emotional or geographical—also dictates whether and when discussions occur.

Content of Discussions. Families report that their discussions about melanoma evolve across time. At first, family conversations typically focus primarily on the patient, including diagnosis and the treatment planned. Family members often turn to the Internet during this time to supplement information learned from the patient or their physician; this is especially true when patients or family members have a desire to obtain information that is potentially upsetting. After the resolution of this acute treatment phase, conversations about family risk and prevention predominate. Discussion goals become firmly centered on avoiding recurrence in the patient or avoiding the illness in unaffected family members, particularly children. Discussion content included scare tactics as well as daily in-the-moment reminders about sun protection.

Targets of Melanoma Discussions. Family members report extensive deliberation concerning which family members are most at risk for melanoma, and these family members are singled out for more intensive family conversations about prevention. Discussion targets include blood relatives, relatives with stronger perceived genetic susceptibility, those with lighter skin, those whose severe sunburns are vividly remembered, and those who currently sunbathe and use tanning salons.

Comment. Understanding how discussion rules operate within families may help guide physicians’ recommendations to families with melanoma and shape physicians’ expectations for what these recommendations may accomplish. Physicians should consider asking their patients to identify a “family initiator” to take responsibility for conveying melanoma risk information and to aid in family follow-through with screening appointments and sun protection. Factors such as lesion site, family perceptions of genetic susceptibility, and family health orientation and degree of closeness may be important to consider as physicians discuss the importance of family prevention and early detection strategies. Identifying patients’ beliefs and misconceptions concerning the causes of their disease may open lines of family communication considerably. Physicians may want to consider family receptivity and appropriate timing for recommendations about prevention and early detection and to elicit family reports concerning types of discussions that have or have not occurred already in the family. Finally, physicians may want to elicit family-specific ways of targeting family members to assess any needs for families to broaden their communication reach. Certainly, the results presented herein should be interpreted with caution given the small sample size assessed and the lack of demographic background data. Likely response biases include the fact that participating families tended to be communicative; even so, we document many factors related to communication avoidance. In melanoma and other cancers, families are a key venue for dissemination of risk and prevention information. Given the fact that first-degree relatives of patients with melanoma are not highly adherent to prevention and early detection behaviors, these rules warrant consideration by physicians as well as intervention researchers.

Jennifer Hay, PhD
Elyse Shuk, MA
Mary S. Brady, MD
Marianne Berwick, MPH, PhD
Jamie Ostroff, PhD
Allan Halpern, MD

Correspondence: Dr Hay, Department of Psychiatry & Behavioral Sciences, 641 Lexington Ave, Seventh Floor, New York, NY 10022 (hayj@mskcc.org).

Financial Disclosure: None reported.

Funding/Support: This study was supported in part by National Institutes of Health grant K07 CA98106.

Role of the Sponsors: The sponsors had no role in the design and conduct of the study, in the collection, analysis, and interpretation of data, or in the preparation, review, or approval of the manuscript.


CASH Algorithm for Dermoscopy Revisited

Our group recently described a new dermoscopic algorithm, CASH (color, architecture, symmetry, homogeneity) to evaluate melanocytic neoplasms.1 Herein we compare CASH to 3 other algorithms: ABCD,2 the method used by Menzies et al (hereinafter, the Menzies method),3 and the 7-point checklist.4

Methods. For this study, photographs of 150 melanocytic neoplasms (50 malignant melanomas, 50 dysplastic nevi, and 50 common nevi) were selected from 1535 images from the American Academy of Dermatology DVD consortium and the private collection of 1 of us (A.W.K.). Twenty-one of the melanomas were in situ. Each lesion had a clinical and dermoscopic image. Final diagnoses were based on histopathologic examination after informed consent was obtained. The original magnification of the images was ×10 in all cases. They were taken either digitally (DermLite; 3Gen LLC, San Juan Capistrano, California) or as 35-mm color transparencies (Heine Dermaphot; Heine Optotechnik, Herrsching,
checklist.4 Details of these algorithms can be found elsewhere. The evaluators independently reviewed the paired clinical and dermoscopic images of the selected 150 lesions using 4 different dermoscopic algorithms in no particular order: CASH,1 ABCD,2 the Menzies method,3 and the 7-point checklist.4

Two dermatology residents with less than 1.2 years of dermoscopic experience who had not participated in our group’s prior study.1 The outcome variable in this study was dichotomous (benign melanocytic nevus or malignant melanoma) for each study lesion. The sensitivities and specificities were calculated for each algorithm and were compared with those of CASH.

