

TITLE: Cadence Self-Breathing System	
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PURPOSE: To establish guidelines for the patient evaluation and selection, system preparation and clinical application of the Cadence™ Self-Breathing System.

SCOPE: Respiratory Therapists

POLICY: All therapists will be proficient in initiating, monitoring and troubleshooting the Cadence™ Self-Breathing System and clinical evaluation, monitoring and management of self-breathing patients.

GUIDELINES: The Cadence™ Self-Breathing System is indicated for the treatment of hypoxemia with delivery of transtracheal high flows of a heated and humidified air/oxygen mixture to self-breathing patients with a cuff deflated fenestrated tracheostomy tube. The Cadence™ Self-Breathing System is indicated for use in adult patients.

The Cadence™ Self-Breathing System will be discussed in the following sections:

1. System Overview
2. Patient Selection
3. Patient Evaluation and Preparation
4. Deflated Cuff Tracheostomy Occlusion Procedure
5. Portex Blue Line Fenestrated Tracheostomy Tube Evaluation
6. Selection of the Initial Cadence™ Transtracheal Catheter
7. System Preparation and Cadence™ Patient Circuit Setup
8. Catheter Preparation
9. Patient Monitoring and Clinical Assessment
10. Initiation of Cadence™ Self-Breathing Trial
11. Cough Management
12. Troubleshooting
13. Termination of an individual Cadence™ Self-Breathing Trial
14. Progression of Cadence™ Self-Breathing Trials

1. System Overview

The Cadence™ Self-Breathing System is utilized during a Cadence™ Self-Breathing Trial and is composed of four main components that should be in place prior to initiation of a self-breathing trial. These components include:

- A. Cadence™ Gas Delivery System – The hardware portion of the system, mounted on a medical stand, is composed of an airway pressure monitor, oxygen blender with attached flowmeter, and humidifier. These components allow the clinician to choose appropriate F_IO₂ and flow rate. The heated and humidified gas allows for the high flows of blended air and oxygen to be delivered.
- B. Cadence™ Patient Circuit – The disposable portion of the system is composed of a pressure relief valve with nipple adaptor that is connected to the flowmeter via oxygen tubing, a humidification chamber to which the pressure relief valve attaches on the inlet portion, a 15 mm heated wire circuit that connects to the outlet of the humidification chamber, and

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a Cadence™ Mid-section Hose that attaches to the 22mm connector of the heated wire circuit. The opposing end of the Cadence™ Mid-section Hose has an 11 mm connector which attaches to the 11 mm connection of the Cadence™ Transtracheal Catheter.

- C. Cadence™ Transtracheal Catheter – The catheter is available in three sizes (11.5, 13.5 and 15.5 cm). The catheter connector is a 15 mm adaptor that attaches to the Portex Blue Line Fenestrated Tracheostomy Tube and an 11 mm connector that attaches to the Cadence™ Mid-section Hose. The connector has a luer port to attach the pressure line from the airway pressure monitor. The luer port has a removable cap. The inner portion of the catheter connector has a semicircular groove that inhibits connection of the Cadence™ Transtracheal Catheter to the Portex fenestrated tube when the Portex inner cannula is in place. The catheter tubing has an atraumatic tip and two radiopaque stripes for identification on a chest radiograph.
- D. Portex Blue Line Fenestrated Tracheostomy Tube – The Cadence™ Catheter and Gas Delivery System should only be used with the Portex Blue Line Fenestrated Tracheostomy Tube, size 7, 8 or 9. The fenestrated tracheostomy tube with a deflated cuff and inner cannula removed allows breathing through the fenestrations and around the tube. This configuration facilitates self-breathing through the upper airway.

2. Patient Selection

Once an order has been received to initiate a Cadence™ Self-Breathing Trial, the patient's chart should be reviewed for appropriateness of order and patient selection.

- A. Contraindications – Use of the Cadence™ Self-Breathing System is contraindicated in the following:
- Recent tracheotomy or tracheotomy revision with post procedure inflammation, edema, and/or bleeding
 - Severe airway obstruction which may prevent sufficient inhalation and exhalation
 - Airway abnormalities that impair proper functioning of the tracheostomy tube
 - Laryngectomy patients
 - Tracheostomy tube oversized for patient's trachea
 - Inflated tracheostomy tube cuff
 - Use of foam filled cuffed tracheostomy tube
 - Significantly impaired swallow or presence of aspiration of gastric contents
 - Copious uncontrolled upper airway secretions
 - Significant problems with mucus plugging
 - Lack of medical readiness for self-breathing trial such as:
 - High PEEP requirements
 - High F_IO₂ requirements
 - Severely impaired ventilatory drive
 - Respiratory muscle fatigue or paralysis
 - Unresolved disease acute phase process (infection, sepsis, bleeding)
 - Unstable post surgical condition
 - Hemodynamic instability
 - Fever

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- Significant respiratory acidosis
- Unstable metabolic status
- Anemia
- Absence of cough reflex
- Unconsciousness or delirium
- Inability to communicate with the care team
- Severe agitation and/or significant sedation requirements

For a more information regarding the listed contraindications, refer to the Cadence™ Self-Breathing System's Operator's Manual.

