Supplementary Material

Table i. Statistical properties depicting the clinical relevance in predicting nonunion for various cut-off values at six-week follow-up.

Variable	Nonunion	Union	Predictive value
RUSHU cut-off score			
6 points or less (n = 54)	40	14	PPV = 0.74
7 points or more (n = 150)	42	108	NPV = 0.72
	Sensitivity = 0.49	Specificity = 0.89	p < 0.001*
	RR for nonunion 2.6 (95% CI 2 to 3.6)		
RUSHU cut-off score			
7 points or less (n = 73)	51	22	PPV = 0.70
8 points or more (n = 131)	31	100	NPV = 0.76
	Sensitivity = 0.63	Specificity = 0.82	p < 0.001*
	RR for nonunion 3.0 (95% CI 2.1 to 4.2)		
RUSHU cut-off score			
8 points or less (n = 100)	66	34	PPV = 0.66
9 points or more (n = 104)	16	88	NPV = 0.85
	Sensitivity = 0.80	Specificity = 0.72	p < 0.001*
	RR for nonunion 4.3 (95% CI 2.7 to 6.9)		
RUSHU cut-off score			
9 points or less (n = 128)	77	51	PPV = 0.60
10 points or more (n = 76)	5	71	NPV = 0.93
	Sensitivity = 0.94	Specificity = 0.58	p < 0.001*
	RR for nonunion 9.1 (95% CI 3.9 to 21.6)		

*Chi-squared test; statistically significant.
RR, relative risk. RUSHU, Radiographic Union Score for HUmeral Fractures.

Table ii. Statistical properties depicting the clinical relevance in predicting nonunion for various cut-off values at 12-week follow-up.

Variable	Nonunion	Union	Predictive value
RUSHU cut-off score			
7 points or less (n = 40)	33	7	PPV = 0.83
8 points or more (n = 166)	51	115	NPV = 0.69
	Sensitivity = 0.39	Specificity = 0.94	p < 0.001*
	RR for nonunion 2.7 (95% CI 2.1 to 3.5)		
RUSHU cut-off score			
8 points or less (n = 76)	61	15	PPV = 0.80
9 points or more (n = 130)	23	107	NPV = 0.82
	Sensitivity = 0.73	Specificity = 0.88	p < 0.001*
	RR for nonunion 4.5 (95% CI 3.1 to 6.7)		
RUSHU cut-off score			
9 points or less (n = 93)	70	23	PPV = 0.75
10 points or more (n = 113)	14	99	NPV = 0.86
	Sensitivity = 0.83	Specificity = 0.81	p < 0.001*
	RR for nonunion 6.1 (95% CI 3.7 to 10.1)		
RUSHU cut-off score			
10 points or less (n = 107)	77	30	PPV = 0.72
11 points or more (n = 99)	7	92	NPV = 0.93
	Sensitivity = 0.92	Specificity = 0.75	p < 0.001*
	RR for nonunion 10.2 (95% CI 4.9 to 21.0)		

*Chi-squared test; statistically significant.

RR, risk ratio; RUSHU, Radiographic Union Score for HUmeral Fractures.

Table iii. Statistical properties depicting the clinical relevance in predicting nonunion with maybe-cases receiving 2 points at six-week follow-up.

Variable	Nonunion	Union	Predictive value
RUSHU cut-off score			
6 points or less (n = 55)	40	15	PPV = 0.73
7 points or more (n = 149)	42	107	NPV = 0.72
	Sensitivity = 0.49	Specificity = 0.88	p < 0.001*
	RR for nonunion 2.6 (95% CI 1.9 to 3.5)		
RUSHU cut-off score			
7 points or less (n = 80)	55	25	PPV = 0.69
8 points or more (n = 124)	27	97	NPV = 0.78
	Sensitivity = 0.67	Specificity = 0.80	p < 0.001*
	RR for nonunion 3.2 (95% CI 2.2 to 4.5)		
RUSHU cut-off score			
8 points or less (n = 112)	71	41	PPV = 0.63
9 points or more (n = 92)	11	81	NPV = 0.88
	Sensitivity = 0.87	Specificity = 0.66	p < 0.001*
	RR for nonunion 5.3 (95% CI 3 to 9.4)		
RUSHU cut-off score			
9 points or less (n = 138)	77	61	PPV = 0.56
10 points or more (n = 66)	5	61	NPV = 0.92
	Sensitivity = 0.94	Specificity = 0.50	p < 0.001*
	RR for nonunion 7.4 (95% CI 3.1 to 17.3)		

*Chi-squared test; statistically significant.
RR, relative risk; RUSHU, Radiographic Union Score for HUmeral Fractures.

