

A photograph of three healthcare workers in a clinical setting, likely an operating room. They are wearing light blue scrubs and hairnets. Two workers are seated at a table, looking at a document, while a third worker stands behind them. The background shows a typical hospital environment with a door marked '18' and overhead lights.

Intermountain Healthcare
Surgical Services

Role-Specific Surgical Operations for PUI and diagnosed COVID-19 patients

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Role-Specific Responsibilities – Key Steps

PHASE	Surgeon	Charge Nurse / OR Manager	OR Runner	OR Nurse	Anesthesia	OR Tech	Anesthesia Runner
Preparation	<ul style="list-style-type: none"> Only perform essential procedures Involve caregivers at low risk (no immunosuppressed or aged providers) Perform case at low volume times when possible to minimize exposure to others 	<ul style="list-style-type: none"> Activate team Notify security Verify fit tested (N95 or PAPR) Designate PPE compliance coach to assist with proper donning and doffing of PPE 	<ul style="list-style-type: none"> Place PPEs on cart Disinfectant wipes are available Place signage Close corridor Open access door Tape off pass through 	<ul style="list-style-type: none"> Preop call Assist in setup Prepare OR Don full PPE and/or PAPR Pass additional consumable / instruments Strip linen in OR Park patient's gurney 	<ul style="list-style-type: none"> Ensures adequate PAPR available & functioning Don full PPE and/or PAPR Obtain required consumables & drugs Place drugs and airway adjuncts Remove anesthesia cart 	<ul style="list-style-type: none"> Prepare OR Don full PPE 	<ul style="list-style-type: none"> Remove anesthesia cart
Intra-Operative	<ul style="list-style-type: none"> Expeditious surgery involving only essential personnel and essential equipment 		<ul style="list-style-type: none"> Procure supplies Access and dispense supplies Retrieve requested items 				<ul style="list-style-type: none"> Access and dispense supplies
Post-Operative			<ul style="list-style-type: none"> Use disinfection guidelines 	<ul style="list-style-type: none"> Use disinfection guidelines Double bagged any specimens Don only gloves during transport 	<ul style="list-style-type: none"> Use disinfection guidelines Throw away all disposable items 	<ul style="list-style-type: none"> Use disinfection guidelines Place instruments on case cart 	<ul style="list-style-type: none"> Use disinfection guidelines Replace soda lime and HME filter
Follow Up			<ul style="list-style-type: none"> Assist with OR cleaning 	<ul style="list-style-type: none"> Transport patient 	<ul style="list-style-type: none"> Transport patient 	<ul style="list-style-type: none"> Assist with OR cleaning 	<ul style="list-style-type: none"> Assist with OR cleaning

				▪ Replenish supplies & prepare OR			
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Role-Specific Responsibilities – Overall Team Visual

Management of COVID-19 Cases in the Operating Room								
	Surgeon	Charge Nurse/ OR Manager	OR Runner	OR Nurse	Anesthesia	OR Tech	Anesthesia Runner	
<p>For patients from Isolation wards/ICU: (To give 30 minutes grace time for floor nurses to send patient to OR) Floor/ICU RN to activate Security</p> <p>Preparation Phase</p>	<ol style="list-style-type: none"> 1. Only perform essential procedures 2. Involve caregivers at low risk (no immunosuppressed or aged providers) 3. Perform case at low volume times when possible to minimize exposure to others 	<ol style="list-style-type: none"> 1. Activate team 2. Verify team is fit tested N95 or PAPR) 3. Notify security of transport time to clear hallways 4. Designate PPE compliance coach to assist with proper donning and doffing of PPE 	<ol style="list-style-type: none"> 1. Place infection control signs on door & close corridor 2. Place PPEs on cart 3. Assure disinfective wipes are available (Purple/Grey/ Orange top) 4. Open & wait at card access door to receive pre-op patient (If applicable) 5. Tape off pass through doors and corridors in OR 	<ol style="list-style-type: none"> 1. Don full PPE and/or PAPR * See weblink @ bottom of page 2. (Hold preop planning phone call w/ surgeon) 3. Prepare OR accordingly 4. Assist scrub with set up 5. Circulating RN to pass additional consumable/ instruments to OR runner (before patient enters OR) 6. Strip linen in OR room prior leaving 7. Park patient's gurney in OR hallway (assure it's immediately cleaned) 	<ol style="list-style-type: none"> 1. Ensures adequate PAPR available & functioning 2. Don full PPE &/or PAPR 3. Obtain required consumables & drugs from anesthesia cart 4. Place drugs and airway adjuncts on small back table 5. Remove anesthesia cart from OR (give to Anesthesia runner) 	<ol style="list-style-type: none"> 1. Don full PPE & prepare OR accordingly 	<ol style="list-style-type: none"> 1. Anesthesia runner remove anesthesia cart from OR. 2. Place in strategic location 	
Limit traffic in the Operating Room								
<p>Intra-Op Phase</p>	<ol style="list-style-type: none"> 1. Expeditious surgery involving only essential personnel and essential equipment 		<ol style="list-style-type: none"> 1. Procure anticipated supplies. Place on stand outside OR. 2. Access and dispense supplies through OR door to operative team 	Unused consumables/drugs placed in OR Intra-op MUST be thrown away				<ol style="list-style-type: none"> 1. Access and dispense supplies through OR door to anesthesia
<p>*Facilitate transfer of patient post-operatively via designated access door and route (Patient may be recovered in OR)</p> <p>*Circulating nurse & anesthesia transport patient back to isolation floor/ICU (Activate Security 30 minutes prior to transport to clear hallway)/Call report to floor/ICU</p>								
<p>Post-Op Phase</p>	<p>Disinfection Guidelines:</p> <ol style="list-style-type: none"> 1. Purple/Grey/Orange wipes: All furniture surfaces including, OR tables, stools, etc.. 2. Mop floors with normal quat solution 3. Send PAPR to CP for disinfection 4. Chemical: Computer screens, keyboards, and medical equipment 5. Alcohol wipes: Goggles <p style="text-align: center;">** Airing of the OR for 1 hour **</p>			<p>Specimen handling:</p> <ol style="list-style-type: none"> 1. Specimen to be double bagged 2. Transporter to don only gloves during transport 	<ol style="list-style-type: none"> 1. Throw away all disposable items including pen and tape 	<ol style="list-style-type: none"> 1. follow standard removal of gross soil and spray with approved pre cleanse agent. 2. Case cart is wiped down before leaving OR. 	<ol style="list-style-type: none"> 1. Replace soda lime and HME filter after cleaning 	
<p>Removal of PPE and PAPR:</p> <p>*Items to remove in OR room: Gowns, gloves, goggles, & shoe covers (place in trash) Immediately perform hand hygiene.</p> <p>*Transport team: (Outside of OR) Don new mask, goggles, face shield, gown, & gloves.</p>								
<p>Follow-up Phase</p>			<ol style="list-style-type: none"> 1. Assist with OR cleaning 	<ol style="list-style-type: none"> 1. Transport patient 	<ol style="list-style-type: none"> 1. Transport patient 	<ol style="list-style-type: none"> 1. Assist with OR cleaning 	<ol style="list-style-type: none"> 1. Assist with OR cleaning 	
Replenish supplies & prepare OR in readiness								
PPE/Masking Toolkit	https://m.intermountain.net/patientexperience/covid-19/ppetoolkit/Pages/Home.aspx							
<p>Source: * What we do when a COVID-19 patient needs an operation: Operating Room preparation & Guidance. Can J Anaesth. 2020 Mar 6. doi: 10.1007/s12630-020-01617-4</p> <p>Created 3/11/20 Surgical Operations</p>								