B. Precautions - The following are precautions for use of the Cadence™ Self-Breathing System. These patients may require additional monitoring by the healthcare team.

- Resolved significant upper airway obstruction
- Upper airway abnormalities with the absence of significant airway obstruction
- Neuromuscular weakness or neurologic disease
- Progressive neuromuscular disease
- Significant Auto-PEEP
- Mild to moderate anxiety, with or without minimal anxiolytic or sedation requirements
- Moderate secretions requiring periodic tracheal suctioning
- Adult with short stature (approximations of greater than 160 cm (63 in.) tall or weighing less than 30 kg (66 lbs.))

For a more information regarding the listed precautions, refer to the Cadence™ Self-Breathing System's Operator's Manual.

See also the Patient Selection Checklist in the Cadence™ Operator's Manual.

3. Patient Evaluation and Preparation

Once a patient has been selected and deemed an appropriate candidate for a Cadence™ Self-Breathing Trial, the patient should be evaluated for preparedness.

Prior to initiating a Cadence™ Self-Breathing Trial, the patient should demonstrate clinical tolerance of low levels of Pressure Support (12-15 cmH₂O) or equivalent support with other ventilatory modes. The following criteria should be assessed to estimate patient preparedness:

Objective Measurements:

- A. Adequate oxygenation - PO₂ ≥ 60 mm Hg on F_IO₂ ≤ 0.5; PEEP ≤ 5-10 cm H₂O; PO₂/ F_IO₂ ≥ 150-300; on low levels of Pressure Support or equivalent
- B. Stable cardiovascular system - HR ≤ 140; stable BP; no (or minimal) pressors; on low levels of Pressure Support or equivalent
- C. Afebrile
- D. Adequate hemoglobin
- E. Adequate mentation - arousable, GCS ≥ 13, no continuous sedative infusions
- F. Stable metabolic status

Subjective Measurements:

- A. Resolution of disease acute phase
- B. Physician believes self-breathing trial will be tolerated.

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C. Adequate cough

A swallow evaluation may be helpful if potential aspiration is considered. See also the Patient Selection Checklist in the Cadence™ Operator's Manual.

4. Deflated Cuff Tracheostomy Occlusion Procedure

The ability of the patient to breathe through the upper airway must first be evaluated prior to initiation of a Cadence™ Self-Breathing Trial. A "Deflated Cuff Tracheostomy Occlusion Procedure" should be performed to evaluate airflow through the upper airway. To perform this procedure:

- A. The patient should be on an appropriate monitoring device with pulse oximetry and heart rate display as the recommended as the minimum.
- B. The procedure should be explained to the patient.
- C. Fully deflate the tracheostomy cuff.
- D. Remove the patient from mechanical ventilation.
- E. Briefly occlude the tracheostomy tube opening with a gloved finger.
- F. Carefully note if breathing through the mouth and/or nose is present and observe for objective signs of respiratory distress. Encourage phonation. The presence of stridor, minimal or absent breath sounds upon auscultation over the upper neck, absence of airflow at the nose or mouth, supraclavicular or intercostal retractions, labored breathing, diaphoresis and a prolonged inspiratory phase are signs consistent with potential severe upper airway obstruction (UAO).

NOTE: For patients that have not breathed through the upper airway for a number of weeks or months, it is relatively common for these individuals to have concern about a different breathing sensation. This should be clinically distinguished from distress due to significant upper airway obstruction.

- G. Promptly remove the finger occlusion if there is absence of airflow through the upper airway or there are signs or symptoms of respiratory distress.
- H. Reinflate the tracheostomy tube cuff and assure proper oxygenation and ventilation.

5. Portex Blue Line Fenestrated Tracheostomy Tube Evaluation

Once patency of the upper airway has been established, the tracheostomy tube should be evaluated for the appropriate tracheostomy tube.

NOTE: Portex Blue Line Fenestrated Tracheostomy Tubes (size 7, 8 or 9) should only be used with the Cadence™ Self-Breathing System. Other fenestrated tubes without a 15 mm connector will not readily attach to the standard 15 mm connector of the Cadence™ Transtracheal Catheter. Metal or rigid plastic tracheostomy tubes that do not have a thermoplastic conformity to the airway may cause problems with respect to fit and position of the distal opening of the tube.

If a Portex fenestrated tracheostomy tube is inserted after the Deflated Cuff Tracheostomy Occlusion Procedure is performed, the procedure should also be repeated with the Portex tracheostomy tube in place.

