

Viewpoint

# A Dermatologist's Ammunition in the War Against Smoking: A Photoaging App

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## Abstract

This viewpoint reviews the perspectives for dermatology as a specialty to go beyond the substantial impact of smoking on skin disease and leverage the impact of skin changes on a person's self-concept and behavior in the design of effective interventions for smoking prevention and cessation.

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**KEYWORDS**

dermatology; smoking; apps; photoaging; face; skin; tobacco; tobacco cessation; tobacco prevention

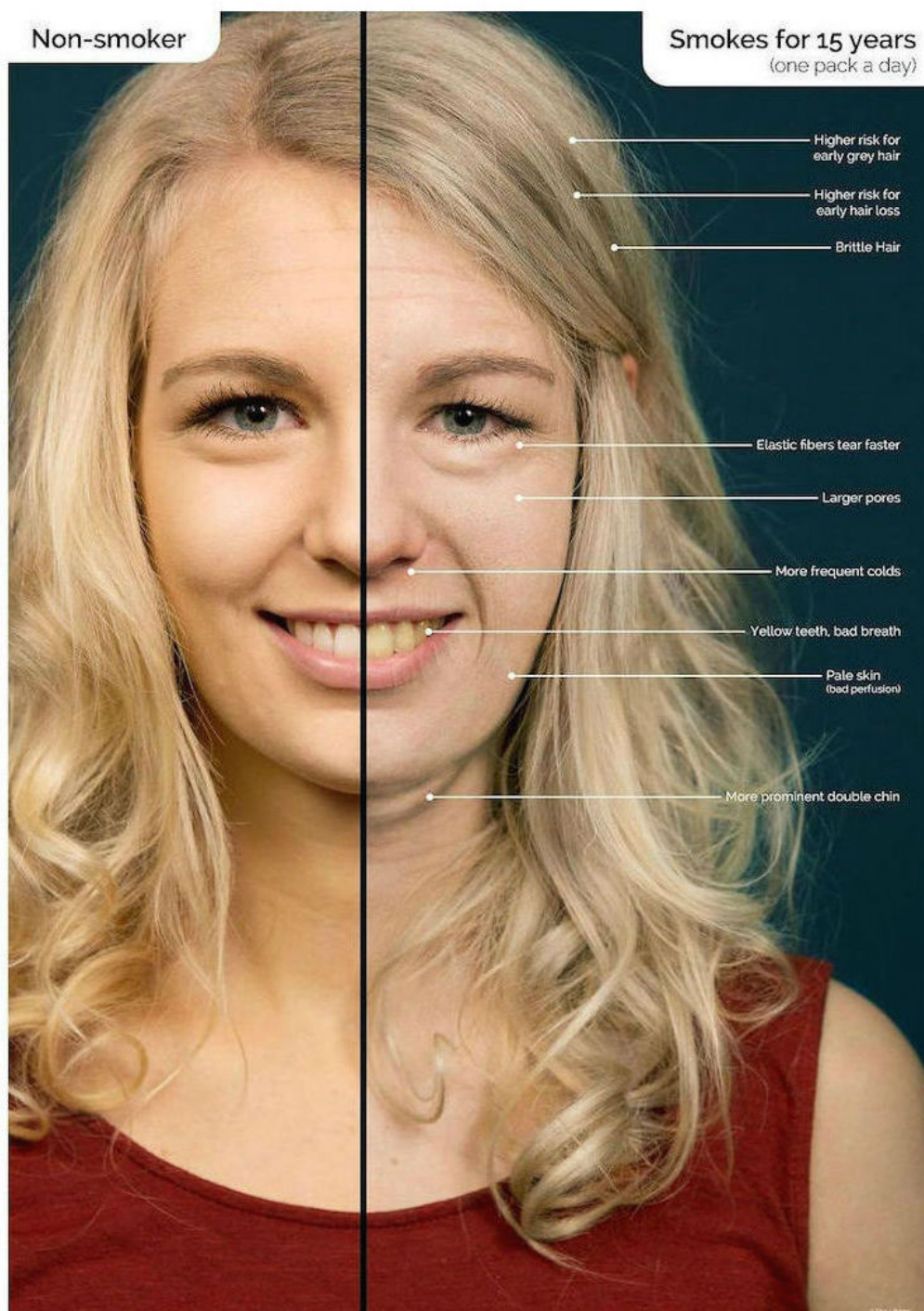
Most smokers start smoking during their early adolescence, often with the idea that smoking is glamorous; the problems related to impaired wound healing, erectile dysfunction, and oral cancers are too far in the future to fathom. In contrast, for the majority of teenagers, attractiveness is the most important predictor of their own self-esteem [1].

Interventions focusing on the negative dermatologic changes due to smoking have been effective in altering behavior, both

in adolescence [2-4] and young adulthood [5,6]. Skin damage due to smoking that is culturally associated with a decrease in attractiveness (ie, wrinkles, early hair loss, declined capillary perfusion, pale or grayish skin [7-9]) predominantly affects the self-concept of young people with low education [1], who are at significantly greater risk for tobacco addiction [10-12] and benefit the most from abstinence [13]. After reviewing the evidence regarding facial changes due to smoking on PubMed, we designed [Figure 1](#) in order to extrapolate the typical

appearance of a smoker's face as frequently seen and noted by dermatologists.

**Figure 1.** Normal aging versus effects of smoking a pack a day for 15 years.



First steps have been taken to disseminate this dermatologic knowledge on irreversible aesthetic damage to the target groups and measure its effectiveness in randomized trials (ie, via the free photoaging app Smokerface, in which a selfie is altered to predict future appearance) in Germany [3,4,14,15] and Brazil [16] with a total of more than 150,000 downloads. In addition, photoaging desktop-based interventions in France [6], Switzerland [2], and Australia [5] showed promising results that justify definitive randomized trials. The relevance of

skin-based appearance for individual behavior was also confirmed in the setting of skin cancer prevention [4,17-21].

Dermatology as an interdisciplinary specialty needs to go beyond the substantial impact of smoking on skin disease [22,23] and leverage the impact of skin changes on a person's self-concept [1] and behavior [5] in the design of effective interventions for the largest cause of preventable death and disease in the western world [24]. Future dermatologic research should focus on developing, evaluating, and optimizing new ways to implement the specialty's superior ammunition in the war against smoking.

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