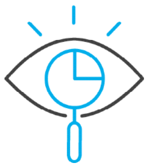

Module 1919

Warts and verrucas: recognising and treating

From this pharmacy CPD module you will learn about:

- The main types of warts and the virus that causes them
- The characteristic appearance of warts and how they are treated
- Advice pharmacy teams can offer patients about how to use treatments and their outcomes

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Warts and verrucas are small, rough lumps that develop on the skin. They can appear anywhere on the skin, but occur most commonly on the hands and feet. Those that occur on the soles of the feet are known as a plantar warts, or, more commonly, verrucas.[1,2]

Warts and verrucas are the result of a viral infection of the skin caused by the human papillomavirus (HPV). There are over 100 types of HPV, some of which are responsible for warts and verrucas. Infection with HPV occurs in the superficial layers of the epidermis, causing proliferation of the keratinocytes (skin cells), resulting in the thickening of the outermost layer of skin, leading to a non-cancerous skin lesion.[2,3]

There are four main types of warts, all caused by HPV:

Common warts (verruca vulgaris) occur most commonly on the fingers, around the nails, on the toes and on the knees. They appear as firm, round, raised growths and can range in size between 1mm and larger than 1cm. Their appearance can resemble a cauliflower.

Plantar warts (verruca plantaris) occur on the soles of the feet and can range in size between 1mm and larger than 1cm. They have a rough surface and may appear flat due to the pressure put on them by standing. Verrucas can have tiny black dots in the centre, caused by an intracorneal haemorrhage (a small bleed within the horny outer layer of skin). Tightly packed clusters of small plantar warts are called a 'mosaic wart'.

Plane warts or flat warts (verruca plana) have a flat surface and are sometimes yellow in colour. They occur most commonly on the face, hands and shins. They can occur in large groups of hundreds of warts. HPV types 3 and 10 are thought to be responsible for plane warts.

Genital warts are caused by HPV types 6 and 11 and are spread by sexual contact. They are the most commonly diagnosed sexually transmitted infection in the UK. These warts should be treated differently to the other warts mentioned above and, if suspected, patients should be advised to seek advice from their GP or local sexual health clinic.[3,4]

Warts are thought to affect around 10% of people, with males and females affected equally. Most people will have a wart or verruca at some point in their lives. They are thought to occur more commonly in school-aged children, for whom prevalence can be as high as 20%, but they occur rarely in infancy and early childhood.[5]

Warts can clear up spontaneously or they may persist for several years. Warts often persist in people with immunosuppression, where they may be large and extensive, and resistant to treatment.[1]

The main complications of warts and verrucas are spread of the infection. Malignant changes can occur, although these are rare. In some cases, lesions may initially appear as a wart and undergo changes to invasive squamous cell carcinoma. Patients should be advised to speak to their GP if they are worried about a wart; for example, if it is very large or painful, if it has changed in appearance or if it bleeds.[1,6]

How are they spread?