Job Instruction Standard Work – Surgeon

	Standard Work					
	Facility	Intermountain Healthcare	Department	Surgical Services		
	Trigger	Key Process		Version		Date for Review
	PUI and COVID-19 Patient Requiring Surgery	Surgeon Job Breakdown		1.0		
Timing	Major Steps	Key Points		Reasons Why		
Preparation Phase	1. Pre-Surgery Huddle	<ol style="list-style-type: none"> 1. Must occur prior to the patient transport to surgery 2. Include all members of the surgical team including the surgeon and anesthesiologist 3. Discuss prepping, positioning, supplies, meds, instrument sets, equipment and dressings. 4. Discuss pre and post-op plans for the patient, including transport and type of anesthesia (regional anesthesia preferred) 		Proper preparation to ensure the team is all aware of needs for the surgery prior to the patient being brought back to the O.R. Suite and all equipment, supplies, medications are discussed, in the room, ready to begin to minimize risk of exposure and ensure the safety of our caregivers and patient.		
Preparation Phase	2. Surgical Plan	<ol style="list-style-type: none"> 1. Perform only essential procedures 2. Involve caregiver at low risk (no immunosuppressed or aged providers) 3. When possible, perform case at low volume times when possible to minimize exposure to others 4. Use negative pressure rooms where available 		Minimize risk of exposure to other patients and healthcare providers.		
Preparation Phase	3. Surgical Equipment	<ol style="list-style-type: none"> 1. Before Surgical Case discuss equipment needs with the team and discuss which items are essential to have in the room and what can be reserved outside the room to be used “as needed” 		Protect surgical team from exposure to COVID-19		
Preparation Phase	4. Don Proper PPE	<ol style="list-style-type: none"> 1. Proper PPE to include N-95 face mask, goggles or face shield OR higher-level respirator (PAPR), splash resistant isolation gown and boot covers. 		Protect from exposure to COVID-19		
Preparation Phase	5. Transport Patient to O.R. Suite	<ol style="list-style-type: none"> 1. Place a plain surgical mask on the patient 2. Transport patient from floor/ICU either directly to O.R. Suite or negative pressure pre-op isolation room. 		Careful use of airborne isolation can contain exposure of COVID-19 to caregivers or patients		
Intra-Op Phase	6. Expeditious surgery involving only essential personnel	<ol style="list-style-type: none"> 1. Safe, coordinated care to promptly complete the needed procedure with as little exposure to team as possible. 		<ol style="list-style-type: none"> 1. Operative Team should remain in the O.R. suite during the entire procedure 		

			2. Use of pass through doors and corridors could contaminate the entire O.R. sterile core, requiring all supplies to be discarded and the core terminally cleaned.
Post-Op Phase	7. Discard disposable items	<ol style="list-style-type: none"> 1. Throw out all disposable items 2. Waste excess drugs 	Ensures no contamination of supplies or unused drugs in the O.R. suite passed on to other patients or caregivers
Post-Op Phase	8. Patient Recovery in O.R. Suite	<ol style="list-style-type: none"> 1. If patient is recovered in the OR, any team member not participating in recovery need to remove all PPE <u>INSIDE the O.R.</u> before exiting to the outside hallway. 2. O.R. Circulating RN notifies security that the patient will be transported to a non-surgical services area (i.e. floor, ICU, etc.) 3. O.R. Circulating RN notifies receiving unit of patient transport 4. Surgeon removes PPE <u>INSIDE the O.R.</u> 5. Don't wear contaminated clothing to consult family 	Proper PPE processes protect caregivers from exposure to COVID-19
Post-Op Phase	9. Patient Recovery in Negative Pressure Surgical Services Isolation Room	<ol style="list-style-type: none"> 1. O.R. Circulating RN notifies receiving unit 2. O.R. Circulating RN notifies O.R. staff to clear the route to the isolation room 3. Anesthesia removes PPE <u>INSIDE the O.R.</u> and dons new PPE outside the O.R. with proper hand hygiene. 4. Patient transported to SS isolation room 	Proper PPE processes protect caregivers from exposure to COVID-19

