**ALERT**

Don appropriate personal protective equipment (PPE) based on the patient’s signs and symptoms and indications for isolation precautions.

Determine whether the patient has a known or suspected airborne transmissible disease. Wear respiratory protection, such as an N95 respirator or disposable particulate respirator, when caring for a patient with a known or suspected airborne transmissible disease.

**OVERVIEW**

Masks, caps (head covering), and eye protection are articles of PPE worn to prevent contact with infectious agents, vector agents (bedbugs, lice, fleas, ticks), or bodily fluids that may contain an infectious agent. PPE’s effectiveness is created by a barrier between health care team members, the patient or a visitor, and the infectious or vector agent.

The appropriate PPE is based on the type of exposure anticipated for patient care (e.g., touch, splashes, or sprays), type (if any) of isolation precautions, proper fit of the PPE, and compliance with the organization’s practice for use of PPE.

Although masks and caps are usually worn in surgical procedure areas, there are aseptic procedures performed in the patient’s home that also require these barriers. For example, a health care team member may be required to wear a mask while accessing an implanted venous access device or a peripherally inserted central catheter. Hair that is exposed or loose may be a source of bacteria, increasing the risk of infection. When performing bedside procedures, such as dressing changes for patients with burns, caps may be worn to contain hair. The health care team member should use good judgment and follow the organization’s practice.

A surgical mask is recommended when caring for immunosuppressed patients, patients with open wounds, or patients with a disease that is transmitted via the respiratory route. For diseases that are transmitted via the airborne route (e.g., tuberculosis, chicken pox), an N95 respirator mask is recommended. The organization’s practice should be followed to protect the patient, family, caregivers, visitors, and the health care team from the spread of disease. The immunosuppressed patient is at risk for acquiring an infection from the health care team member performing a central line dressing change does not wear a mask. A mask decreases the incidence of microorganisms escaping from the health care team member’s mouth and nose, and contaminating the field.

Eye protection, such as goggles or a face shield, protect the membranes of the eyes, nose, and mouth when performing tasks that could generate splashes or sprays of bodily fluids.

Eye protection provides barrier protection for the eyes. Goggles should fit snugly over and around the eyes or over personal prescription lenses. When skin protection is also needed, a face shield should be donned. A face shield should cover the forehead, extend below the chin, and wrap around the sides of the face.

PPE should be donned before initiating contact with the patient. When all immediate tasks are completed, the PPE is removed carefully to prevent self-contamination. If hands become contaminated while removing any article of PPE, they should be washed or decontaminated with an alcohol-based agent if washing with soap and water is not possible in the home.
setting. Handwashing should occur before removing the next article of PPE. All articles of PPE should be discarded in the appropriate receptacles. Gloves should be removed first (if worn), followed by eye protection (goggles or face shield), and then the mask and cap. Hand hygiene must be performed after removal of PPE.

**EDUCATION**

- Educate the patient and caregiver on when and how to don and doff a cap, mask, and eye protection, if needed.
- Explain to a patient with a known or suspected airborne transmissible disease that health care team members will wear respiratory protection, such as an N95 respirator or disposable particulate respirator during patient care.²
- Explain to a patient with influenza that health care team members will wear a mask during patient care because the disease is transmitted through the air.
- Provide developmentally and culturally appropriate education based on the desire for knowledge, readiness to learn, and overall neurologic and psychosocial state.
- Encourage questions and answer them as they arise.

**PROCEDURE**

1. Perform hand hygiene and don gloves and appropriate PPE based on the patient’s signs and symptoms and indications for isolation precautions.
2. Introduce yourself to the patient.
3. Verify the correct patient using two identifiers.
4. Explain the procedure to the patient and ensure he or she agrees to treatment.
5. Prepare an area in a clean, convenient location, and assemble the necessary supplies.
6. Consider the type of procedure to be performed and follow the organization’s practice for use of a cap, mask, or eye protection.
7. Determine whether the patient has a known or suspected airborne transmissible disease. Wear respiratory protection, such as an N95 respirator or disposable particulate respirator, when caring for a patient with a known or suspected airborne transmissible disease.²

   **Rationale:** Airborne precautions should be used when caring for a patient who is known or suspected to be infected with microorganisms that can be transmitted by an airborne route.²

**Donning Cap, Mask, and Eye Protection**

1. Don a cap (head covering).
   
   a. If hair is long, comb it back behind the ears and secure it. Comb hair in an area away from patient care. Secure hair in place with an appropriate device before donning a cap.
   
   b. Place the cap over the head, ensuring that all hair is tucked under the edges of the cap.

