

ORIGINAL ARTICLE

Analysis of the Internship Year Experience in Dermatology Training

Jana Guenther, MD¹, Thomas Norman, MD², Scott Worswick, MD³

¹ Department of Medicine, Harbor-UCLA Medical Center, Torrance, California, USA

² Department of Medicine, Olive View-UCLA Medical Center, Sylmar, California, USA

³ Department of Dermatology, Keck School of Medicine, University of Southern California, Los Angeles, California, USA

ABSTRACT

Introduction: Since internship years for dermatology residents are typically separate from the dermatology program and managed by other specialties, information on specialties and skills interns gain exposure to is sparse.

Methods: To investigate intern year experiences of dermatologists, an anonymous multiple-choice survey was distributed through the Association of Professors of Dermatology listserv to dermatology faculty, residents, and applicants.

Results: The most common internships were preliminary medicine (PM) (61%) and transitional year (TY) (24%). They were more important to interns' development as physicians than as dermatologists. PM and TY interns felt equally prepared for dermatology residency ($P > 0.05$), with most (69%) feeling "slightly" to "moderately" prepared. Among current residents, 32% felt "not at all" prepared. However, TY interns reported more experience in relevant subspecialties ($P = 0.004$) and opportunities to learn procedural skills ($P = 0.004$). When queried what type of program they would choose were they to repeat their internship, respondents most often chose PM (35%), categorical dermatology (28%), or TY (26%) and slightly preferred an internship at the same institution as their dermatology training (53%).

Conclusion: Regardless of the program type chosen, interns are likely to feel equally prepared for dermatology residency, though there are opportunities to improve preparedness. Those interested in a year more tailored to their future dermatology career may opt for a TY, given the greater amount of relevant experiences compared with PM. Though categorical dermatology programs were uncommon, respondents indicated interest in this program type, which could also present opportunities for experiences complementary to interns' future dermatology training.

INTRODUCTION

For an aspiring dermatologist, the cornerstone of graduate medical education is the completion of a residency in dermatology. Notably, most dermatology residencies are advanced programs, meaning that

completing a one-year internship beforehand is necessary. These internship positions are often not affiliated with trainees' dermatology residencies and are managed by other specialties altogether. The only requirement set forth by the Accreditation Council for Graduate Medical Education (ACGME) is

that residents complete a “broad-based clinical year,” in which dermatology elective time does not exceed 2 months.¹

The most common internships are preliminary medicine (PM) and transitional year (TY).² In a PM program, the clinical rotations often mirror those of a categorical internal medicine intern, whereas in a TY program, rotations are broader in scope and can include internal medicine, surgery, emergency medicine, pediatrics, and obstetrics and gynecology.³ While less common, an intern year in emergency medicine, family medicine, general surgery, obstetrics and gynecology, and pediatrics would satisfy the ACGME requirement.¹ Also uncommon are categorical dermatology positions, whereby the intern year and dermatology residency are offered by the same program.³

Although intern year comprises one fourth of the post-graduate training required prior to becoming a board-certified dermatologist, limited data exists on how dermatologists view this year.² Moreover, despite the range of potential training options, it has yet to be reported what skills are acquired in these different paths and how this may influence preparedness for dermatology residency. One study found the majority of dermatology program directors believed PM to be the most beneficial internship program, however the type of program that dermatologists overall feel is most beneficial has not been assessed.² Additionally, many other advanced specialties have shifted toward increasing the number of categorical positions, in which the intern year is combined with the advanced training program. It is unknown whether there is interest in transitioning toward this training model in dermatology. This study sought to clarify the viewpoints and experiences of aspiring and practicing dermatologists

regarding their internship year and compare the perceived benefits and drawbacks of different internship types.

