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PURPOSE:

To provide an airway to patients with suspected COVID 19 infection.

OBJECTIVE:

To standardize Airway Management of patients with Emerging and Reemerging Infectious Disease under general anesthesia.


RESPONSIBLE PERSONS:

Anesthesiologists


GENERAL CONSIDERATIONS:

A. Before instituting Airway Management







1. Personal protective equipment (PPE) should be available for all providers to ensure droplet/contact isolation precautions can be achieved.
 - 1.a Before donning the PPE:
 - Hydrate
 - Tie hair back
 - Remove jewelry (no rings, watch, bracelets, etc)/personal items
 - Check PPE (gaps and tears, fit, components)
2. Minimize number of personnel during the procedure.
 - 2.1 Limit number to 4, namely:
 - 2.1.a Inside the room (3): Airway doctor, Team leader/PPE buddy, Airway nurse, circulating hot room nurse
 - 2.1.b Outside the room/Ante room (Warm room) : (1) circulating nurse


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3. Healthcare providers' safety and personal protection is of utmost priority. Careful attention is required in donning and doffing of PPE to avoid self-contamination.
4. Suspected or confirmed patients should NOT be brought to the holding or PACU areas

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APPROVAL:


	Name/Title	Signature	Date
Prepared by:	MARIA AGNES A. SARIEGO, MN, FPCHA Operating Room Manager		5-8-2020
Reviewed:	DENNIS C. ESCALONA, MN, FPSQua Quality Assurance Supervisor		5-12-2020
Recommending Approval:	CAROLYN YU, MD Chairman, Anesthesiology Department		5/12/2020
	HENRY F. ALAVAREN, MD, FPSMID Total Quality Division Officer		5/12/2020
	MA. ANTONIA S. GENSOLI, MD, FPCHA Medical Director		5-18-2020
Approved:	GENESIS GOLDI D. GOLINGAN President and CEO		12/28/2020

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AIRWAY MANAGEMENT OF SUSPECTED/CONFIRMED COVID-19 PATIENTS FOR ANESTHESIA

A. GENERAL PRECAUTIONS

1. Confirmed or suspected COVID-19 patients **SHOULD NOT** be brought to the holding or PACU areas.
2. A designated operating room should be allocated for such cases.
3. Post signs on the doors to minimize unnecessary staff expo-sure.
4. Infected patients should be recovered in the operating room or transferred to ICU into a negative pressure room.
5. Use a high quality HMEF (Heat and Moisture Exchanging Filter) placed between the endotracheal tube and reservoir bag during transfers to avoid contaminating the atmosphere.
6. PPE should be available to all providers to ensure achievement of airborne / droplet / contact isolation precautions.
7. Prepare a checklist to guide the procedure for donning and doffing PPE.
8. Plan ahead to allow sufficient time for staff to apply PPE and barrier precautions.
9. Careful attention is required to avoid self-contamination.

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PROCEDURE:

B. PREPARATION

1. Do hand hygiene (20sec).
2. Apply footwear, gown, sealed checked N95 respirator, goggles with hood, and gloves (double gloving). Take your time while donning.
 - 2.a. Have a supervising buddy (member of the staff competent in using the PPE) who can help in putting on the PPE and performs the final visual check, making adjustments as necessary. If not available, make sure to put on the PPE step by step and check carefully.
3. Prepare drugs and equipment.
4. Do meticulous airway assessment while observing droplet infection and with contact precautions to be done once with patient
5. Formulate plan with the team.


