N95 Respirator Fit Testing, Fit Checking, and Handling Procedure
For Fit Testing Technicians and Employees

1. **Wearing the Respirator:** Don and wear the respirator in accordance with the manufacturer recommendations. Refer to 3M “Wear It Right” Instructions for N95 respirator use (Attachment 1)

2. **Fit Testing** (No chewing gum, eating, drinking 15 minutes prior to the test)

   In the University of Pennsylvania Health System (UPHS) part of your employment may require the use of a respirator to eliminate the inhalation risk of biological hazards including Tuberculosis (TB). OSHA requires that workers be **fit tested** to ensure that the respirator fits correctly and no leaks exist. Though a respirator may feel like it fits well, without a fit test there is no guarantee that it is the correct model and size to fit the individual health care worker’s facial configuration.

   - Medical evaluations should be reviewed by a licensed medical professional. If any questions are answered “YES” on the questionnaire – DO NOT FIT TEST – defer back to medical professional

   **Procedure**

   [Technician] - Discuss with employee the purpose, need, and steps that are going to be completed during this fit testing procedure. [Employee] - You will be wearing an N95 respirator to protect your respiratory system from biological hazards such as viruses and TB. A proper fit and seal is the most important part of wearing a respirator. Handle you respirator with care.

   1. **Sensitivity Test/Taste Threshold Screening. Don the testing hood.** The fit testing hood is used to create a proper test environment. The employee will breathe through an open mouth with the tongue slightly extended. A fine saccharin aerosol will be introduced into the hood and the employee should report if a sweet taste is detected. Remove testing hood and rinse mouth with water to remove any remaining taste prior to fit test.

   2. **Fit Test with the respirator. Don the respirator and the testing hood.** During the testing period, a very fine saccharin aerosol should be introduced every 30 seconds to maintain a level of sweetness determined by the sensitivity test (the full amount at first, then half the amount every 30 seconds). **No sweetness should be detected.** A properly fitting respirator will filter out all saccharin particles.

      *If sweetness is tasted at any point during the test, notify the technician immediately.*

      If sweetness is detected, the test will be stopped, the hood removed, mouth rinsed with water, and the fit of your respirator will be evaluated and corrected, or another type/size of respirator used. (1860, 1860S, 1870 [duckbill])

• **Fit Testing Exercises (all exercises should be performed for 1 minute each)**
The technician will guide you through these exercises. These exercises are motions of the head and face that would be expected when completing normal job responsibilities.

**Exercise 1 – Normal Breathing**

**Exercise 2 – Deep Breathing**
Slow deep breathes (slowly and space breaths in order to avoid hyperventilation)

**Exercise 3 – Head side-to-side**
Slowly turn your head from one side to another, like a slow exaggerated “NO”. This helps determine if any leaks occur when you turn your head to look at the door or a co-worker.

**Exercise 4 – Head up and down**
Slowly move your head up and down, like a slow exaggerated “YES”. This helps determine if any leaks would occur if you look up at a monitor or look down at the patient.

**Exercise 5 – Talking**
Talk out loud (read or count). (See Attachment 2 - Rainbow Passage). Take your time so you do not feel short of breath (reading faster will not make the minutes go faster). This helps determine if respirator leaks occur during facial movements.

**Exercise 6 – Normal Breathing**

3. **Test Completion**
After completing 1. The sensitivity test and 2. The fit test and exercises, you will be asked to remove the hood and respirator. You will be given a form or card that states the model and size of respirator that fits you. Follow manufacturer instructions on respirator use and care. Label your respirator immediately and refer to “Conservation of N95 Respirators” in Attachment 3.

4. **Fit check (to be performed every time the respirator is worn)**
   - **Negative fit check:** Cup hands over respirator without excessive pressure. Breathe in sharply. A light collapse of the respirator should be felt with no air leaking in around the face-to-face piece seal.

   + **Positive fit check:** Cup hands over respirator. Blow out. A built-up of air should be felt with no air leaking our around the face-to-face piece seal.

5. **Use, Care, and Disposal**
Wear your N95 Respirator as long as you get a good seal. This respirator is not a one-time use device. Refer to attachment 3 for details.
   - Label your mask immediately on the strap
   - Do not bend, crush, mutilate
   - Keep clean (use a “ziplock” style bag)
   - Maintain original shape and ensure the respirator is wearable multiple times (straighten the metal nose band before each use)

ATTACHMENT 1
Wear It Right 3M™ Respirators

3M™ 1860/1860S Health Care N95 Particulate Respirator and Surgical Mask

APPLICATION:

1. Cup the respirator in your hand with the nosepiece at fingertips, allowing the head straps to hang freely below hand.

2. Position the respirator under your chin with the nosepiece up.

3. While holding the respirator in place, pull the top strap over your head so it rests high on the back of your head.

4. While continuing to hold the respirator firmly in place, pull the bottom strap over your head and position it around your neck, below your ears. Untwist the straps. Position the respirator low on your nose.