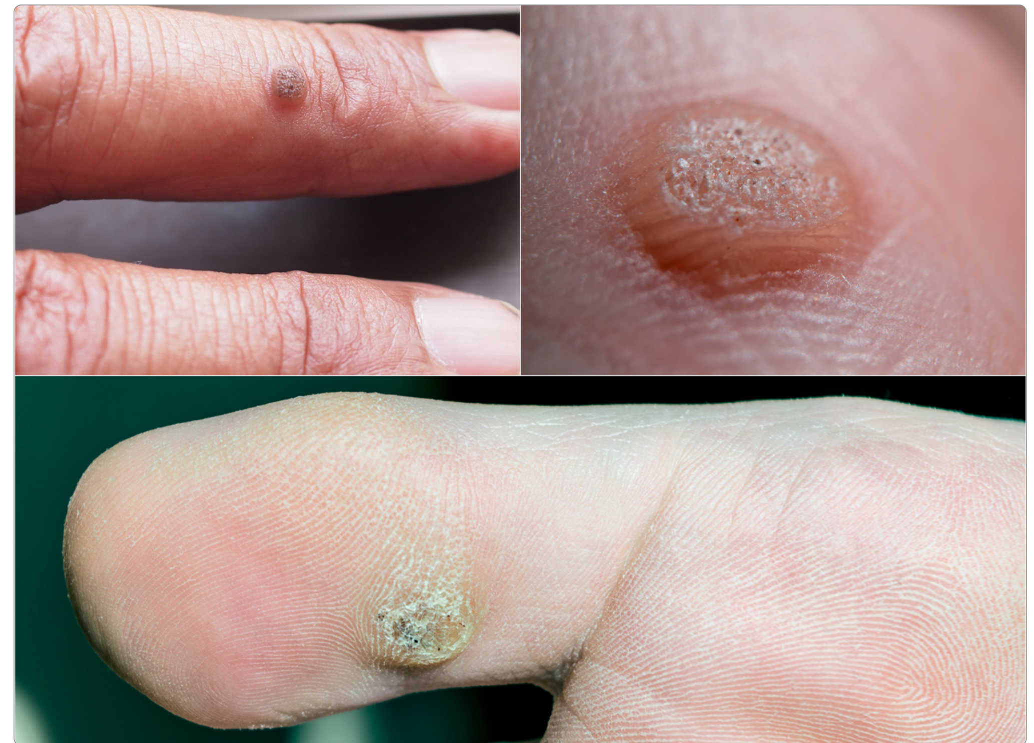
HPV infection is spread by direct skin-to-skin contact. This explains, for example, why it may be more common in school-aged children, who are more likely to hold hands. It can also spread via indirect contact with contaminated floors or surfaces; for example, in swimming pools or in communal washing areas.

Infection is more likely to occur if the skin is damaged or wet, as the virus will enter through tiny breaks in the surface. If warts are scratched or knocked, they can bleed, and this can make it easier for the virus to spread to other parts of the body.

Warts are not hereditary, and although they can spread to other people, the virus is not highly contagious. On contact with the virus, the incubation period can range from weeks to more than a year – meaning it may take months for a wart or verruca to appear.[1,2]

Diagnosis of warts

Warts are usually diagnosed by clinical



Warts result from viral infections of the skin – the main types include common and plantar warts

Prior to topical treatment, patients should rub the verruca with an emery board and soak feet in warm water

appearance, and mostly require no further testing. In some cases, a GP may remove the top layer of skin from the wart to identify the black dots, to confirm diagnosis of a viral wart.

In cases where warts are numerous, where they will not clear up or are on the face, patients may need to be referred to a dermatologist.

Warts may be confused with the following conditions that can cause thickening of the outer layer of skin:

- actinic keratosis – a scaly spot found on sun-damaged skin[7]
- seborrhoeic keratosis – a benign skin growth[8]
- knuckle pads – skin thickening overlying the finger joints[9]
- squamous cell carcinoma – the second most common form of skin cancer, appearing as a scaly or crusty raised area of skin, most common on sun-exposed areas[10]
- focal palmoplantar keratoderma – thickened skin on the palms or soles[11]
- lichen planus – an itchy rash that can appear as shiny, raised blotches[12]
- angiokeratoma – small red, purple papules[13]
- corns or calluses of the feet
- malignant melanoma.

How can warts and verrucas be treated?

In most cases, warts and verrucas are usually harmless and can be left untreated, as they do not cause any symptoms. They often resolve spontaneously without leaving a scar or blemish and normally take between a few months and two years to resolve. However, in some adults, healing can take up to 5-10 years.

When considering if treatment is appropriate, it should be taken into consideration that the successful treatment of warts does not prevent further warts from occurring and there is no guaranteed cure. Treatment can potentially be time consuming, painful, have adverse effects and not always effective.[1,2,14]

Treatment should be considered if the wart is:

- painful
- cosmetically unsightly
- persisting and the person requests treatment.[1]

Topical treatment

Initially patients may seek advice from the pharmacy team about their warts or verrucas. There are many over-the-counter (OTC) topical treatments available, but these are not 100% effective, as it is common for warts to return.

Topical treatments contain salicylic acid (15-50%) as the active ingredient, available as creams, gels and medicated plasters. Some available preparations include: Bazuka Extra Strength Gel (salicylic acid 26%), Scholl Verruca Removal System 40% Medicated Plasters (salicylic acid 40%) and Verrugon (salicylic acid 50%). Each product will have its own individual licence for the type of wart or verruca it will treat.

