



Study on Long-term Respiratory Diseases Among Former Styrene-Exposed Workers

Date and Place

Who is doing this study?

- The National Institute for Occupational Safety and Health (NIOSH), a federal public health agency, and is part of the Centers for Disease Control and Prevention (CDC).
- NIOSH was established to help assure safe and healthful working conditions and conduct research on worker safety and health.

Why is NIOSH doing this study?

- NIOSH is conducting a research study to understand the long-term respiratory health effects among styrene-exposed workers and develop effective prevention strategies.

Why is NIOSH contacting me?

- NIOSH will offer lung function testing to former employees of Tollycraft and Uniflite companies
- Because you worked for one of these companies, we are inviting you to take part in this research study.

What will I be asked to do?

NIOSH will ask you to participate in the following study procedures.

Participation is voluntary. You may answer some or all questions asked, and participate in some or all of the medical tests offered. You may drop out of the study at any time, for any reason without penalty or loss of benefits to you.

Questionnaire

- A NIOSH representative will ask you questions about your health, certain medical conditions, and work history. This will take about 45 minutes.

Breathing Tests

➤ Exhaled Nitric Oxide

- We will ask you to take a deep breath through a special mouthpiece, and then breathe out steadily for 10 seconds. We will measure the amount of nitric oxide in the air you breathe out. This test takes about 5 minutes.

Breathing Tests (Continued)

➤ Impulse Oscillometry

- We will ask you to breathe normally through a machine for 35 seconds as gentle pulses of air come through the tube. You will be asked breath like this at least 3 times, possible more. We will measure how your airways react to the gentle pulses. This test takes about 10 minutes.

➤ Spirometry Test

- We will ask you to breathe in as deeply as you can and forcefully blow out as quickly and completely as possible through a tube that you place in your mouth. You will be asked to breath like this at least 3 times, and possibly a few more times. This test measures how much air you can breathe out and how fast you breathe it out. The test typically takes 10 minutes.

➤ Bronchodilator test

- Depending on the results of your spirometry test, we may ask you to inhale 4 puffs of a medicine (albuterol) that will open your airways if they are at all narrowed. After you have received this medication, we will ask you to repeat the spirometry and/or oscillometry again to see if your airways have responded. This medicine may make your heartbeat fast or make you feel jittery for about 30 minutes. This test takes about 20 minutes.

➤ Multiple-Breath Washout

- We will ask you to breathe naturally through a machine that delivers 100% oxygen for several minutes. You will repeat this test 3 times. This test measures your lungs ability to exchange gases. This test takes about 10 minutes.

Color Vision Test

- We will ask you to put 15 caps in color order. This test screens for multiple types of color blindness. This test typically takes 5 minutes.

Blood Tests

- We will ask you to provide a blood sample from a vein in your arm. We will draw about 20 milliliters, or approximately four teaspoons, of blood. We will look at your blood for biomarkers of certain types of lung disease. Blood collection takes about 5 minutes.

What will I be asked to do?

Cigarettes, Cigar, Pipe, or Other Tobacco Products

•Please try not to smoke or use other tobacco products for 1 hour before your medical testing. If you forget, you can still be tested!

Foods and drinks

- Please try not to eat or drink anything for 1 hour before the medical testing.
- Please try not to eat beets, broccoli, cabbage, celery, lettuce, spinach, radishes, bacon, ham, hot dogs, or smoked fish for 3 hours before medical testing.
- Please try not to drink coffee, soda, or carbonated drinks for 3 hours before medical testing. If you forget, you can still be tested!

Medication

- Please bring a list of prescription and non-prescription (over-the-counter) medications that you take on a regular basis to the medical testing.
- If you use an inhaler, nebulizer, or take medications by mouth, please see additional instructions on the next page of this information packet.

Work history

- Please bring to the medical testing a list of the jobs that you have held after leaving work at Uniflite or Tollycraft companies. Please see the last page of this information packet for more instructions.

Are there any special instructions?

What will happen with the results of the study?

- Study findings will be presented to labor unions and the boat builder cohorts. The study findings will also be presented in scientific research communities, which would help in developing effective prevention strategies. Your personal study results will not be identified.

Will you keep my medical information private?

- Any medical or personal information you give us during the medical survey is confidential.
- This research is covered by a Certificate of Confidentiality from the Centers for Disease Control and Prevention. This makes it nearly impossible for NIOSH to reveal your personal information to anyone without your consent.

How can I get more information?

- Contact Dr. Suzanne Tomasi at NIOSH: 304-285-6115 or 1-800-232-2114 or yxc4@cdc.gov

Some medications can interfere with the breathing tests. If possible, do not take these medications before your medical testing, as described below. **However, if you need to use your medication, please do so and still have the medical testing. If you have any questions, please contact your healthcare provider. You may also contact the NIOSH physician at 1-800-232-2114.**

Medication	Examples		Instructions
Short-acting β -agonist bronchodilators (inhaler or nebulizer)	AccuNeb Albuterol Asmavent Levalbuterol Maxair Autohaler ProAir HFA Proventil HFA	Pirbuterol Salbutamol Ventolin HFA VoSpire ER Xopenex Xopenex HFA	If possible, please skip for 4 hours before your medical testing.
Short-acting anticholinergic bronchodilators (inhaler)	Atrovent Atrovent HFA	Combivent Duoneb Ipratropium	If possible, please skip for 4 hours before your medical testing.
Long-acting β -agonist bronchodilators with or without steroids (inhaler or nebulizer)	Advair Advair HFA Arformoterol Brovana Dulera Foradil	Formoterol Perforomist Salmeterol Serevent Diskus Symbicort	If possible, please skip for 12 hours before your medical testing.
Long-acting anticholinergic bronchodilators (inhaler)	Spiriva	Tiotropium	If possible, please skip for 24 hours before your medical testing.
Leukotriene modifiers (oral medication)	Accolate Montelukast Singulair	Zafirlukast Zileuton Zyflo CR	If possible, please skip for 24 hours before your medical testing.
Steroid inhalers	AeroBid AeroBid-M Aerospan Alvesco Asmanex Twisthaler Azmacort Beclomethasone Budesonide Ciclesonide	Flovent HFA Flovent Diskus Flunisolide Fluticasone Mometasone Pulmicort Respules Pulmicort Flexhaler QVAR Triamcinolone	If possible, do not take on day of testing.

What if I use inhalers, nebulizers, or oral asthma medications?