METHODS

An anonymous, cross-sectional REDCap survey was distributed to all United States dermatology residency programs in February 2023 through the listserv of the Association of Professors of Dermatology (APD) with a request to forward the survey to all dermatology faculty, residents, and applicants at the institution. The only inclusion criteria were current or previous enrollment in a dermatology residency program or future enrollment in a program (e.g., interns who would be starting dermatology the following year or individuals applying into dermatology residency that year). Questions included current level of dermatology training, type of internship completed, elective and technical experiences, positive and negative aspects of the completed internship, preparedness for residency, and perspectives on internships integrated into dermatology residency (Supplemental File 1). Data were summarized in frequency and percentage for categorical variables. Differences in experience between those who completed PM and TY programs were assessed using chi-squared test or Fisher’s exact test for categorical variables, and two-sample proportions test for proportions. Statistical significance level was set at 0.05 with two-sided test. All statistical analysis was performed in R (version 4.2.2). This study was considered exempt by the institutional review board of the University of Southern California (UP-22-00981).

RESULTS

A total of 136 respondents completed the survey: 84 (62%) attending physicians, 34 (25%) residents, 9 (7%) medical students applying into dermatology, 6 (4%) interns, 2 (1%) individuals in post-medical school gap years, and 1 fellow (**Supplemental Table 1**). Among those who had completed or were in the process of completing an internship, the most common programs were PM (61%) and TY (24%). Other types of post-graduate programs reported were categorical medicine (4%), preliminary pediatrics (3%), preliminary surgery (2%), and categorical dermatology (2%).

The 125 respondents that had completed or were in the process of completing an internship overall felt their internship was more important to their development as a physician than their development as a dermatologist, with the majority reporting the

year was “very important” (40%) or “absolutely essential” (42%) to their development as a physician (**Supplemental Figure 1**). Regarding their development as a dermatologist, the year was most commonly considered to be of “average importance” (32%).

Most respondents felt only “slightly” (24%), “somewhat” (22%), or “moderately” (23%) prepared for dermatology residency (**Figure 1**). These feelings were unaffected by whether the respondent completed a PM or TY program. Among current residents, 11 (32%) reported feeling “not at all” prepared for dermatology residency compared with 5 (6%) of those who had finished residency. Nevertheless, among those that had finished residency or were in their final year, most felt they had “moderately” (28%) or “completely” (65%) acquired the skills and knowledge necessary to become an attending dermatologist by the end of residency, regardless of internship type.

