



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

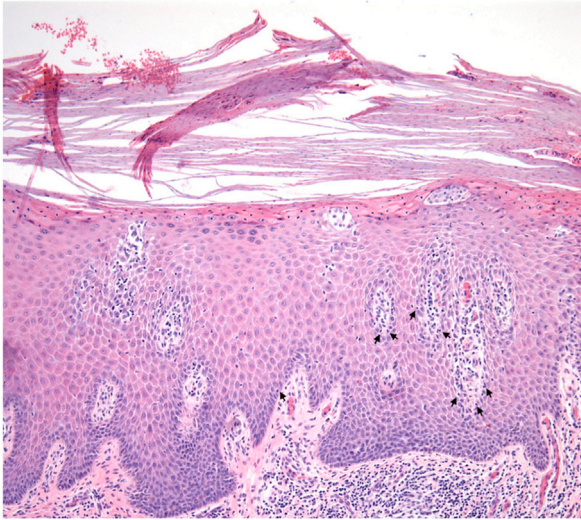


Fig 1. Hyperkeratotic palmoplantar eczema. Prominent hyperkeratosis and parakeratosis, irregular acanthosis, moderate diffuse spongiosis, and a Langerhans cell microgranuloma with single lymphocytes peppering the epidermis and focally lining up at the dermal-epidermal junction (arrows). (Hematoxylin and eosin stain; original magnification: $\times 20$.)

REFERENCES

1. Coenraads PJ. Hand eczema. *N Engl J Med.* 2012;367(19):1829-1837.
2. Kelati A, Gallouj S, Tahiri L, Harmouche T, Mernissi FZ. Defining the mimics and clinico-histological diagnosis criteria for mycosis fungoides to minimize misdiagnosis. *Int J Womens Dermatol.* 2017;3(2):100-106.
3. Burkert KL, Huhn K, Menezes DW, Murphy GF. Langerhans cell microgranulomas (pseudo-pautrier abscesses): morphologic diversity, diagnostic implications and pathogenetic mechanisms. *J Cutan Pathol.* 2002;29(9):511-516.
4. Park JY, Cho EB, Park EJ, Park HR, Kim KH, Kim KJ. The histopathological differentiation between palmar psoriasis and hand eczema: a retrospective review of 96 cases. *J Am Acad Dermatol.* 2017;77(1):130-135.

<https://doi.org/10.1016/j.jaad.2021.11.057>

Cross-sectional study of dermatology residency home match incidence during the COVID-19 pandemic



To the Editor: As per recommendations outlined by the Association of Professors of Dermatology, dermatology residency programs conducted virtual interviews for the 2020-2021 match during the COVID-19 pandemic.¹ Leaders from the Association of Professors of Dermatology suggested that away rotations prioritize students without home programs and consider offering virtual experiences.¹

Prior to the pandemic, approximately 29% of dermatology residents matched at home programs and 63% matched within home regions.² Furthermore, in the 2020 National Resident Matching

Table I. Descriptive statistics summary of dermatology residency programs by year

Year	Programs (number found)	Positions per program (mean)	Positions per program (SD)	Positions per program (median)	Positions per program (IQR)	Percent of program filled with home matches (mean)	Percent of program filled with home matches (SD)	Percent of program filled with home matches (median)	Percent of program filled with home matches (IQR)	Programs matching ≥ 1 home applicant		Programs matching ≥ 2 home applicants	
										Number	%	Number	%
2021	69	4.2	1.8	4.0	2.0	30.9	26.3	25.0	42.9	52	75.4	25	36.2
2019	65	4.2	1.8	4.0	2.0	23.9	25.9	20.0	40.0	39	60.0	16	24.6
2018	65	4.1	1.9	4.0	2.0	23.0	23.4	25.0	43.8	37	56.9	20	30.8
2017	65	4.0	1.9	4.0	2.5	24.1	26.0	22.2	40.0	38	58.5	21	32.3
2017-2019	195	4.1	1.9	4.0	2.0	23.7	25.0	20.0	40.0	114	58.5	57	29.2

IQR, Interquartile range.

