

Warts

Warts are caused by the *human papillomavirus (HPV)* – a type of viral infection which, as the name implies, occurs only in humans. HPV can be transmitted **directly** (such as by shaking the hand of someone with warts on their fingers) or **indirectly** (which can occur when walking barefoot on the same surface as someone else who has warts on their feet).

While anyone can be infected, two particular groups seem to be at much higher risk. The first would be *younger* patients. When we're younger, our immune system hasn't yet been exposed to the virus, and therefore hasn't had the opportunity to build its defenses. The second group of higher risk patients would be those whose skin surface tends to stay 'wetter' than average, thereby making it easier for the virus to enter the epidermis. Examples include those who constantly have their hands in water, or even those whose hands or feet perspire more than average.

Regardless of the factors leading to the *initial* infection, unfortunately many patients then *accidentally spread HPV to other areas of their own skin*. For example, patients who 'pick at' their warts often find that doing so has caused the virus to spread to their other fingers. Likewise, when a razor shaves over a wart, the blade can 'nick' the top surface of the wart and then spread it to other shaved areas.

There are *many* types of wart treatments available. The reason there are so many is because ***there is still no single treatment available which is 100% effective in all patients.***

Many patients mistakenly believe that warts can just be 'cut off', but doing so is rarely the best approach. Many warts actually grow quite deep into the skin, near the level of nerves and blood vessels (especially for those on the hands and feet). Unless the risks of nerve damage, bleeding, prolonged healing time, and scarring are minimal, we usually need to consider other less risky options.

A procedure called 'cryosurgery' is easily the most common treatment performed in the dermatologist's office. In this process, liquid nitrogen is used to purposely 'frostbite' the wart, causing it to gradually peel away over the following weeks. Sometimes one treatment is all it takes, while at others, repeat freezing every several weeks may be necessary.

There are a few downsides to freezing. First, *it hurts*. Even though it's cold, many describe it as having a 'burning' sensation. For multiple warts in adults, or any number of warts in children,

the pain can be enough to make us consider other options. Additionally, cryosurgery *can* damage the skin's pigment cells – essentially forming a permanent 'white scar'.

An alternative to freezing is available in the form of a medication called *Cantharidin* (sometimes referred to as 'beetlejuice'). The treatment itself is painless and performed by simply applying a liquid to the surface of the wart. In the days following treatment, the area becomes red and may form a blister, which then dries and peels away within a week or so. The advantage to this treatment is that **it doesn't hurt upon application**. However, the blisters which form as a result *can be sensitive*. Another important consideration is that sometimes the top of the wart will blister, but not die. As the blister then settles, the wart will have actually *enlarged*. If anything, the primary disadvantage of *Cantharidin* is that it usually doesn't provide as consistently effective results as other more 'painful' options, and repeat treatment is often needed. If a child can't tolerate any discomfort, though, we may have few other options.

Another increasingly common (and less painful) approach is to use a substance which stimulates the body to fight off the wart itself. Examples include injectable *Candida* antigen or any number of topical allergens we would apply in the office. The theory with these is that by purposely causing inflammation within the treatment site, the virus is also recognized and the immune system can then fight off the wart on its own. As with any wart treatment, these approaches work wonderfully in some, while results are minimal in others.

The reality is that **there are far more wart treatments available than we could possibly cover in one handout**. Please let your dermatologist know of any unique circumstances which might affect your treatment, as well as if any of the options described above sound right for you!