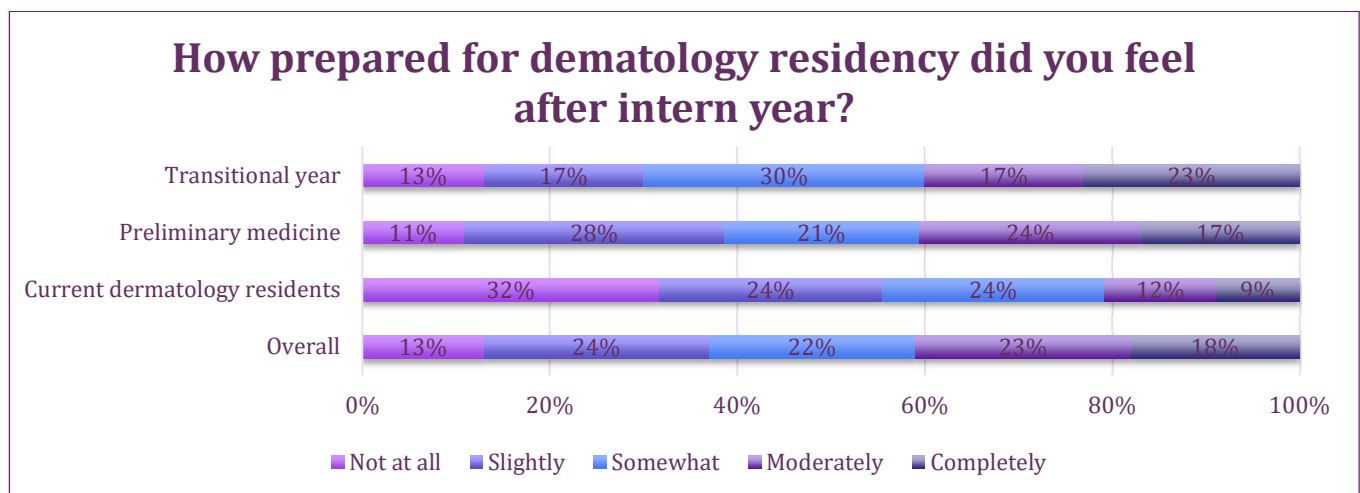


Figure 1. Preparedness for dermatology residency. Survey respondents who had completed or were in the process of completing an internship (n = 125) were asked “How prepared for dermatology residency did you feel after your intern year?” “Transitional year” represents all residents and faculty who completed a TY (n = 30); “Preliminary medicine” represents all residents and faculty who completed a PM (n = 76); “Current dermatology residents” represents the responses of only current dermatology residents at the time of the survey (n = 34), regardless of internship type; and “Overall” reflects all 125 respondents

To better understand the advantages of different internship programs, respondents were asked to select aspects they found most beneficial (**Table 1**). The most common benefits selected were “gaining confidence in being responsible for my own patients” (90%), “improved foundation of general medical knowledge” (85%), “gaining a better understanding of lines of communication between doctors, nurses, and other healthcare professionals” (82%), and “gaining a better understanding of how hospitals work” (79%). Compared to PM, those who took TY programs were

significantly more likely to report experience in relevant sub-specialties (77% vs. 43%; $P = 0.004$) and the opportunity to learn and improve procedural skills (53% vs. 22%; $P = 0.004$). Respondents were similarly asked about the negative aspects of their internship experience (**Table 2**). The most common answers overall were “poor work/life balance” (63%) and “limited hands-on experience relevant to dermatology” (54%). Those who completed a PM year were significantly more likely to report a lack of rotations in sub-specialties relevant to dermatology (44% vs. 17%; $P = 0.016$).

Table 1. Beneficial aspects of intern year. Survey respondents who had completed or were in the process of completing an internship (n = 125) were asked “What aspects of your internship year did you find most beneficial?” Respondents were able to select multiple answer choices
* $P = 0.004$ comparing preliminary medicine vs. transitional year

Beneficial aspects	Overall No. (%) (n=125)	Preliminary Medicine No. (%) (n=76)	Transitional Year No. (%) (n=30)
Gaining confidence in being responsible for your own patients	112 (90%)	69 (91%)	27 (90%)
Improved foundation of general medical knowledge	106 (85%)	69 (91%)	26 (87%)
Gaining a better understanding of lines of communication between doctors, nurses and other healthcare professionals	103 (82%)	62 (82%)	27 (90%)
Gaining a better understanding of how hospitals work	99 (79%)	65 (86%)	25 (83%)
Experience in relevant sub-specialties (rheumatology, infectious disease, allergy, etc)	66 (53%)	33 (43%)*	23 (77%)*
Building relationships with colleagues in other specialties	56 (45%)	36 (47%)	11 (37%)
Gaining leadership skills	48 (38%)	33 (43%)	11 (37%)
Opportunity to learn and improve procedural skills	41 (33%)	17 (22%)*	16 (53%)*
Opportunity to build professional relationships at another institution	23 (18%)	12 (16%)	9 (30%)
Opportunity to build mentorship relationships	21 (17%)	12 (16%)	6 (20%)
Opportunities for research	2 (2%)	0	1 (3%)
Other	6 (5%)	2 (3%)	2 (7%)

Representative “other” comments

“Managing a big workload under stressful situations”
 “Learning to identify sick patients”
 “A rigorous intern year instilled a strong work ethic”
 “Learning about information systems”
 “Did a very chill TY - nice to have a breather”

Table 2. Negative aspects of intern year. Survey respondents who had completed or were in the process of completing an internship (n = 124) were asked “What were the negative aspects of your internship year experience?” Respondents were able to select multiple answer choices