Job Instruction Standard Work – Charge Nurse/OR Manager

	Standard Work					
	Facility	Intermountain Healthcare	Department	Surgical Services		
	Trigger	Key Process		Version		Date for Review
	PUI and COVID-19 Patient Requiring Surgery	O.R. Manager/ Charge Nurse Job Breakdown		1.0		
Timing	Major Steps	Key Points		Reasons Why		
Preparation Phase	1. Activate Team	<ol style="list-style-type: none"> 1. Notify all essential caregivers to manage COVID-19 surgical patients 2. Assign patient to negative pressure isolation room for pre and post op care, if available 		<ol style="list-style-type: none"> 1. Prepare the O.R. team for COVID-19 surgical patient 2. Negative pressure isolation rooms are best practice. If not available, transport patient directly to the O.R. suite to avoid exposure to COVID-19 		
Preparation Phase	2. Verify Team is fit tested for N95 or PAPR	<ol style="list-style-type: none"> 1. Ensure the safety of all caregivers 		Keep our caregivers safe from exposure to COVID-19		
Preparation Phase	3. Designate PPE Compliance Coach	<ol style="list-style-type: none"> 1. Assist team with proper donning and doffing PPE 		Ensure caregivers comply with proper PPE requirements to avoid exposure to COVID-19		
Preparation Phase ≥ 30 min prior to patient transfer	3. Notify security of transport time	<ol style="list-style-type: none"> 1. At least 30 minutes prior to transfer 2. Security to clear the route from the nursing unit to the OR 3. Shut all doors 4. Secure elevators 5. Remove all non-essential caregivers and patients in hallways 		Keep our caregivers and patients safe from exposure to COVID-19		

Job Instruction Standard Work – OR Runner

	Standard Work					
	Facility	Intermountain Healthcare	Department	Surgical Services		
	Trigger	Key Process		Version		Date for Review
	PUI and COVID-19 Patient Requiring Surgery	O.R. Runner Job Breakdown		1.0		
Timing	Major Steps	Key Points		Reasons Why		
Preparation Phase	1. Infection control signs on doors	1. Place signs to alert caregivers of risk		Prevent exposure to COVID-19		
Preparation Phase	2. Close corridor	1. Adjacent to identified O.R. suite		Prevent exposure to COVID-19		
Preparation Phase	3. Place PPE on Cart	1. Ensure extra supply available outside of O.R.		Caregiver safety if extra personnel required or in the event of an emergency		
Preparation Phase	4. Ensure disinfectant wipes are available	1. Purple, Grey and Orange top wipes		Decontamination and cleaning of all surfaces		
Preparation Phase	5. Remove unnecessary equipment and supplies	1. Remove all equipment, supplies and carts not necessary for the surgery from the O.R. Suite, including supplies in cabinets and drawers.		1. All unused supplies from the O.R. suite must be discarded post-surgery to avoid exposure 2. All equipment and carts will need to be decontaminated post-surgery to avoid exposure		
Preparation Phase	6. Gather supplies	1. Accessing necessary sterile supplies outside the O.R. suite intraoperatively is prohibited		Prevent exposure to COVID-19		
Preparation Phase	7. Tape	1. All pass-through doors and corridors to clean/sterile cores 2. Wall storage cabinets		To prevent access to clean/sterile cores, cabinets and drawers and prevent contamination of sterile supplies once patient enters O.R. suite		
Intra-Op Phase	8. Patient bed	1. Bed placed in hallway after patient taken to O.R. suite and linens stripped and placed in linen bag and discarded supplies (i.e. tubing, bed liners, etc.) placed in trash bag prior to moving out in the hall. 2. O.R. Runner takes linen bag and trash to decontam 3. Wipe down bed with purple, orange or grey disinfectant wipes; including mattress, rails, handles, hand and foot boards, base and cords. 4. Make up bed with clean linens		2. Proper disposal of linens and trash ensure caregiver safety from exposure to COVID-19 3. Proper cleaning processes protect caregivers and patients from exposure to COVID-19 4. Bed ready for patient post-surgery		