PDOVES Plan

- P** - Prehydrate, PPE, Plan, Preselect, Practice, Preoxygenate
- D**- Drugs (Fentanyl, Propofol, Ketamine, Midazolam, Suxamethonium, Rocuronium)
- O**- Oxygen off (Before mask- Off)
- V**- Videolaryngoscope (Intubation with stylet or bougie)
- E**- ETT (Inflate cuff, connect circuit, once safely connected)
- S**- Safe circuit – Oxygen On, capnography confirmed

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C. DURING AIRWAY MANIPULATION FOR GENERAL ENDOTRACHEAL ANESTHESIA (GETA)

1. Apply a fit-tested disposable N95 respirator or a Powered Air-Purifying Respirator (PAPRs), goggles, gowns, gloves (preferably long gloves) and protective footwear. Use the double glove technique.
2. Apply standard monitoring to the patient, as you would for any induction of anesthesia.
3. Ensure intravenous access, medications, ventilator, anesthesia workstation, and suction equipment are ready and functional.
4. Designate the most experienced anesthesiologist available to perform intubation, if possible. Avoid trainee intubations during this time.
5. Avoid awake fiberoptic intubation unless specifically indicated. An atomized local anesthetic will aerosolize the virus. Consider using a video laryngoscope to improve intubation success and minimize direct exposure between the anesthesiologist and respiratory aerosols from patients.
6. Preoxygenate patient for a minimum of 5 minutes with 100% oxygen and perform a rapid sequence induction (RSI) in order to avoid manual ventilation of patient's lungs and potential aerosolization of virus from airways.
7. Perform an RSI or a modified RSI as clinically indicated. If manual ventilation is necessary, apply small tidal volumes.
8. Ensure the placement of a high quality HMEF (Heat and Moisture Exchanging Filter) or a HEPA (High Efficiency Particulate Air) filter, rated to remove at least 99.97% of airborne particles 0.3 microns or greater in between the face mask and breathing circuit or in between face mask and reservoir bag.
9. Intubate the patient with an appropriately sized endotracheal tube. Inflate the cuff and institute mechanical ventilation. Consider using a tube clamp immediately after intubation and put off oxygen to prevent potential aerosolization of virus while the endotracheal tube is not yet connected to the breathing circuit.


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10. Re-sheath the laryngoscope immediately post-intubation using the outer glove. Seal **ALL** used airway equipment in a double zip-locked plastic bag.
11. Confirm correct position of endotracheal tube with capnography and avoid auscultation if possible to prevent contaminating stethoscopes.
12. Minimizing circuit disconnection is ideal. If disconnection is unavoidable, ensure positive pressure ventilation is ceased, turn the adjustable pressure limiting valve to zero and consider clamping the ETT prior to disconnection.
13. MINIMIZE suctioning secretions. If suctioning, however, use a closed suction system to prevent aerosolization of virus
14. Decontaminate and disinfect all airway equipment according to the manufacturer and hospital policies.
15. Ensure all dirty equipment is placed in a bin that is appropriately labelled for the support staff who collect and process the equipment.
16. Avoid use of high-flow nasal oxygenation and mask for CPAP or BiPAP due to greater risk of aerosol generation.
17. After removing protective equipment, remember to **WASH HANDS** before touching your hair or face.

D. MAINTENANCE OF ANESTHESIA

General Considerations

1. Use of Total Intravenous Anesthesia recommended.
2. Maintain low flow of oxygen/air (1-2 L/min) at 0.6-0.8 FiO₂ using a semi-closed breathing circuit.
3. Use low tidal volume ventilation and apply ARDS protocol when needed.
4. Avoid circuit disconnection.
5. Clamp tube before any circuit disconnection.

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E. EMERGENCE FROM ANESTHESIA AND EXTUBATION

1. Administer anti-emetics to reduce post-op retching.
2. If needed, suction patient using the closed, in-line tracheal suction
3. Place nasal cannula and provide oxygen at less than 6LPM
4. Perforate a clear, large plastic sheath between the mask and another HMEF filter
5. Put the plastic assembly over the patient's entire face covering up to the upper torso.
6. Perform deep extubation or smooth awake extubation using Remifentanyl or Lidocaine.
7. When ready to extubate, clamp tube on expiration and deflate the cuff.
8. Extubate immediately.
9. Disconnect the tube from the circuit and connect the elbow and circuit to the HMEF filter attached to the mask.
10. Dispose ETT in designated yellow biohazard bag and seal.
11. When tolerated, place surgical face mask over the nasal cannula of the patient
12. Patient should be recovered in the OR
13. Transfer patient back to Isolation ward or ICU via designated access door

