


BALLARD™ RESTORE2 INSTRUCTIONS FOR USE

The Ballard™ Restore2 endotracheal tube (ETT) cleaner is a sterile, single-use device. The Restore2 is designed to help clear away mucus, secretions and bacteria from the inside of the ETT. Preventive protocol use at the time of the spontaneous breathing trial helps reduce average length of intubation.[†]

BEFORE BEGINNING PROCEDURE, PERFORM ETT SUCTIONING ACCORDING TO YOUR HOSPITAL PROTOCOL

1


PREPARATION



- Don appropriate PPE, per hospital protocol, and remove the Restore2 from packaging.
- Select appropriate syringe and connect, if necessary.¹

2


VERIFY BALLOON INFLATION



- Depress plunger fully. Assume that the balloon inflates.²

3


VERIFY BALLOON DEFLATION



- Withdraw the plunger fully and confirm that the balloon returns to its unexpanded position.

4


CONNECT RESTORE2



- Rapidly insert the Restore2 adapter between the ETT and the ventilator.

5


ADVANCE CATHETER



- Advance the catheter into the ETT³

6


ALIGN DEPTH MARKINGS



- Align the markings on the Restore2 with the visible markings on the ETT.

7


DEPRESS SYRINGE AND WITHDRAW CATHETER



- Hold the Restore2 adapter and sheath in one hand.
- At the end of patient or ventilator inspiration, completely depress the syringe and pull the Restore2 back into the adapter over 3 to 5 seconds.⁴

8

DISCONNECT AND DISCARD



- Remove the Restore2 device from the ETT, reconnect the ventilator circuit to the ETT and discard of the Restore2 according to hospital policy for hazardous waste.

Warnings and precautions:

Do not use excessive force when removing the Restore2. Wiping action should be gentle and smooth.

If any hard resistance is encountered, release the pressure on the syringe and carefully remove the device.

Do not use in ETT smaller than 7.0 mm or larger than 8.5 mm.

See IFU for full warnings and instructions.

NOTES:

1. Red label syringe fits 7.0-7.5 mm ETT and is attached to wiper in package. Blue syringe fits 8.0-8.5 mm ETT.

2. Note that the balloon may not inflate symmetrically outside of the ETT. This is normal, the balloon will conform to the inside of the ETT.

3. In most cases, on uncut ETTs, the catheter may be fully inserted.

4. If the device cannot be pulled back, release the syringe and remove the catheter. Recheck the inflation balloon and then repeat the procedure without fully depressing the syringe. If the device still cannot be pulled back, release the syringe and remove the catheter. Abort the procedure. Remove the adapter and reconnect the ventilator. Fiber optic bronchoscopy may be recommended.

[†] Wicker B, et al. Two-year study to evaluate daily endotracheal tube cleaning protocol, SCCM Annual Meeting (San Diego, CA) February 17-19, 2019.

Schofield L., The endOclear® Liberator Cleaning Device in Decreasing Airway Resistance, AARC Annual Meeting (Indianapolis, IN) October 4-7, 2017

Solis, M, et al. Use of endOclear® Restore Device to Decrease ICU Ventilator Days, ATS Annual Meeting (Washington D.C.) May 19-23, 2017

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INS-20032-C1 Rev 1