* P =0.016 comparing preliminary medicine vs. transitional year

Negative aspects	Overall No. (%) (n=124)	Preliminary Medicine No. (%) (n=75)	Transitional Year No. (%) (n=30)
Work/life balance	78 (63%)	50 (67%)	16 (53%)
Limited hands-on experience relevant to dermatology	67 (54%)	44 (59%)	13 (43%)
Lack of rotations in relevant sub-specialties (rheumatology, infectious disease, allergy, etc)	46 (37%)	33 (44%)*	5 (17%)*
Loss of dermatology knowledge	36 (29%)	19 (25%)	12 (40%)
Limited opportunities for research	32 (26%)	16 (21%)	10 (33%)
Lack of mentorship	30 (24%)	16 (21%)	10 (33%)
Minimal focus on learning	30 (24%)	13 (17%)	10 (33%)
Lack of autonomy	16 (13%)	9 (12%)	3 (10%)
Other	18 (15%)	7 (9%)	9 (30%)
None	10 (8%)	4 (5%)	5 (17%)

Representative “other” comments
 “Too much inpatient medicine”
 “Inpatient medicine months not very relevant for dermatology”
 “I built relationships at an institution that I will never again be a part of”
 “As a ... transitional intern, nobody really owned us. We had very little contact with the transitional Director so we kind of felt like homeless interns. It would've been good to have more mentorship during the year.”

The electives respondents most often rotated through during their intern year were dermatology (46%), rheumatology (42%), and infectious disease (39%) (**Supplemental Table 2**). These were also the electives most selected when respondents were asked which electives they would choose now if given the option. Rheumatology was selected the most (67%), followed by infectious

disease (65%), allergy and immunology (65%), and dermatology (64%). Significantly more respondents who completed a TY reported rotating through dermatology compared with those who completed a PM year (83% vs. 41%; $P = 0.0002$). Additionally, significantly more of those who took a TY completed plastic surgery rotations (17% vs. 0%; $P = 0.001$). However, regardless of

internship type, half of respondents did not think their intern year advanced their procedural skills relevant to their dermatology career.

Respondents were asked what type of internship they would choose if they were to make the decision now. Survey results showed that 48% of those who were in or completed PM programs would repeat a PM internship, and 57% of those who were in or completed TY programs would choose to repeat a TY internship. PM was most frequently selected overall (35%). Interestingly, categorical dermatology, which we defined as an intern year linked to and planned by the dermatology program, was the second most popular option (28%). Among the 11 respondents that had not yet matched into residency, more than half (55%) preferred a categorical dermatology position. Additionally, more than half (53%) of respondents overall reported a preference for completing their internship at the same institution as their dermatology training. The most frequently identified benefits included “becoming familiar earlier with the hospital and potential services offered” (93%), “learning the EMR system before residency begins” (88%), “no need to relocate” (86%), and “forming relationships with colleagues in other specialties at the same institution” (83%) (**Supplemental Table 3**). The most indicated downside was that the “intern year program may not be as desirable of a program as the dermatology program” (60%).

DISCUSSION

This survey of dermatologists at all levels of training found that over 80% believed that an internship year was very important to a dermatologist’s overall development as a physician. This is reflected by the benefits of intern year identified by respondents, such

as increased confidence in patient care responsibilities and development of a greater understanding of general medicine and hospital operations. However, there was less support for the idea that intern years contributed to an individual’s specific development as a dermatologist, a belief observed regardless of internship type completed.

PM programs were the most common type of internship completed by respondents (61%) and TY programs the second most common (24%), consistent with previous investigations.² In a previous survey of dermatology program directors, the vast majority viewed PM as the preferred internship type for future residents.² Reasons for this preference included the belief that PM programs allowed for more rigorous training (allowing for development of a stronger foundation in medicine) and that PM programs lead to better exposure to relevant sub-specialties.² While our data cannot comment on the former, it refutes the latter assumption. Compared to PM, TY programs allowed for significantly more exposure to relevant sub-specialties and opportunities to develop procedural skills. Moreover, respondents who completed a PM internship were significantly more likely to rank the lack of relevant subspecialty exposure as a negative experience of the year. As one survey respondent described, “months” of inpatient medicine are “not very relevant for dermatology.”