Table II. Crude and adjusted odds ratios for a program having at least 1 home match

Variable	Crude OR (95% CI)	P (univariable)	Adjusted OR (95% CI)	P (multivariable)
Year		.01* [†]		.02* [†]
2017-2019	ref		ref	
2021	2.2 (1.2, 4.0)	.01*	2.3 (1.1, 4.8)	.02*
Number of positions		.00* [†]		.00001* [†]
1	—	—	—	—
2	0.2 (0.07, 0.4)	<.0001*	0.2 (0.1, 0.6)	.004*
3	0.8 (0.4, 1.7)	.5	1 (0.4, 2.4)	.9
4	ref	—	ref	—
5	3.0 (1.1, 8.4)	.04*	3.2 (1.1, 9.2)	.03*
6	2.6 (0.7, 10.0)	.2	3.1 (0.8, 12.4)	.1
7	1.9 (0.6, 6.6)	.3	2.2 (0.6, 8.3)	.3
8	—	—	—	—
9	—	—	—	—
10	1.0 (0.1, 12.1)	1.0	1.2 (0.1, 16.5)	.9
Ranking		0.00* [†]		.01* [†]
1-25	ref		ref	
26-50	0.9 (0.4, 2.0)	.8	1.3 (0.5, 3.4)	.5
51-75	0.8 (0.4, 1.9)	.7	1.7 (0.6, 4.5)	.3
76-100	0.1 (0.04, 0.2)	<.0001*	0.3 (0.1, 1.0)	.05*
100+/No rank	0.4 (0.2, 0.9)	.03*	1.4 (0.4, 4.6)	.6

OR, Odds ratio.

*Indicates P value of statistical significance at $\alpha = .05$.

[†]Indicates variable category P values, not level specific.

Program survey of program directors, 92% cited “Audition elective/rotation within [the] department” as a major factor for determining whether an applicant should be interviewed,³ emphasizing the importance of away rotations in previous match cycles. While virtual rotations and interviews allow more flexibility, accessibility, and equity for those from low socioeconomic backgrounds, the inability to experience institutions in person may also provide less insight into the culture of each program.

This study aims to provide empirical data on how the pandemic may have influenced the incidence of matching into one’s home institution during the 2021 dermatology match. We reviewed publicly available match data from 2017 to 2019 and for 2021 on program websites, social media, LinkedIn, and from email correspondence for Electronic Residency Application Service-participating dermatology residency programs in the United States. The 2020 match was excluded because there was limited availability of information on current residents exiting transitional years. Applicants were considered a “home” match if their most recent affiliation is formally associated with their matched institution.

Information was available for 56% of programs (n = 69) for the 2021 match and an average of 65 (~50%) programs for the 2017, 2018, and 2019 match cycles. Home matches increased from an average of 23.7% for the 2017-2019 match cycles to 30.9% in 2021

(P = .025) (Table I). Analysis by logistic regression showed that programs in the 2021 virtual interview cycle had statistically significant greater odds of matching at least 1 home applicant compared with the 2017-2019 interview cycles (odds ratio, 2.3; P = .02) (Table II). This aligns with previous analyses of COVID-19 match trends.⁴ Program size was also significant in that home matching appeared to occur more frequently with programs having more spots than the national median of 4 and less often with programs having fewer spots (P = .00001) (Table II).

If the proportion of interviews allocated to outside 2021 applicants is reflective of past years, the observed increase in home matching likely resulted from the nature of virtual rotations and interviews hindering applicants’ ability to familiarize themselves with outside programs. Similarly, programs faced challenges acquainting themselves with unfamiliar applicants, resulting in applicants and institutions ranking their home counterparts higher on their rank lists. Decreased outside applicant interview offers may also explain the rise in “home matches.”

Changes in the incidence of home matching are especially significant for applicants without home dermatology departments. Recent literature demonstrates that mentorship and pipeline programs are fundamental to a successful match.⁵ Thus, students without home programs are at an inherent disadvantage in garnering academic relationships and participating in such initiatives. The

paradigm shift to virtual experiences has only widened this disconnect. As institutions move toward hybrid models, these considerations are key to understanding how to best incorporate virtual interviewing while maintaining equity among applicants.