Obtain a portable chest radiograph with the Portex tracheostomy tube in place for evaluation of proper tracheostomy tube positioning and facilitation of the selection of the appropriate Cadence™ Transtracheal Catheter length

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for the initial self-breathing trial.

6. Selection of the Initial Cadence™ Transtracheal Catheter

The goal is to select a catheter size that places the catheter tip 2-3cm above the carina when properly inserted into the Portex Blue Line Fenestrated Tracheostomy Tube. The chest radiograph is reviewed to measure the distance in centimeters from the distal end of the tracheostomy tube to the carina. Selection of the proper catheter length can be estimated by knowing that relationship and the distance that each of the three catheter lengths protrudes beyond the distal end of each of the 3 tracheostomy tube sizes. The following table can be used to estimate the distance the Cadence™ Transtracheal Catheter will extend beyond the tip of the Portex Blue Line Fenestrated Tracheostomy Tube for each size:

Estimation of initial catheter size based on chest radiograph obtained with the Portex Blue Line Fenestrated Tracheostomy Tube			
Tracheostomy Tube Size	11.5 cm	13.5 cm	15.5 cm
#7	2 cm	4 cm	6 cm
#8	1 cm	3 cm	5 cm
#9	0 cm	2 cm	4 cm

See the Cadence™ Operator's Manual for further information on catheter selection

7. System Preparation and Cadence™ Patient Circuit Setup

- A. The Cadence™ Gas Delivery System is intended for use only with the Cadence™ Transtracheal Catheter, Cadence™ Mid-section Hose and the Portex Blue Line Fenestrated Tracheostomy Tube, size 7, 8 or 9.
- B. Ensure that the hardware portion of the system is setup per the Cadence™ Operator's Manual.
- C. Position the Cadence™ Gas Delivery System in the patient's room so that it is a minimum of 12 inches away from a wall or any other obstruction. Plug the humidifier and airway pressure monitor and air compressor if used, into medical grade electrical outlets.
- D. Plug the oxygen and air high pressure lines into the appropriate wall outlets.

NOTE: If using the air compressor for the air source, connect the air high pressure line to the air compressor and power on per manufacturer's instructions.

- E. Assemble a Cadence™ Patient Circuit with Cadence™ Mid-section Hose and humidification chamber at the patient's bedside. Have the appropriately sized Cadence™ Transtracheal Catheter available (See Section 4 - Deflated Cuff Tracheostomy Occlusion Procedure).
- F. Setup the Cadence™ Patient Circuit with Cadence™ Mid-section Hose per instructions in the Cadence™ Operator's Manual or those included with the Cadence™ Patient Circuit.
- G. Connect a bag of medical grade sterile water to the humidification

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chamber per manufacturer's instructions.

- H. Adjust the F_IO₂ on the blender per physician's orders.
- I. Adjust the flow rate on the flowmeter; generally between 6-15 L/min but typically between 10-12 L/min.
- J. Turn on humidifier and ensure that the Invasive mode is selected.
- K. Perform the Pre-Operational Test once the Cadence™ Self-Breathing System is setup but no catheter is in place:
 - a. Remove the port cover on the small connector on the pressure relief valve.
 - b. Connect the Criterion 40 Airway Pressure Monitor tubing to the port on the pressure relief valve.
 - c. Set the Criterion 40 airway pressure monitor alarm threshold to 30 cmH₂O.
 - d. Remove the oxygen analyzer port cap on the pressure relief valve manifold and insert a calibrated oxygen analyzer sensor in this port.
 - e. Make sure that the 50 PSI air and oxygen high pressure hoses are connected to the air/oxygen Blender.
 - f. If the air compressor is in use, visually inspect the pressure gauge on the air compressor and ensure that it is between 40 and 60 PSI, but preferably at 50 PSI.
 - g. Set the flowmeter to 15 LPM.
 - h. Set the air/oxygen Blender to 60% F_IO₂.
 - i. Allow the oxygen analyzer to stabilize then read the display of the calibrated oxygen analyzer.
 - j. Verify the F_IO₂ is between 50% and 70%.
 - k. Occlude the open end of the Cadence™ Mid-section Hose with a gloved finger. Allow the pressure to increase in the circuit.
 - l. Verify that the Criterion 40 airway pressure monitor indicates both visual and audible alarms.
 - m. Verify that the display of the Criterion 40 airway pressure monitor is between 32 and 54 cmH₂O. This indicates that the Criterion and pressure relief valve are working properly.
 - n. Remove the oxygen analyzer sensor and recap the port.
 - o. Disconnect the airway pressure monitor hose and recap the port.
 - p. If all of the verification criteria are met the Cadence™ Self-Breathing System is ready for patient use. If any of the above criteria has failed, resolve the issues before using or contact Technical Support.

