell a plantar wart from a corn. Your doctor may need to pare down the area to find the black dots that confirm the diagnosis of a viral wart. No other investigations are usually needed.

## **Can plantar warts be cured?**

There is no guaranteed cure, but some treatments can help to clear warts. The best chance of cure is in young people who have not had their warts for very long. If you have an illness that affects your immunity or are taking immunosuppressant medication, treatment can be less successful. Most verrucas will clear with time and can be left untreated if not causing problems. When deciding whether to treat plantar warts or not, the following should be taken into account:

- Warts usually resolve by themselves without leaving a blemish or scar.
- Successful treatment of a viral wart does not prevent further warts.
- Some warts can be very stubborn. Treatment does not always work and may be time-consuming.
- Treating plantar warts can be painful, especially when liquid nitrogen is used, and can occasionally cause a blister which, on the sole, can be very uncomfortable.

## **How can plantar warts be treated?**

Most plantar warts can be managed with advice from your pharmacist and with use of over-the counter topical treatments. Sometimes treatments might need to be prescribed by your general practitioner. You should see your GP if

- The lesion is bleeding, painful or changes in appearance or interferes with your daily activities
- You are not sure of the diagnosis
- You have treated the wart but it persists and starts spreading
- You have diabetes or poor sensation on your feet
- You have weakened immune system because of immune-suppressing medications, AIDS or immune-deficiency disorder.

Treatment options include:

- **No treatment:** Up to 65% of viral warts including plantar warts resolve by themselves without any treatment within two years of appearing. Plantar warts that are not causing any adverse symptoms such as pain should be left alone.
- **Salicylic acid paints and gels:** These are available in different strengths. Salicylic acid works by removing the outer dead layers of skin and triggering the immune system into clearing the virus. Before applying the paint, the feet should be soaked in warm water and thickened skin filed away with a pumice stone or emery board. Care should be taken not to scrape the surrounding normal skin to avoid spreading the virus. Treatment should be daily for at least 12 weeks and is usually most convenient at bed-time. The paint /gel should be applied carefully to the wart, not the surrounding normal skin. If the wart becomes too sore, treatment should be stopped for a few days, then resumed.
- **Cryotherapy.** (See patient information leaflet on [Cryotherapy](#)). Freezing the warts with liquid nitrogen (a very cold gas), may be available at your doctor's surgery or podiatrist. Thick warts need to be shaved before freezing to allow the cold to get into the skin. Ideally, cryotherapy should be repeated every three to four weeks. It is painful and may cause blisters and burns, and because of this is not usually recommended in children. Several freezes may be needed to clear warts and it does not always work. Using a salicylic acid preparation in between freezes may improve the effectiveness.
- **Duct Tape:** Although there is conflicting evidence regarding the effectiveness of duct tape in the treatment of cutaneous warts, it might still be well worth trying, especially in children. The wart should be occluded with duct tape for six days, and if the tape falls off it should be

replaced with a fresh piece. The tape should then be removed and the affected area soaked in luke-warm water and the wart pared down to remove any dead skin cells. The wart should then be left uncovered overnight and the duct tape reapplied once again in the morning. This can be continued for up to two months.

- **Other approved topical treatments** for plantar warts include formaldehyde gel, gultaraldehyde and silver nitrate caustic pencils.
- **Other preparations** include topical dithranol, podophyllotoxin, 5-fluorouracil trichloroacetic acid and bleomycin injections.
- **Contact immunotherapy** with a chemical paint such as diphenycyprone causes an allergic skin reaction that may boost the body's immune reaction against the wart virus.
- **Surgical removal** of warts is an option if topical treatments do not work. Options include tissue destructive laser therapy or curettage and cautery after a local anaesthetic injection into the skin. These procedures are painful and can lead to uncomfortable scarring. The wart may come back in the scar after surgery.
- **Photodynamic therapy and other lasers** (Pulsed Dye Laser and Nd-YAG) have also been used but are not widely available for treatment of warts.
- **Complementary and alternative treatments** include hypnotherapy, homeopathy, acupuncture and herbal treatment.

### What can I do?

- Wear comfortable shoes and do not share your shoes or socks with anyone else. Special pads to relieve pressure on plantar warts can be bought at a chemist.
- Keep your feet clean and dry. Change your shoes and socks daily.
- Do not go barefoot in public places. Plantar warts should be covered with waterproof plasters or rubber 'verruca socks' if you go swimming.
- When treating the wart, dispose of any skin filings hygienically and do not use the emery board or hard skin removal tools elsewhere as this could spread the infection.
- Apply topical treatment regularly to get the maximum chance of cure.
- To avoid spreading viral warts to other parts of the skin (autoinoculation) do not pick or scratch plantar warts.
- Do not use same pumice stone, nail file and or nail clippers for your warts and your healthy skin and nails.

## Where can I get more information about plantar warts?

### *References:*

[British Association of Dermatologists' guidelines for the management of cutaneous warts 2014](#)

<https://onlinelibrary.wiley.com/doi/pdf/10.1002/psb.884>

### *Web links to detailed leaflets:*

[www.emedicine.com/emerg/topic641.htm](http://www.emedicine.com/emerg/topic641.htm)

[www.emedicinehealth.com/articles/20312-1.asp](http://www.emedicinehealth.com/articles/20312-1.asp)

[www.dermnetz.org/viral/viral-warts.html](http://www.dermnetz.org/viral/viral-warts.html)

For details of source materials used please contact the Clinical Standards Unit ([clinicalstandards@bad.org.uk](mailto:clinicalstandards@bad.org.uk)).

**This leaflet aims to provide accurate information about the subject and is a consensus of the views held by representatives of the British Association of Dermatologists; individual patient circumstances may differ, which might alter both the advice and course of therapy given to you by your doctor.**

*This leaflet has been assessed for readability by the British Association of Dermatologists' Patient Information Lay Review Panel*

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