Respondents in our study and a previous study have identified rheumatology, infectious disease, allergy-immunology, and dermatology as the ideal electives for dermatology interns.² Surprisingly, regardless of internship type, less than half of respondents rotated through these electives during intern year. This may serve as an avenue for reform. For

anesthesiology, another advanced specialty, the ACGME requires that interns have at least one month of critical care and emergency medicine.⁵ Creating a specific requirement that dermatology interns complete a set number of weeks in relevant fields could enhance the internship experience.

Another intriguing finding in our study is that reports of overall preparedness for dermatology residency were lower than expected. Most respondents only felt slightly to moderately prepared for the transition. Among current dermatology residents, one-third felt “not at all” prepared for their current residency. In a previous study of the transition to dermatology residency, residents self-reported significant stress during the transition, with the most commonly identified stressor being studying.² Although it is well-known that most medical school curricula lack exposure to dermatology,⁶ it is surprising that many incoming and current dermatology residents felt ill-equipped for dermatology training. The average dermatology applicant has completed multiple rotations in dermatology and related fields during their last year of medical school and likely completed several research projects within the field.⁷ However, time away from these fields during the intern year may be contributing to this perception of being ill-prepared.

Comparing dermatology with other advanced specialties once more, many other programs have recently increased their number of categorical positions. Between 2007 and 2016, the proportion of categorical anesthesiology and neurology positions rose 27% and 29%, respectively.⁸ In 2017, the ACGME required that all ophthalmology programs offer a joint preliminary year at the same institution by 2023 to standardize the experience and

facilitate the acquisition of ophthalmologic knowledge and skills.⁹ Ophthalmology program directors subsequently found residents in their second year of training who had completed this joint internship year were better prepared compared to prior classes.¹⁰ Similarly, these residents reported higher levels of clinical preparedness.¹⁰

An internship structure similar to that of ophthalmology could promote additional time for relevant electives and training in dermatology-specific skills and improve dermatology residents' overall sense of preparedness. Only 2% of our survey's respondents completed such a categorical dermatology internship. Yet, categorical dermatology was the second most popular option (28%) when asked what type of program a respondent would pursue if they had to repeat their intern year, and it was the most popular option (55%) among those who had not yet matched into residency.

This study has a few specific limitations, in addition to those inherent to all survey-based projects. Because the survey was disseminated by program directors to attendings, fellows, residents, and applicants through the APD listserv, we cannot confirm how many ultimately received the survey and cannot report a response rate. Another limitation of this distribution modality is that most respondents were largely academic dermatologists. This provides the advantage of capturing the opinions of individuals most likely to be involved in dermatology resident education. However, most dermatologists in the United States practice in non-academic settings and their viewpoints were largely uncaptured. Lastly, this study had a relatively low number of respondents limiting generalizability and restricting our ability to

more fully delineate whether different beliefs existed between respondent groups.

CONCLUSION

Most dermatologists across all years of training believe that intern years are essential to their development as physicians, but less consider intern years as necessary for their specific development as dermatologists. Although a TY program may allow for exposure to more relevant opportunities, improvements could be made in all internship types to better prepare incoming dermatology residents for their future careers. Respondents indicated interest in categorical dermatology programs, which could facilitate exposure to more experiences complementary to interns' future dermatology training, while preserving those that contribute to physician development.

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Corresponding Author:

Jana Guenther, MD
1441 Eastlake Avenue Ezralow Tower, Suite 5301,
Los Angeles CA 90033
Email: jsguenther@alumni.usc.edu
Phone: 323-442-0084

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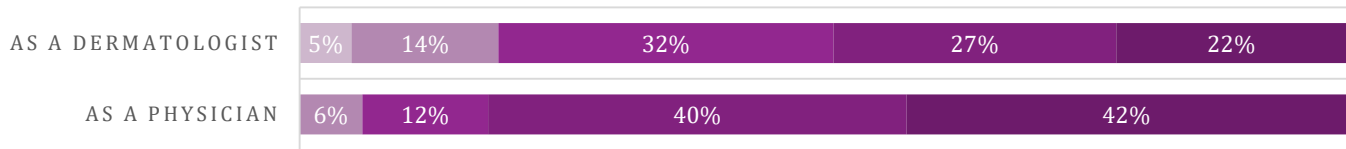
SUPPLEMENTAL FILES

