

Non-traditional melanoma prevention strategies in the young adult and adolescent population

Collin M. Blattner¹, Karan Lal², Jenny E. Murase^{3,4}

1 Des Moines University, Des Moines, IA, USA

2 New York College of Osteopathic Medicine, Old Westbury, NY, USA

3 Department of Dermatology, Palo Alto Foundation Medical Group, Palo Alto and Mountain View, CA, USA

4 Department of Dermatology, University of California, San Francisco, San Francisco, CA, USA

Citation: Blattner CM, Lal K, Murase JE. Non-traditional melanoma prevention strategies in the young adult and adolescent population. *Dermatol Pract Concept*. 2014;4(4):15. <http://dx.doi.org/10.5826/dpc.0404a15>

Received: June 5, 2014; **Accepted:** August 12, 2014; **Published:** October 31, 2014

Copyright: ©2014 Blattner et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Funding: None.

Competing interests: The authors have no conflicts of interest to disclose.

All authors have contributed significantly to this publication.

Corresponding author: Jenny E. Murase, M.D., Department of Dermatology, Palo Alto Foundation Medical Group, 701 East El Camino Real (31-104), Mountain View, CA 94040. Tel. 650-934-7676; Fax. 650-934-7696. Email: jemurase@gmail.com

Malignant melanoma is the most common cancer among women and men aged 25-29 [1]. Unfortunately, the incidence of melanoma far surpasses the rate of any other malignancy in this demographic. Due to the growing trends of tanning and advanced nail art, the incidence of melanoma may increase in the coming years. Less than a quarter of patients examine their own skin on a regular basis [2]. An Austrian study concluded that patients deemed physicians as the fourth most reliable source for skin health information behind print media, television, and family members [3]. With this in mind, physicians must develop non-traditional melanoma prevention strategies to increase early detection.

In a society where the majority of the population uses the internet, non-traditional screening tools for melanoma recognition include implementation of an electronic health system designed for regular self-evaluation of skin and nevi surveillance. E-health tools may detect melanoma at an earlier stage, reducing overall morbidity and mortality from disease [4]. However, experts are concerned that inaccurate readings may lead patients to neglect a physician consult, which could thwart early diagnosis of treatable melanocytic lesions [4].

Other non-traditional strategies for early detection of melanoma in young women and men are also noteworthy.

For example, hair stylists may aid in early detection of scalp lesions since young women and men frequently visit the same stylist. Training stylists to recognize the signs of skin cancer in the scalp may increase rates of early detection of head and neck lesions that would have otherwise been discovered in later stages due to their inconspicuous locations [5]. These locations represent 6% of all melanomas, but are responsible for 10% of all deaths from melanomas [5]. Similarly, massage therapists who see the same client on a regular basis may be able to report new neoplasms and changes in nevi on the body.

Nail artists represent another demographic that can be trained to recognize nail melanoma between appointments and alert their clients of pathologic nail changes. Only 66% of patients address melanocytic changes observed in nails [6]. Women will often use nail polish, various gel techniques, and wrapping procedures to conceal nails for prolonged periods of time. Training these professionals may be an effective population-based strategy to increase rates of early stage melanoma detection.

A survey of 206 hair professionals found that only 28.1% had received formal skin cancer education, but almost fifty percent of hair professionals were interested in a skin cancer education program [7]. About 37% looked at greater than

50% of their customers' scalps, 29% looked at greater than 50% of their customers' necks, and 15% looked at greater than 50% of their customers' faces for concerning lesions during the preceding month.⁷ Hair professionals' personal health practices corresponded with frequency of observation of customers' lesions ($P < .001$) [7]. This study led to development of *The Skinny on Skin*, an educational program designed to aid in the early detection and prevention of melanoma by beauty industry professionals.

Counseling the young demographic can be difficult due to the pressure the media places on young women and men to enhance their appearance. With this in mind, appeals to the negative cosmetic impact of sun and indoor tanning may be more effective than health-based appeals [8]. It is important to explain to patients that intermittent periods of excessive sun exposure early in life may lead to an increase in fine lines, wrinkles, lentiginous proliferations, and rapidly evolving nevi that may develop into melanoma [9]. Although counseling against tanning bed use may be successful in some patients, it has been shown that even after learning the associated risks, patients continue to tan [10].

