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 $\label{thm:continuity-based} \textbf{Costing to Identify Patients Incurring High Inpatient Cost for Total Shoulder} \\ \textbf{Arthroplasty}$ 

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## **Appendix**

TABLE E-1 Time-Driven Activity-Based Costing (TDABC) Process Maps

Activity	Personnel	Probability	Duration
Check-in/Registration	Registration clerk	100%	12 min.
Rooming/Prep	Patient Care Tech	100%	7 min.
Nursing Assessment	Registered Nurse (RN)	100%	45 min.
Labs Drawn	Laboratory Tech	100%	4 min.
Nursing Assessment	OR Nurse/Scrub Nurse	100%	7 min.
Anesthesia Consult	Anesthesiologist	100%	20 min.
CRNA Consult	Nurse Anesthetist (CRNA)	100%	3 min.
Anesthesia Nerve Block	Anesthesia Resident , Anesthesiologist , Registered Nurse (RN)	100%	7 min.
Surgeon Consult/Site Marking	Orthopedic Surgeon	100%	10 min.
Pt Transfer from Pre-op to OR	Anesthesiologist	20%	3 min.
Pt Transfer from Pre-op to OR	Nurse Anesthetist (CRNA)	80%	3 min.
Pharmacist Order Verification	Pharmacist	100%	7 min.

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Personnel	Prep Time	Enter OR	Exit OR	After Case	Probability
Anesthesia Tech	5	Wheeled into OR	Wheeled into OR	5	100%
Anesthesiologist	0	Anesthesia start	Incision	1	100%
Circulating Nurse	10	Wheeled into OR	Wheeled out of OR	0	100%
Facilitator	38	Wheeled into OR	Wheeled into OR	0	10%
Nurse Anesthetist (CRNA)	12	Wheeled into OR	Wheeled out of OR	0	100%
OR Nurse/Scrub Nurse	10	Wheeled into OR	Wheeled out of OR	0	50%
Orderly	10	Wheeled into OR	Wheeled into OR	10	100%
Orthopaedic Fellow	0	Incision	Closure Complete / Surgery end	0	100%
Orthopaedic Resident	0	Incision	Closure Complete / Surgery end	0	50%
Orthopedic Surgeon	0	Incision	Closure Complete / Surgery end	3	100%
Physician Assistant (PA)	0	Incision	Wheeled out of OR	0	50%
Scrub Tech	10	Wheeled into OR	Wheeled out of OR	0	50%

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Activity	Personnel	Probability	Duration
Pt Transfer from OR to PACU	Circulating Nurse , Nurse Anesthetist (CRNA)	100%	10 min.
Documentation	Nurse Anesthetist (CRNA)	100%	5 min.
Pharmacy Reviews/Enters Order	Nurse Anesthetist (CRNA) , Pharmacist	100%	2 min.
Pharmacy Reviews/Enters Order	Pharmacist	100%	7 min.
Anesthesiologist Visits/Does Assessment	Anesthesiologist	100%	1 min.
Pt Transfer from PACU to floor	Registered Nurse (RN) , Transporter/Transportation Aide	100%	20 min.

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Activity	Personnel	Probability	Duration	Recurrence
Pharmacy Reviews/Enters Orders	Pharmacist	100%	7 min.	One time activity
☑ Nurse rounding (for nursing staff not included in staffing ratio)	Nurse Practitioner	50%	10 min.	Once a day
☑ Nurse rounding (for nursing staff not included in staffing ratio)	Physician Assistant (PA)	50%	10 min.	Once a day
Surgeon Visits/Does Assessment	Orthopedic Surgeon	100%	3 min.	Once a day
☑ Respiratory Care	Respiratory Therapist	10%	12 min.	One time activity
insurance Authorization	Case Manager	35%	1 min.	One time activity
Case Management	Case Manager	100%	10 min.	Once a day
☑ Documentation	Case Manager	100%	2 min.	Once a day
☑ Case Management Round	Case Manager , Nurse Practitioner , Physician Assistant (PA)	100%	5 min.	Once a day
☑ Patient Prepared for Discharge	Case Manager	100%	5 min.	One time activity
☑ Room Cleaning	Housekeeping	100%	15 min.	Once a day
☑ Occupational Therapy Visit	Occupational Therapist	50%	45 min.	One time activity
☑ Physical Therapy Visit	Physical Therapist	100%	30 min.	Once every 12 hours
☑ Final day additional cleaning	Housekeeping	100%	25 min.	One time activity
☑ Pain Consult	Nurse Practitioner	15%	52 min.	One time activity
🖸 IV Placement and management	IV Nurse	15%	17 min.	One time activity