

## The extent of dermatopathology education: A comparison of pathology and dermatology

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An indispensable component of all pathology and dermatology residencies is obtaining proficiency in the area of dermatopathology. The purpose of this study is to quantify dermatopathology training in pathology and dermatology residencies and the amount of continuing medical education in dermatopathology in leading journals of both fields. Dermatology residents complete more hours of dermatopathology than pathology residents. There is also more dermatopathology in the dermatology literature than in the pathology literature. Dermatopathology falls into the scope of both pathology and dermatology practice. (J Am Acad Dermatol 2005;53:694-7.)

**D**ermatopathology is a fundamental part of pathology and dermatology training. The Accreditation Council for Graduate Medical Education requires of dermatology residency that “the training should be sufficient to ensure a knowledge of and competence in the performance of procedures in . . . dermatopathology”<sup>1</sup> and that “particular emphasis [in structured study] should be placed upon dermatologic microbiology, dermatopathology, and immunodermatology.”<sup>1</sup> About one fourth of a dermatology residency program’s curriculum is dedicated to dermatopathology, and approximately 25% of the dermatology Board certification examination is based on dermatopathology.<sup>2</sup> The Accreditation Council for Graduate Medical Education requires of the didactic program for anatomic pathology that “education in anatomic pathology must include . . . dermatopathology.”<sup>3</sup> Competency in dermatopathology is essential for residents in dermatology and surgical pathology,<sup>4</sup> and the US federal government formally recognizes this fact in the Clinical Laboratory Improvement Amendments regu-

lations by declaring that physicians certified in either dermatology or pathology are qualified to perform and interpret tests in dermatopathology.<sup>5</sup>

Dermatopathology education does not cease with the conclusion of residency. Many dermatologists, whether fellowship trained in dermatopathology or not, interpret pathological specimens in practice. However, the role of dermatologists in performing dermatopathology services is not universally recognized. The president of the College of American Pathologists finds “the assertion that clinicians have sufficient training in residency to read their own slides” disturbing and stated that “we need state-based action to prohibit nonpathologists from billing for pathology services.”<sup>6</sup> Efforts toward such action is taking place at a state level; an Ohio State Medical Association (OSMA) resolution on direct billing was proposed that would permit only licensed pathologists to bill for interpretation of pathology specimens<sup>7</sup> (the resolution was not passed by the organization).

The primary objectives of this study were to determine the extent of dermatopathology training in pathology and dermatology residencies by quantifying hours of dermatopathology in pathology and dermatology programs across the United States and to assess continuing medical education of dermatopathology by surveying principal journals of both fields.

### METHODS

By using information from the Fellowship and Residency Electronic Interactive Database (FREIDA Online) located at an American Medical Association Web site,<sup>8</sup> 151 anatomic and clinical pathology

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programs and 108 dermatology programs were contacted by electronic mail and asked to answer the following question: how many hours of dermatopathology are required for the residents of your program to successfully complete their training? Responses were e-mailed back to the sender, and attempts were made to recontact programs that did not reply to the initial e-mail. Many programs reported elective time for dermatopathology, but only the required number of hours was used in the analysis.

For the continuing education component of the study, two pathology journals, *American Journal of Surgical Pathology* and *Modern Pathology*, and two dermatology journals, *Archives of Dermatology* and the *Journal of the American Academy of Dermatology*, were reviewed. If elements of dermatopathology were presented in a given article, it was regarded as a contribution to the continuing medical education of a practicing physician. Examples of such elements include pictures of biopsy specimens, detailed descriptions of findings on histopathology slides, and integral use of electronmicroscopy or immunohistochemistry in the study's design. For all 4 publications, issues between the months of May 2003 to May 2004 were evaluated for dermatopathology content. Case reports and clinical vignettes were examined separately from original articles, clinical studies and reviews, and observations. Editorials, pearls, and grand round proceedings were not included in the final analysis. Of note, supplements to the journals were included in the study only if they contained case reports.

## RESULTS

A total of 51 dermatology programs (47.2% response rate) and 59 pathology programs (39.1% response rate) replied to the query. Dermatology residencies averaged 570.4 hours of dermatopathology over 3 years, whereas pathology residencies averaged 216.5 hours of dermatopathology over 4 years. Per year of residency, dermatology and pathology residents average 190.1 hours versus 54.1 hours, respectively ( $P < .001$ , Table I).

Dermatology journals had more dermatopathology content than pathology journals. Of 13 months of *Archives of Dermatology*, 58 of 145 articles (40.0%) and 14 of 45 clinical vignettes (31.1%) demonstrated dermatopathology content. From 13 months of the *Journal of the American Academy of Dermatology*, 81 of 208 reports (38.9%) and 198 of 236 case reports (83.9%) exhibited elements of dermatopathology. In the *American Journal of Surgical Pathology*, 22 of 177 articles (12.4%) and none of the 27 case reports displayed components of dermatopathology. Of the

**Table I.** Average number of hours of dermatopathology training by specialty

Program	Cumulative training (h)	Yearly training (h)
Dermatology	570.4	190.1
Pathology	216.5	54.1

manuscripts evaluated in *Modern Pathology*, a journal that does not have any case reports, 27 of 194 articles (13.9%) contained facets of dermatopathology (Table II).

## DISCUSSION

Dermatology residents gain more experience in dermatopathology than do pathology residents, and there is more dermatopathology-related content in dermatology literature than in pathology literature. These findings support the role of dermatologists in providing dermatopathology services.