2. Don a mask. Ensure that the selected mask fully covers the nose and mouth and fits snugly.
   
   a. Fit the flexible nosepiece over the bridge of the nose.
b. Gently pinch the upper metal band or adhesive strip around the bridge of the nose to create a seal.

c. Place elastic bands over the ears or tie the ties at the back of the head.

3. Don eye protection.

   a. Don goggles, ensuring comfort, over the eyes and be sure that vision is clear.

   Do not use personal prescription lenses in place of goggles. Personal prescription lenses do not provide adequate eye protection.

   b. If a mask with a face shield is worn, adjust the face shield for adequate vision.

   c. Ensure that the eye protection fits snugly around the forehead and face.

4. Monitor the integrity of PPE during use.

5. Monitor situational changes and adjust PPE choices appropriately.

Donning an N95 Respirator

1. Hold the N95 respirator in the palm of the hand with the straps facing the floor.

2. Place the respirator on the face covering the nose and mouth.

3. Pull the bottom strap up and over the top of the head; put the bottom strap behind the head below the ears.

4. Take the upper strap and put it behind the head, toward the crown of the head.

5. Mold the nose piece of the respirator over the bridge of the nose to obtain a tight seal.

6. Follow the manufacturer’s instructions for wearing an N95 respirator.

7. Palpate the mask to ensure an adequate seal all around the face.

Removing Cap, Mask, and Eye Protection

1. Remove eye protection without placing the hands over the lenses.

   Remove articles of PPE carefully to prevent self-contamination. If hands become contaminated while removing the cap, mask, or eye protection, perform hand hygiene before removing the next article.

2. If wearing goggles and a mask, remove the goggles before removing the mask.

3. Discard disposable eye protection in the proper receptacle; place reusable eye protection in a covered, designated container for subsequent disinfection.

   The clear faceplate may become contaminated with droplets. Avoid touching the faceplate.

4. If wearing a mask with face shield, remove and discard it in a proper trash receptacle.

5. Remove the mask.

   Do not touch the front of the mask.

   a. If the mask has strings, untie the bottom strings.
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Rationale: Untying the bottom strings first prevents the top part of the mask from falling and contaminating the uniform.

b. Untie the top strings of the mask and remove it from the face, holding the ties securely.

Rationale: Untying the mask strings and holding them securely away from the mask prevents hand contact with the contaminated mask.

c. If the mask has elastic straps, remove the elastic from around the ears and remove the mask from the face, holding the straps securely.

d. Discard the mask in the proper trash receptacle.3 Face masks should be carefully folded so that the outer surface is held inward and against itself to reduce contact with the outer surface during storage. The folded mask can be stored between uses in a clean sealable paper bag or breathable container.4

6. Remove the cap.

a. Stand away from the patient to prevent hair from falling on him or her.

b. Grasp the outer surface of the cap and lift it away from the hair.

Rationale: Lifting the cap by the outer surface minimizes hand contact with hair.

c. Discard the cap in the proper trash receptacle.

7. Perform hand hygiene.

Removing the N95 Respirator

1. Tilt the head forward.

2. Use both hands and grab the bottom strap, pulling it to the sides and over the head.

3. Use both hands and grab the upper strap, pulling it to the sides and over the head.

4. Keep tension on the upper strap during removal to let the mask fall forward.

The N95 respirator should be removed and discarded without touching the front of the mask.

5. Discard the N95 in the proper trash receptacle. Respirators are disposable, but the same individual may use them more than once. They should be stored between uses in a clean, breathable container (e.g., paper bag), in a dry place, and out of direct sunlight. Discard the respirator if it becomes wet or damaged.5

6. Perform hand hygiene.

EXPECTED OUTCOMES
- Appropriate PPE is chosen, worn, and discarded correctly.
- PPE is not contaminated during use.

UNEXPECTED OUTCOMES
- Appropriate PPE is not worn correctly.
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- PPE is contaminated during use.

**DOCUMENTATION**

- Education

**REFERENCES**


**ADDITIONAL READINGS**


Elsevier Skills Levels of Evidence

- Level I - Systematic review of all relevant randomized controlled trials
- Level II - At least one well-designed randomized controlled trial
- Level III - Well-designed controlled trials without randomization
- Level IV - Well-designed case-controlled or cohort studies
- Level V - Descriptive or qualitative studies
- Level VI - Single descriptive or qualitative study
- Level VII - Authority opinion or expert committee reports

**Supplies**

Ensure that all necessary supplies and durable medical equipment are available.

- Appropriate device for securing hair in place
- Eye protection, such as goggles, or face shield
- Cap
- Mask
- Appropriate type of respirator (if indicated)