Intra-Op Phase	9. Procure sterile supplies	<ol style="list-style-type: none"> 2. Requested by O.R. circulating RN either by Vocera or phone 3. Trained O.R. runner to gather requested supplies from sterile/clean core and deliver via the outside hallway door of the O.R. suite 	<ol style="list-style-type: none"> 3. Operative Team should remain in the O.R. suite during the entire procedure 4. Use of pass through doors and corridors could contaminate the entire O.R. sterile core, requiring all supplies to be discarded and the core terminally cleaned.
Intra-Op Phase	10. Lab Specimens	<ol style="list-style-type: none"> 1. O.R. circulating RN notifies O.R. Runner of lab specimen via Vocera or phone that needs to be taken to the laboratory 2. Gloved O.R. Runner meets O.R. circulator at the outside hall door holding a secondary bag 3. O.R. Circulating nurse places inner bag with labeled lab specimen in secondary bag and seals the bag 4. 2nd O.R. Runner or orderly takes specimen directly to the Lab and notifies Lab caregivers that the specimen is from a COVID-19 infected patient 	<ol style="list-style-type: none"> 1. Operative Team should remain in O.R. suite during the entire procedure 2. Proper PPE for lab deliver is gloves only 3. Ensures multiple barriers for safety 4. Ensures appropriate hand-off to Lab staff and ensures caregiver safety while handling specimen
Intra-Op Phase	11. Blood Products	<ol style="list-style-type: none"> 1. Gloved O.R. Runner to deliver blood products via outside hallway door or the O.R. suite to RN Circulating RN 	Gloves protect the O.R. Runner from exposure
Post-Op Phase	12. O.R. Suite Clean-Up	<ol style="list-style-type: none"> 1. O.R. runner to don full PPE 2. Assist with removing dirty instruments, trash and linen bags 3. Remove all PPE INSIDE the O.R. before exiting to the outside hallway and use proper hand hygiene 4. Take covered case carts to decontam for processing 5. Leave O.R. for one hour 	Proper PPE and Cleaning processes protect caregivers from exposure to COVID-19
Follow-Up Phase	13. Assist with O.R. Cleaning	<ol style="list-style-type: none"> 1. After one hour, decontaminate all surfaces with disinfectant wipes 2. Change soda lime canister 3. Discard all unused sterile supplies, drugs, pencils, pens, markers, tape rolls and any other supplies exposed during the case 4. Clean door handles and all other high touch areas 5. Untape all doors and cabinets and wipe clean 	Proper PPE and Cleaning processes protect caregivers from exposure to COVID-19

Job Instruction Standard Work – OR Circulating Nurse

	Standard Work					
	Facility	Intermountain Healthcare	Department	Surgical Services		
	Trigger	Key Process		Version		Date for Review
	PUI and COVID-19 Patient Requiring Surgery	O.R. Circulating RN Job Breakdown		1.0		
Timing	Major Steps	Key Points		Reasons Why		
Preparation Phase	1. Pre-Surgery Huddle	<ol style="list-style-type: none"> 1. Must occur prior to the patient transport to surgery 2. Include all members of the surgical team including the surgeon and anesthesiologist 3. Discuss prepping, positioning, supplies, meds, instrument sets, equipment and dressings. 4. Discuss pre and post-op plans for the patient, including transport and type of anesthesia 		Proper preparation to ensure the team is all aware of needs for the surgery prior to the patient being brought back to the O.R. Suite and all equipment, supplies, medications are discussed, in the room, ready to begin to minimize risk of exposure and ensure the safety of our caregivers and patient.		
Preparation Phase	2. Prepare O.R. Suite	<ol style="list-style-type: none"> 1. Assist the O.R. Scrub Tech with room set-up, proper supplies, meds and equipment 2. Pass any unnecessary consumables, instruments/equipment to O.R. Runner prior to patient entering the O.R. suite 		<ol style="list-style-type: none"> 1. Ensure the room is fully ready to begin the surgery 2. Prevent unnecessary waste of supplies or cleaning of instruments/equipment 		
Preparation Phase	3. Don Proper PPE	<ol style="list-style-type: none"> 1. Proper PPE to include N-95 face mask, goggles or face shield OR higher-level respirator (PAPR), splash resistant isolation gown and boot covers. 		Protect RN Circulating Nurse from exposure to COVID-19		
Preparation Phase	4. Transport Patient to O.R. Suite	<ol style="list-style-type: none"> 3. Ensure security is notified 30 min prior and route is cleared, including elevators 4. Place a plain surgical mask on the patient 5. Transport patient from floor/ICU either directly to O.R. Suite or negative pressure pre-op isolation room. 		Careful use of airborne isolation can contain exposure of COVID-19 to caregivers or patients		
Preparation Phase	5. Patient bed	<ol style="list-style-type: none"> 1. Once patient transferred from patient bed, strip bed of linen and place in linen bag 2. Place discarded tubing, bedliners, tubing, etc. in trash bag. 3. Place patient bed in hallway, adjacent to O.R. Suite 4. Ensure O.R. Runner takes linens and trash to decontam and thoroughly cleans bed. 		<ol style="list-style-type: none"> 1. Proper disposal of linens ensures caregiver safety from exposure to COVID-19 2. Proper disposal of trash ensures caregiver safety from exposure to COVID-19 3. Remove excess equipment from the room 4. Proper cleaning processes protect caregivers and patients from exposure to COVID-19 		

Intra-Op Phase	6. Procure sterile supplies	<ol style="list-style-type: none"> 1. Notify O.R. Tech for requested sterile supplies either by Vocera or phone 2. Trained O.R. runner to gather requested supplies from sterile/clean core and deliver via the outside hallway door of the O.R. suite 	<ol style="list-style-type: none"> 5. Operative Team should remain in the O.R. suite during the entire procedure 6. Use of pass through doors and corridors could contaminate the entire O.R. sterile core, requiring all supplies to be discarded and the core terminally cleaned.
Intra-Op Phase	7. Lab Specimens	<ol style="list-style-type: none"> 1. O.R. Circulating RN notifies lab of incoming specimen(s) 2. O.R. circulating RN notifies O.R. Runner of lab specimen via Vocera or phone that needs to be taken to the laboratory 3. Gloved O.R. Runner meets O.R. circulator at the outside hall door holding a secondary bag 4. O.R. Circulating nurse places inner bag with labeled lab specimen in secondary bag and seals the bag 5. 2nd O.R. Runner or orderly takes specimen directly to the Lab and notifies Lab caregivers that the specimen is from a COVID-19 infected patient 	<ol style="list-style-type: none"> 5. Operative Team should remain in O.R. suite during the entire procedure 6. Operative Team should remain in O.R. suite during the entire procedure 7. Proper PPE for lab deliver is gloves only 8. Ensures multiple barriers for safety 9. Ensures appropriate hand-off to Lab staff and ensures caregiver safety while handling specimen
Intra-Op Phase	8. Blood Products	<ol style="list-style-type: none"> 2. O.R. Circulating RN requests blood products from the blood bank 3. Gloved O.R. Runner to deliver blood products via outside hallway door or the O.R. suite to RN Circulating RN 	Gloves protect the O.R. Runner from exposure
Intra-Op Phase	9. Ancillary Clinical Services	<ol style="list-style-type: none"> 1. O.R. Circulating RN notifies ancillary clinical services (i.e. imaging) of intra-op request 2. Ancillary clinical services personnel must don full PPE before entering O.R. Suite 3. Any equipment brought by ancillary clinical services must remain in O.R. until terminal cleaning completed post procedure. 	Proper PPE and cleaning processes protect caregivers from exposure to COVID-19. Clean PPE with grey or purple top wipe
Post-Op Phase	10. Patient Recovery in O.R. Suite	<ol style="list-style-type: none"> 1. If patient is recovered in the OR, any team member not participating in recovery need to remove all PPE <u>INSIDE the O.R.</u> before exiting to the outside hallway. 2. O.R. Circulating RN notifies security that the patient will be transported to a non-surgical services area (i.e. floor, ICU, etc.) 3. O.R. Circulating RN notifies receiving unit of patient transport 	Proper PPE processes protect caregivers from exposure to COVID-19

