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TABLE E-1 Adjusted Hazard Ratio of Undergoing Upper and Lower Extremity Surgery Related to Rheumatoid Arthritis Following Diagnosis*

Characteristic	Upper Extremity Surgery		Lower Extremity Surgery	
	Hazard Ratio (95% CI)	P Value	Hazard Ratio (95% CI)	P Value
Age (yr)				
66-69	1	—	1	—
70-74	0.57 (0.38-0.88)	0.01	0.78 (0.56-1.09)	0.15
75-79	0.69 (0.46-1.05)	0.08	0.54 (0.37-0.78)	0.001
≥80	0.28 (0.16-0.49)	<0.001	0.25 (0.16-0.41)	<0.001
Sex				
Female	1	—	1	—
Male	0.72 (0.48-1.09)	0.12	0.74 (0.53-1.05)	0.09
Race				
White	1	—	1	—
Black	0.24 (0.07-0.76)	0.02	1.24 (0.75-2.04)	0.40
Other	0.57 (0.20-1.61)	0.29	0.79 (0.34-1.82)	0.58
Socioeconomic status				
Low	1	—	1	—
Middle	0.67 (0.42-1.07)	0.10	1.14 (0.78-1.68)	0.50
High	0.90 (0.58-1.41)	0.65	1.21 (0.81-1.79)	0.35
Location of residence				
Metropolitan area	1	—	1	—
Nonmetropolitan area	0.68 (0.45-1.02)	0.06	0.67 (0.48-0.94)	0.02
Comorbidity score quartile				
1	1	—	1	—
2	0.72 (0.48-1.08)	0.12	0.99 (0.71-1.38)	0.95
3	0.98 (0.64-1.50)	0.92	0.96 (0.65-1.40)	0.81
4	0.66 (0.37-1.17)	0.15	0.97 (0.62-1.53)	0.90
Assistance from state for Medicare premium				
No	1	—	1	—
Yes	1.57 (0.84-2.94)	0.16	1.88 (1.09-3.23)	0.02
Density of rheumatologists (per million residents)				
<10	1	—	1	—
10-15	0.85 (0.59-1.21)	0.36	0.72 (0.53-0.98)	0.03
>15	0.51 (0.29-0.89)	0.02	0.80 (0.52-1.21)	0.29
Density of orthopaedic surgeons (per million residents)				
<58	1		1	—
58-68	0.91 (0.57-1.44)	0.68	1.32 (0.93-1.88)	0.12
>68	1.62 (1.07-2.47)	0.02	1.00 (0.70-1.45)	0.98

*All hazard ratios are calculated from Cox proportional-hazards regression model using the receipt of initial rheumatoid arthritis-related surgery as the event, adjusted for all variables in the table.

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TABLE E-2 Procedure Codes for Upper and Lower Extremity Surgical Procedures for Rheumatoid Arthritis

Procedure*	CPT Codes†	ICD-9 Procedure Codes‡
Hand		
Tendon reconstruction or muscle release	26060, 26440, 26442, 26445, 26449, 26460, 26471, 26474, 26476, 26477, 26478, 26479, 26508, 26593, 26350, 26352, 26356, 26357, 26358, 26370, 26372, 26373, 26410, 26412, 26418, 26420, 26426, 26428, 26433, 26434, 26480, 26483, 26485, 26489, 26492, 26497, 26498	—
Synovectomy	26130, 26135, 26140, 26145	8074
MCP, IP, or CMC arthroplasty	26530, 26531, 26535, 26536, 25447	8171, 8172, 8174, 8175
MCP, IP, or CMC arthrodesis	26860, 26821, 26862, 26863, 26820, 26841, 26842, 26843, 26844, 26850, 26852	8126, 8127, 8128
Wrist		
Synovectomy	25118, 25119, 25240	8073
Arthrodesis	25800, 25805, 25810, 25820, 25825, 25830, 25337	8125
Arthroplasty	25332, 25441, 25442, 25443, 25444, 25445, 25446	8173
Elbow		
Arthroplasty	24360, 24361, 24362, 24363, 24365, 24366	8184
Synovectomy	24100, 24102, 24105	8072
Shoulder		
Arthroplasty	23470, 23472	8180, 8181
Synovectomy	23105, 23106	8071
Hip		
Arthroplasty	27130	8151, 8152
Knee		
Arthroplasty	27445, 27446	8154, 8156
Ankle		
Arthroplasty	27700, 27702	8156
Arthrodesis	27870, 27871	8111
Synovectomy	27625, 27626	8077
Foot		
Arthroplasty	28293, 28294, 28296	8157
Arthrodesis	28705, 28715, 28725, 28730, 28735, 28740, 28750, 28755, 28760	8112-8117
Synovectomy	28070, 28072, 28086, 28088	8078

*MCP = metacarpophalangeal, IP = interphalangeal, and CMC = carpometacarpal. †CPT = Current Procedural Terminology. ‡ICD-9 = International Classification of Diseases, Ninth Revision.