Protocol for surgical management of COVID-19-positive patients

Every transfer of a COVID-19-positive patient from the ward to the operating room and back was coordinated by a supervisor-general nurse. The coordinator followed the transfer in real time and was responsible for organizing all transition factors, including the presence of a security officer to clear the area of people and a cleaning service to decontaminate any area (corridors, elevator, etc.) the patient passes through.

Preparing the operating room

Before COVID-19-positive patients who are scheduled for surgery arrive at the operating room, several steps are taken to ensure the safety of the staff.

1. The maintenance crew is ordered to switch from positive to negative air pressure 2 hours before surgery.
2. All machinery and devices not related to the specific procedure are removed from the operating room, including supply cabinets.
3. All procedure-related equipment is prepared and ready for use before surgery.
4. An area is designated for the operating team to properly prepare for surgery (“clean zone”) and is equipped with complete PPE, septal scrubs, and towels in an orderly manner.
5. The designated area contains two bins with clear demarcation for dispensing of the equipment.

Preparing the medical team
1. The medical staff dons PPE in the “clean zone” in the presence of the in-charge nurse and a circulating nurse which also need to wear PPE.

2. PPE includes an N95 mask, waterproof gown or dispensable robe, goggles and face protector, gloves, surgical dispensable hat, and galoshes. The mask should fit tightly over the nose and under the chin, and the gown must be adjusted to size so it can be fully zipped. Hand sanitizer is used before donning the gloves, and the edges of the gloves should come over the end of the sleeves of the gown.

3. The coordinator notifies the team that the patient is on his/her way to the operating room.

**Transferring the patient**

1. Patients are transferred directly from the designated elevator directly to the operating room, with no stops along the way.

2. During transfer, patients are escorted by an internal medical sanitation team to ensure that the elevator and corridors have been properly decontaminated and cleared of people—**The procedure is supervised by a security officer**.

3. Patients are monitored including a suction device.

4. The patient’s bed remains within the operating room at all times.

**Intraoperative precautions**

1. Patient verification and all preoperative procedures are performed within the operating room.
2. During surgery, the operating room doors are sealed and locked, and no entry or exit is allowed.

3. If possible, the adjacent operating room remains unused for the duration of the operation.

**Postoperative ventilator care**

1. All disposable equipment is discarded after surgery.

2. Heat and moisture exchanger (HME) filters, inspiratory and expiratory, are discarded as well, including the oxygen and flow sensors of the entry and exit ports.

3. The respirator is detached from the respiratory machine and sent for sterilization, and the machine is cleaned by a trained technician.

4. The equipment sent for sterilization is subsequently returned to the anesthesia department for reattachment.

5. Overall, the cleaning and reassembling process takes approximately 5 hours. If the machine leaks following reassembly, the assembly procedure is repeated.