II. OBSTETRIC ANESTHESIA MANAGEMENT IN A PATIENT WITH SUSPECTED COVID-19 INFECTION

A. LABOR AND DELIVERY

1. Implement pre-hospital screening and evaluation.
2. For elective procedures such as elective cesarean delivery, induction of labor, and cerclage, screen patients and support persons(s) for symptoms of COVID-19.
3. Consider mock drills to simulate patients with symptoms of COVID-19 for labor and delivery and possible transport to the OR.
4. Limit visitors and support people for suspected and confirmed COVID-19 patients following hospital policy.


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B. GENERAL PRECAUTIONS

1. Confirmed or suspected COVID-19 patients **SHOULD NOT** be brought to holding or PACU areas.
2. A designated operating room should be allocated for cesarean delivery.
3. Post signs on the doors to minimize unnecessary staff exposure.
4. Infected patients should be recovered in the operating room or transferred to ICU into a negative pressure room.
5. PPE should be available to all providers to ensure achievement of airborne / droplet / contact isolation precautions.
6. Prepare a checklist to guide the procedure for donning and doffing PPE.
7. Plan ahead to allow sufficient time for staff to apply PPE and barrier precautions.
8. Careful attention is required to avoid self-contamination.

C. OBSTETRIC ANESTHESIA SPECIFIC CONSIDERATIONS

1. **AVOID** crash situations by anticipating needs.
2. COVID-19 infection is **NOT A CONTRAINDICATION** to neuraxial anesthesia.
3. However, assess platelet count since there are reports of thrombocytopenia among COVID-19 patients.
4. If general anesthesia is indicated, follow recommendations for airway management in patients with suspected COVID-19 infection.
5. Avoid emergent cesarean deliveries if possible.
6. Designate the most experienced anesthesiologist available to perform procedures, if possible. Avoid use of trainees in direct care of COVID-19 patients during this time.
7. Plan with the NICU team for separation of the newborn to prevent maternal-infant transmission.
8. Limit the number of staff present in the room during procedures to reduce the risk of exposure.

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IV. AFTER AIRWAY MANAGEMENT


A. EQUIPMENT HANDLING AND DECONTAMINATION

1. Re-sheath laryngoscope immediately post intubation
2. All airway equipment removed and sealed in a double ziplock bag, decontaminated or disinfected according to the hospital policy
3. All dirty equipment is placed in a bin or a yellow bag
4. All bags should be labelled for the support staff for collection, processing and proper disposal

B. DOFFING


Note: Doffing poses a high risk for contamination if not done properly

1. Remove outer gloves before touching any spaces that may be touched by others
2. Doff PPE in a designated area:
3. Remove gown. Have your doffing buddy cut the ties at the back of the gown or remove without touching the back by carefully pulling up front, rolling inside out to a ball to be disposed in the bin.
4. Perform hand hygiene (20sec)
5. Remove eye protection by grabbing the strap at the back of your head, away from your face using the sniff position (eyes forward, head forward, chin out)
6. Remove mask without touching the exterior (bottom first, top last)
7. Perform hand hygiene (20sec)

