

Nasco Dedicated to Delivery **Life/form**®

Diagnostic and Procedural Ear Trainer

LF01090U

Instruction Manual



ISO 9001 and
ISO 13485

Nasco Plastics
ISO 9001 and ISO 13485

Products are manufactured using a quality management system
certified as being in conformity with ISO 9001 and ISO 13485.

Life/form®



Life/form® Products by Nasco

About the Simulator

Master the skills needed to examine the human ear using visual cues, correctly diagnose common diseases, clean the ear canal, remove a foreign body, and perform a myringotomy with ear tube insertion. The **Life/form®** Diagnostic and Procedural Ear Trainer is anatomically correct. Lifelike right and left ears teach diagnostic and procedural techniques and are removable for easy maintenance and storage. For the ultimate in realism, the middle ear can be filled with various fluids. The instructor controls the color and consistency of the fluids. Another feature that brings this trainer as close to life as possible is the inclusion of nine diagnostic cartridges with full-color photo prints illustrating:

1. Normal Tympanic Membrane
2. Otitis Media with Effusion
3. Serous Otitis Media
4. Chronic Otitis Media with Perforation
7. Chronic Otitis Media with Large Perforation
- 8A. Attic Cholesteatoma (view 1)
- 8B. Attic Cholesteatoma (view 2)
9. Retracted Ear Drum
10. Tympanosclerosis



List of Components

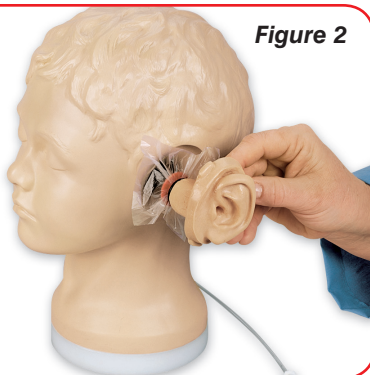
- A. Trainer
- B. 2 Ears
- C. Eardrums, Precut, Approximately 100
- D. Specially Formulated Ear Wax
- E. 3 Standard Middle Ear Cartridges with Syringe
- F. Adjustable Stand
- G. Hard Carry Case (not pictured)
- H. Thickener (not pictured)
- I. Die-cut Foam Piece (not pictured)

Ostoscope, ventilation tubes, and surgical instruments are sold separately.

Figure 1



Figure 2



To Assemble the Stand

1. Screw the steel rod firmly into the base.
2. Slide the two-way clamp onto the rod and tighten securely at the desired height. Fasten the ring stem into the clamp and adjust so that the ring is directly above the base.
3. Fit the head onto the ring and tighten the thumbscrews to secure. (Do not overtighten.) The head can be tilted to either side by adjusting the clamp.
4. The trainer may also be used without the stand. The die-cut foam piece may be used to steady the trainer when used in the supine position.

Figure 3



For Myringotomy or Fluid Simulation

1. Place a pre-cut eardrum over the opening of the standard middle ear cartridge. Roll an O-ring over the cartridge, down to the flange, securing the eardrum in place. **(See figure 1.)** Be careful not to damage the plastic film. Distribute excess material evenly around the flange to minimize potential leakage.
2. Insert the cartridge into the back of either ear by aligning the marks. Feed the tubing with the luer fitting into the head and out the hole in the back of the neck. **(See figure 2.)**
3. Fill the syringe with fluid, if desired, and attach to the tubing. Use plain water for thin secretions and easy clean-up, or add thickener. Pull back on the plunger slightly to withdraw air from the system, allowing the bubbles to rise up the barrel of the syringe. Carefully inject a small amount of fluid into the ear to simulate the desired condition. Avoid excessive pressure that may cause rupture or leakage. The syringe may also be used to withdraw air from the middle ear, retracting the eardrum.
4. Snap the outer ear into the head, making sure all three tabs are fully seated in the slots. **(See figure 3.)**

Diagnostic Cartridges

The cartridges representing various disease conditions are designed to be inserted into the left ear. They are for diagnostic teaching purposes only. Do not attempt to perform any other procedures with these cartridges in place.

Ear Wax

Ear Wax may be placed into the ear canal as desired. Then, install the eardrum and cartridge as described above. At the completion of training, remove the cartridge and clean the ear canal with warm water and a cotton swab. Mild liquid soap or detergent may be used if needed. Dry the ear thoroughly.

Care of the Trainer

1. Avoid leaving any part of the trainer, especially the ears, in prolonged contact with inks, printed materials, or varnished surfaces.
2. Exposure to excessive heat may damage the trainer.
3. Normal soil can be removed by washing the trainer with warm water and mild soap or detergent. Allow to dry completely before storing.
4. Remove the eardrum and drain fluid from the tubing system when the training session is finished.
5. Remove the ears from the head before storage.

Life/form® Pneumatic Otoscopy Kit LF01085U (Sold Separately)

Partnering with the University of Virginia, Nasco offers an exciting additional feature for the **Life/form®** Diagnostic and Procedural Ear Trainer. While pneumatic otoscopy is indispensable for examination of the ear, studies have shown that most are performed incorrectly! Now with the valuable feedback offered by this kit, students, residents, and practicing physicians can learn how to generate the correct amount of air pressure needed to perform accurate pneumatic otoscopy to test for tympanic membrane mobility.

Examiners should learn to generate appropriate pressure, as markedly abnormal tympanic membranes will move if enough pressure is applied and may result in erroneous diagnoses and patient discomfort. The Ear Trainer can simulate normal and abnormal tympanic membranes. Fluid can be inserted into the middle ear cartridge with the attached syringe to simulate a bulging tympanic membrane or an air-fluid level. Additionally, the examiner can pull back on the syringe to simulate a retracted tympanic membrane.

Kit includes a pneumatic pressure gauge, two pneumatic ears with pressure tubing, and a package of approximately 100 eardrums.

Supplies/Replacement Parts

LF01076U	Pneumatic Ears, set of 2
LF01077U	5 PSI Manometer for Pneumatic Ears
LF01086U	Diagnostic Cartridges, set of 9
LF01088U	Diseases of the Ear Projection Slides, set of 9
LF01089U	Replacement Ears, set of 2
LF01091U	Replacement Eardrums, pkg. of 100
LF01092U	Ear Wax Jar
LF01094U	Replacement Standard Cartridge
LF03774U	Thickener

Actual product may vary slightly from photo. Nasco reserves the right to change product color, materials, supplies, or function as needed.

Other Available *Life/form*® Simulators

- LF01018U** Simulated Earwax with Applicator
- LF01019U** Ear Examination Simulator and Basic Nursing Set
- LF01085U** Pneumatic Otoscopy Kit
- LF04001U** *GERI*™ Complete Nursing Skills Manikin
- LF04020U** *KERI*™ Complete Nursing Skills Manikin



LF01018U



LF01085U



LF01019U



LF04001U



LF04020U

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