Salicylic acid works by removing the dead outer layers of skin and triggering the immune system to clear the virus. As salicylic acid can cause chemical burns and irritation of the skin, it should not be used on:

- the face
- anogenital regions
- moles or birthmarks
- warts with hairs growing out of them, or with red or unusual edges
- open wounds or irritated or reddened skin
- areas that heal poorly, such as the feet of people with diabetes
- areas that are extensively affected due to increased risk of skin irritation and scarring.

If a person presents with warts in these situations and requests OTC treatment, they should be referred to their GP.

Regular application of topical treatment is key for successful treatment and you should be able to give patients advice on this.

Treatment should be applied once daily, usually at night, for about 12 weeks. Before each treatment application, patients should be advised to soften the wart or verruca by rubbing it with an emery board or pumice stone to remove any excess hard skin and to soak it in warm water for 5-10 minutes.

It is important to remind patients to avoid applying treatments to healthy skin surrounding a wart or verruca, as it may cause irritation. Scraping the surrounding healthy skin can also cause further spread of the virus. Instead, the healthy skin surrounding the wart can be protected by the application of white soft paraffin or a plaster, before applying topical treatment. If a wart becomes sore during treatment, it can be stopped for a few days, before being resumed.[1,2,4,14,15]

Cryotherapy

Cryotherapy is the removal of skin lesions by freezing, and the most common product used is liquid nitrogen. Patients can be referred to their GP or podiatrist for cryotherapy, or they may use OTC freezing products (which may contain different liquid gases). Patients may have difficulties using the OTC device and if they choose this option you should discuss how to use the products.

The GP or podiatrist may shave thicker warts before cryotherapy, to allow the cold to penetrate the skin. Cryotherapy is often painful and can cause burns or blisters. It is suitable only for adults and older children who may be able to tolerate the procedure.

Liquid nitrogen is applied to the skin using either a spray gun, metal probe or cotton bud. The procedure lasts only a few minutes and depends on the thickness and size of the wart. Following application of liquid nitrogen, the frozen skin turns white and takes a few minutes to thaw back to normal temperature. A scab will

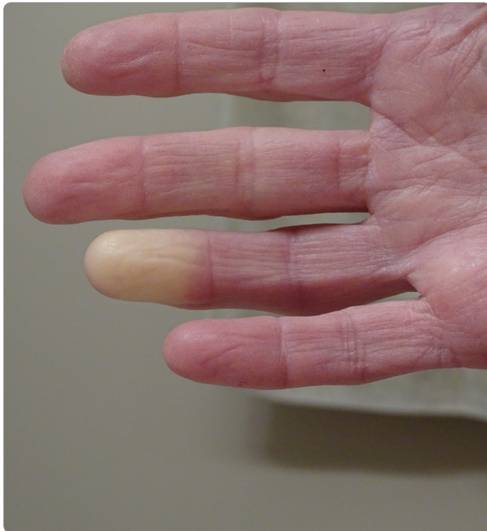
then form after a few days, which will take 1-2 weeks to fall off.

Several freezes may be needed until the wart is gone, and treatment can be repeated at regular intervals every two weeks for 3-4 months (or up to a maximum of six treatments). Some studies have shown that using salicylic acid in combination with cryotherapy between freezes can improve the effectiveness of treatment.

Patients should be advised not to pick the scab, as this may cause scarring. It is not usually necessary to cover the wart with a dressing or plaster unless the lesion is likely to be knocked or rubbed. If scabs become wet, patients should be advised to pat them dry with a soft towel or tissue.[1,2,16]

Cryotherapy should not be used when diagnosis is uncertain, or if malignancy is possible. It should be avoided in people with Raynaud's phenomenon, peripheral vascular disease, peripheral neuropathy or on warts that have formed around a nail.[1]

Adverse effects of cryotherapy



Cryotherapy should be avoided in patients diagnosed with Raynaud's phenomenon

Cryotherapy can be a painful procedure. Patients can be advised to take paracetamol to ease discomfort one hour before the procedure in anticipation of, or following, cryotherapy treatment.

Swelling and redness of the skin might also occur and usually resolves after two to three days. Blisters can occur, and these usually settle once the scabs start to form. Occasionally blisters may fill with blood; although these are usually harmless, patients should be referred to their GP for advice.

