S5 Appendix Cost analysis - units and unit costs

Resource utilization for treatment of proximal humerus fractures in a Swedish setting, estimated for the purpose of a HTA analysis performed by the Swedish Agency for Health Technology Assessment and Assessment of Social Services

Resources	Sling	Plate fixation	Intramedullary (IM) nail fixation	Hemiarthroplasty (HA)	Reverse shoulder arthroplasty (RSA)
Material (consumables and implants) per treatment	Sling	1 plate with associated screws, surgical dressing, sling	Nail with associated locking screw (s), surgical dressing, sling	HA, surgical dressing, sling	RSA, surgical dressing, sling
Preparation time (minutes)[1]		120	120	120	120
Operating time/ treatment time (minutes)		100 [1-7]	60[3, 8, 9]	120 [10, 11]	120 [10]
Post operation time (minutes)[1]		60	60	60	60
Orthopedic surgeon (minutes)[2]	10 [12]	120	80	140	140

Assisting orthopaedic surgeon (minutes)[3]	0	100	60	120	120
Anesthesist (minutes)[4]	0	65	65	65	65
Anaesthetic nurse (minutes) [4]	0	280	240	300	300
Surgical nurse (minutes)[4]	0	280	240	300	300
Operation assistant (minutes) [4]	0	280	240	300	300
Out-patient clinic nurse (minutes) [5]	15 [12]				
Inpatient care duration due to operation (days)[5]	0	2	2	3	3

[1] Assumption by expert senior scientists in the research group based on reported data from three large Swedish general hospitals' computerized operation planning systems.

[2] Included during operating time + 10 minutes before and 10 minutes after for preparation and documentation of surgical procedure.

[3] Included only for part of operating time. Represents time needed for training of junior orthopedic surgeons.

[4] Included during preparation time, operating time and post operation time.

[5] Assumption by expert senior scientists in the research group.

Unit costs for treatment of proximal humerus fracture in US Dollars, 2016. Estimated for the purpose of a HTA analysis performed by the Swedish Agency for Health Technology Assessment and Assessment of Social Services

Resources for proximal humerus fracture treatment	Cost per treatment	References
Sling	2	[13]
Plate fixation with screws	489	[13-15]
Intramedullary (IM) nail	489	[13-15]
Hemiarthroplasty (HA)	1363	[13-15]
Reverse shoulder arthroplasty (RSA)	3518	[13-15]
Other resources	Costs per minute	References
Theatre operating time (including operating theatre rental, overhead costs and fixed equipment)	3.2	[13]
Orthopedic surgeon	2.4	[13]
Assisting orthopedic surgeon	2.4	[13]
Anesthesist	2.4	[13]
Anaesthetic nurse	1.1	[13]
Surgical nurse	1.1	[13]
Operation assistant	0.8	[13]
Out-patient clinic nurse	0,9	[13]
Inpatient care duration due to operation (days)*	522	[13-15]

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