

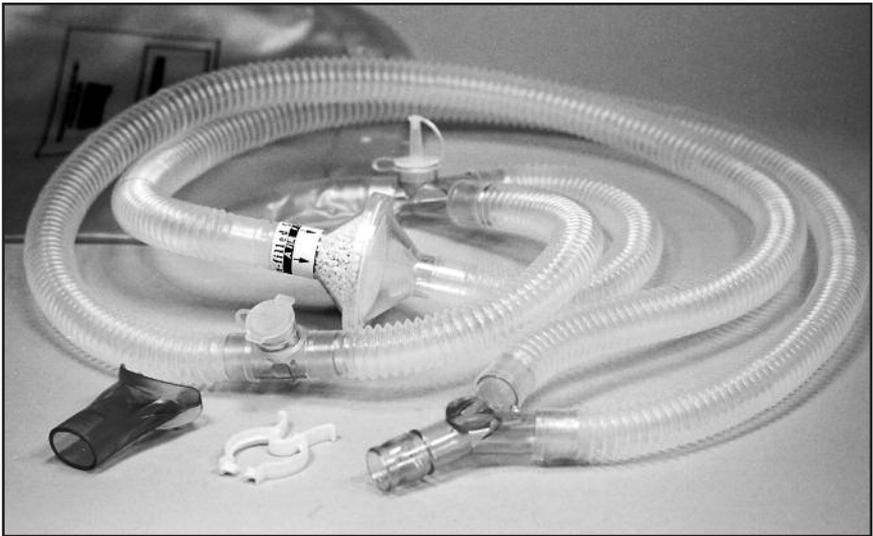
# DISPOSABLE XENON REBREATHING SYSTEMS

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## INSTRUCTIONS FOR USE

**REF** 060-133    Rebreathing System, Xenon-133, Mouthpiece

**REF** 060-137    Rebreathing System, Xenon-133, Adult Mask



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## Instructions for the following Biodex products:

060-133 Xenon-133 Rebreathing System, Mouthpiece  
060-137 Xenon-133 Rebreathing System, Adult

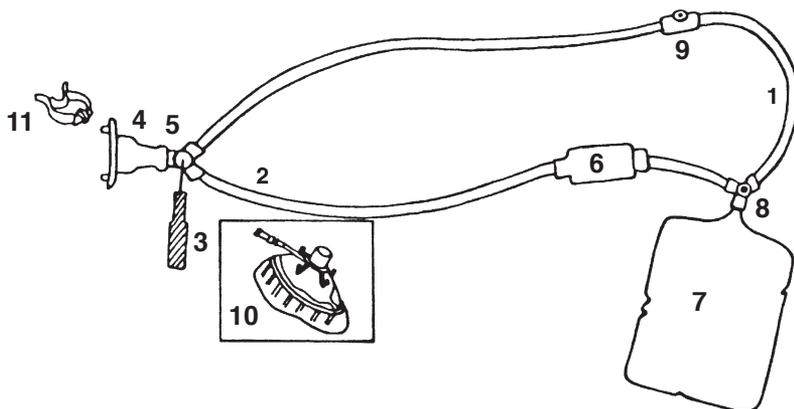


Figure 1.

- 1 Clamp Site #1
- 2 Clamp Site #2
- 3 Gas Device
- 4 Mouthpiece
- 5 Injection Site
- 6 CO<sub>2</sub> Absorber (Pre-filled with Soda Lime and Dust Filtered)
- 7 Collection Bag (35-Liter)
- 8 O<sub>2</sub> Inlet
- 9 Room Vent
- 10 Mask
- 11 Nose Clamp

### INSTRUCTIONS FOR USE

(Refer to Figure 1.)

This inexpensive, disposable device is used to both administer Xenon-133 and to collect the expired gas. Made entirely of plastic, the system is used for one patient only and then discarded after the Xenon has been allowed to decay or has been exhausted from the Collection Bag.

The system consists of a Disposable Mouthpiece or Face Mask, which does not require sterilization, Injection Site for the administration of Xenon-133, CO<sub>2</sub> Absorber and Oxygen Inlet for filling a 35-liter Collection Bag.

