

individuals at high risk of primary cutaneous melanoma: a systematic review. *Br J Dermatol*. 2015;172(1):33-47.

8. U.S. Preventive Services Task Force. Screening for skin cancer: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med*. 2009;150(3):188-193.

9. Screening for Skin Cancer in Adults: An Updated Systematic Evidence Review for the US Preventive Services Task Force. Rockville, MD: Agency for Healthcare Research and Quality; 2015.

10. Katalinic A, Waldmann A, Weinstock MA, et al. Does skin cancer screening save lives?: an observational study comparing trends in melanoma

mortality in regions with and without screening. *Cancer*. 2012;118(21):5395-5402.

11. Boniol M, Autier P, Gandini S. Melanoma mortality following skin cancer screening in Germany. *BMJ Open*. 2015;5(9):e008158.

12. Moloney FJ, Guitera P, Coates E, et al. Detection of primary melanoma in individuals at extreme high risk: a prospective 5-year follow-up study. *JAMA Dermatol*. 2014;150(8):819-827.

13. Robinson JK, Turrisi R. Skills training to learn discrimination of ABCDE criteria by those at risk of developing melanoma. *Arch Dermatol*. 2006;142(4):447-452.

14. Kassianos AP, Emery JD, Murchie P, Walter FM. Smartphone applications for melanoma detection by community, patient and generalist clinician users: a review. *Br J Dermatol*. 2015;172(6):1507-1518.

15. Wolf JA, Moreau JF, Akilov O, et al. Diagnostic inaccuracy of smartphone applications for melanoma detection. *JAMA Dermatol*. 2013;149(4):422-426.

16. Gordon LG, Rowell D. Health system costs of skin cancer and cost-effectiveness of skin cancer prevention and screening: a systematic review. *Eur J Cancer Prev*. 2015;24(2):141-149.

NOTABLE NOTES

Witches and Warts

Eric Laurent Maranda, BS; Victoria M. Lim, BS; Richa Taneja, BS; Brian J. Simmons, BS; Penelope J. Kallis, BS; Joaquin J. Jimenez, MD

The appearance of warts in fairy tales, folklores, and superstitions throughout history provides a rich source of theories of the causes of warts as well as a variety of suggested remedies. Stereotypical witches are portrayed with green skin, wrinkled faces, and large warts on their noses. This depiction of “warty witches” has both been commercialized, as well as exploited during the “witch trials” in early modern England.

Folk beliefs dating back hundreds of years provide numerous explanations for the sudden appearance of warts: a child was said to have recently handled a toad, or perhaps he had washed his hands in water that had been used to boil eggs.¹ Subsequently, as the appearance of warts became associated with “evil,” the superstitions regarding warts carried heavier consequences. In the 17th century, warts were seen as the “devil’s mark,” a justification given to accuse women of witchcraft during the Salem witchcraft trials. It was believed that the devil would confirm his pact with a witch by giving her a mark of identification. Devil’s marks included not only the typical warts but a variety of dermatological lesions, including moles, scars, birthmarks, skin tags, supernumerary nipples, and natural blemishes.²

The mythical beliefs did not last; first Strauss et al (in 1949) and then Melnick (in 1962) discovered the presence of virus particles in warts and classified the virus in the papovavirus group. Over 30 different types of human papilloma virus have been identified as causes for viral warts, consisting of verruca vulgaris, verruca plana, filiform, and palmoplantar warts.¹

Although the scientific origins of warts became widely accepted by the late 20th century, the universal portrayal in popular culture of the “warty witch” endured. From the most recognizable Halloween costume, to classic Hollywood movies, the entertainment industry has

capitalized on the classic depiction of witches; they have allowed the wart’s ugly appearance to become a symbol for all that represents “evil.” In Disney’s first film, *Snow White and the Seven Dwarfs*, the Evil Queen’s witch disguise has a large wart centered on her nose. More recently, in *The Wizard of Oz*, the Wicked Witch of the West is portrayed with a prominent wart on her chin.

In conjunction with the origins and depictions of warts and other “devil’s marks” that have since become pervasive in today’s Western society, traditional folklore also presented rituals to effectively cure warts. Warts could be bought, sold, or thrown away. They could be bathed in holy water, or in the blood of animals like eels, cats, and pigs.¹ Because warts disappeared as mysteriously as they arrived, their departure often coincided with these attempted “cures.” Although intriguing, dermatologists of more modern times would likely suggest alternative cures—salicylic acid, medicinal ointments, cryotherapy, or laser surgery.³

Author Affiliations: University of Miami Miller School of Medicine, Department of Dermatology and Cutaneous Surgery, Miami, Florida (Maranda, Taneja, Simmons, Kallis, Jimenez); Creighton University School of Medicine, Omaha, Nebraska (Lim).

Corresponding Author: Eric Laurent Maranda, BS, University of Miami Miller School of Medicine, Department of Dermatology and Cutaneous Surgery, 1475 NW 12th Ave, Miami, FL 33136 (emaranda@med.miami.edu).

1. Burns DA. “Warts and all”—the history and folklore of warts: a review. *J R Soc Med*. 1992;85(1):37-40.

2. Flotte TJ, Bell DA. Role of skin lesions in the Salem witchcraft trials. *Am J Dermatopathol*. 1989;11(6):582-587.

3. American Academy of Dermatology. Warts: diagnosis, treatment, and outcome. 2015. <https://www.aad.org/public/diseases/contagious-skin-diseases/warts>. Accessed August 17, 2015.