Microsurgery Training Chicken Thighs as a Microsurgery Training Model: A Survey Study

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Intro

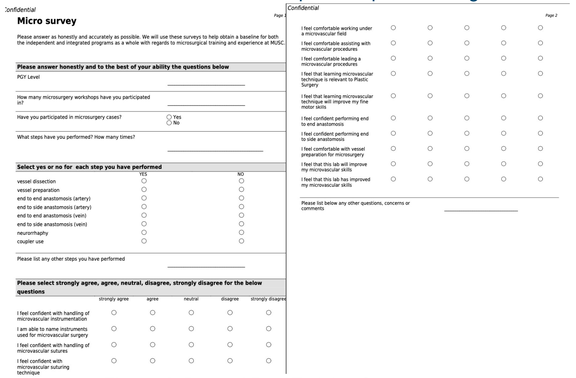
- Microsurgery requires a high level of both surgical knowledge and dexterity.
- While many plastic surgery programs have. Access to micro surgery labs, the majority do not have a formal curricula or use the lab regularly

AIM

- Evaluate plastic surgery trainee's (both fellows and residents) microsurgical experience and comfort level before and after a non-living chicken thigh training model.

METHODS

- Anonymous, web-based Likert scale survey (Figure 1) was distributed to integrated plastic surgery residents and fellows at single institution before and after a microsurgical lab training.
- Microsurgical lab partnered training sessions were carried out using chicken thighs with staff supervision with each participant attending at least two sessions.
- A paired t- test was performed to analyze the impact of the lab and differences between pre and post training



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Micro survey

Please answer as honestly and accurately as possible. We will use these surveys to help obtain a baseline for both the independent and integrated programs as a whole with regards to microsurgical training and experience at MUSC.

Please answer honestly and to the best of your ability the questions below

PGY Level _____

How many microsurgery workshops have you participated in? _____

Have you participated in microsurgery cases? ○ Yes ○ No

What steps have you performed? How many times? _____

Select yes or no for each step you have performed

	YES	NO
vessel dissection	○	○
vessel preparation	○	○
end to end anastomosis (artery)	○	○
end to side anastomosis (artery)	○	○
end to end anastomosis (vein)	○	○
end to side anastomosis (vein)	○	○
neurorrhaphy	○	○
coupler use	○	○

Please list any other steps you have performed _____

Please select strongly agree, agree, neutral, disagree, strongly disagree for the below questions

	strongly agree	agree	neutral	disagree	strongly disagree
I feel confident with handling of microvascular instrumentation	○	○	○	○	○
I am able to name instruments used for microvascular surgery	○	○	○	○	○
I feel confident with handling of microvascular sutures	○	○	○	○	○
I feel confident with microvascular suturing technique	○	○	○	○	○

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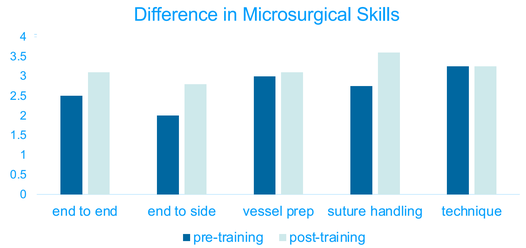
I feel comfortable working under a microvascular field	○	○	○	○	○
I feel comfortable assisting with microvascular procedures	○	○	○	○	○
I feel comfortable leading a microvascular procedures	○	○	○	○	○
I feel that learning microvascular technique is relevant to Plastic Surgery	○	○	○	○	○
I feel that learning microvascular technique will improve my fine motor skills	○	○	○	○	○
I feel confident performing end to end anastomosis	○	○	○	○	○
I feel confident performing end to side anastomosis	○	○	○	○	○
I feel comfortable with vessel preparation for microsurgery	○	○	○	○	○
I feel that this lab will improve my microvascular skills	○	○	○	○	○
I feel that this lab has improved my microvascular skills	○	○	○	○	○

Please list below any other questions, concerns or comments _____

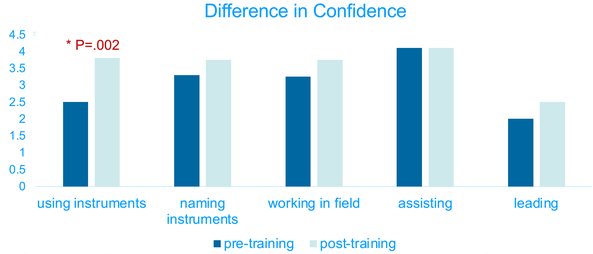
Figure 1: Pre and Post Training Survey

RESULTS

- There were a total of 8 participants in the study with the mean number of labs attended prior to the study of 1.5 (range, 1-5).
- The pre-training survey showed the highest scores in subjective opinion on the relevance of learning microvascular technique to plastic surgery and its ability to improve fine motor skills and lowest overall score was seen with trainee confidence on performing end-to-side anastomoses and leading microsurgical procedures
- The post-training survey revealed the highest score in the ability of the lab to improve fine motor skills (mean of 4.9). The lowest post-training score was observed with performing end-to-side anastomoses (graph 1).

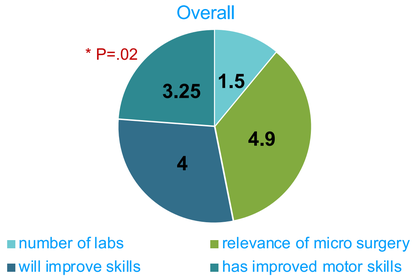


Graph 1. Pre and Post Training Data Results: Skills



Graph 2: Pre and post Training Survey Data Results: Confidence

- The largest increase in scores comparing pre and post-training survey were seen in the questions inquiring about confidence with handling microsurgical tools (+1.13) and trainee opinion on whether the lab improved microvascular skills (+1.00) and were statistically significant (Graph 2 &3).
- All participants indicated the lab to be beneficial to their microsurgery training, including all participating attendings (Graph 3).



Graph 3. Pre and Post Training Data Results: Overall

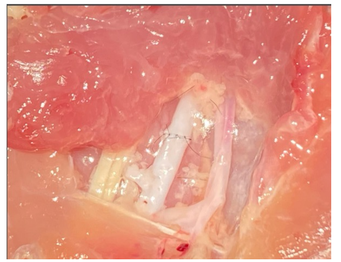


Figure 2. Chicken thigh vessel anastomosis that was performed

CONCLUSIONS

- The current study recorded positive experiences using non-living chicken thighs in the microsurgery lab
- A microsurgery chicken lab model can improve overall microsurgical confidence and skill (P=.002, .02)
- All attendings indicated the lab to be beneficial for microsurgical training (n=5).
- The microsurgery curriculum at MUSC should continue to evolve in order have incremental increases in trainee microsurgical confidence and skills

Disclosures:
Microsurgery specimens and sutures supported by Integra