		<ol style="list-style-type: none"> 4. O.R. Circulating RN removes PPE INSIDE the O.R. and dons new PPE outside the O.R. with proper hand hygiene. 5. Patient transported to receiving department 	
Post-Op Phase	11. Patient Recovery in Negative Pressure Surgical Services Isolation Room	<ol style="list-style-type: none"> 1. O.R. Circulating RN notifies receiving unit 2. O.R. Circulating RN notifies O.R. staff to clear the route to the isolation room 3. O.R. Circulating RN removes PPE INSIDE the O.R. and dons new PPE outside the O.R. with proper hand hygiene. 4. Patient transported to SS isolation room 	Proper PPE processes protect caregivers from exposure to COVID-19
Follow-Up Phase	12. Assist with O.R. readiness	<ol style="list-style-type: none"> 1. After terminal cleaning is complete, assist with replenishing supplies in O.R. suite 	Ensure O.R. suite is cleaned and ready for surgical patients

Job Instruction Standard Work – Anesthesia

	Standard Work					
	Facility	Intermountain Healthcare	Department	Surgical Services		
	Trigger	Key Process		Version		Date for Review
	PUI and COVID-19 Patient Requiring Surgery	Anesthesia Job Breakdown		2.0		
Timing	Major Steps	Key Points		Reasons Why		
Preparation Phase	1. Pre-Surgery Huddle	<ol style="list-style-type: none"> 1. Must occur prior to the patient transport to surgery 2. Include all members of the surgical team including the surgeon and anesthesiologist 3. Discuss prepping, positioning, supplies, meds, instrument sets, equipment and dressings. 4. Discuss pre and post-op plans for the patient, including transport and type of anesthesia (regional anesthesia preferred) 		Proper preparation to ensure the team is all aware of needs for the surgery prior to the patient being brought back to the O.R. Suite and all equipment, supplies, medications are discussed, in the room, ready to begin to minimize risk of exposure and ensure the safety of our caregivers and patient.		
Preparation Phase	2. Prepare Anesthesia Supplies	<ol style="list-style-type: none"> 3. Obtain required drugs from anesthesia cart and all needed anesthesia supplies prior to patient entering the O.R. suite 4. Place drugs and airway adjuncts on small back table 5. Remove fully stocked anesthesia cart outside the O.R. suite with an Anesthesia Runner 		<ol style="list-style-type: none"> 3. Ensure anesthesia has all needed drugs and supplies for the surgery and eliminate unnecessary wasted supplies/drugs 4. Easy access to drugs and airway adjuncts 5. Ensure proximity of additional drugs and supplies if required intra-operatively 		
Preparation Phase	3. Anesthesia Circuit	<ol style="list-style-type: none"> 2. Place Humid-Vent Small S Antimicrobial Filter between the patient and the breathing circuit and a second filter on the expiratory limb of the anesthesia circuit 		Protect surgical team from exposure to COVID-19		
Preparation Phase	4. Don Proper PPE	<ol style="list-style-type: none"> 2. Proper PPE to include N-95 face mask, goggles or face shield OR higher-level respirator (PAPR), splash resistant isolation gown and boot covers. Neck, arms, and wrists should be covered. Wash hands before and after application or removal of PPE 		Protect Anesthesia from exposure to COVID-19		
Preparation Phase	5. Transport Patient to O.R. Suite	<ol style="list-style-type: none"> 1. Place a plain surgical mask on the patient 2. Transport patient from floor/ICU either directly to O.R. Suite or negative pressure pre-op isolation room. 3. Transport Intubated patients to OR with either <ol style="list-style-type: none"> a. Transport ventilator 		Careful use of airborne isolation can contain exposure of COVID-19 to caregivers or patients		