5. Using both hands, mold the nosepiece to the shape of your nose by pushing inward while moving your fingertips down both sides of the nosepiece. Note: Always use two hands when molding nosepiece. Pinching with one hand may result in improper fit and less effective respirator performance.

APPLICATION:

1. Without touching the respirator, slowly lift the bottom strap from around your neck up and over your head.

2. Lift off the top strap. Do not touch the respirator.

3. Store or discard according to your facility’s infection control policy.

POSITIVE PRESSURE FIT CHECK:

The respirator must be checked before each use. To perform the fit check, place both hands completely over the respirator, being careful not to disturb the position, and exhale sharply. If air leaks around your nose, adjust the nosepiece as described in step 5. If air leaks at respirator edges, adjust the straps back along the sides of your head. Perform fit check again if an adjustment is made. If you cannot achieve a proper fit, see your supervisor. Do not enter area requiring respirator use.

WARNING

This respirator helps protect against certain particulate contaminants, but does not eliminate exposure to or risk of contracting disease or infection. Misuse may result in sickness or death. For proper use, see your supervisor or call 3M Occupational Health and Environmental Safety Division Technical Services at 1-800-243-4630.
Remove the respirator from its packaging and hold with straps facing upward. Place the bottom strap under the centre flaps next to the “WARNING” statement.

Fully open the top and bottom panels, bending the nosepiece around your thumb at centre of the foam. Straps should separate when panels are opened. Make certain the bottom panel is unfolded and completely opened.

Place the respirator on your face so that the foam rests on your nose and the bottom panel is securely under your chin.

Pull the top strap over your head and position it high on the back of the head. Then, pull the bottom strap over your head and position it around your neck and below your ears.

Adjust for a comfortable fit by pulling the top panel toward the bridge of your nose and positioning the bottom panel under your chin.

Place fingertips from both hands at the top of your nose and mould the nosepiece around your nose to achieve a secure seal.

Check the seal of your three-panel facepiece respirator each time you wear the respirator.

Place one or both hands completely over the middle panel. Inhale and exhale sharply. If air leaks around your nose, readjust the nosepiece. If air leaks between the face and face seal of the respirator, reposition it by adjusting the panels and straps. If you cannot achieve a proper seal, do not enter the contaminated area. See your supervisor.

**WARNING**

This respirator helps protect against certain particulate contaminants but does not eliminate exposure to or the risk of contracting any disease or infection. Misuse may result in sickness or death. For proper use, see your supervisor or call 3M Helpline at 1-800-364-3577.
RAINBOW PASSAGE

WHEN THE SUNLIGHT STRIKES RAINDROPS IN THE AIR, THEY ACT LIKE A PRISM AND FORM A RAINBOW. THE RAINBOW IS A DIVISION OF WHITE LIGHT INTO MANY BEAUTIFUL COLORS. THESE TAKE THE SHAPE OF A LONG ROUND ARCH, WITH ITS PATH HIGH ABOVE, AND ITS TWO ENDS APPARENTLY BEYOND THE HORIZON. THERE IS ACCORDING TO LEGEND, A BOILING POT OF GOLD AT ONE END. PEOPLE LOOK, BUT NO ONE EVER FINDS IT. WHEN A MAN LOOKS FOR SOMETHING BEYOND REACH, HIS FRIENDS SAY HE IS LOOKING FOR THE POT OF GOLD AT THE END OF THE RAINBOW.
Conserving Respirators  
During Pandemic Preparedness and Outbreak  
May 1, 2009  

There is significant global demand for N95 respirator products due to the global H1N1 influenza outbreak. 3M, the manufacturer of the 1860 and 1870 N95 respirators currently used in UPHS for airborne (isolation) hazards, has advised all medical distributors that they are in an “allocation mode,” effective April 28, 2009, for all N95 respirators. This has created a concern on the ability to maintain an adequate supply should the current H1N1 virus continue to expand and reach a pandemic level.

3M’s primary focus is to:
- Serve outbreak areas infected with the H1N1 influenza virus
- Serve existing health care customers for daily use needs

### 3M Process as of April 28, 2009

<table>
<thead>
<tr>
<th>1. All 3M Authorized Medical Distributors are being allocated respirators on a weekly basis. Allocation will be based upon 2008 demand from existing hospital facilities.</th>
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<td>2. Exceptions to this allocation will be made if and when a hospital has confirmed H1N1 flu patients.</td>
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We are continuing to pursue other avenues to secure respiratory protection for employees but are asking each of you to employ conservative and discretionary use of N95’s as to not unnecessarily deplete our normal and emergency stock piles.

**CONSERVE YOUR RESPIRATORS**

While N95’s have typically been considered one use disposable items, manufacturer recommendations state that may be stored and reused under certain conditions:

1. *Until damaged*
2. *Breathing becomes difficult*
3. *They become contaminated with blood or body fluid*
4. *There is no longer a tight seal*

Your respirators should be inspected prior to each use to assure there are no holes or tears and that it is not crushed or misshaped. Immediately replace the respirator if damaged or visibly contaminated. Also label your respirator on the elastic strap with your name.

For additional questions, contact the Infection Control Practitioners and/or Safety Managers at your facility.