Huck Finn’s treatment for warts was:

A. Place your hand in water that has collected in a tree stump, say an incantation, and walk away quickly and silently.

B. Cut the wart and apply some of the blood to a split bean and bury it around midnight. [Huck Finn]

C. Go to a graveyard at midnight and throw your cat at any ghosts who are there and say an incantation. [Mother Hopkins]

What do we know about warts?

- Human papilloma virus affects only humans.
- Infests only epithelial surfaces of skin and mucous membranes.
- Transmission from other humans or autoinoculation.
- >150 subtypes. Some are carcinogenic.
- Typing not used clinically.

Treatment of Warts

- Most warts will generally resolve with no treatment except for genital warts.
- Don’t cause pain.
- Takes time.
- Many treatments
- Wart is gone when normal skin lines re-appear.
- I treat for 2 weeks to 2 months after wart is clinically clear.
What are the “seeds” in “seed warts”?
Freeze that wart!

HPV infects keratinocytes only. Therefore warts are confined to the epidermis.

Normal epidermis

Wart

Bulla

Liquid nitrogen for warts

Hemorrhagic bulla

Three ways to treat warts

Destructive
- Liquid nitrogen
- Salicylic acid
- Cantharidin
- Duct tape?
- Electrodesiccation
- Curettage
- Laser ablation
- Surgery

Immunologic
- Imiquimod
- Time
- Tretinoin (Retin-A)?
- Interferon injections
- Candida antigen
- DPCP
- Antiretrovirals
- Therapeutic vaccine?

Cytotoxic
- Podophyllin
- Bleomycin
- 5-fluorouracil

Liquid nitrogen

- -197°C
- Spray canisters cost about $600.
- Must have a Dewar tank and delivery service.
- Goal is to achieve clinical or subclinical blister at base of epidermis.
- Painful (threshold roughly 9-10yo).
- Tips with different apertures. I use C-tip.
- Tips: otic speculum (ear gizmos) for more precise spray. Styrofoam cups: cotton swabs or forceps technique.
- Can depigment darker skin.
- I have no faith in OTC cold sprays.

Filiform Warts of Face & Head
Duct tape

- Cut duct tape to size of wart.
- Apply and leave on for 6 days
- Remove for one day. Pare down the wart.
- Reapply on day 7.
- Repeat weekly for 4 weeks.

Salicylic acid

- Cochrane Collaboration
- “Corn & callus remover”

- Plaster 40%
  - Mediplast, Occlusal HP

- Solution of salicylic acid 17%
  - DuoFilm, Compound W, Occlusal HP

- Apply after wart has been wet (eg, in shower).
- Apply every other night.
- Pare or file (at home) twice monthly (after soaking).

Imiquimod 5% cream

- Approved for genital & perianal warts.
- Local upregulation of interferon-γ
- Limited efficacy on keratinized skin – unless surface has been disrupted.
- Insurance challenges (unless specifically for genital or perianal warts).
- “single-use sachets”
- Different application regimens.
- Aldara 5% and Zyclara 3.75%

Podophyllin

- Crude extract derived from mayapple, Podophyllum.
- Podophyllin – in office use only.
- Podophyllotoxin (Condylox gel or solution) for home.
- Etoposide, VP16 is purified/semi-synthesized version.

- Approved for genital warts.
- Easy to use and reduces clinic visits. Costs about $120.
- Occasionally use as part of regimen for facial flat warts

Flat warts

- Flat papules, subtle, skin-colored, often whitish
- 1-3 mm in diameter
- Sharply demarcated. Linear autoinoculation.
- Face or dorsum of hands in young people.
- Care with shaving (face or legs)
- Tretinoin, salicylic acid
- Imiquimod
- Avoid LN2, cantharidin
Periungual warts

- Easily spread by picking, clipping, or biting.
- Salicylic acid.
- Cantharidin/Cantharone.
- Requires occasional paring.

Plantar Warts

- Pressure points on plantar surface.
- Often tender, sometimes painful.
- Might not be a wart if on 2nd or 3rd metatarsal head.
- Multiple warts may coalesce into large mosaic plaques.
- May be confused with callus – trim surface to expose thrombotic capillaries.
- A proper freeze (enough to produce a blister) will make it painful to walk.
- Salicylic acid and paring!!

Perianal warts

- Confirm that they are warts.
- Consider transmission dynamics & act accordingly.
- If suspicion of internal involvement, consult surgeon.
- Treat with topicals: imiquimod or podophyllotoxin at home.
- Podophyllin at office.
- LN2 in older children.
- No other destructive treatments. Sometimes excision. cantharidin, salicylic acid, duct tape, etc.

MOLLUSCUM CONTAGIOSUM

- Solitary or multiple grouped, discrete, dome-shaped papules
- Waxy, flesh-colored, whitish to pink
- Umbilicated with white, curd-like central core

Molluscum contagiosum

- Treat or not treat?
- If immunocompetent, destruction techniques work:
  - Simply nicking the surface with 30g needle
  - Comedo extractor
  - Cantharidin
  - Liquid nitrogen
  - Salicylic acid
  - Imiquimod
  - Tretinoin

- Umbilicated dell – not always.
- Molluscum dermatitis.
- Fomites? Don’t share towels.
- Do the math.
Warts & Molluscum in the 21st Century

Scott A. Norton, MD, MPH
Chief of Dermatology

snorton@cnmc.org