1. **Indications for N95 use for <u>ALL patients</u> are reserved for the below listed aerosol generating procedures unless patient is asymptomatic and COVID 19 negative test within the last 96 hours:**
    - Intubation
    - Bronchoscopy
    - ENT/OMS surgical procedures including other procedures that involve the sinuses
    - Thoracic surgery
    - Cardiopulmonary Resuscitation (CPR)
2. **Indications for N95 use and negative airflow room for SUSPECTED or CONFIRMED COVID-19 are reserved for the below listed aerosol generating procedures:**

    - Intubation
    - Extubation
    - Bronchoscopy
    - Thoracic surgery
    - ENT/OMS surgical procedures including other procedures that involve the sinuses
    - Cardiopulmonary Resuscitation (CPR)
    - Non-invasive positive pressure ventilation (BIPAP, CPAP)
    - High Frequency Oscillatory Ventilation
    - Open airway suction
    - Tracheostomy Care in non-intubated patients
    - Nebulizer therapy (Continuous and Breath Actuated Nebulizer)
    - Sputum induction
    - Laser plume
    - Autopsy
    - Manual ventilation BEFORE intubation
    - Cesarean section (Since emergent intubation may be required and is not always anticipated)

3. **Scenarios NOT considered aerosol-generating and therefore will not be done in negative pressure and will not need N95 mask use:**

    - Optiflow/Vapotherm
    - Non-rebreather
    - Oxygenation with a Mask - Venti-mask/facemask
    - Chest Physiotherapy
    - High flow O2
    - Manual ventilation AFTER intubation
    - Closed suctioning after intubation
    - Manipulation of oxygen mask
    - Defibrillation
    - Insertion of NG/OG tube
    - NP and OP swabs
    - EGD/Colonoscopy
    - TEE
    - Vaginal delivery

- Bowel surgery
- Laparoscopy
- Cautery smoke in non-ENT, non-lung procedures
- All other surgical procedures not listed in #1 or #2

Aerosol Generating Procedures (AGPs): Guiding Principles

- COVID-19 is likely a large droplet-spreading infection with the potential for contact transmission akin to other coronaviruses
  - The exception would be when an aerosol is produced by means of a procedure
- Aerosol-generating means that a procedure is able to create **small droplet nuclei (<5 mcm)** where infectious virus can be carried in appreciable quantities to establish an infection in a host who is wearing a normal surgical mask
  - **Not all procedures that "generate an aerosol" also generate droplet nuclei capable of infecting people without an N95**
  - In general, procedures that generate a high velocity against the ***respiratory epithelium*** can potentially generate droplet nuclei
- Decisions to add more procedures to the list of AGPs is not benign
  - Utilizes additional valuable resources
  - Heightens the stress around these procedures
  - Raises new questions and forces development of new policy regarding breaching in PPE for these procedures
  - Amplifies concerns about related procedures lending to more requests
  - Amplifies requests for additional PPE (double masks, double gloves) over time
- Decisions on appropriate PPE should be based on evidence and not on fear
  - Evidence should not be national guidelines
  - Evidence on living models should be prioritized over experimental systems without live subjects
  - Requests for additional procedures to be added to the list should be initiated by the requesting service with provided acceptable evidence that should be reviewed by ID/IP
- Decisions on AGPs should have a "kill switch" based on the shifting epidemiology of the disease
  - This should be determined by IP, but criteria may include decreasing prevalence, a viable vaccine, new evidence to suggest absences of aerosol transmission, lack of PPE forcing a triage process
- Groups outside of IP may influence the ultimate decision on PPE through system, local supply, workarounds, etc., but IP should hold the "true north" of approved procedures
- There is uncertainty in the literature as to whether N95s add additional benefit over surgical masks for the prevention of acquisition of droplet nuclei-carried infections (Radonovich, et al. JAMA. 2019, Loeb, et al. JAMA, 2009)