For more details on setting up the Cadence™ Gas Delivery System and the Cadence™ Patient Circuit with Mid-section Hose refer to the Cadence™ Operator's Manual and/or Cadence™ Quick Start Guide.

8. Catheter Preparation

The Cadence™ Cadence™ Transtracheal Catheter is intended for use only with the Cadence™ Gas Delivery System, the Cadence™ Mid-section Hose and the Portex Blue Line Fenestrated Tracheostomy Tube, size 7, 8 or 9.

The Cadence Catheter is for single use, single insertion and should be discarded each self-breathing trial. Duration of use for the Cadence Catheter should be a maximum of 24 hours.

Once the Cadence™ Gas Delivery System has been set up and powered on, the Cadence™ Transtracheal Catheter is ready to be inserted.

- A. The appropriate Portex Blue Line Fenestrated Tracheostomy Tube (size

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7, 8 or 9) should be in place.

If a Deflated Cuff Tracheostomy Occlusion Procedure has not been performed with the Portex tracheostomy tube in place, it should be performed prior to inserting the catheter. (See Section 4 - Deflated Cuff Tracheostomy Occlusion Procedure for detailed instructions)

- B. The appropriate catheter should be at the bedside. (See Section 6 - Selection of the Initial Cadence™ Transtracheal Catheter and the Cadence™ Operator's Manual) Optimal placement of the catheter tip should be 2-3 cm above the carina.

A chest radiograph should be performed during the Cadence™ Self-Breathing Trial to determine if the initially selected catheter is optimally placed 2 to 3 cm above the carina or if a different size should be considered for the next trial.

9. Patient Monitoring and Clinical Assessment

Patient monitoring has both device and clinical assessment components. Monitoring devices are only adjuncts to direct physical examination and do NOT replace the need for systematic, intensive clinician observation.

- A. At the minimum, patients on Cadence™ Self-Breathing Trials should be on pulse oximetry with heart rate monitoring. Titrate the oxygen to the lowest F_IO₂ that achieves adequate oxygenation to reduce the risk of oxygen toxicity.
- B. Airway pressure monitoring is part of the Cadence™ Gas Delivery System. Once the Cadence™ Transtracheal Catheter has been placed within the tracheostomy tube, the airway pressure line should be connected to the luer port on the catheter connector. The luer port cap must be removed prior to connecting the airway pressure line.

Set the high pressure alarm based on the pressure oscillations of the patient. The lower pressure alarm should be set to off. The airway pressure monitor should be tested if interfacing with the nurse call system.

The airway pressure monitor measures pressure within the tracheostomy tube lumen and does not directly measure pressure within the trachea.

The airway pressure monitor does not measure pressure within the Cadence™ Gas Delivery System.

The airway pressure monitor does not limit pressure delivered through the system or to the patient.

If pressure oscillations are excessive, causes should be evaluated including, but not limited to, occult upper airway obstruction or excessive work of breathing.

- C. Arterial blood gases (ABGs) are recommended just prior to termination of the first self-breathing trial and at any other time they are clinically indicated. ABGs are the most accurate and precise measurement of CO₂ and acid base balance.
- D. A pressure relief valve has been incorporated into the patient circuit. This should not be removed or disabled. The pressure relief valve does not have an audible alarm but if activated the patient should be clinically assessed immediately as the patient is not receiving the appropriate therapy.

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- E. In the appropriate clinical setting, alternatives to ABGs for monitoring hypoventilation/hypercapnia may include:
 - Inductance plethysmography via EKG or specialized belt
 - Capnography
 - Transcutaneous CO₂
- F. Monitor delivered F_IO₂ periodically with an oxygen analyzer to adjust delivered F_IO₂.
- G. Perform clinical assessment regularly. Assessments should be done as on any self-breathing trial. The following are examples:
 - On initiation it is recommended that the clinician be at the bedside to continually assess the patient for the initial 15 minutes of the first self-breathing trial, then every 15 minutes thereafter until completion of the trial.
 - Day 1: If an additional self-breathing trial is done, assessments are recommended at least every 30 minutes
 - Day 2 and 3: Assessments are recommended at least every 60 minutes
 - Day 4 and thereafter: Assessments are recommended at least every 2 to 4 hours
- H. When clinically assessing patient's on self-breathing trials, the following should be taken into consideration:

Objective Measurements:

 - Gas exchange acceptability - S_pO₂ 85-90%; PO₂ > 50-60 mmHg; pH > 7.32; increase in P_aCO₂ < 10 mmHg
 - Hemodynamic stability - HR < 120-140 beats/min; HR not changed > 20%; systolic BP < 180-200 and > 90 mm Hg; BP not changed > 20%; no pressors required
 - Stable ventilatory pattern - RR < 30-35 breaths/min; RR not changed > 50%

Subjective Measurements:

 - Change in mental status
 - Onset or worsening of discomfort
 - Diaphoresis
 - Signs of increased work of breathing (use of accessory respiratory muscles, and thoracoabdominal paradox)
- I. Airway pressure, oximetry, and heart rate alarms warrant immediate clinical assessment and patient intervention. Similarly, activation of the pressure relief valve requires immediate clinical assessment and intervention as the patient is not receiving the prescribed therapy.
- J. If the patient exhibits signs and/or symptoms of respiratory distress, the patient should be assessed immediately and the appropriate intervention taken. See Section 13 – Termination of an individual Cadence™ Self-Breathing Trial if indicated.

