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THE EFFECTIVENESS OF BIVALVING, CAST SPREADING, AND WEBRIL CUTTING TO REDUCE CAST PRESSURE IN A FIBERGLASS SHORT ARM CAST http://dx.doi.org/10.2106/JBJS.N.00579

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## Fig. E-1

Figs. E-1A through E-1K The assembled pressure transducer system. Fig. E-1A Spike of the drip chamber from an intravenous fluid line. Fig. E-1B Silicone tubing (5-mm diameter). Fig. E-1C A 50-mL intravenous fluid bag with inlet (indicated by a pound sign) and outlet (indicated by an asterisk) valves. Fig. E-1D Clear plastic pressure dome. Fig. E-1E Gold MLT844 Physiological Pressure Transducer. Fig. E-1F Sphygmomanometer. Fig. E-1G MLAC20 Interface Cable. Fig. E-1H PowerLab computer system. Fig. E-1I FE221 Bridge Amplifier. Fig. E-1J A 50-mL syringe, with a 22-gauge needle. Fig. E-1K USB (universal serial bus) cable connecting the transducer system to a computer running LabChart 7 (not shown).



Figs. E-2A, E-2B, and E-2C Application of the Ace wrap. Fig. E-2A No stretching at all; one cannot see through the material. Fig. E-2B Standard stretching; one can begin to appreciate the green background. Fig. E-2C Excessive stretching of the Ace wrap. COPYRIGHT © BY THE JOURNAL OF BONE AND JOINT SURGERY, INCORPORATED ZAINO ET AL. THE EFFECTIVENESS OF BIVALVING, CAST SPREADING, AND WEBRIL CUTTING TO REDUCE CAST PRESSURE IN A FIBERGLASS SHORT ARM CAST http://dx.doi.org/10.2106/JBJS.N.00579 Page 2 of 2

TABLE E-1 Raw Data for the Single-Cut, Double-Cut, and Triple-Cut Techniques in Women			
Time Points	No. of Patients	Pressure* (mm Hg)	
Cast application			
Webril (10 mL of air)	44	7.1 ± 3.38 (6.11 to 8.11)	
Cast (10 mL of air)	44	19.8 ± 6.82 (17.80 to 21.83)	
Cast (50 mL of air)	44	104.4 $\pm$ 28.26 (96.04 to 112.75)	
Cutting†			
Ulnar-sided univalve	44	50.4 ± 18.61 (44.86 to 55.86)	
Radial-sided bivalve*	44	32.4 ± 13.55 (28.43 to 36.44)	
Ulnar-sided spread	30	21.5 ± 8.47 (18.44 to 24.50)	
Radial-sided spread§	30	16.8 $\pm$ 6.92 (14.29 to 19.24)	
Ulnar-sided Webril	16	$3.2 \pm 1.94$ (2.19 to 4.10)	
Radial-sided Webril#	16	0.8 $\pm$ 0.93 (0.39 to 1.30)	
Ace wrapping†			
Single cut	14	44.3 ± 16.70 (35.58 to 53.07)	
Double cut	14	39.7 ± 9.61 (34.65 to 44.72)	
Triple cut	16	21.6 $\pm$ 5.14 (19.07 to 24.11)	

\*The values are given as the mean and the standard deviation, with the 95% confidence interval in parentheses. †These values are determined with use of 50 mL of air. †This was the last step of the single-cut technique before Ace wrapping. §This was the last step of the double-cut technique before Ace wrapping. #This was the last step of the triple-cut technique before Ace wrapping.

TABLE E-2 Raw Data for the Single-Cut, Double-Cut, and Triple-Cut Techniques in Men			
Time Points	No. of Patients	Pressure* (mm Hg)	
Cast application			
Webril (10 mL of air)	46	6.7 ± 2.37 (6.00 to 7.37)	
Cast (10 mL of air)	46	16.7 $\pm$ 5.94 (14.95 to 18.38)	
Cast (50 mL of air)	46	81.1 $\pm$ 24.49 (74.02 to 88.17)	
Cutting†			
Ulnar-sided univalve	46	34.8 $\pm$ 12.70 (31.09 to 38.43)	
Radial-sided bivalve*	46	22.2 ± 8.30 (19.77 to 24.57)	
Ulnar-sided spread	30	13.7 $\pm$ 6.21 (11.43 to 15.87)	
Radial-sided spread§	30	10.8 $\pm$ 5.25 (8.89 to 12.65)	
Ulnar-sided Webril	14	1.1 $\pm$ 1.25 (0.48 to 1.80)	
Radial-sided Webril#	14	$0.4 \pm 0.45$ (0.17 to 0.64)	
Ace wrapping <sup>+</sup>			
Single cut	16	37.7 ± 7.55 (34.04 to 41.44)	
Double cut	16	27.1 $\pm$ 7.49 (23.45 to 30.79)	
Triple cut	14	20.5 $\pm$ 5.33 (17.75 to 23.33)	

\*The values are given as the mean and the standard deviation, with the 95% confidence interval in parentheses. †These values are determined with use of 50 mL of air. †This was the last step of the single-cut technique before Ace wrapping. §This was the last step of the double-cut technique before Ace wrapping. #This was the last step of the triple-cut technique before Ace wrapping.