







- This training is intended for the Boston University / Boston Medical Center Community only.
- Respirator fit testing required for any individual who will be wearing a tight-fitting respirator.
- Fit testing and training are required annually.
- This training provides instruction on how to administer a qualitative fit test, using saccharine or Bitrex, per [OSHA 29 CFR 1910.134 Appendix A: B.3.](#)

Introduction

- N95 Respirator use training must be completed prior to taking this module.
- You should complete this training prior to administering a fit test for the first time.
- It is recommended that you use a printed copy of this training as a reference while conducting fit tests.

Objectives

When administering a fit test, you should complete the following objectives:

- Review proper fit, use and care of an N95 respirator with test subject(s).*
- Conduct the fit test.
- Ensure that the wearer understands how to perform a respirator fit checks.*
- Discuss proper maintenance and disposal of an N95.

Precautions

- If at any time during the fit test the subject exhibits difficulty breathing, stop the test. Refer them to a health care professional.
- Saccharin and Bitrex are concentrated, bitter substances. The person administering the test may want to wear gloves.

Conducting a Fit Test

- Use the following slides as a guide for conducting each fit test.
- Always remember to clean the hood enclosure before each test. Follow the manufacturer's instructions.
- Clean the nebulizers before and after use or whenever they appear to be clogged.
 - Note: The nebulizer should be disassembled prior to cleaning.
- Once you are proficient in fit testing techniques, you will be able to fit test several people at once using multiple fit test enclosures and one set of nebulizers and test solutions.
- When testing multiple people, take special care to note each individual's sensitivity level from the taste test using the fit test form.

Step 1: Explanation

- Prior to administering the test, explain the details of the process to the test subject(s). Medical clearance (questionnaire) must be completed first and reviewed by Occ. Health.
- Explain the purpose of the test and how it works. (Taste solution through the mask)
- No facial hair, no eating, drinking, gum etc...
- Take time to answer any questions.

Step 2: Fit Test Enclosure

- Help the subject place the test enclosure ("hood") over his or her head.
- The enclosure should (NOT) be closed/sealed at the bottom.

Step 3: Solution Sensitivity Test

- Ask the test subject to stick out their tongue and continue breathing normally.

- Using the nebulizer, spray the diluted saccharin or bitrex solution into the test enclosure.
 - You should administer up to 10 short bursts until the test subject indicates that they taste the saccharin.
 - If they do not taste it, administer 10 more bursts (20 total).
 - If they again do not taste it, administer 10 more bursts (30 total).
 - Note either 10, 20, or 30 (round up) as the number of bursts required for the subject to taste the saccharin. This is called the 'taste threshold'.

- If the subject cannot taste the saccharin, you should switch to Bitrex and repeat this procedure (step 3).

Step 4: Mask Selection and Fitting

- Choose the appropriate mask size for the subject.
- Refer to the N95 Respirator Use module for a review.
- Demonstrate on yourself how to don a respirator and perform a basic fit check.
 - Explain that after this training, the subject should perform a basic fit check each time they don their respirator.
 - The mask should be held over the nose and mouth first.
 - Then the top strap which should be pulled over the head and rest under the crown of the back of the head and above the ears.
 - This is followed by the bottom strap which should be pulled over the head and rested at the neck.
 - Lastly, the nose-piece should be pressed on both sides to mold it to the face.

Step 5: Subject Preparation

- After fitting their respirator, subjects should stand and once again don their hood enclosures. Remind subject not to take hood off during fit test and also to keep mouth open slightly as this is a taste test.

- Begin filling the enclosure with 10, 20 or 30 bursts from the test solution nebulizer.
 - The number of bursts depends on the subject's taste threshold as determined in Step 3.

- From this point on, administer half as many bursts (5, 10 or 15) every 30 seconds to sustain the test atmosphere inside the enclosure during the exercises.

- Instruct the subject to inform you immediately if the test solution is tasted during the fit test.

Step 6: Fit Test Exercises

- Instruct the subject to perform the following exercises for one minute each:
 - Normal breathing
 - Deep breathing
 - The subject should breath deeply and slowly, using caution to prevent hyperventilation.
 - Turning head side to side
 - The subject should turn their head side to side from one extreme to the other repeatedly. This part should be performed slowly.

Step 6: Fit Test Exercises (Cont'd)

- Turning head up and down
 - The subject should turn their head up and down from one extreme to the other repeatedly. This part should be performed slowly
- Talking
 - The subject should read the Rainbow Passage (slide after next) out load. The Passage should be read slowly and loud enough to be heard outside the enclosure. The subject may also count from 1-60.
- Bending at the waist
 - The subject should bend at the waist as though touching their toes. Running in place may be used instead. Subject should hold hood so it doesn't fall.
- Normal Breathing

Step 6: Fit Test Exercises (Cont'd)

- If the subject tastes the test solution at any time, you must either refit the respirator and/or try a different size or style and perform the fit test again.

Step 7: Completing the Fit Test

- If the subject has not tasted the test solution during the exercises, the fit test is passed.
 - The hood should be removed and sterilized.
 - The subject should wash their face and hands.
 - Educate the subject about their N95 respirator using the material from the following slides:
 - Fit Checks
 - Limitations
 - Removal
 - Storage and Care
- * See N95 Respirator Use module for a review.

Conclusion

Please contact OEHS with questions.

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Thank You!
