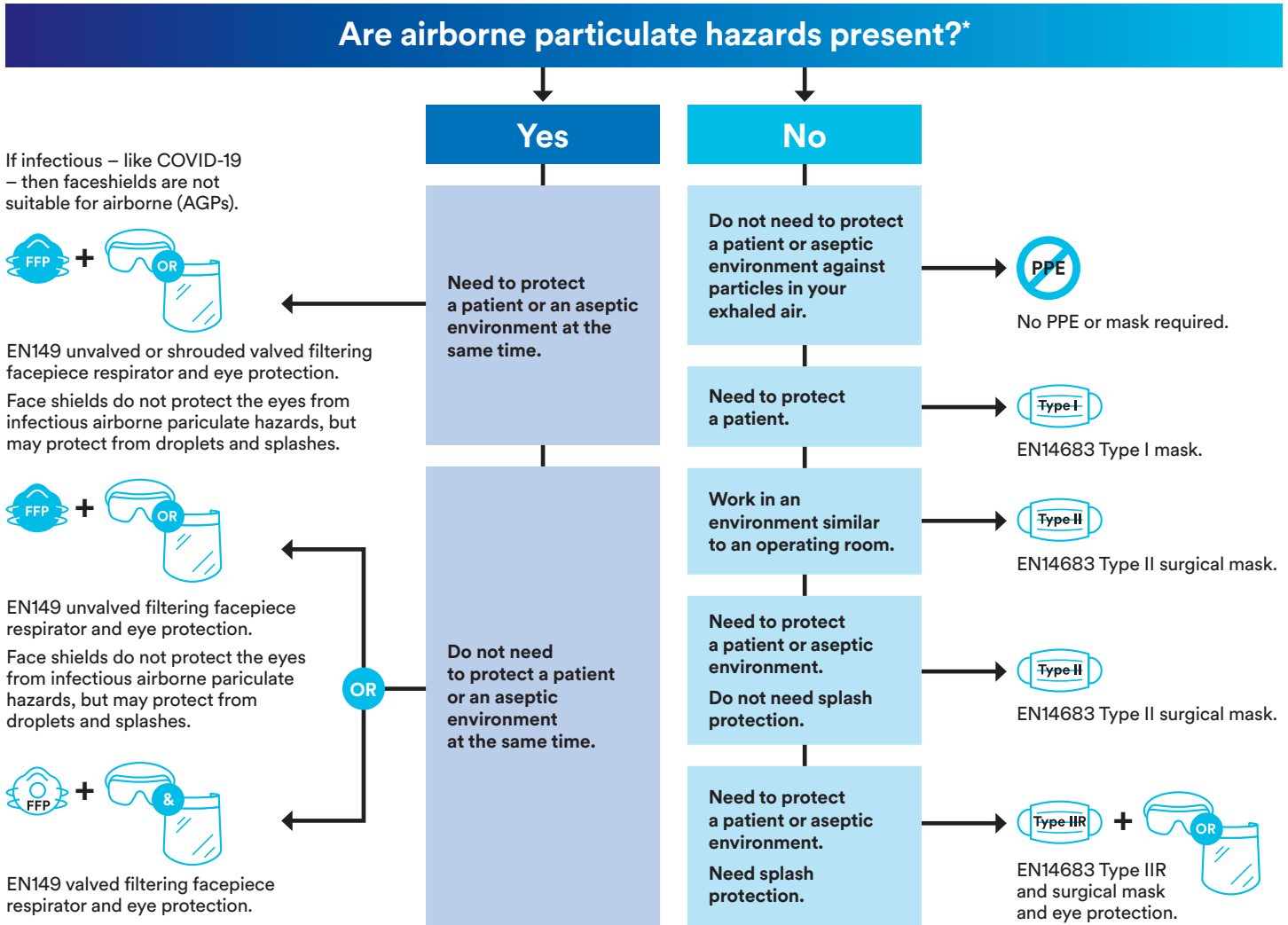


Personal protective equipment selection for surgical procedures.



Q What are airborne particulate hazards?

A Airborne particulate hazards can be in the form of aerosols, droplets or splashes.

Aerosol: a mixture of small liquid and/or solid particles < 5 micron dispersed in a gaseous system, such as air.¹

Droplet: smaller particles but larger than aerosols (approximately 5–100µm in diameter). While the lower range of these particle sizes (<20µm) will remain airborne for many minutes, particles >20µm fall out of airborne suspension within seconds. Droplet particles penetrate the respiratory tract to above the alveolar level. However, if a liquid (aqueous) droplet evaporates before falling to the ground, it can shrink to become an aerosol particle known as a ‘droplet nucleus’.²

Splash: large particles (>100µm in diameter) that fall out of airborne suspension within a few seconds.²

Q What are examples of aerosol generating procedures?


A **Aerosol generating procedures**^{3,4}

- ▶ open suctioning of airways
- ▶ sputum induction
- ▶ cardiopulmonary resuscitation
- ▶ endotracheal intubation and extubation
- ▶ non invasive ventilation (e.g., BiPAP, CPAP)
- ▶ bronchoscopy
- ▶ manual ventilation
- ▶ the use of energy devices (laser, cautery, drills, micro-debriders, saws, and ultrasonic devices)

Q What is the difference between a surgical mask and a filtering facepiece (FFP) respirator?

A Surgical masks are designed to be worn by healthcare professionals during surgery and other medical tasks, to help protect the patient or the environment by blocking some liquid droplets that are expelled by the wearer. According to EN 14683 surgical masks should be TYPE II certified.

EN149 certified filtering facepiece respirators are designed to help reduce the wearer’s exposure to airborne particulate hazards.

 When using 3M products it is mandatory to adhere to all safety standards. Always read and follow all product-specific User Instructions.

* Including COVID-19 as an airborne particulate hazard.
1 <https://study.com/academy/lesson/aerosol-definition-examples.html>
2 [https://www.journalofhospitalinfection.com/article/S0195-6701\(13\)00279-X/fulltext](https://www.journalofhospitalinfection.com/article/S0195-6701(13)00279-X/fulltext)
3 https://www.wfsahq.org/components/com_virtual_library/media/232beeb71573bafbf6a2528bf327457e-18---List-of-Aerosol-Generating-Procedures--from-CDC-website-.pdf
4 https://www.entnet.org/sites/default/files/uploads/howard_highrisk_aerosol_generating_procedures_in_covid-19_respiratory_protective.pdf