Table iv. Statistical properties depicting the clinical relevance in predicting nonunion with maybe-cases receiving 2 points at 12-week follow-up.

Variable	Nonunion	Union	Predictive value
RUSHU cut-off score			
7 points or less (n = 44)	36	8	PPV = 0.82
8 points or more (n = 162)	48	114	NPV = 0.70
	Sensitivity = 0.43	Specificity = 0.85	p < 0.001*
	RR for nonunion 2.8 (95% CI 2.1 to 3.6)		
RUSHU cut-off score			
8 points or less (n = 79)	61	18	PPV = 0.77
9 points or more (n = 127)	23	104	NPV = 0.82
	Sensitivity = 0.73	Specificity = 0.85	p < 0.001*
	RR for nonunion 4.3 (95% CI 2.9 to 6.3)		
RUSHU cut-off score			
9 points or less (n =96)	72	24	PPV = 0.75
10 points or more (n = 110)	12	98	NPV = 0.89
	Sensitivity = 0.86	Specificity = 0.80	p < 0.001*
	RR for nonunion 6.9 (95% CI 4 to 11.9)		
RUSHU cut-off score			
10 points or less (n = 110)	78	32	PPV = 0.71
11 points or more (n =n 96)	6	90	NPV = 0.94
	Sensitivity = 0.93	Specificity = 0.74	p < 0.001*
	RR for nonunion 11.3 (95% CI 5.2 to 24.8)		

*Chi-squared test; statistically significant.

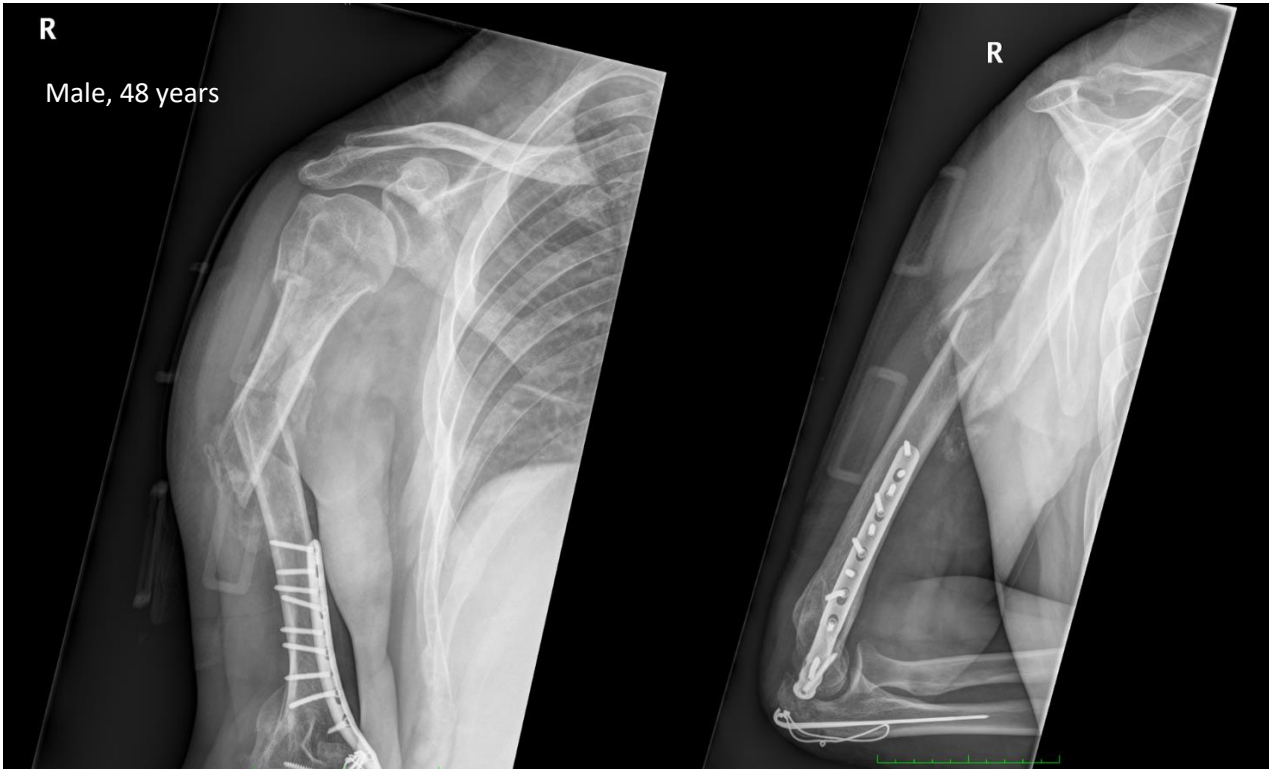RR, relative risk; RUSHU, Radiographic Union Score for HUmeral Fractures.