This study has many limitations. Our survey, sent to program directors in both dermatology and pathology, was an inquiry into the time that residents receive in dermatopathology training. Although some programs specified the number of hours spent in didactics versus chapter review versus slide review, not all did, as this information was not the primary focus of the survey. Thus, although some programs delineated the number of hours spent in specific training forums, a composite of hours in each of the various settings could not be adequately compiled. A more detailed survey might address the specific differences in training received by those in the differing fields. Additionally, when tabulating hours of dermatopathology in dermatology and pathology residencies, a few program officials noted that it was challenging to calculate an actual number of hours because of various external factors, such as time spent outside the hospital studying or time spent on case sign-outs. In addition, several pathologists remarked that the complexity of quantifying hours was due to the fact that a considerable portion of their dermatopathology training was mixed in with surgical pathology training as a whole. Many pathology and dermatology programs offered a considerable amount of dermatopathology elective time that the majority of residents completed in addition to their core requirements; however, as stated in the Methods section, these hours were not included in the analysis.

We recognize the potential for preexisting biases to affect the interpretation of the findings. One of the authors completed anatomic pathology residency (O. P. S.) and one completed dermatology residency (S. R. F.), although both of these authors received

**Table II.** Number of dermatopathology-related articles in journals

Journal	Total articles (No.)	Total DP-related articles	Total case reports/clinical vignettes	Total DP-related case reports/clinical vignettes
Arch Dermatol	145	58 (40.0%)	45	14 (31.1%)
J Am Acad Dermatol	208	81 (38.9%)	236	198 (83.9%)
Am J Surg Pathol	177	22 (12.4%)	27	0 (0.0%)
Mod Pathol	194	27 (13.9%)	0	0

DP, Dermatopathology.

additional fellowship training in dermatopathology. Additional input was obtained by local review of the article by a pathologist. Furthermore, input from general pathologists, dermatologists, and dermatopathologists was received in the form of responses to the survey about the number of hours residents receive in their respective training programs. These comments were helpful for delineating the limitations of this work.

In selecting journals to review our goal was to choose two peer-reviewed journals in each of the specialties in order to execute as equitable a comparison as possible. The *JAAD* and *Modern Pathology* are publications of the American Academy of Dermatology and the US and Canadian Academy of Pathology, respectively. *Archives of Dermatology* and *American Journal of Surgical Pathology* were chosen because each was deemed by the authors to contain the highest volume of dermatopathology content.

We cannot speak to whether it requires fewer hours to obtain expertise in dermatopathology within the context of general pathology training versus dermatology training. There are advantages to both. The general pathology milieu likely provides greater training in the methods of histopathology specimen generation, greater exposure to cytology, and more time at the microscope (viewing non-dermatopathology specimens). The dermatology training likely provides more background in the host of dermatological conditions, their nomenclature, and clinical presentations. The objective of this study was to compare the number of hours of dermatopathology training that residency training programs in dermatology versus pathology require. Dermatology residents receive at least as much dermatopathology-specific training than do pathology residents. Whether dermatologists are more competent than general pathologists is in no way answered by this survey. There are no head-to-head comparison data of the expertise of the ability of

dermatologists and pathologists to interpret skin biopsy specimens. Although there are certainly limitations to our approach, we find no evidence to suggest that general pathology training provides greater dermatopathology learning than does dermatology training. Our analyses do not in any way consider the potential advantages of advanced fellowship training in dermatopathology, open to candidates with either pathology or dermatology residency training backgrounds.

We are also limited in how we can interpret the OSMA resolution, the statements by the College of American Pathologists, and how whatever legislation that may be enacted would be interpreted. Would new rules prevent well-trained dermatologists from reading dermatopathology specimens? Would the new rules also prevent dermatologist-trained Board-certified dermatopathologists as well? There is no way to answer these questions at this point. We contend that such questions should be moot because the dermatopathology training of dermatologists appears to be at least as strong as that of pathologists.

The purpose of this study was not to create division between dermatologists and pathologists. On the contrary, there has always existed a synergy between the two fields. The major impetus was to highlight that the interpretation of skin specimens is within the standard of care for dermatology practice. We cannot ascertain the motives of the drafters of the OSMA resolution, but the language that arguably could exclude nonpathologists in performing pathology services is troubling. Whether or not indirect billing is inappropriate—the stated goal of the resolution—is another issue. Physicians who are well trained and have appropriate expertise should not be excluded from providing medical services. Practicing dermatologists and the public should be confident knowing dermatologists have a strong background in dermatopathology.

Clarence Livingood, a former executive director of the American Board of Dermatology, summarized it best when he stated “that dermatologists had made major contributions to the literature on dermatopathology, that dermatologists were authors or co-authors of almost all of the dermatopathology textbooks, and that dermatopathology had always been an essential component of our specialty, in our residency training programs, certifying examinations, and in the practice of dermatologists.”<sup>9</sup> Although much of the emphasis of training for dermatologists and pathologists differs, they share a common ground in dermatopathology. Both specialties spend years gleaned knowledge from texts, lectures, Kodachromes, and the microscope to better learn this one subject. Pathologists and

dermatologists should continue to work together to advance the field of dermatopathology.

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### BOARD CERTIFICATION IN DERMATOPATHOLOGY

<http://www.icdpath.org>

The International Board of Dermatopathology will organize under the auspices of the International Committee for Dermatopathology the **Third Certifying Examination in Dermatopathology (Diploma in Dermatopathology)** in Frankfurt/Main, Germany, on December 10, 2005.

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For further information about this examination, please contact:

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