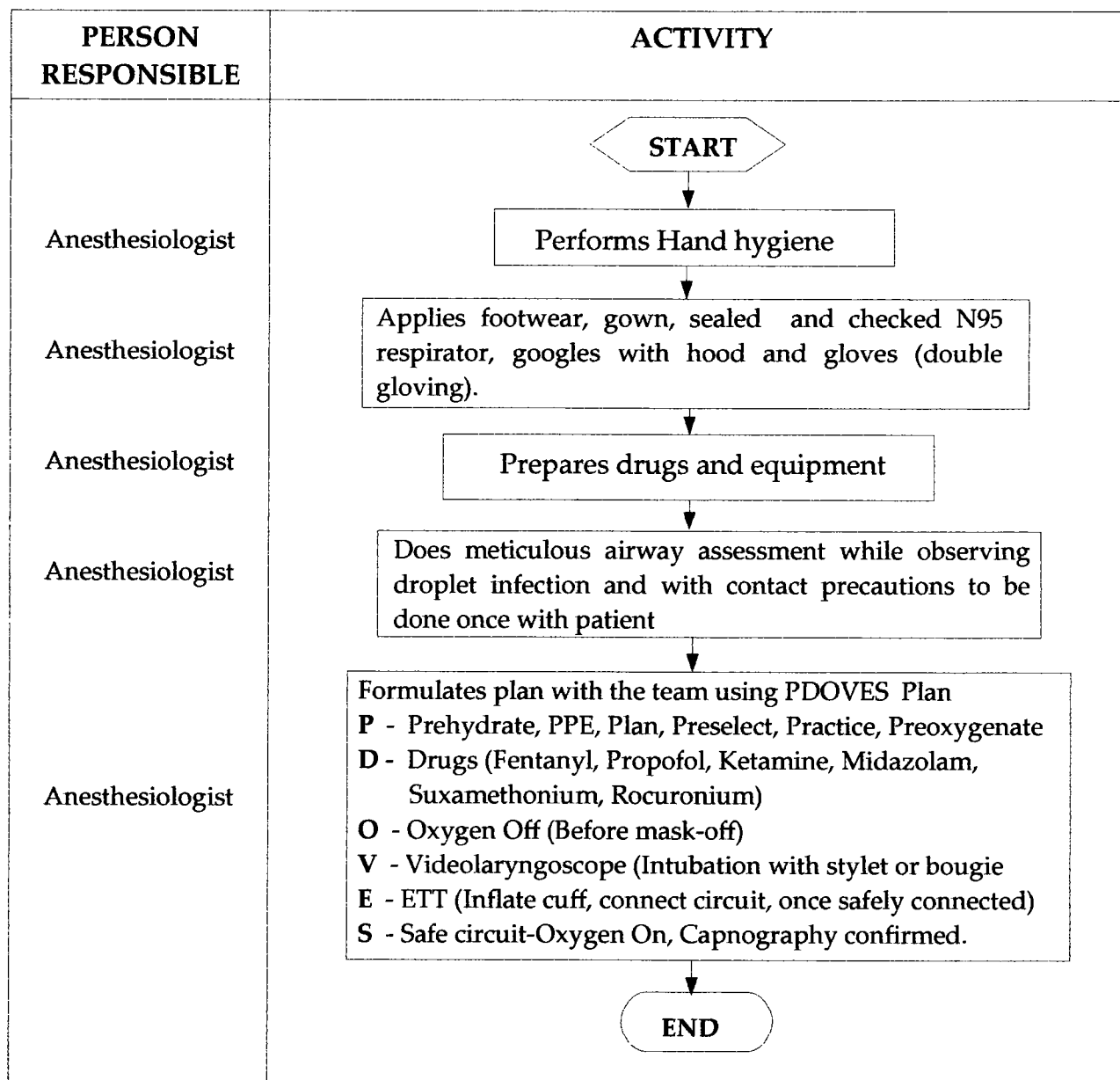
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D. RECOMMENDED PPE COMPONENTS

