Appendix A: Questionnaire Completed by Residents

Thank you for taking the time to participate in our study. Please **CIRCLE/WRITE** the most appropriate answer.

1. Approximately how many distal radius fracture closed reductions have you performed in your residency training?

   _____

2. How did you learn to perform a closed reduction? Please select **ALL** that apply.

   Textbook   Resident/Fellow   Staff Surgeon   Website (ie.   Other:
                                                                       YouTube/VuMedi)   _____

3. Do you believe that the quality of the initial fracture reduction decreases the need for future re-reductions or surgical intervention?

   Yes   No

4. Is the current method of teaching fracture reductions appropriate?

   Yes   No

5. Do you feel the distal radius fracture model accurately reflects a real fracture reduction?

1	2	3	4	5
Absolutely not realistic	Somewhat not realistic	Undecided	Somewhat realistic	Absolutely realistic

Appendix B: OSATS

Application of Short Arm Forearm Plaster Cast

Instructions to Candidates:
The patient has sustained a distal radial fracture. Apply a short arm circumferential cast to maintain the reduced fracture.

ITEM	Not done, incorrect	Done, correct
I. Position and patient setup		
1. Patient is exposed from above the elbow to the hand	0	1
2. Patient is sitting or lying down with the elbow in midflexion resting on a table or bed	0	1
3. The wrist and fingers are in "functional position"	0	1
II. Stockinette		
1. Stockinette is measured to span from proximal to elbow to past the MCPJs	0	1
2. A small snip is made in the stockinette for the thumb	0	1
3. Stockinette is gently unrolled over the hand and forearm	0	1
4. The stockinette is smoothed out, leaving no wrinkles or creases	0	1
III. Soft roll		
1. Appropriate soft roll width is selected (2-4 inches for forearm)	0	1
2. Soft roll is applied using moderate tension	0	1
3. Soft roll is wrapped such that each layer overlaps the previous layer by 50%	0	1
4. Thicker soft roll layers are applied over the palm and proximal base of cast	0	1

5. Soft roll coverage extends from the antecubital fossa to past the MCPJs	**0**	**1**
IV. Plaster application		
1. Appropriate plaster roll width is selected (2-4 inches for forearm)	**0**	**1**
2. The plaster is soaked in tepid water with the free end slightly unrolled	**0**	**1**
3. Once out of the water bath gentle pressure is used to squeeze out extra water	**0**	**1**
4. The first plaster layer extends from 2-3 cm distal to the antecubital fossa to the proximal palmar crease	**0**	**1**
5. Thumb should remain exposed at metacarpophalangeal joint	**0**	**1**
6. Plaster is applied to leave a distal and proximal border or "cuff" of soft roll and stockinette	**0**	**1**
7. The stockinette and soft roll cuffs are folded over the first layers of plaster	**0**	**1**
8. A second plaster layer is applied to cover the folded cuffs to leave a smooth border	**0**	**1**
9. Additional water is rubbed over the plaster creating to create a smooth, hard surface	**0**	**1**
V. Molding		
1. Thenar eminences of palm are used to apply pressure until mold is firm	**0**	**1**
2. Mold is applied firmly but retains natural contours of the arm	**0**	**1**
3. For dorsally angulated fractures: 3-point fixation applies dorsal pressure proximal and distal to the fracture, and volar pressure over the reduced fracture	**0**	**1**

MAXIMUM TOTAL SCORE **(24)**

TOTAL SCORE GIVEN

EXAMINER STICKER	CANDIDATE STICKER

Appendix C: Modified GRS

MODIFIED GLOBAL RATING SCALE OF TECHNICAL PERFORMANCE

Please circle the number corresponding to the candidate's performance **<u>regardless</u> of the candidate's level of training.**

Respect for Arm/Patient

1	2	3	4	5
Frequently used unnecessary force on arm or caused damage by inappropriate handling		Careful handling of arm/cast but occasionally caused inadvertent damage		Consistently handled tissue appropriately with minimal damage to arm/cast

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Time and Motion

1	2	3	4	5
Many unnecessary moves		Efficient time/motion but some unnecessary moves		Clear economy of movement and maximum efficiency

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Materials Handling

1	2	3	4	5
Repeatedly makes tentative or awkward moves with instruments through inappropriate use		Knew names of most materials and used appropriately		Fluid movements with instruments and no stiffness or awkwardness

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Flow of Casting

1	2	3	4	5
Frequently stopped rolling the cast and seemed unsure of next move		Demonstrated some forward planning with reasonable progression of casting		Obviously planned course with effortless flow from one move to the next

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Positioning of the Patient/Arm

1	**2**	**3**	**4**	**5**
Consistently placed arm poorly		Appropriate positioning of the arm		Strategically positioned the arm to help roll cast easily

_____

_____

Knowledge of Specific Procedure

1	**2**	**3**	**4**	**5**
Deficient knowledge. required specific instruction at most steps of casting		Knew all important steps of casting		Demonstrated familiarity with all steps of the casting

OVERALL PERFORMANCE

1	**2**	**3**	**4**	**5**
Very poor		Competent		Clearly superior

QUALITY OF FINAL PRODUCT

1	**2**	**3**	**4**	**5**
Very poor		Competent		Clearly superior