Xenon-133 is injected into the system and inhaled by the patient when the camera is turned on. Patients then hold their breath until sufficient counts are collected or until they must breathe. While the patient is breathing through the system, "equilibrium phase" data is collected. When sufficient data has been compiled, the appropriate valves are opened and the patient inhales outside air and exhales into the Collection Bag until the bag is full enough to offer resistance. The entire rebreathing apparatus is then removed and placed in a hood or other area for decay storage and/or release of gas.

## PROCEDURE

1. Position an IV pole on any convenient side of the detector head so that the pole is out of the field of view of the camera system.
2. For your convenience, a pre-filled, dust-free soda lime cartridge (6) is provided at no extra charge.
3. Suspend the Rebreathing System from the Y-shaped collection bag manifold.
4. Position the patient and rebreathing unit with Collection Bag (7) out of the view of the camera.
5. Clamp tubing closed at position (1) with a Kelly Clamp (not included).
6. Be sure that the Room Vent Plug (9) is readily removable. To test, exert sufficient force to remove it and re-seal it in a manner which will maintain a gas seal, yet allow removal.
7. Remove plug from O<sup>2</sup> Inlet (8), attach O<sup>2</sup> tubing and add O<sup>2</sup> to Collection Bag (7). Experience will indicate the amount necessary but about half-full is usually sufficient.

**NOTE:** Care must be taken not to overfill Collection Bag (7), since the last phase (washout) of the procedure requires that a few exhalations of the patient must go into the Collection Bag (7). After O<sup>2</sup> has been added to the system, turn off the O<sup>2</sup> source and leave it connected to the system in case more is needed.

8. Place the patient in the desired orientation to the camera face.
9. With a Flood Source, check to see that the patient's lungs are totally included in the detector/collimator field of view.
10. Explain the procedure to the patient and when ready to begin:

*If using Model #060-133:*

Place a Nose Clamp (12) on the patient. Release the Kelly Clamp from tubing position (1) and assist the patient in inserting Mouthpiece (4) properly with no leaks around the mouth. Insert the syringe needle of the Gas Device (3) (syringe, special gun, etc.) into the Injection Site (5).

*If using Model #060-137:*

Place Mask (10) on the patient properly with no leaks between the cushion and the face. Release the Kelly Clamp and connect the Gas Device directly to the mask Direct Dose luer lock connection.

11. Proceed with one of the following:
  - a. Have patient exhale completely, and upon inhalation, rapidly inject the Xenon and start camera. Have patient hold breath until sufficient counts are collected or until patient must breathe. In the meantime, remove the Gas Device (3).  
*or*
  - b. If perfusion study is intended, inject solution containing the dissolved gas I.V. while patient is "holding breath" and obtain the perfusion data.  
**NOTE:** *The patient is breathing in a closed circuit.*
12. When the patient is breathing again through the system, begin collecting "equilibrium phase" data. Add more O<sub>2</sub> to system if required. However, this is rarely necessary.
13. When sufficient data is collected, simultaneously remove plug from Room Vent (9) and clamp tubing closed at position (1) with Kelly Clamp. Patient is now inhaling outside air and exhaling into the Collection Bag (7). Three or four breaths are usually sufficient to clear the lungs of Xenon. However, this may continue until Collection Bag becomes full enough to offer resistance. Clamp tubing closed at position (2) and quickly remove Mouthpiece (4) and Nose Clamp (12) or Mask (10) from patient.
14. Place entire unit with Kelly Clamps in place in a hood or other area for decay storage. Gas may be released in accordance with NRC directions and your license. The gas may be discharged by releasing the clamps and collapsing the Collection Bag (7). If the gas is to be stored for an appreciable length of time, leave Kelly Clamps in place.
15. At all times during the procedure the user must be prepared to accommodate the possibility of the patient rejecting the mouthpiece unexpectedly. Should this occur, a means must be available by which the room air may be exhausted quickly to minimize the occupational dose to operating personnel.



Biodes Medical Systems, Inc.