Supplemental Table 1. Characteristics of respondents (N = 136). Program type includes only those who completed or were in the process of completing an intern year (n = 125)

Characteristic	<i>n</i>	%
Level of training (N=136)		
Medical student	9	7%
Post-medical school gap year	2	1%
PGY-1 intern	6	4%
PGY-2 dermatology resident	10	7%
PGY-3 dermatology resident	12	9%
PGY-4 dermatology resident	12	9%
Fellow	1	0.7%
Dermatologist in private or group practice	3	2%
Academic dermatologist: junior faculty (assistant professor or clinician educator)	24	18%
Academic dermatologist: senior faculty (associate professor or higher title, excluding program director or chair)	29	21%
Program director of dermatology residency	20	15%
Academic chair of a dermatology department/division	8	6%
Program type (<i>n</i> = 125)		
Preliminary medicine	76	61%
Transitional year	30	24%
Categorical medicine	5	4%
Preliminary pediatrics	4	3%
Preliminary surgery	3	2%
Categorical dermatology	2	2%
Other	5	4%

How important do you think the internship year was for your development

■ Not important ■ Little importance ■ Average importance ■ Very important ■ Absolutely essential



Supplemental Figure 1. Importance of the internship year for development. Survey respondents who had completed or were in the process of completing an internship (n = 125) were asked “How important do you think the internship year is/was for your development as a dermatologist” and “...as a physician?”

Supplemental Table 2. Intern year electives. Survey respondents who had completed or were in the process of completing an internship (n = 125) were asked through which electives they rotated as interns. Respondents were able to select multiple answer choices

* P <0.001 comparing preliminary medicine vs. transitional year

Elective	Overall (n = 125)	Preliminary medicine (n = 76)	Transitional year (n = 30)
Dermatology	58 (46%)	31 (41%)*	25 (83%)*
Rheumatology	52 (42%)	33 (43%)	11 (37%)
Infectious disease	49 (39%)	34 (45%)	9 (30%)
Hematology-oncology	34 (27%)	24 (32%)	5 (17%)
Allergy-immunology	24 (19%)	13 (17%)	7 (23%)
Pathology	13 (10%)	6 (8%)	6 (20%)
Plastic surgery	8 (6%)	0*	5 (17%)*
Otolaryngology	4 (3%)	0	2 (7%)
Ophthalmology	1 (1%)	0	1 (3%)
Medical genetics	1 (1%)	0	0
Other	42 (33%)	24 (32%)	10 (33%)

Supplemental Table 3. Benefits and drawbacks to completing intern year at the same institution as your dermatology training. All survey respondents (N = 136) including faculty, residents, and students were asked “What do you see as the benefits to completing intern year at the same institution as your dermatology training?” and “What do you see as the downsides to completing intern year at the same institution as your dermatology training?” Respondents were able to select multiple answer choices

Benefits	n	%
Becoming familiar earlier with the hospital and potential services offered	126	93%
Learning the EMR system before residency begins	119	88%
No need to relocate	117	86%
Forming relationships with colleagues in other specialties at the same institution	113	83%
Forming relationships in the dermatology department early on	102	75%
Ability to tailor intern year to more closely align with residency goals	75	55%
Starting research projects earlier	57	42%
Other	1	0.7%
Drawbacks		
Intern year program may not be as desirable of a program as the dermatology program	82	60%
Don't have the opportunity to become familiar with another institution/hospital system	53	39%
Don't have the opportunity to explore another city	45	33%
Miss out on forming relationships with colleagues at other institutions and in other specialties	43	32%
Too much time spent at one institution	31	23%
Loss of camaraderie with co-interns	20	15%
Loss of ability to build doctoring skills outside of and before residency starts	20	15%
Other	20	15%
None	13	10%

Representative “other” comments

“Intern year in a different institution/city allows you to live in a different city for a year before returning to your institution for 3 years for derm”

“I chose intern year with more desirable work life balance; it would be hard to lose having choice in that regard”

“Less flexibility for coupled physicians”