Rewan Abdelwahab, BA,^a Luis A. Antezana, BS,^a Katherine Z. Xie, BS,^a Mubab Abdelwahab,^b and Megha Tollefson, MD^c

From the Mayo Clinic Alix School of Medicine, Mayo Clinic, Rochester, Minnesota^a; University of Minnesota—Twin Cities, Minneapolis, Minnesota^b; and Department of Dermatology, Mayo Clinic, Rochester, Minnesota.^c

Funding sources: None.

IRB approval status: Not applicable.

Key words: COVID-19 match; derm match; Dermatology/education; Dermatology/statistics & numerical data; dermatology match; dermatology residency; education; hybrid model; internal match; Internship and Residency/statistics & numerical data; match; pandemic match; residency; residency match; residency match; residents; virtual interviewing; virtual interviews

Reprints not available from the authors.

Correspondence to: Megha Tollefson, MD, Department of Dermatology, Mayo Clinic, 200 1st St SW, Rochester, MN 55905

E-mail: Tollefson.Megha@mayo.edu

Conflicts of interest

None disclosed.

REFERENCES

1. Dermatology residency program director consensus statement and recommendations regarding the 2020-2021 application cycle. AAMC, 2020. Accessed June 18, 2021. https://aamc-orange.global.ssl.fastly.net/production/media/filer_public/0f/7b/0f7b547e-65b5-4d93-8247-951206e7f726/updated_dermatology_program_director_statement_on_2020-21_application_cycle.pdf
2. Narang J, Morgan F, Eversman A, et al. Trends in geographic and home program preferences in the dermatology residency match: a retrospective cohort analysis. *J Am Acad Dermatol*. 2021. <https://doi.org/10.1016/j.jaad.2021.02.011>
3. National Resident Matching Program. Results of the 2020 NRMP Program Director Survey. 2020. Figures D-1 and D-2. Accessed June 18, 2021. <https://www.nrmp.org/wp-content/uploads/2021/08/2020-PD-Survey.pdf>
4. Dowdle TS, Ryan MP, Wagner RF. Internal and geographic dermatology match trends in the age of COVID-19. *J Am Acad Dermatol*. 2021;85(5):1364-1366. <https://doi.org/10.1016/j.jaad.2021.08.004>
5. Vasquez R, Jeong H, Florez-Pollack S, Rubinos LH, Lee SC, Pandya AG. What are the barriers faced by under-represented minorities applying to dermatology? A qualitative cross-sectional study of applicants applying to a large dermatology residency program. *J Am Acad Dermatol*. 2020;83(6):1770-1773. <https://doi.org/10.1016/j.jaad.2020.03.067>

<https://doi.org/10.1016/j.jaad.2021.12.004>

The impact of delay in time to surgical treatment of Merkel cell carcinoma on overall survival and disease-specific survival: A population-based analysis



To the Editor: Merkel cell carcinoma (MCC) is an aggressive skin cancer with a 5-year survival rate of 51% for local disease and 14% for distant disease.¹ Although the National Comprehensive Cancer Network guidelines highlight the importance of

Table I. Merkel cell carcinoma cohort and tumor characteristics

Factor	Total (N = 2105)
Sex	
Male	1342 (63.75%)
Female	763 (36.25%)
Age at diagnosis, years	
25-64	374 (17.77%)
65-79	945 (44.89%)
80+	786 (37.34%)
Grouped AJCC 7th edition tumor stage at diagnosis	
I	1063 (50.50%)
II	363 (17.24%)
III	679 (32.26%)
Primary tumor site at diagnosis	
Head/neck	889 (42.23%)
Trunk	196 (9.31%)
Upper extremity	671 (31.88%)
Lower extremity	335 (15.91%)
Unknown/NOS	14 (0.67%)
Primary tumor size at diagnosis, cm	
0.1-2.0	1132 (53.78%)
2.1-5.0	428 (20.33%)
>5.0	70 (3.33%)
Unknown/NOS	475 (22.57%)
Vital status	
Alive	1427 (67.79%)
Dead	678 (32.21%)
Cause of death	
Alive	1427 (67.79%)
Dead - MCC	309 (14.68%)
Dead - not MCC	369 (17.53%)
Mean survival months after diagnosis (SD; 95% CI)	27.77 (21.50; 26.85-28.69)

AJCC, American Joint Committee on Cancer; CI, confidence interval; MCC, Merkel cell carcinoma; NOS, not otherwise specified; SD, standard deviation.