Table iv. Six- and 12-week Radiographic Union Score for HUmeral Fractures (RUSHU) outcomes.

Six-week RUSHU outcomes		
RUSHU score	**Patients**	**Outcome**
4 points	25	5 Union
		20 Nonunion
5 points	16	5 Union
		11 Nonunion
6 points	13	4 Union
		9 Nonunion
7 points	19	8 Union
		11 Nonunion
8 points	29	12 Union
		17 Nonunion
9 points	26	17 Union
		9 Nonunion
10 points	20	18 Union
		2 Nonunion
11 points	25	23 Union
		2 Nonunion
12 points	31	30 Union
		1 Nonunion

12-week RUSHU outcomes		
RUSHU score	**Patients**	**Outcome**
4 points	11	2 Union
		9 Nonunion
5 points	2	0 Union
		2 Nonunion
6 points	12	3 Union
		9 Nonunion
7 points	15	2 Union
		13 Nonunion
8 points	36	8 Union
		28 Nonunion
9 points	17	8 Union
		9 Nonunion

10 points	14	7 Union
		7 Nonunion
11 points	29	24 Union
		5 Nonunion
12 points	70	68 Union
		2 Nonunion

Figure a: Cases of Radiographic Union Score for HUmeral Fractures 11 points or more at six weeks ending in nonunion.