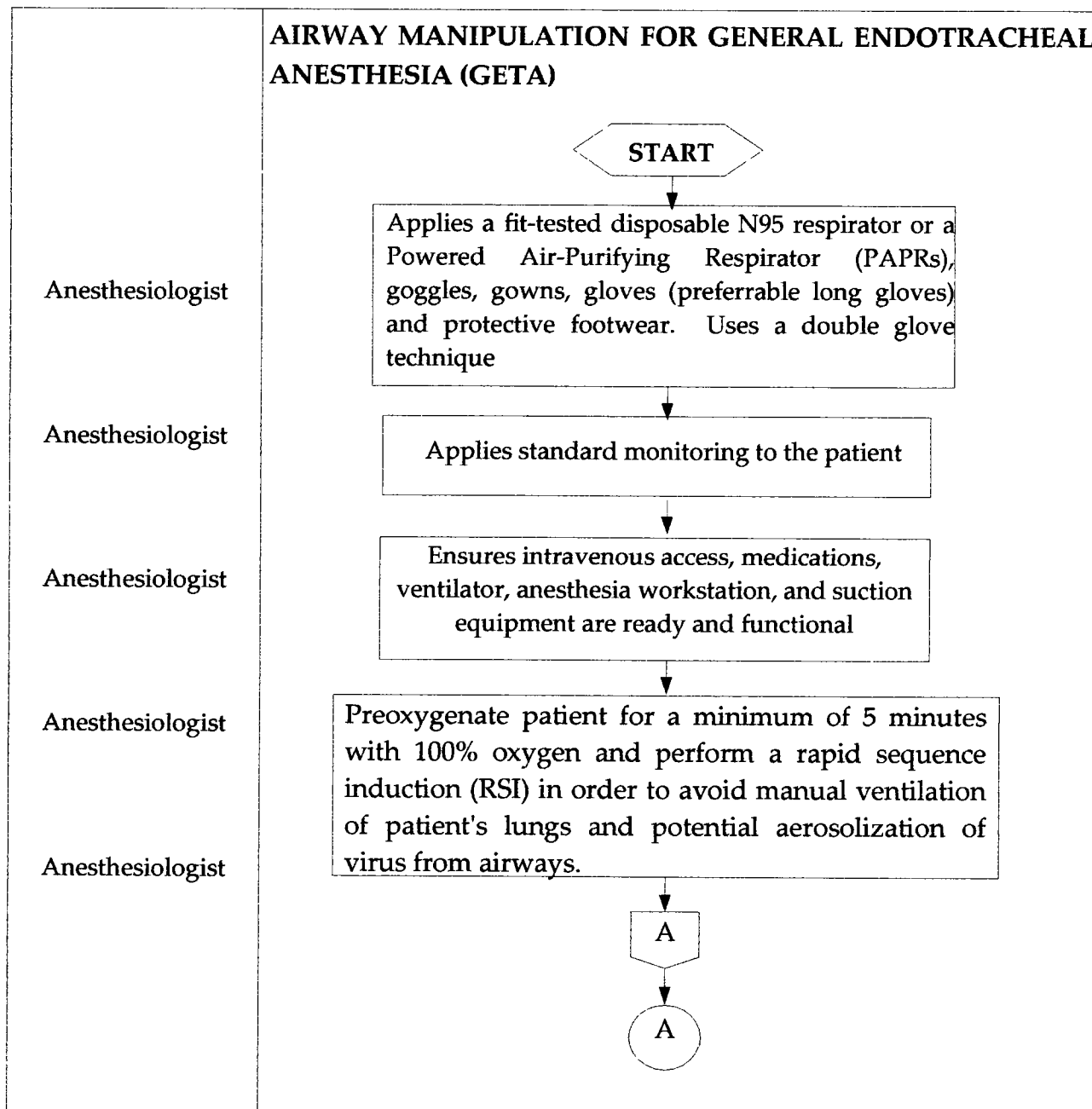
1. Gown
2. Alcohol hand rub
3. Gloves (correct size)
4. Visor
5. Goggles
6. Respiratory protection (fit tested N95 mask and Surgical Mask)
7. Boots