10. Initiation of Cadence™ Self-Breathing Trial

Prior to initiation of a Cadence™ Self-Breathing Trial, make sure that the patient has been properly prepared, the Cadence™ Gas Delivery System and Cadence™ Patient Circuit is completely assembled and operational at

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the bedside and the appropriate Cadence™ Transtracheal Catheter and related supplies are available at the bedside. Ensure that the humidifier is located below the patient's chest to avoid inadvertent gravitational drainage of water or water condensate into the patient's airway.

For more details on setting up the Cadence™ Gas Delivery System and the Cadence™ Patient Circuit with Mid-section Hose refer to Section 7 - System Preparation and Cadence™ Patient Circuit Setup or the Cadence™ Operator's Manual and/or Cadence™ Quick Start Guide.

Monitoring should be in place and qualified clinicians available to assess the patient during the self-breathing trial.

- A. Use of Universal Precautions should be observed.
- B. Review chest radiograph with appropriate Portex Blue Line Fenestrated Tracheostomy Tube in place to ensure that the appropriate Cadence™ Transtracheal Catheter is available.
- C. If needed, suction patient.
- D. Elevate the head of the bed to place the patient in the preferred position for a self-breathing trial. This position enhances respiratory mechanics and places the patient in an appropriate position for the portable chest radiograph.
- E. Deflate the tracheostomy tube cuff. Address the need for additional suctioning at this time.
- F. Remove the patient from mechanical ventilation.
- G. Remove the inner cannula
Note that the Cadence™ Transtracheal Catheter will not be properly seated if the inner cannula is not removed.
- H. Open and remove the Cadence™ Transtracheal Catheter from the sterile pouch.
- I. Insert the catheter into the tracheostomy tube gently twirling the catheter until the catheter is seated on the 15 mm connector of the tracheostomy tube. DO NOT FORCE the catheter into position.

There should be no flow going through the catheter while the catheter is being inserted. The catheter should not be connected to the Cadence™ Gas Delivery System.

NOTE: If the catheter can not be easily passed, apply a small amount of water soluble jelly and try again. If the catheter can not be easily passed, place the patient back on mechanical ventilation, properly inflate the cuff and monitor the patient's status. Evaluate for possible causes for difficulty in catheter insertion and consider another trial if cause or causes are identified and resolved.

- J. Connect the 11 mm connector of the Cadence™ Patient Circuit to the 11 mm connector on the Cadence™ Transtracheal Catheter. The set flow rate, oxygen concentration and heat and humidity should now be flowing into the patient's trachea.
- K. After removing the luer cap from the luer connector port, attach the tubing from the airway pressure monitor to the Cadence™ Transtracheal Catheter. Adjust the high pressure alarm setting on the airway pressure monitor. The low pressure alarm should be set to OFF.

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- L. Check alarm settings on pulse oximetry and any other monitors to make sure they are in the appropriate ranges and assure that remote monitoring systems are properly attached and functioning.
- M. Assess patient appropriately as previously discussed in Section 9 – Patient Monitoring and Clinical Assessment. Observe the patient for any signs or symptoms of respiratory distress and observe monitors for values such as oxygen saturation (S_pO_2), heart rate and peak airway pressures.
- N. Perform clinical assessment as outlined above (Section 9. Patient Monitoring and Clinical Assessment – G & H).

WARNING: Due to dilution from upper airway breathing, oxygen concentration of delivered transtracheal gas to the patient will be lower than the blender setting for delivered transtracheal flow. Adjustments should be made according to individual needs.

WARNING: Adjustments in delivered transtracheal flow may require adjustments in delivered transtracheal oxygen concentration ($F_{I}O_2$) to meet oxygen saturation requirements.

11. Cough Management

Even though the transtracheal gas is adequately heated and humidified, the sensation of abrupt onset of flow into the trachea and restoration of flow through the upper airway may cause a transient increase in cough or a temporary uncomfortable sensation. If an increase in cough or discomfort are noted with the initiation of the Cadence™ Gas Delivery System, consider temporarily decreasing the flow (and adjusting $F_{I}O_2$ appropriately) to allow the patient to adjust to the gas delivery. The delivery can be increased to the desired flow (and appropriate $F_{I}O_2$) once adequate tolerance and comfort are achieved. If cough is still pronounced, consider obtaining an order for an oral benzonatate capsule and/or instillation of lidocaine into the trachea.