Male, 60 years

Figure b: Cases of Radiographic Union Score for HUmeral Fractures 11 points or more at 12 weeks ending in nonunion.
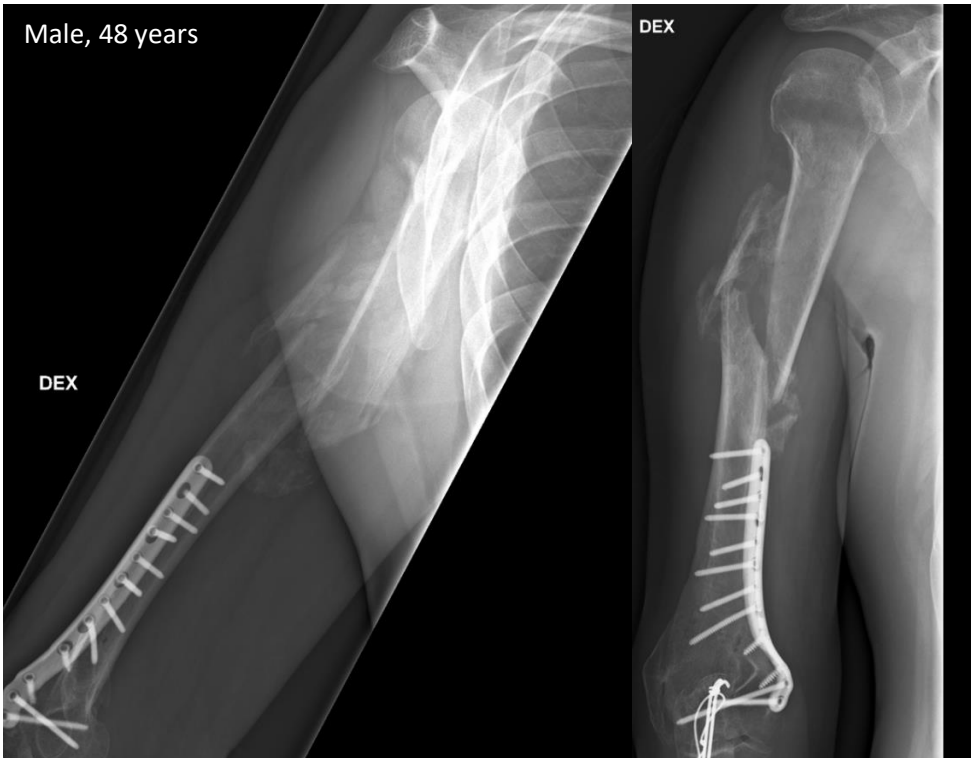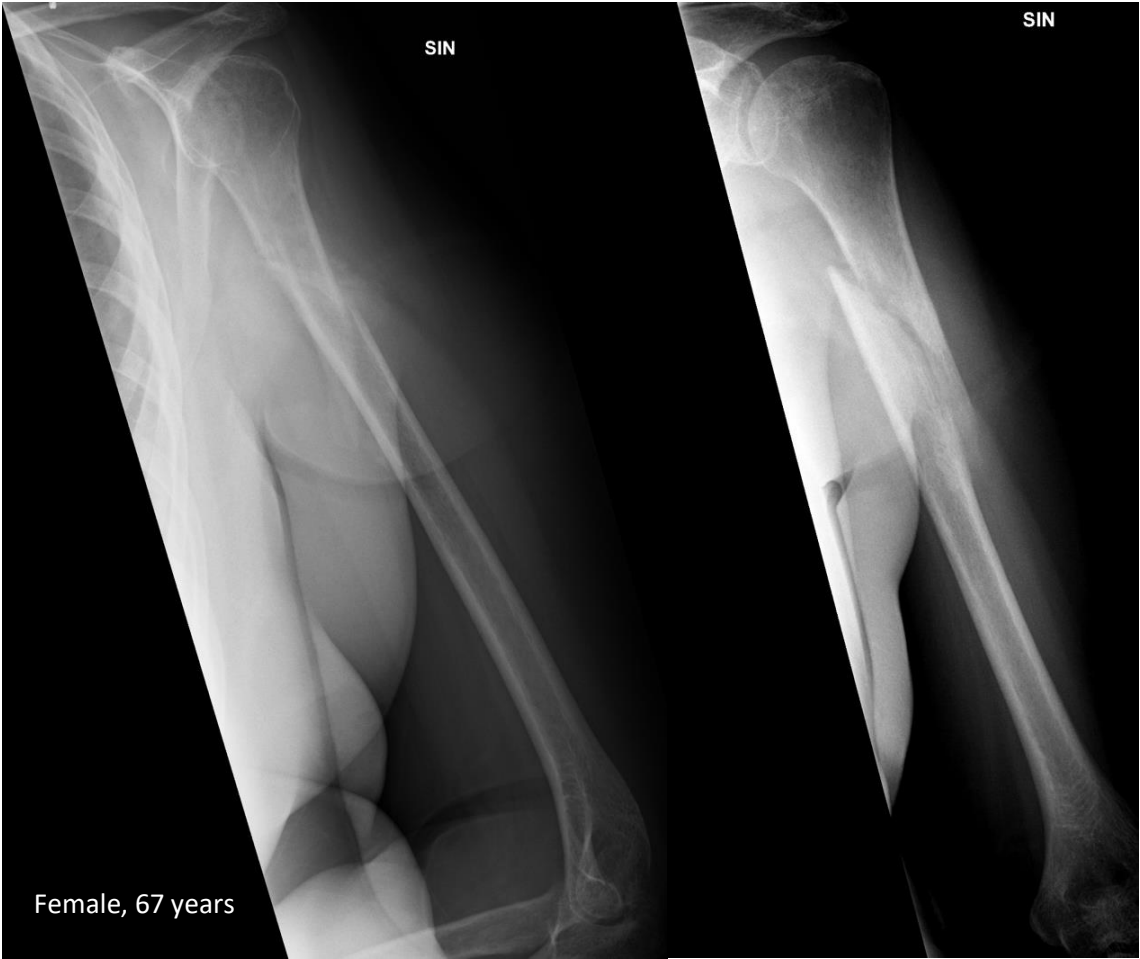

Male, 34 years

Female, 82 years

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Female, 80 years

Male, 60 years

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Female, 67 years

Male, 48 years

Male, 72 years