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FLOWCHART: PREPARATION



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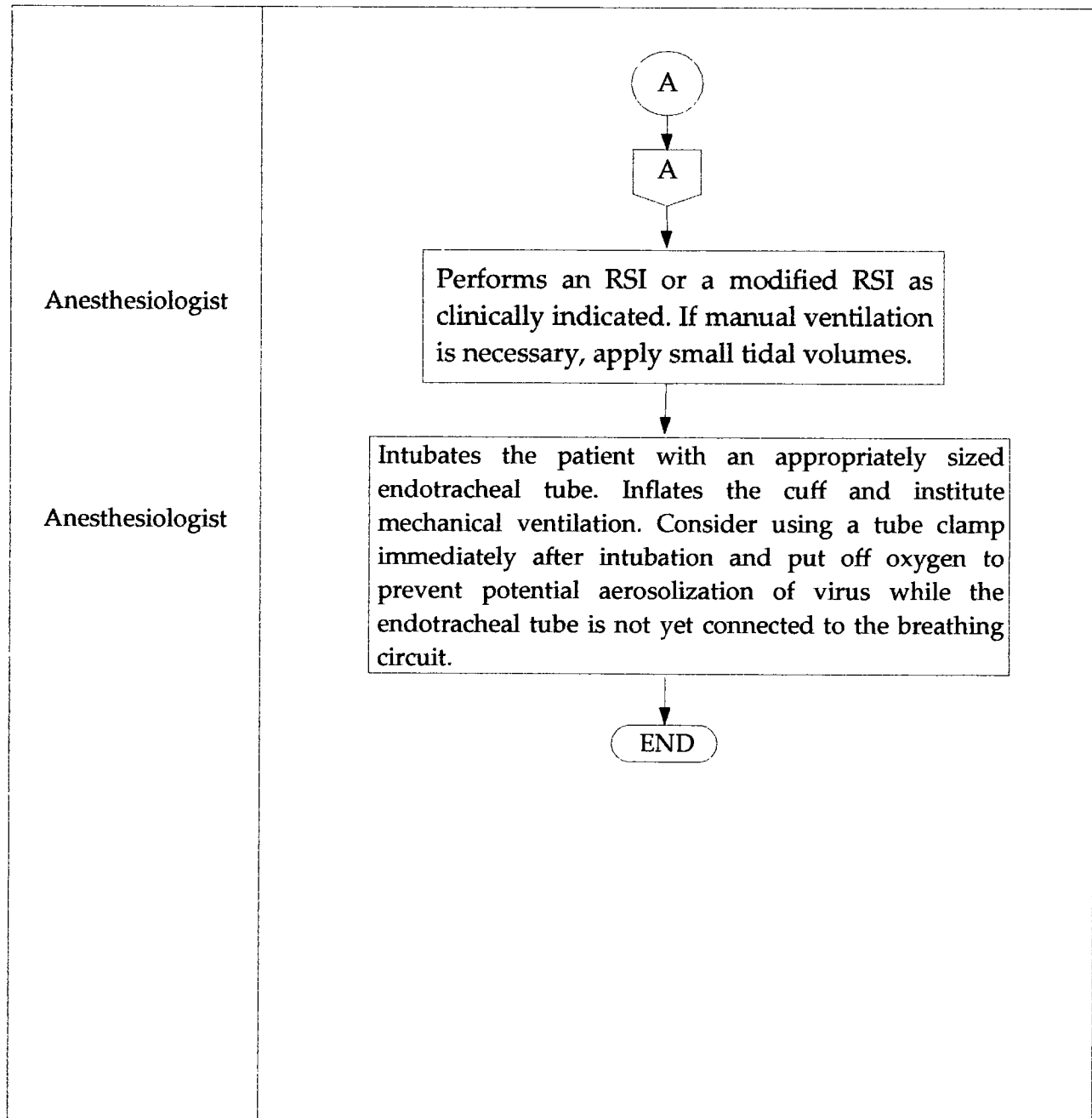