		<p>b. Anesthesia bag with Small S Antimicrobial Filter between patient and bag to prevent aerosolization</p> <p>4. Clear hallways, elevators prior to transport</p>	
Intra-Op Phase	6. Airway Management	<ol style="list-style-type: none"> 1. Assure proper PPE: N95 Mask /PAPR Mask, gown, goggles, footwear 2. Double glove 3. Most experienced, efficient airway professional 4. Avoid awake fiberoptic and avoid aerosolized local anesthetic 5. Setup airway equipment close to patient to limit pathway of contaminated equipment 6. RSI as able to minimize aerosolizing secretions 7. Use outer gloves to sheath laryngoscope blade and promptly change inner glove 8. Seal soiled airway equipment for later processing 9. Limit staff members present for airway management 10. Antiemetics to limit viral spread from emesis 	Minimize risk of Infection while in close proximity to patient's respiratory system and secretions
Intra-Op Phase	7. Procure anesthesia supplies	<ol style="list-style-type: none"> 1. Notify Anesthesia Runner for requested anesthesia supplies either by Vocera or phone 2. Anesthesia Runner to gather requested supplies and deliver via the outside hallway door of the O.R. suite 	<ol style="list-style-type: none"> 7. Operative Team should remain in the O.R. suite during the entire procedure 8. Use of pass through doors and corridors could contaminate the entire O.R. sterile core, requiring all supplies to be discarded and the core terminally cleaned.
Post-Op Phase	8. Patient Recovery in O.R. Suite	<ol style="list-style-type: none"> 1. If patient is recovered in the OR, any team member not participating in recovery need to remove all PPE <u>INSIDE the O.R.</u> before exiting to the outside hallway. 2. O.R. Circulating RN notifies security that the patient will be transported to a non-surgical services area (i.e. floor, ICU, etc.) 3. O.R. Circulating RN notifies receiving unit of patient transport 4. Anesthesia removes PPE <u>INSIDE the O.R.</u> and dons new PPE outside the O.R. with proper hand hygiene. 5. Patient transported to receiving department 	Proper PPE processes protect caregivers from exposure to COVID-19
Post-Op Phase	9. Patient Recovery in Negative Pressure Surgical Services Isolation Room	<ol style="list-style-type: none"> 1. O.R. Circulating RN notifies receiving unit 2. O.R. Circulating RN notifies O.R. staff to clear the route to the isolation room 	Proper PPE processes protect caregivers from exposure to COVID-19

		<ol style="list-style-type: none"> 3. Anesthesia removes PPE INSIDE the O.R. and dons new PPE outside the O.R. with proper hand hygiene. 4. Patient transported to SS isolation room 	
Post-Op Phase	10. Discard excess supplies and drugs	<ol style="list-style-type: none"> 1. Throw out all disposable items 2. Waste excess drugs 	Ensures no contamination of supplies or unused drugs in the O.R. suite passed on to other patients or caregivers
Follow-Up Phase	11. Assist with O.R. readiness	<ol style="list-style-type: none"> 1. After terminal cleaning is complete, assist with replenishing anesthesia supplies and anesthesia cart in O.R. suite 	Ensure anesthesia is fully stocked and ready for the next surgical patient

Job Instruction Standard Work – OR Scrub Tech

	Standard Work					
	Facility	Intermountain Healthcare	Department	Surgical Services		
	Trigger	Key Process		Version		Date for Review
	PUI and COVID-19 Patient Requiring Surgery	O.R. Scrub Tech Job Breakdown		1.0		
Timing	Major Steps	Key Points		Reasons Why		
Preparation Phase	1. Pre-Surgery Huddle	<ol style="list-style-type: none"> 1. Must occur prior to the patient transport to surgery 2. Include all members of the surgical team including the surgeon and anesthesiologist 3. Discuss prepping, positioning, supplies, meds, instrument sets, equipment and dressings. 4. Discuss pre and post-op plans for the patient, including transport and type of anesthesia 		<p>Proper preparation to ensure the team is all aware of needs for the surgery prior to the patient being brought back to the O.R. Suite and all equipment, supplies, medications are discussed, in the room, ready to begin to minimize risk of exposure and ensure the safety of our caregivers and patient.</p>		
Preparation Phase	2. Prepare O.R. Suite	<ol style="list-style-type: none"> 1. O.R. Scrub Tech open case cart and prepares room for surgery 2. Pass any unnecessary consumables, instruments/equipment to O.R. Runner prior to patient entering the O.R. suite 		<ol style="list-style-type: none"> 6. Ensure the room is fully ready to begin the surgery 7. Prevent unnecessary waste of supplies or cleaning of instruments/equipment 		
Preparation Phase	3. Don Proper PPE	<ol style="list-style-type: none"> 2. Proper PPE to include N-95 face mask, goggles or face shield OR higher-level respirator (PAPR), splash resistant isolation gown and boot covers. 		<p>Protect O.R. Scrub Tech from exposure to COVID-19</p>		
Intra-Op Phase	4. Manage instruments and supplies within the sterile field	<ol style="list-style-type: none"> 1. Provide surgical team with requested instruments, supplies and equipment within the sterile field 2. O.R. Circulating RN requests any additional sterile supplies, instruments or equipment or either by Vocera or phone 3. Trained O.R. runner to gather requested supplies from sterile/clean core and deliver via the outside hallway door of the O.R. suite 		<ol style="list-style-type: none"> 9. Operative Team should remain in the O.R. suite during the entire procedure 10. Use of pass through doors and corridors could contaminate the entire O.R. sterile core, requiring all supplies to be discarded and the core terminally cleaned. 		
Post-Op Phase	5. O.R. Suite Clean-Up	<ol style="list-style-type: none"> 1. Remove gross soil and spray with approved pre-cleanse agent and place dirty instruments, trash and linen in case cart 		<p>Proper PPE and Cleaning processes protect caregivers from exposure to COVID-19</p>		

		<ol style="list-style-type: none"> 2. Remove all PPE INSIDE the O.R. before exiting to the outside hallway 3. Use proper hand hygiene 4. Take covered case carts to decontam for processing 5. Leave O.R. for one hour 	
Follow-Up Phase	6. Assist with O.R. Cleaning	<ol style="list-style-type: none"> 1. After one hour, decontaminate all surfaces with disinfectant wipes 2. Change soda lime canister 3. Discard all unused sterile supplies, drugs, pencils, pens, markers, tape rolls and any other supplies exposed during the case 4. Clean door handles and all other high touch areas 5. Untape all doors and cabinets and wipe clean 	Proper PPE and Cleaning processes protect caregivers from exposure to COVID-19