- A. Lidocaine - 2 to 3 ml of 1% or 2% of plain lidocaine
- B. One 200 mg capsule of benzonatate

12. Troubleshooting

For troubleshooting with the Cadence™ Gas Delivery System, refer to the Troubleshooting section of the Cadence™ Operator's Manual or the individual manufacturer's manual.

13. Termination of Cadence™ Self-Breathing Trial

- A. Explain to the patient that the self-breathing trial is completed.
- B. Ensure that the mechanical ventilator is operational and adjusted to proper settings at the patient bedside.
- C. Disconnect the patient from the Cadence™ Gas Delivery System by removing the Cadence™ Mid-section Hose from the Cadence™ Transtracheal Catheter.
- D. Disconnect the airway pressure monitor luer connection at the catheter.
- E. Fully detach the Cadence™ Transtracheal Catheter from the tracheostomy tube connector and discard the catheter in the appropriate biohazard waste container.

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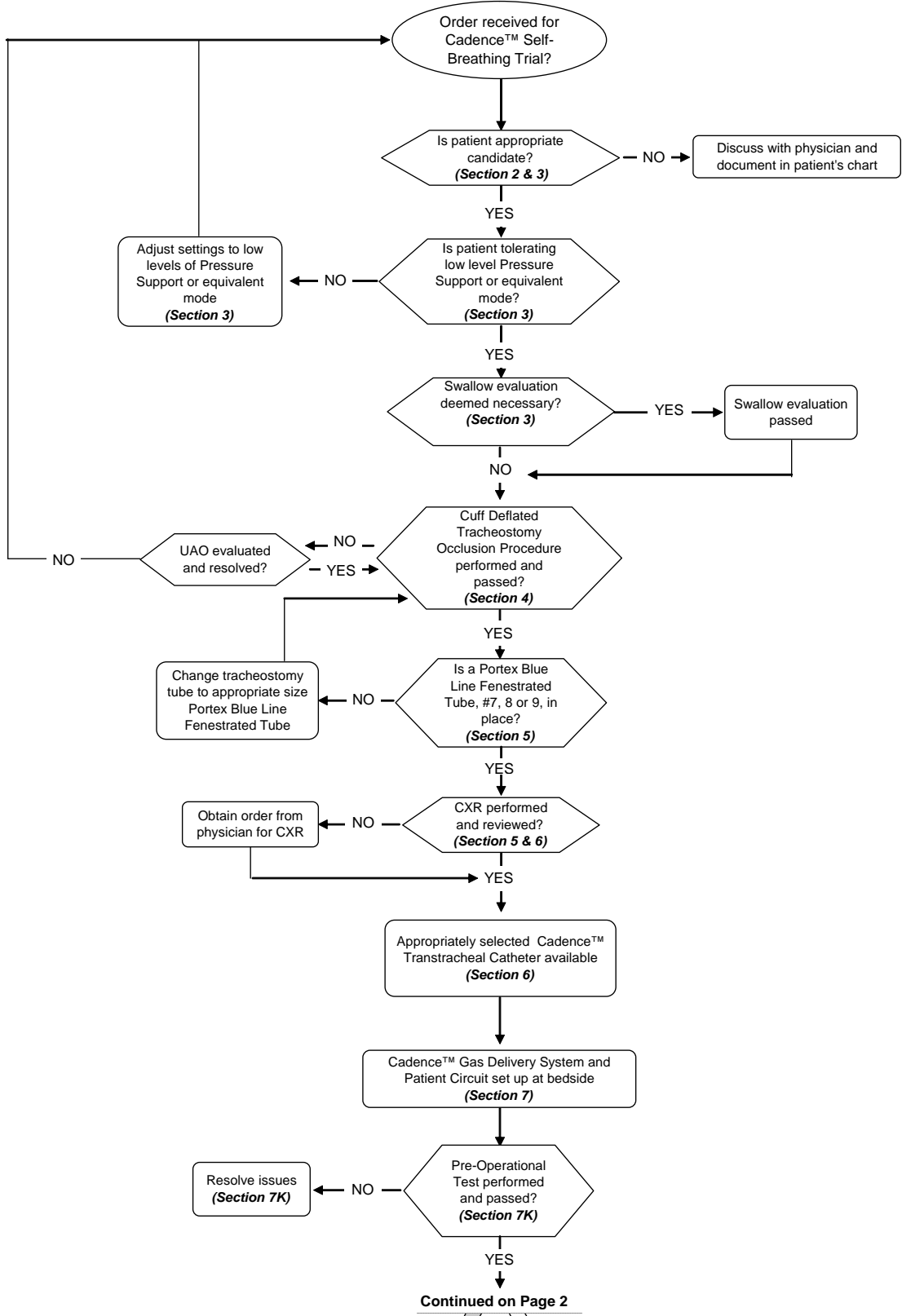
- F. Promptly reinsert the appropriate tracheostomy tube inner cannula, place the patient back on mechanical ventilation and appropriately inflate the tracheostomy tube cuff.
- G. Monitor and manage the patient on mechanical ventilation as prescribed.
- H. The Cadence™ Patient Circuit with Cadence™ Mid-section Hose should be appropriately stored until the next scheduled trial.
- I. Power down the Cadence™ Gas Delivery System and ensure that the flow is turned off.
- J. Document results of the Cadence™ Self-Breathing Trial.

