Respirator Differences: N95 vs. Powered-Air Purifying Respirators (PAPRs)

CDC Guidance says both N95 & PAPRs worn correctly will protect against COVID-19
N95 Respirator

- Standard N95: NIOSH-approved
- Designed to reduce inhalation of aerosolized particles
- Specifications allow for up to 8 hours of continuous/intermittent use
  - Unless this becomes contaminated or soiled
- Fit testing is required
- Most are single use
  - limited reuse may be permitted under certain circumstances
Benefits to N95s

- Quick to put on for use
- Less cumbersome than PAPR
- Close facial fit and very efficient filtration of airborne particles
- Recommended for within the OR Core facility
  - White 3M 9210 requires face shield along with mask
  - Green 1860 does not require face shield.
Powered Air-Purifying Respirators (PAPRs)

- Reusable respirators that are typically loose-fitting hooded or helmets
- Equipped with battery-powered blower to force air through a filter
- Capable of reducing airborne exposures at efficiencies typically exceed the N95, with using high-efficiency particulate air (HEPA) filter
Benefits to Loose-Fitting PAPRs

- Reusable
  - Durable
  - Stand up to repeated disinfection and cleaning
- Fit testing not required
  - May be used with facial hair
  - May be used when fit testing fails
- Used only during intubation and extubation within the OR
- Have to use PAPR if not medically cleared to use N95
Challenges with PAPRs

- Interference with duties
  - Visual field
    (horizontal/downward vertical gaze (often limited)
  - Hearing acuity somewhat decreased
  - Stethoscope/otoscope use may be limited
- Not recommended inside of the sterile field
- Keeping PAPR charged
  - Good for about 6-8 hours of continuous or intermittent use
- Storage between work shifts
- Disinfection/cleaning process (added requirement)
- Cost
  - N95 - $0.75
  - PAPR - $800-$2000
Key Points

- Remember CDC guidance N95’s and PAPRs will protect against COVID-19 if worn properly

- N95’s SHOULD NOT be worn in combination with PAPR