The sensitivities of all 4 algorithms ranged from 76% for the 7-point checklist to 92% for the Menzies method (Table). None showed a statistically significant difference compared with CASH. The sensitivity of CASH was similar to that of ABCD (87% vs 86%). However, CASH showed a significantly higher specificity than the Menzies method and the 7-point checklist. The CASH and ABCD algorithms did not have statistically significant different specificities.

As CASH and ABCD have higher specificities than the other two algorithms, they would be less likely to result in unnecessary biopsies.

Comment. Both CASH and ABCD use very similar criteria, so it is not surprising that the 2 algorithms performed similarly in our study. Both evaluate color, symmetry, and dermoscopic structures. The new feature that CASH introduces is architecture, which forces the user to make a judgment about the overall organization of the lesion. This is an important skill used in the more sophisticated, though difficult-to-learn, technique of pattern analysis, a technique used by expert dermatoscopists. The CASH algorithm provides a regimented way of teaching pattern analysis to the novice dermatoscopist. Another benefit of CASH is that it does not require any weighting factors to calculate a total score, making it quicker and easier to use.

We hope to repeat this study with a large number of evaluators to further validate the CASH algorithm in a consensus Internet meeting on dermoscopy.3

J. Scott Henning, DO
Jennifer A. Stein, MD, PhD
Jensen Yeung, MD, FRCP
Stephen W. Dusza, MPH
Ashfaq A. Marghoob, MD
Harold S. Rabinovitz, MD
David Polsky, MD, PhD
Alfred W. Kopf, MD

Correspondence: Dr Stein, New York University School of Medicine, Ronald O. Perelman Department of Dermatology, 550 First Ave, New York, NY 10016 (jas231@med.nyu.edu).

Financial Disclosure: None reported.


Table. Sensitivities and Specificities of the Evaluated Dermoscopic Algorithms

<table>
<thead>
<tr>
<th>Algorithm</th>
<th>Sensitivity, %a</th>
<th>Specificity, %b</th>
<th>Relative Sensitivityc</th>
<th>P Value</th>
<th>Relative Specificityd</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASH1</td>
<td>87</td>
<td>67</td>
<td>1 [Reference]</td>
<td></td>
<td>1 [Reference]</td>
<td></td>
</tr>
<tr>
<td>ABCD2</td>
<td>86</td>
<td>74</td>
<td>0.98</td>
<td>.84</td>
<td>1.10</td>
<td>.13</td>
</tr>
<tr>
<td>Menzies et al3</td>
<td>92</td>
<td>38</td>
<td>1.05</td>
<td>.25</td>
<td>0.57</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Seven-point checklist4</td>
<td>76</td>
<td>57</td>
<td>0.94</td>
<td>.33</td>
<td>0.85</td>
<td>.04</td>
</tr>
</tbody>
</table>

a Sensitivity for each algorithm was defined as the number of correctly diagnosed melanomas divided by the total number of melanomas present in the study.
b Specificity was defined as the number of correctly diagnosed benign nevi divided by the total number of benign nevi.
c The sensitivity and specificity of each algorithm was divided by the sensitivity and specificity of CASH to derive the relative sensitivities and specificities.

tivity compared with CASH. The sensitivity of CASH was similar to that of ABCD (87% vs 86%). However, CASH showed a significantly higher specificity than the Menzies method and the 7-point checklist. The CASH and ABCD algorithms did not have statistically significant different specificities.

Objective Tumor Proliferation Markers

P revious studies, using patient recall, have suggested that melanoma growth rate may be an independent prognostic marker1 and that rapid growth tends to occur in older men and have nodular morphologic characteristics and a different clinical presentation from other melanomas.2

Retrospective recall of time delay leading up to melanoma diagnosis is regarded by some as unreliable.2 However, there is no other practical method by which to evaluate the evolution of a melanoma from the outset. In a previous study,2 the ratio between Breslow thickness and time interval for a melanoma to develop was used as an estimate for mela-