

# Underemphasis of histopathology training in the micrographic fellowship application process

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To the Editor:

The Accreditation Council for Graduate Medical Education (ACGME)-approved Micrographic Surgery and Dermatologic Oncology (MSDO) fellowship applications include a freeform personal statement. Given the wide array of potential skills one can develop during fellowship, these essays provide a measure of the skills that applicants expect to master during their additional year of postgraduate education. We sought to analyze these essays to determine whether there is a deemphasis of histopathologic training as opposed to reconstructive training among MSDO fellowship applicants.

Mohs micrographic surgery (MMS) is comprised of sequential excision of tissue that is processed en-face using frozen sections with immediate microscopic examination to allow complete visualization of the margins of resection. As such, MMS is associated with low long-term recurrence rates. Histologic establishment of full tumor removal in MMS also gives surgeons the ability to immediately perform complicated closures with flaps and grafts without concern for moving involved margins in multiple directions. Consequently, immediate reconstruction of surgical defects has become increasingly the norm in MMS and most fellowships include extensive training in advanced reconstruction.

However, the defining skill of a Mohs surgeon remains the ability to interpret frozen section

histology to ensure complete tumor extirpation. Advanced reconstruction does not necessarily require immediate microscopic examination as reconstruction could be delayed until permanent sections of margins are examined. Furthermore, training in advanced reconstruction is common to multiple medical specialties including dermatology, plastic surgery, otolaryngology, and others. Thus, mastery of histologic interpretation is the differentiating aspect of the MSDO fellowship. The goal of this study is to determine the extent to which MSDO applicants appreciate the importance of histologic training based on the personal statement submitted with their MSDO fellowship application.

The study, which conformed to the ethical guidelines of the 1975 Declaration of Helsinki, was a retrospective study spanning the 2020 and 2021 MSDO application cycles. The inclusion criteria included 100 consecutive applications that were received for the Houston Methodist Hospital MSDO fellowship program. Personal statements were isolated from the rest of the application and identifying information and were reviewed by three readers who were not involved in the selection process for fellows. Personal essays were read with specific attention to explicit indications of what the applicant expects to learn during fellowship. These were categorized as surgical, histopathologic, oncologic, cosmetic, research, and other skills. The data was tabulated and analyzed.

**Table 1.** Summary of skills sought by fellowship applicants as expressed in their personal statements.

Skills sought		N	%
Surgical		60	84.5
	Surgical skills not otherwise specified	49	69.0
	Reconstructive skills	29	40.8
	Mohs micrographic surgery	7	9.8
Pathology		13	18.3
Research		11	15.5
Cosmetics		9	12.7
Oncologic		7	9.9
Miscellaneous		16	22.5

Note: 29 of the 100 applicants did not specify what they are expecting out of their fellowship. The total adds up to greater than 100% because many applicants listed more than one skill or opportunity they were seeking.

Of the 100 application essays reviewed, 71 included a statement as to which skills the applicant was seeking to improve during fellowship. Of these 60 (84.5%) mentioned surgical skills, 13 (18.3%) mentioned histopathological skills, and 9 (12.7%) mentioned cosmetic skills. A desire for training in the oncologic management of complex tumors was expressed by 7 (9.9%) applicants and a desire to pursue research was expressed by 11 (15.5%). Sixteen (22.5%) applicants sought more intangible gains, such as "skills and knowledge," "quality and competency," "patient care," education and teaching, or personal and professional growth. These findings are summarized in **Table 1**.

Based on the study, it is apparent that most applicants are seeking surgical skills, including training in reconstructive surgery. Development of dermatopathology skills is far less sought after. The underemphasis of histopathology training in MSDO fellowship raises several concerns. A previous, single-center study found that 1,491 Mohs surgery cases need to be performed under the supervision of fellowship faculty to reduce critical errors in the interpretation of Mohs histology slides to a minimum acceptable level of one percent [1]. The lack of focus on histopathology also gives the impression that complete histologic tumor clearance is seen as less critical than achieving elegant repairs. Yet, whereas there is great variability in the utilization of advanced reconstructive techniques among Mohs surgeons, it

is impossible to perform MMS without the ability to make histologic interpretations. Finally, the lack of emphasis on histopathology training is not limited to resident applicants. The standard recommendation form completed by residency supervisors has sections on "surgical skills and commitment to MSDO" and "communication and efficiency," but no assessment of histopathological skills. This is concerning as it seems MMS faculty are equally uninterested in the aptitude and proficiency of applicants with respect to dermatopathology.

This study is limited by being a single-institution study and limited to two application cycles. Also, reviewing personal statements does introduce a subjective element that was somewhat alleviated by utilizing three readers. It is also difficult to speculate to what extent the 9.8% of statements that mention learning Mohs micrographic surgery had histopathology training in mind.

This study demonstrates that MSDO applicants tend to emphasize surgical training over histopathological training within the context of MSDO fellowship application essay. There is a need for renewed appreciation of the critical role histopathology training plays as part of the MSDO fellowship.

## Potential conflicts of interest

The authors declare no conflicts of interest.

## References

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