Job Instruction Standard Work – Anesthesia Runner

	Standard Work					
	Facility	Intermountain Healthcare	Department	Surgical Services		
	Trigger	Key Process		Version		Date for Review
	PUI and COVID-19 Patient Requiring Surgery	Anesthesia Runner Job Breakdown		1.0		
Timing	Major Steps	Key Points		Reasons Why		
Preparation Phase	1. Anesthesia Supplies	1. Gather all essential supplies for anesthesia		Patient safety and prevention of exposure to COVID-19		
Preparation Phase	2. Remove unnecessary anesthesia supplies	2. Remove all equipment, supplies and carts not necessary for the surgery from the O.R. Suite, including supplies in Anesthesia machine's cabinets and drawers.		3. All unused supplies from the O.R. suite must be discarded post-surgery to avoid exposure 4. All equipment and carts will need to be decontaminated post-surgery to avoid exposure		
Preparation Phase	3. Remove Anesthesia Cart from O.R. Suite	1. Place in strategic location outside the O.R. suite in hallway		Ensure proximity of additional drugs and supplies if required intra-operatively		
Preparation Phase	4. Set up Small Back Table for Anesthesia	1. Place known, essential anesthesia supplies for the procedure on back table by Anesthesia Provider (airway equipment, drugs, etc.)		Limit contamination of unused supplies		
Intra-Op Phase	5. Access and dispense anesthesia supplies	1. Requested by Anesthesia either by Vocera or phone 2. Trained Anesthesia runner to gather requested supplies and deliver via the outside hallway door of the O.R. suite to Anesthesia		11. Operative Team should remain in the O.R. suite during the entire procedure 12. Use of pass through doors and corridors could contaminate the entire O.R. sterile core, requiring all supplies to be discarded and the core terminally cleaned.		
Post-Op Phase	6. O.R. Suite Clean-Up	1. Anesthesia runner to don full PPE 2. Discard any disposable anesthesia supplies 3. Remove all PPE INSIDE the O.R. before exiting to the outside hallway and use proper hand hygiene 4. Leave O.R. for one hour		Proper PPE and Cleaning processes protect caregivers from exposure to COVID-19		
Follow-Up Phase	7. Assist with O.R. readiness	1. After terminal cleaning is complete, assist with replenishing anesthesia supplies and anesthesia cart in O.R. suite 2. Replace soda lime and HME filter		Ensure anesthesia is fully stocked and ready for the next surgical patient		

Appendix 1 – Operations Detail [Narrative] - Considerations for Surgery on a PUI or patient with COVID-19

Mode of Transmission

Early reports suggest person-to-person transmission most commonly happens during close exposure to a person infected with COVID-19, primarily via respiratory droplets produced when the infected person coughs or sneezes or in the case of surgery expresses secretions. Droplets can land in the mouths, noses, or eyes of people who are nearby or possibly be inhaled into the lungs of those within close proximity. The contribution of small respirable particles, aerosols or droplet nuclei, thru close proximity transmission is avoided thru use of airborne isolation precautions. This includes proper use of PPE and use of N95 or higher-level respirators (PAPRs). These are recommended for Caregivers and Providers who have been medically cleared, trained, and fit-tested.

Use of Negative pressure rooms

Surgery on a patient with COVID-19 is best managed by using negative pressure isolation rooms where possible. Within the surgical services area, if a negative pressure room is available for pre and post-op care, this room should be used. The patient should be transported directly to the negative pressure isolation room for pre-op preparation, to allow for conversations with the perioperative team and to help reassure the patient. From the negative pressure isolation room, the patient can be transported to the OR.

If a negative pressure room is not available, the patient should be transported directly to the Operating Room. Consider closing any fire or corridor doors to decrease gradient air flow.

Preparation of the OR and Equipment

Because of the mode of transmission includes aerosolization of infected droplets and particles, any equipment and supplies that are not needed should be removed from the Operating Room. This includes tables, extraneous cautery, lasers, positioning aids, chairs, steps, furniture, anesthesia carts/supplies. Any ancillary mobile supply carts (even with doors that can be closed) need to be removed from the OR.

Sterile supplies in passthroughs connected to the operating room should taped closed on both sides. In wall storage cabinets should be taped closed or supplies removed. Supplies cannot be utilized from this space intraoperatively without contaminating the entire space. Entrance to clean/sterile cores from the operating room also needs to be taped off and will not be utilized as a supply pass through once the patient enters the operating room.

A pre-surgery huddle with the surgical team including the surgeon and anesthesiologist must take place prior to the patient being transported to the operating room. For example, prepping, draping and positioning supplies, local medication, instrument sets and sterile supplies, equipment and final dressings should be reviewed with the surgeon. Preparation for these types of cases is paramount as accessing sterile supplies outside the OR will be prohibited by the operative team. A trained caregiver should be available to deliver additional supplies as communicated by the circulating nurse over Vocera or phone.

Discussion with the anesthesia provider should take place to determine the pre and post-op plans for the patient including transport plan (who and where to). This discussion should also include type of anesthesia to be utilized during the procedure. Regional anesthesia is preferred over general anesthesia. All needed anesthesia supplies should be carefully determined and brought into the operating room prior to the patient transport to the OR. Anesthesia carts should not be used within the

OR during the case. Again, pre-op prep is paramount as accessing sterile supplies outside the OR will be prohibited by the anesthesia team. An additional heat and moisture exchanger (HME) filter is placed on the expiratory limb of the anesthesia circuit. A fully stocked anesthesia cart should be placed outside the operating room with an anesthesia trained caregiver/ anesthesia runner (AMT, Anes tech or nurse).

