

WART AND VERRUCA: K-LASER TREATMENT GUIDELINES

1. BEFORE THE SESSION:

- Ask the patient if they have a low pain threshold: if they do, ask them to apply some local anaesthetic like EMLA cream before coming to the practice.
- The patient should bring CLEAN FOOT WEAR to wear after the treatment. They shouldn't wear the verruca-contaminated socks or shoes on the freshly-treated foot, for risk of re-contamination. If the patient forgot to bring clean footwear, put a plaster on the treated area. Once home, the patient should change into clean socks / shoes. The shoes should be cleaned as per normal practice.
- Explain to the patient that the treatment burns the infected tissues so SMOKE WILL FORM. This is normal and safe. Ask the patient if they suffer with asthma or severe respiratory problems: if they do, ensure that smoke doesn't bother them.
- Explain that the treatment MIGHT FEEL HOT AT TIMES, BUT IT WILL LAST ONLY A SECOND AND IT WILL FEEL JUST LIKE A HOT PIN PRICK, very localised.

2. PREPARATION:

- Instruct the patient to let you know when it feels uncomfortably hot, so that you can decrease the power and make them more comfortable. Just remember that the lower the dosage, the longer the treatment time.
- Both you and the patient must wear masks to avoid breathing in the smoke. Ensure there is proper ventilation to avoid the accumulation of smoke in the room.
- DEBRIDING the callus and superficial strata of a large verruca prior to laser it can be useful and will shorten the treatment time, BUT ENSURE YOU DON'T CAUSE ANY BLEEDING. Do not apply black pigment and high-energy treatment to a bleeding wound. Silver Nitrate can be applied to the cut, and when it stops bleeding you can proceed with the laser treatment.
- IF THE VERRUCA IS LARGER THAN 0.5 CM and you want to save time, you can apply a small amount of nitric acid for a few seconds to remove the superficial part of the verruca, and expose its root. Treating the root with the laser will provide a) a more precise and

accurate intervention, b) activation of the immune response without bleeding, c) less pain to the patient, d) no wound management at home.

- IF THE VERRUCA IS SMALLER THAN 0.5 CM: you can use just the laser.

LASER TREATMENT:

3. OUTLINE THE VERRUCA WITH A BLACK EYELINER PENCIL. THEN COLOUR INSIDE THE AREA. The eyeliner and its sharpener should be used for verruca treatments only. The tip and the sharpener should be disinfected and sharpened before and after each use.
4. SELECT 'PODODERMATOLOGY' FROM THE MAIN MENU, THEN SELECT THE APPROPRIATE WART PROTOCOL FROM THE MENU ('WART ADULT' is more powerful than 'WART CHILD').
5. ATTACH THE HIGH ENERGY HEAD.
6. WEAR THE GOGGLES, PRESS THE YELLOW TRIANGLE on the screen, PLACE THE ROUND SIDE OF THE SPACER OF THE HAND-PIECE AROUND THE VERRUCA.
7. When holding the high energy head over the verruca, make sure the red spot size is the smallest possible, to maximise energy density. This may require variations in distance of the spacer from the foot surface.
8. PRESS THE ON SWITCH ON THE HAND-PIECE AND KEEP IT PRESSED to deliver the laser energy to the verruca.
 1. As soon as you release it, the treatment will stop.
 2. The default setting is 3 blasts per activation. After 3 blasts the laser will stop, and you have to press the button again to have 3 more blasts.
 3. To increase the number of blasts per activation, touch the number 3 on the right hand side of the screen and the bar under the number 3 will turn green. Now press the + or - buttons to change the number of blasts per activation.
9. TRY THE DEFAULT SETTING FIRST: if the patient doesn't find the treatment too hot, you can increase the Power.
 - Increase it by 1 or 2 Watts.

- Alternatively, you can increase the T-ON (Time On) so that each blast will last longer. This is viable only on large, thick lesions, because it will increase the perception of heat.
 - If the treatment feels too hot, you can decrease the T-ON so that the blast will be shorter and it won't feel as hot. Alternatively, you can use the Child Wart setting, which has a lower Power.
10. MOVE THE HAND-PIECE AROUND and cover the verruca evenly, DON'T STOP ON ONE SPOT, KEEP MOVING. To proceed evenly, trace parallel lines with the laser from the top to the bottom of the verruca.
 11. THERE WILL BE SMOKE coming off the burnt tissues. You are simultaneously burning the infected tissues and cauterising the capillaries. Try not to breath in the smoke. You may see tiny sparks: those are the the minerals in the eyeliner reacting to the heat, don't worry about them, it's normal.
 12. Once you ablated the first layer, APPLY THE EYELINER AGAIN and start over with another layer.
 13. AS YOU ARE "PEELING OFF" THE VERRUCA LAYER AFTER LAYER, KEEP ASSESSING HOW MUCH HARDENED TISSUE IS LEFT BY RUNNING YOUR THUMB OVER IT. Concentrate on the spots that feel thicker.
 14. As you are getting closer to the healthy tissues underneath and around the verruca, the treatment will feel warmer and warmer to the patient: REDUCE THE POWER, OR REDUCE THE T-ON (TIME ON), to avoid discomfort.
 15. If treating multiple verrucas on one individual, work systematically rotating across all of them: this will allow the first ones to cool off as you are treating the others. The aim being to attain a similar level of progress across all sites.
 16. When you reckon you reached the bottom of the verruca, you can use a scalpel to gently remove the darkened tissues, and assess the tissues underneath: this will reveal any spot that requires additional treatment. If using the scalpel makes the verruca bleed, apply a minuscule amount of Silver Nitrate, EXCLUSIVELY TO THE BLEEDING SPOT, to stop the bleeding. You can then continue the laser treatment.
 17. Once you are happy with the results and the treatment is finished, just clean off the area from the eyeliner, and the patient is ready to go.

18. Apply a plaster or simple dressing to protect the treated area from coming in contact with the socks or shoes, which could be contaminated. Ideally the patient should wear the plaster/ dressing for a day or so, for extra safety.
- The patients can wear shoes right away, and continue their daily activities as usual.
 - If the darkened scab wasn't removed with a scalpel at the end of the treatment, it will just wash off with showers, and will fall off on its own.
 - Advise the patient to maintain a high level of foot hygiene to prevent spread of the virus between K-Laser treatment sessions. CONTAMINATED FOOTWEAR SHOULD BE DISINFECTED AS PER USUAL PRACTICE, TO AVOID RECONTAMINATION OF THE AREA. Advise the patient to bring a pair of clean socks and shoes to wear after treatment, or simply put a plaster on
19. Reassess the patient after 3 weeks / 1 month, perform the treatment again if necessary.