Infection can occur rarely – the area may be painful, and pus may be present. Patients should be referred to their GP, as they may require a topical antibiotic or antiseptic treatment.

Other side effects include:

- scarring – which occurs rarely
- skin pigmentation changes – which usually improve with time, but may be permanent
- numbness – if a superficial nerve is frozen, normal feeling returns within a few months

You should be aware that cryotherapy may be ineffective, and warts may reoccur.

A Cochrane review found that more aggressive cryotherapy appears to be more effective than gentle cryotherapy, but with an increased risk of adverse effects. The review looked at information from clinical trials of cryotherapy and not OTC freezing treatments for warts, so it could not indicate if these are as effective.

Other treatments

Neither treatment using occlusion with duct tape nor treatment with silver nitrate are recommended, as there is insufficient evidence these are effective for warts.

Studies have shown that salicylic acid is just as effective as cryotherapy for treating warts.[1,2,3,16]

Practical advice for patients

NHS inform suggests providing patients with the following advice to prevent the spread of warts and verrucas:

- wash hands after touching a wart or verruca

Patients should prevent the spread of warts by washing hands and by avoiding biting nails or sharing towels

- avoid sharing towels or flannels
- avoid biting nails or putting fingers in mouth if they have warts on them
- if a patient has a wart on their hand, they should avoid holding hands to prevent the spread of infection to other people
- wear gloves when using communal equipment; for example, in the gym.[17]

For people with verrucas, you should advise them to wear comfortable shoes and not to share socks with anyone else. It is important to keep feet dry and clean and to change socks daily. Patients should avoid going barefoot in public areas, such as swimming pools. Waterproof plasters or verruca socks can be used to cover verrucas while swimming and you can advise patients to wear flip flops while in communal changing rooms.

You should also advise them not to pick or scratch warts, as well as to take care when shaving to avoid cutting a wart. If using a pumice stone or emery board in the treatment of warts, patients should be advised not to apply these on healthy skin. Skin filings should also be disposed of to prevent the spread of infection.

It is important patients are aware that warts may return following treatment. If treatment does not work or if warts occur on the face, patients may be referred to a skin specialist for further treatment. If topical treatment or cryotherapy is unsuccessful, other options can include surgical removal or treatment with a laser or light.[2,12,17]

Further sources of advice and support

Patients and their carers can be referred to the following resources to find out more information about warts and verrucas and the treatment options available:

- The Patient website at ***tinyurl.com/wartsandverrucas3***
- NHS inform at ***tinyurl.com/wartsandverrucas6***.