Extra PPE should be available outside the OR for extra personnel if needed in the event of an emergency.

Transport of Patient to the OR

Careful use of airborne isolation precautions must be practiced by caregivers from time of transport to the OR until the patient is returned to the post-operative care environment and transferred to the next level of care. In addition, a plain surgical mask (non N-95 mask) should be placed on the patient during transport to assist the patient practice of respiratory hygiene.

For the perioperative team, appropriate PPE should be donned including a well-fitting N-95 face mask, goggles or face shield or higher-level respirator (PAPR), splash resistant isolation gown and boot covers are worn to transport the patient. It is recommended the OR nurse and anesthesiologist transport patients going directly to the OR to allow for discussions at the bedside regarding patient preparation.

For patients coming from the ICU, a dedicated transport ventilator is used.

Prior to transport, security should be contacted to clear the route from the floor or ICU to the OR including elevators. Superfluous surgical personnel, patients going to other ORs should also be cleared from OR hallways.

Intraoperative

Once patient is transported to the OR, take floor/ICU bed to adjacent hallway, remove linen, place in linen bag, transport linen immediately to decontam bin (in CP). Discard any supplies, tubing, bed liners in trash and take to decontam. Wipe down bed with purple, orange or grey top wipes, clean all surfaces, mattress surfaces, rails, handles, hand and foot boards, base, and cords. Make bed with clean linen.

During the procedure, two runners are stationed outside the OR. One will provide needed support and supplies for the OR team and one for the Anesthesiologist. For the intra-op team, minimal caregivers should be utilized. Students, interns, orienting caregivers should not be participating in the procedure. Caregivers should not exit the OR wearing PPE to procure supplies. Where possible, the perioperative team should remain for the entire case and not break for lunch or shift change. Sterile supplies in pass-throughs connected to the OR should not be utilized. Pass-through doors must be taped off to remind caregivers not to open door to use core supplies. All additional supplies not already in the OR should be provided by the runners. The runners should not utilize sterile/clean core doors to deliver supplies but run items from the sterile/clean core to the outside hallway door of the OR. (Break in this technique means you risk contamination to the entire core full of supplies and you would need to throw away all supplies contaminated by the positive pressure gradient air flow and terminally clean the entire core).

The OR circulator should notify the lab of incoming specimens. Any specimens being delivered outside the OR to go to lab, should be handed to the runner by the OR nurse in an inner bag and placed by the OR nurse in a secondary specimen bag being held by the runner. The internal specimen container or tube should have been labeled appropriately by the OR nurse and verified by the OR team per policy. Any extra labels needed for lab logs should be printed at the OR front desk for the runner

to utilize. A second runner or orderly should take the specimen directly to the lab and notify lab personnel of the situation. PPE for lab delivery is gloves only. Blood would be delivered through the door to the OR nurse and checked by the OR nurse and anesthesiologist.

Any other personnel utilized in the procedure (radiology technician) must fully don all PPE including N-95 mask or high-level respiratory mask. Equipment brought into the OR must remain until the end of case and terminal cleaning is performed.

Post-Procedure

It may be necessary to fully recover the patient in the OR. Any team members not participating in recovery need to remove all PPE INSIDE the OR before they exit to the outside hallway. Immediately upon leaving the OR, hand hygiene should be practiced (Link to doff PPE). Scrubs should not be worn home and one could consider changing scrubs before visiting with the family in the waiting room, however this is not required if proper PPE is donned and doffed appropriately and scrub are not grossly contaminated.

If the patient is being transported to a negative pressure isolation room within SS, the team transporting must remove PPE INSIDE the OR and replace with new PPE to transport. This include new isolation gown, goggles or face shield, and gloves. Patient transport includes hallway clearance to the isolation area (PACU, post-op in the near-by area). The circulator needs to make sure the receiving unit is notified.

For transport outside of the SS area (floor, ICU or post-op on another level), security should be called to clear hallways and elevators. Again, caregivers should remove PPE INSIDE the OR and don new PPE outside the OR. Hand hygiene should be practiced at this time.

OR Clean-Up

Dirty instruments, trash and linen bags should be immediately taken in enclosed or covered case carts to the decontam room for processing. PAPRs need to be cleaned using grey top or purple top wipe. Follow IFU on container, Personnel transporting should be wearing full PPE (link to don PPE).

A minimum of two hours should be planned for OR cleaning. All dirty instruments, trash and linen should be removed immediately, and the OR is left for one hour. After that hour, decontaminate all surfaces, screens, keyboards, cables, monitors and anesthesia machine with purple, orange or grey top wipes. The soda lime canister should be changed. All unused sterile supplies and drugs should be discarded. Pencils, pens, markers, tape rolls exposed in the case should be discarded. Door handles must be cleaned along with any other high touch areas. Surfaces that were taped must be untaped and wiped clean.

References:

1. Interim Infection Prevention and Control Recommendations for patients with suspected or confirmed Coronavirus disease 2019 (COVID-19) in Healthcare Setting: [CDC.gov/coronavirus/2019-ncov/infection-control/healthcare-infection-control-guidelines](https://www.cdc.gov/coronavirus/2019-ncov/infection-control/healthcare-infection-control-guidelines)
2. Ti, LK, Ang, LS, Foong, TW; Ng, BSW, "What we do when a COVID-19 patient needs an operation: operating room prep and guidance", *Can J Anesth*, 2020 March 3 DOI:<https://doi.org/10.1007/s12630-020-01617-4>

Appendix 2 – Detailed Process Map