14. Progression of Cadence™ Self-Breathing Trial

The patient should be evaluated on a daily basis for implementation of increased duration of the Cadence™ Self-Breathing Trial. Early on, self-breathing trials should be during the day only. Individual patients may have a particular time during the day that, according to their individual care routine or scheduled testing or treatment may be more conducive to conducting a self-breathing trial. Initially, therapy twice daily may be appropriate, but as duration increases only a single daily trial is practical. The first goal is to achieve 24 hours on Cadence Self-Breathing System with patient stability, tolerance and comfort. The goal is that the patient is stable, tolerant and comfortable enough on the system so that "next steps" can be considered. The next step may be to taper the delivered flow to 6 L/min with appropriate F_iO₂ changes. Assess for decannulation and supplemental oxygen needs.

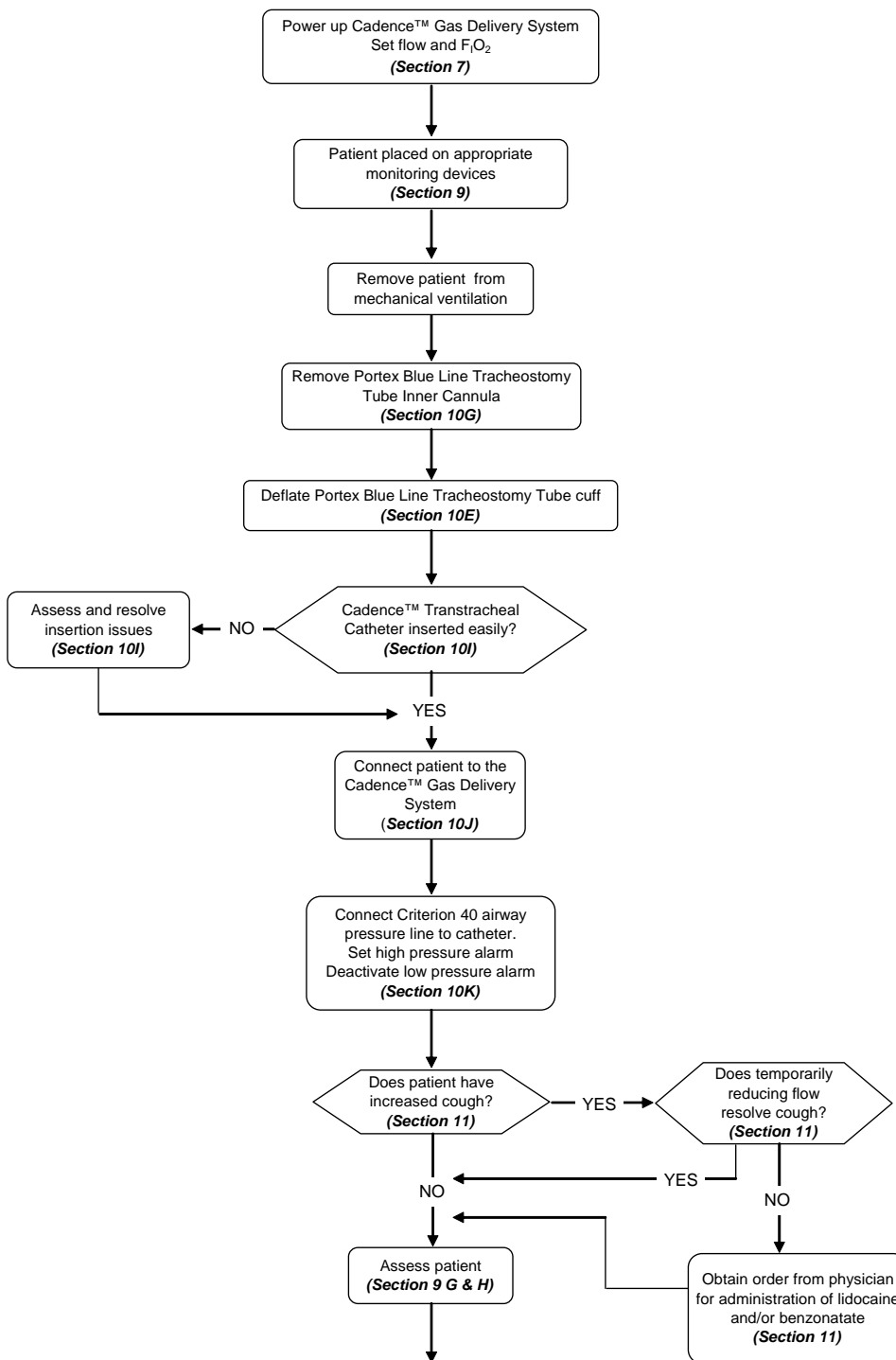
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Cadence™ Self-Breathing Trial



