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# Sharps injuries during micrographic surgery and dermatologic oncology fellowship training

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To the Editor:

There is currently no data available in the literature surveying Micrographic Surgery and Dermatologic Oncology (MSDO) fellows about sharps injury exposure during fellowship. In a 2019 dermatology resident survey, more than half of participants reported at least one sharps injury [1]. Sharps injury risk with under-reporting in dermatology residents is a safety issue, which likely is greater in MSDO fellows [1]. We conducted an anonymous survey of 2021 MSDO fellowship graduates regarding sharps injury exposure and prevention training.

Following Institutional Review Board approval, a Research Electronic Data Capture survey Email invitation was sent to 88 MSDO fellowship graduates in the class of 2021 [2]. The survey consisted of 10 core questions and 8 possible additional questions assessing MSDO program demographics, sharps injury prevalence, sharps training, injury reporting, and medical care following injury.

Of 88 fellows, 28 (32%) completed the survey. Most respondents trained in a hospital/university setting (N=21, 75%) and rotated at more than one training site (N=17, 60.7%). Of 28 respondents, 10 (35.7%) experienced at least one sharps injury during fellowship, of which only four (40%) reported their injury. The most common mode of injury was from a suture needle (N=8, 80%), [Table 1](#). The most attributed sharps injury reason was a sense of being rushed (N=4, 40%), whereas the most common reason for not reporting was perceived low risk of

infection (N=3, 50%), [Table 1](#). Respondents with a sharps injury during fellowship were more likely to also have experienced a sharps injury during residency when compared to those without a sharps injury during fellowship (80% versus 27.7%).

Most received sharps training during fellowship (N=23, 82.1%). However, the group with a sharps injury had a lower percent that underwent training compared to those without a sharps injury (N=7, 70% versus N=16, 88.9%), [Table 1](#). Although having immediate onsite access to medical care for sharps injury was chosen as the most influential factor for likelihood to report an injury (N=17, 60.7%), only 53.6% reported having access to onsite medical care at all times for sharps injuries. All answered that sharps injury reporting anonymous to their program director was either not an option or unknown; however, 28.6% (N=8) answered that this would influence the likelihood of reporting an injury if this option was available. This latter finding included one respondent who experienced a negative program director reaction following a sharps injury. Having the direct contact number for each training site to report and receiving explicitly-stated permission to address sharps injury immediately were also likely to increase reporting (39.3% and 50%, respectively).

Perceived low risk of infection following sharps injury appears to be a factor for not reporting in MSDO fellows, dermatology residents, and other surgical residents [1,3]. Our survey findings support that risk of infection may influence sharps injury reporting in

MSDO fellows. Although viral transmission following sharps injury is low, the risk varies based on transmission mode and patient source risk factors [4]. Those with prior sharps injury during dermatology residency may be more likely to experience a sharps injury during fellowship. Implementing a standardized safety training with emphasis on transmission risk may lower sharps injuries and improve reporting, respectively. Programs improving onsite medical care access for addressing sharps injury in a timely manner while making reporting a smooth and supportive process

may improve sharps injury reporting in MSDO fellows [3].

Study limitations include non-responder rate, which may include fellows that did not experience a sharps injury during training. Prospective studies are needed to evaluate methods to improve sharps injury prevention and reporting during MSDO fellowship.

### Potential conflicts of interest

The authors declare no conflicts of interest.

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Table 1. Participant characteristics.

Participant characteristics	Experienced sharps injury N* (%)	No sharps injury N* (%)
	10 (35.7%)	18 (64.3%)
Number of surgical training sites		
1	3 (30%)	8 (44.4%)
2-3	7 (70%)	7 (38.9%)
4-5	0 (0%)	3 (16.7%)
Sharps reporting contact information at each training site		
Yes	6 (60%)	11 (61.1%)
No	2 (20%)	4 (22.2%)
Unknown	2 (20%)	3 (16.7%)
Onsite medical care for sharps injury		
At all times	8 (80%)	7 (38.9%)
Only during clinic hours	2 (20%)	4 (22.2%)
Only offsite care	0 (0%)	5 (27.7%)
Varies by training site	0 (0%)	1 (5.6%)
Unknown medical care site	0 (0%)	1 (5.6%)
Sharps safety training during fellowship		
<i>No sharps injury training</i>	3 (30%)	2 (11.1%)
<i>Had sharps injury training</i>	7 (70%)	16 (88.9%)
Faculty-led in-person skills workshop training	0 (0%)	0 (0%)
Sharps safety education video*	5 (50%)	8 (44.4%)
Observation of attending surgeon demonstrating sharps safety techniques during procedures*	4 (40%)	11 (61.1%)
Sharps reporting anonymous to program director		
Yes	0 (0%)	0 (0%)
No	7 (70%)	6 (33.3%)
Unknown	3 (30%)	12 (66.7%)
Sharps reporting contact information at each training site		
Yes	6 (60%)	11 (61.1%)
No	2 (20%)	4 (22.2%)
Unknown	2 (20%)	3 (16.7%)
Mode of sharps injury*		Not applicable
Suture needle	8 (80%)	
Hollow needle	2 (20%)	
Bladed instruments	3 (30%)	
Electrical instruments	1 (10%)	
Reported sharps injury		
Yes	4 (40%)	
<i>No: reason for not reporting below</i>	6 (60%)	
Fear of program <b>director's perception</b> of procedural skills	1 (16.7%)	
Low risk of infection	3 (50%)	
Did not want to interrupt procedure	1 (16.7%)	

Unfamiliarity with how to receive medical care and/or report sharps injury	0 (0%)	
Inability to receive medical care onsite	0 (0%)	
Other reason	1 (16.7%)	

\*N may include same individual in multiple categories.