The use of tanning beds has been associated with addictive behavior and may contribute to a compulsive desire to tan [11]. The brain of a person who habitually tans exhibits activity similar to that of a substance abuser and can experience tolerance, dependence, and withdrawal [11]. The brain responds to ultraviolet radiation (UVR) and can differentiate UVR from non-UVR tanning beds.¹¹ When counseling these patients, it may be beneficial to use screening tools including the CAGE questionnaire (Table 1) to determine the motivation and goals associated with excessive tanning [12]. Understanding these desires will improve the ability of a provider to suggest appropriate alternatives to tanning [12]. For example, individuals who tan for relaxation may substitute yoga as an appropriate alternative, while those who tan for aesthetic purposes may choose to use dihydroxyacetone, the active ingredient in sunless tanners, as an alternative. It is also pertinent to discuss tanning in the pediatric and teenage populations to fully understand familial beliefs about tanning. Children whose parents tan indoors are more likely to do the same compared to children whose parents do not tan; a population based survey found that indoor tanning was 30% in the twelve to eighteen year old age group when the caregiver personally tanned compared to only 10% when the caregiver did not tan [13].

In conclusion, primary care providers and dermatologists should continue to educate women and men about the major modifiable risk factors for melanoma, including unprotected sun exposure and monitoring of existing nevi. Education of hair stylists, nail artists, and massage therapists may expedite a referral to health-care professionals. Through the institution

TABLE 1.

The CAGE Questionnaire
• Have you ever felt the need to <u>C</u> ut down on your tanning?
• Have you ever felt <u>A</u> nnoyed by criticism of your tanning?
• Have you ever felt <u>G</u> uilty about your tanning?
• Have you ever felt the need to tan <u>E</u> very morning?

of both traditional and non-traditional melanoma prevention strategies, patients and physicians may achieve greater awareness, early detection, and prevention of disease.

References

1. Lim HW, James WD, Rigel DS, et al. Adverse effects of ultraviolet radiation from the use of indoor tanning equipment: Time to ban the tan. *J Am Acad Dermatol*. 2011;64(5):893-902.
2. Pollitt RA, Geller AC, Brooks DR, et al. Efficacy of skin self-examination practices for early melanoma detection. *Cancer Epidemiol Biomarkers Prev*. 2009;18(11):3018-23.
3. Haluza D, Cervinka R. Perceived relevance of educative information on public (skin) health: a cross-sectional questionnaire survey. *J Prev Med Public Health*. 2013;46(2):82-8.
4. Tyagi A, Miller K, Cockburn M. e-Health Tools for Targeting and Improving Melanoma Screening: A Review. *J Skin Cancer*. 2012;2012:437502. Epub 2012 Dec 2013.
5. Roosta N, Wong MK, Woodley DT, Norris Comprehensive Cancer Center Melanoma Working Group. Utilizing hairdressers for early detection of head and neck melanoma: an untapped resource. *J Am Acad Dermatol*. 2012;66(4):687-8.
6. Carreño AM, Nakajima SR, Pennini SN, Candido Junior R, Schettini AP. Nail apparatus melanoma: a diagnostic opportunity. *An Bras Dermatol* 2013;88(2): 268-71.
7. Bailey EE, Marghoob AA, Orengo IF, et al. Skin cancer knowledge, attitudes, and behaviors in the salon: a survey of working hair professionals in Houston, Texas. *Arch Dermatol*. 2011;147(10):1159-65.
8. Diao DY, Lee TK. Sun-protective behaviors in populations at high risk for skin cancer. *Psychol Res Behav Manag*. 2014(7): 9-18.
9. Dahl C, Guldberg P. The genome and epigenome of malignant melanoma. *APMIS* 2007; 115: 1161-76.
10. Knight JM, Kirincich AN, Farmer ER, Hood AF. Awareness of the risks of tanning lamps does not influence behavior among college students. *Arch Dermatol*. 2002;138(10):1311-5.
11. Harrington CR, Beswick TC, Leitenberger J, et al. Addictive-like behaviours to ultraviolet light among frequent indoor tanners. *Clin Exp Dermatol*. 2011;36(1):33-8.
12. Schneider S, Diehl K, Bock C, et al. Sunbed use, user characteristics, and motivations for tanning: results from the German population-based SUN-Study 2012. *JAMA Dermatol*. 2013;149(1):43-9.
13. Cokkinides VE, Weinstock MA, O'Connell MC, Thun MJ. Use of indoor tanning sunlamps by US youth, ages 11-18 years, and by their parent or guardian caregivers: prevalence and correlates. *Pediatrics*. 2002;109(6):1124-30.