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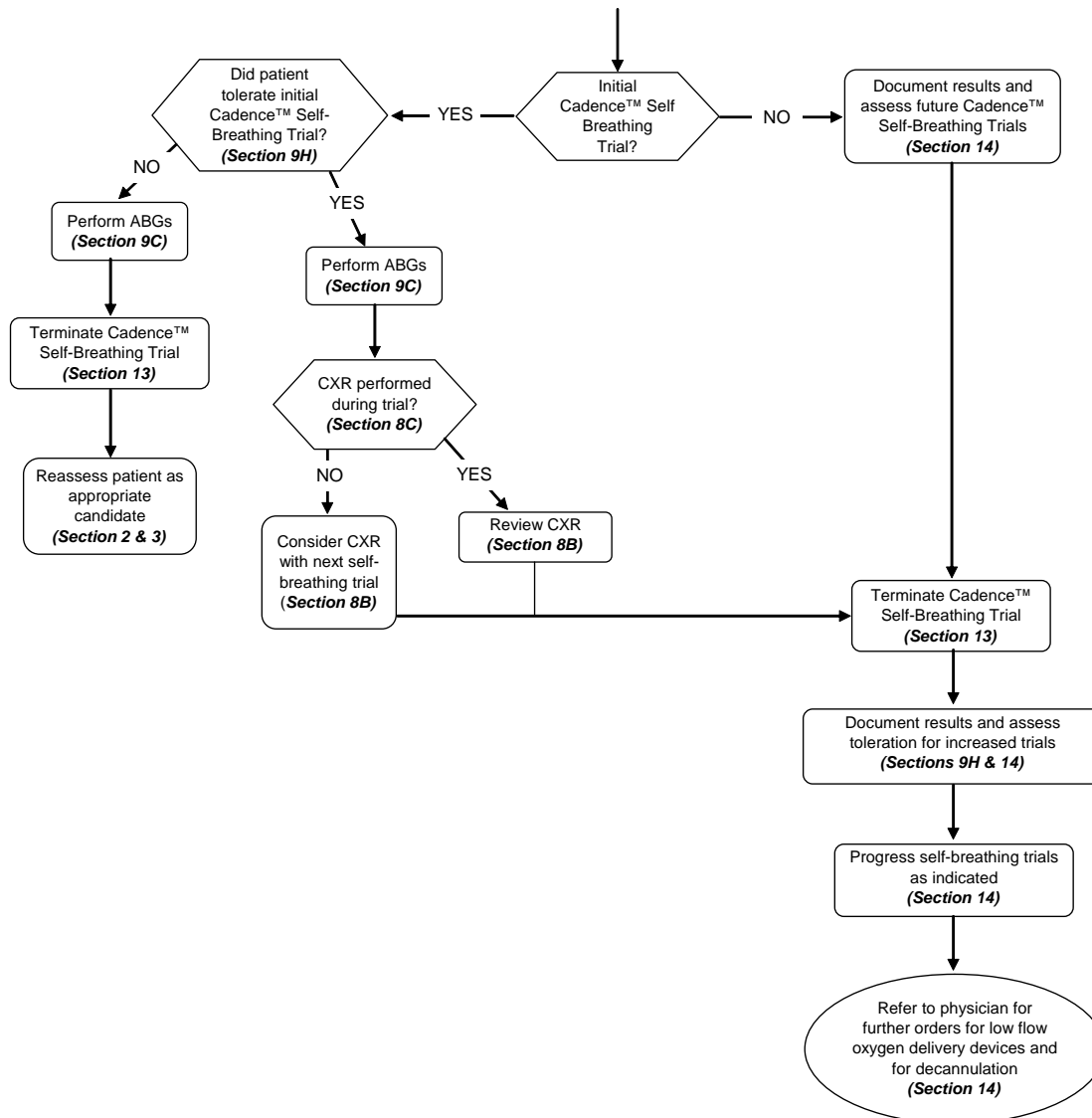
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IMPORTANT: Guidelines are intended to serve only as a reference. They shall be used only in conjunction with the instructions and/or protocol set forth by the physician and institution in which the assist device is being used. The guidelines are not intended to supersede established medical protocols.