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MEMORIAL HOSPITAL

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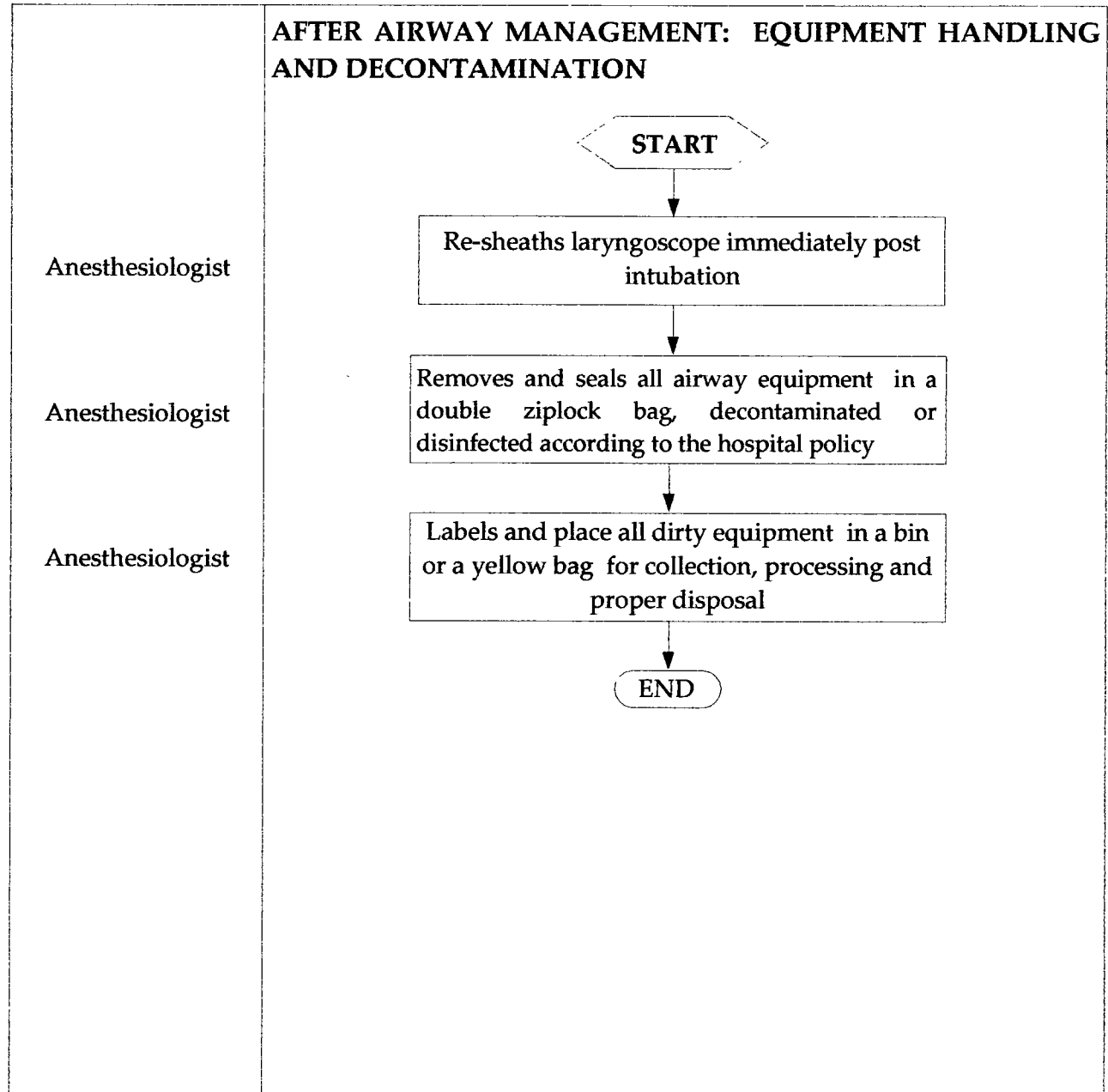





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