References

1. Nice Clinical Knowledge Summaries. (2014) Warts and verrucae [Online] Available at: ***https://cks.nice.org.uk/warts-and-verrucae#!backgroundSub*** Accessed 12/03/19
2. British Skin Foundation. Plantar warts (Verrucas) [Online] Available at: ***www.britishskinfoundation.org.uk/plantar-warts-verrucas*** Accessed 12/03/19
3. DermNet NZ. (2016) Viral wart [Online] Available at: ***www.dermnetnz.org/topics/viral-wart/*** Accessed 12/03/19
4. Munn S. Bupa warts and verrucas [Online] Available at: ***www.bupa.co.uk/health-information/healthy-skin/warts-and-verrucas*** Accessed 12/03/19
5. Al Aboud AM, Nigam PK. Wart. Plantar, verruca vulgaris, verrucae. Available at: ***www.ncbi.nlm.nih.gov/books/NBK431047*** Accessed 12/03/19
6. NHS. (2017) Warts and verrucas [Online] Available at: ***www.nhs.uk/conditions/warts-and-verrucas/*** Accessed 12/03/19
7. DermNet NZ (2015) Actinic keratosis [Online] Available at: ***www.dermnetnz.org/topics/actinic-keratosis*** Accessed 12/03/19
8. DermNet NZ (2016) Seborrhoeic keratosis [Online] Available at: ***www.dermnetnz.org/topics/seborrhoeic-keratosis*** Accessed 12/03/19
9. DermNet NZ (2012) Knuckle Pads [Online] Available at: ***www.dermnetnz.org/topics/knuckle-pads*** Accessed 12/03/19
10. British Skin Foundation. Squamous cell carcinoma [Online] Available at: ***www.britishskinfoundation.org.uk/scc*** Accessed 12/03/19
11. DermNet NZ (2005) Hereditary focal palmoplantar keratoderma [Online] Available at: ***www.dermnetnz.org/topics/hereditary-focal-palmoplantar-keratoderma/*** Accessed 12/03/19
12. NHS. (2017) Linchen planus [Online] Available at: ***www.nhs.uk/conditions/lichen-planus/*** Accessed 12/03/19
13. Primary Care Dermatology Society. (2012) Angiokeratoma [Online] Available at: ***www.pcds.org.uk/clinical-guidance/angiokeratoma*** Accessed 12/03/19
14. British Association of Dermatology. (2018) Plantar warts (verrucas). [Online] Available at: ***www.bad.org.uk/for-the-public/patient-information-leaflets/plantar-warts/?showmore=1&returnlink=http%3A%2F%2Fw*** Accessed 12/03/19
15. NHS inform. (2019) Warts and verrucas. Symptoms of warts and verrucas [Online] Available at: ***www.nhsinform.scot/illnesses-and-conditions/skin-hair-and-nails/warts-and-verrucas#symptoms-of-warts-and-verrucas*** Accessed 12/03/19
16. British Association of Dermatology. (2018) Cryotherapy patient information leaflet. [Online] Available at: ***www.bad.org.uk/for-the-public/patient-information-leaflets/cryotherapy*** Accessed 12/03/19
17. NHS inform. (2019) Warts and verrucas [Online] Available at: ***www.nhsinform.scot/illnesses-and-conditions/skin-hair-and-nails/warts-and-verrucas#preventing-warts-and-verrucas*** Accessed 12/03/19

Warts and verrucas CPD – planned learning

What are you planning to learn?

I want to learn more about warts and verrucas, including the main types of warts, the virus that causes them, the characteristic appearance of warts and how they can be treated. I also want to improve my knowledge of the advice that pharmacy teams can offer patients about how to use treatments and what to expect in terms of outcomes.

This learning will help me to refresh existing skills and knowledge about warts and verrucas, to confidently provide advice to patients and carers and know when to refer.

How are you planning to learn it?

- I plan to find out more about warts and verrucas on the NHS inform website at ***tinyurl.com/wartsandverrucas1***.
- I plan to improve my knowledge of the OTC treatments available for warts and verrucas from the C+D *Guide to OTC Medicines and Diagnostics*.
- I plan to read the patient information leaflets for the different OTC products available, this will ensure I am able to explain to patients how to use the products appropriately.

Give an example of how this learning has benefited the people using your services

A young mum came into the pharmacy asking about treatments for verrucas for her daughter who had just started swimming lessons. I was able to confirm that it was a verruca on her foot and discuss treatments. The mum was reluctant to leave the verruca to resolve itself and was worried about it spreading to the rest of the family. We discussed treatment options and different products, and she decided to purchase a salicylic acid-containing gel. I was also able to recommend preventative measures to help reduce the risk of others becoming infected, and a website for more information.

Take the 5-minute test online

1. Warts and verrucas are the result of a viral infection of the skin caused by the human papillomavirus.
   True or false
2. Warts occur most commonly on the fingers, around the nails and on the toes and knees.
   True or false
3. HPV types 6 and 11 are thought to be responsible for plane warts.
   True or false
4. Warts are thought to affect around 25% of people, with females more likely to be affected than males.
   True or false
5. HPV infection is spread by direct skin-to-skin contact.
   True or false
6. After contact with the HPV virus, the incubation period can range from weeks to more than a year.
   True or false
7. Topical treatments for warts contain 5-10% salicylic acid and are available as creams, gels and sprays.
   True or false
8. Salicylic acid should not be used on the face, anogenital regions or on moles or birthmarks.
   True or false
9. Cryotherapy treatment can be repeated weekly for up to six months.
   True or false
10. Studies have shown that salicylic acid is more effective than cryotherapy for treating warts.
    True or false

You can complete the quiz and logsheet by visiting *bit.ly/UPDATE-PLUS* and searching: 1919