Respiratory Protection: N95 vs. Surgical Mask

Transmission of acute respiratory infections occurs primarily by contact and droplet routes. N95 respirators and surgical masks (face masks) are examples of personal protective equipment that are used to protect the wearer from airborne particles and from liquid/body fluids contaminating the face.

	N95	Surgical Mask
What is it	These are often referred to as respirators.	These are often referred to as face masks, although not all face masks are regulated as surgical masks.
Purpose	An **N95 mask protects the user** from breathing in small particles in the air such as dust and mold. An N95 respirator is a respiratory protective device designed to achieve a very close facial fit and very efficient filtration of airborne particles. The edges of the respirator are designed to form a seal around the nose and mouth.	**Surgical masks** provide barrier protection against droplets including large respiratory particle droplets, splashes, sprays or splatter that may contain germs (viruses and bacteria). A face mask does not filter or block very small particles in the air that may be transmitted by coughs, sneezes, or certain medical procedures. Surgical masks also do not provide complete protection from germs and other contaminants because of the loose fit between the surface of the face mask and your face. Surgical masks may also help reduce exposure or your saliva and respiratory secretions to others.
Face Seal fit	An N95 or higher mask is tight-fitting; When properly fitted and donned, minimal leakage occurs around edges of the respirator when user inhales.	A surgical mask is a loose-fitting, disposable device that creates a physical barrier between the mouth and nose of the wearer and potential contaminants in the immediate environment. Leakage occurs around the edge of the mask when user inhales.
Filtration	The 'N95' designation means that when subjected to careful testing, the respirator blocks at least 95 percent of very small (0.3 micron) test particles. If properly fitted, the filtration capabilities of N95 respirators exceed those of face masks.	Collection efficiency of **surgical mask** filters can range from less than 10% to nearly 90% for different manufacturers' **masks** when measured using the test parameters for NIOSH certification.
Requires fit testing and fit checking	Yes	No
Type of isolation used for	Airborne Precautions	Droplet Precautions
Common diseases used for	Coronavirus, Varicella (chicken pox), measles, pulmonary TB	Influenza, bacterial meningitis

Disposal	Discard after each patient encounter. Discard when it becomes damaged or deformed; no longer forms an effective seal to the face; becomes wet or visibly dirty; breathing becomes difficult; or if it becomes contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients.	Discard after each patient encounter. If your mask is damaged or soiled, or if breathing through the mask becomes difficult, you should remove the face mask, discard it safely, and replace it with a new one.
Shortage of masks	For pathogens for which contact transmission is not a concern, routine limited reuse of single-use disposable respirators has been practiced for decades. The CDC has released guidelines re: mask re-use an extended use. Re-use refers to the practice of using the same N95 respirator by one healthcare worker for multiple encounters with different patients but removing it (i.e. doffing) after each encounter. CDC recommends that N95s that have exceeded their manufacturer-designated shelf life should be used only as outlined in the Strategies for Optimizing the Supply of N95 Respirators Visually inspect the N95 to determine if its integrity has been compromised. Check that components such as the straps, nose bridge, and nose foam material did not degrade, which can affect the quality of the fit, and seal and therefore the effectiveness of the respirator. If the integrity of any part of the respirator is compromised, or if a successful user seal check cannot be performed, discard the respirator and try another respirator. Users should perform a user seal check immediately after they don each respirator and should not use a respirator on which they cannot perform a successful user seal check	Single patient use.
Storage	Store in an unsealed brown paper bag,	Store in an unsealed brown paper bag.

U.S. FDA N95 Respirators and Surgical masks (Face masks)
CDC Strategies for Optimizing the Supply of N95 Respirators: Conventional Capacity Strategies.