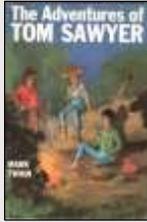


Warts & Molluscum in the 21st Century



Scott A. Norton, MD, MPH
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Huck Finn's treatment for warts was:

- Place your hand in water that has collected in a tree stump, say an incantation, and walk away quickly and silently.
- Cut the wart and apply the blood to a sore and bury it around the graveyard at midnight and throw your cat at any ghosts who are there and say an incantation.

Unapproved drugs & devices



Treatment



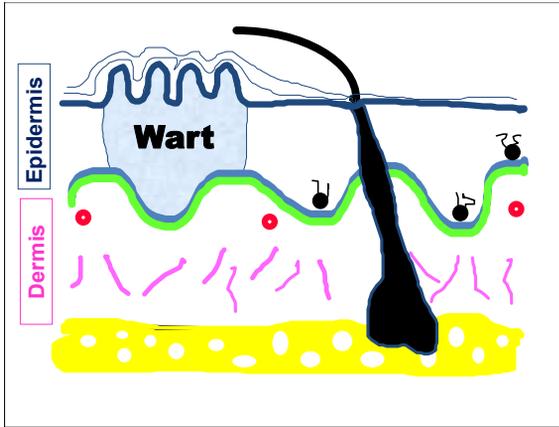
Human papilloma virus (HPV) ... warts

What do we know about warts?

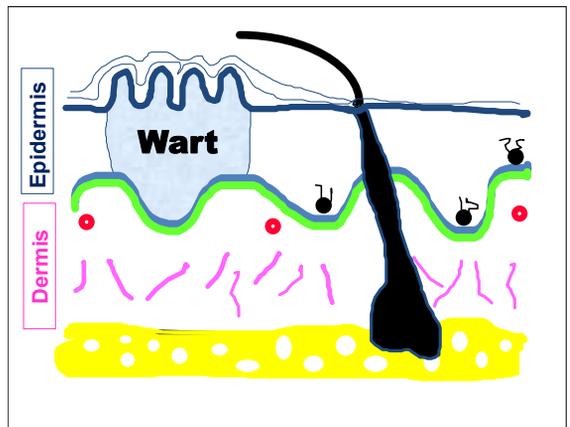
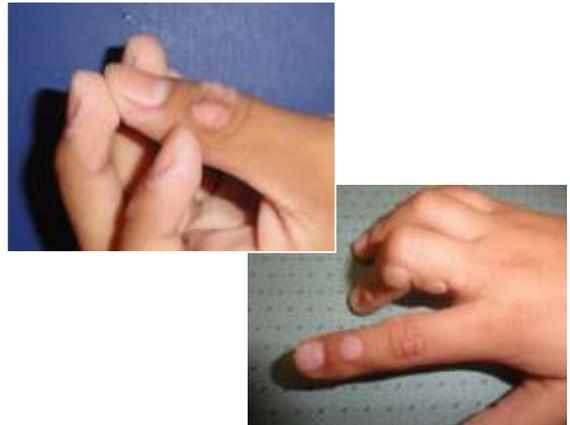
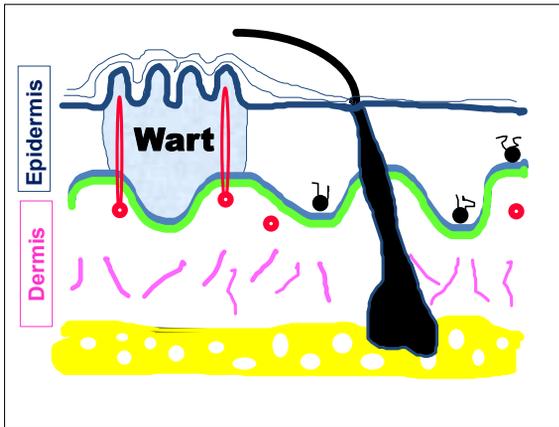
- Human papilloma virus affects only humans.
- Infects only epithelial surfaces of skin and mucous membranes.
- Transmission from other humans or autoinoculation.
- >150 subtypes. Some are carcinogenic.
- Typing not used clinically.

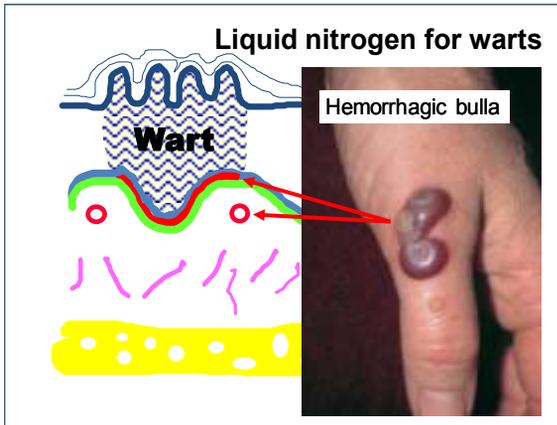
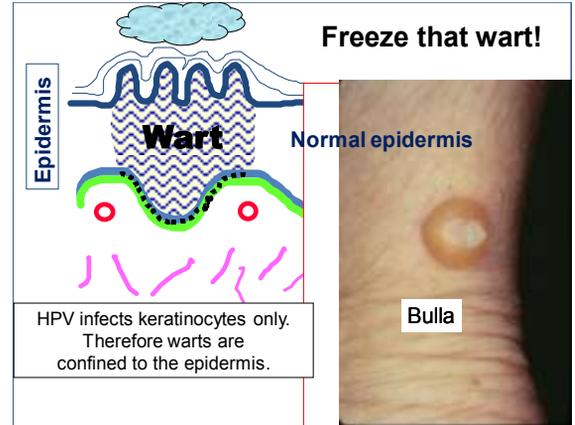
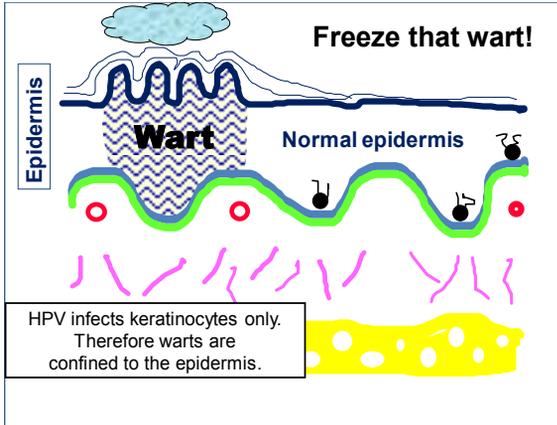
Treatment of Warts

- 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"?





Three ways to treat warts

<u>Destructive</u>	<u>Immunologic</u>	<u>Cytotoxic</u>
Liquid nitrogen	Imiquimod	Podophyllin
Salicylic acid	Time	Bleomycin
Cantharidin	Tretinoin (Retin-A)?	5-fluorouracil
Duct tape?	Interferon injections	
Electrodesiccation	Candida antigen	
Curettage	DPCP	
Laser ablation	Antiretrovirals	
Surgery	Therapeutic vaccine?	

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 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

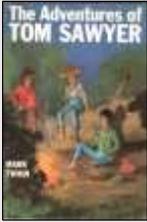


Molluscum contagiosum

- Umbilicated dell – not always.
- Molluscum dermatitis.
- Fomites? Don't share towels.
- Do the math.



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