CARESCAPE™ R860
Invasive Modes of Ventilation

April 9, 2020

Objectives

By the end of this course, you should be able to:

- Describe Compliance, Elastance and Airway resistance
- Categorize the CARESCAPE R860 ventilation modes
- Describe tube compensation, leak compensation and trigger compensation
- Identify and describe the CARESCAPE R860 modes of ventilation
- Discuss advantages and disadvantages for Volume Control, Pressure Control, Pressure Regulated Volume Control, and Airway Pressure Release Ventilation

Mechanics of Ventilation

Lung Compliance

Compliance = ΔVolume/ΔPressure (mL/cmH2O)

Change in volume over the change in pressure

- A measure of the ease of expansion of the lungs and thorax, determined by pulmonary volume and elasticity.

- A high degree of compliance indicates a loss of elastic recoil of the lungs, as in old age or emphysema.

- Decreased compliance means that a greater change in pressure is needed for a given change in volume, as in atelectasis, edema, fibrosis, pneumonia, or absence of surfactant.

Static Compliance = Exhaled Tidal Volume (Vte)/Plateau Pressure (Pplat) – Positive End Expiratory Pressure (PEEP)

Dynamic Compliance = Exhaled Tidal Volume (Vte)/Peak Inspiratory Pressure (PIP) – Positive End Expiratory Pressure (PEEP)

Normal adult compliance 40-70 ml/cmH2O
In children about 1ml/cmH2O/kg

R. Kacmarek, Ph.D, RRT, C. Mack, M.M., RRT, and S. Dimas, RRT.(1990). The Essentials of Respiratory Care. 3rd ed. St. Louis: Mosby-Year Book, Inc., pp.27,30,67-70.
C. Scanlan, EdD, RRT, C. Spearman, BS, RRT, R. Sheldon, MD, FCCP, FACP, and D. Egan, MD. (1990). Egan's Fundamentals of Respiratory Care. 5th ed. St. Louis: The CV Mosby Company, pp. 183-188.

Elastance

Elastance = ΔPressure/ ΔVolume (cmH2O/mL)

Change in pressure over the change in volume

- A measure of the tendency of something to recoil toward its original dimensions upon removal of a distending or compressing force.

- Compliance and elastance are inversely related.

- If compliance increases then elastance decreases
- If compliance decreases then elastance increases

R. Kacmarek, Ph.D, RRT, C. Mack, M.M., RRT, and S. Dimas, RRT.(1990). The Essentials of Respiratory Care. 3rd ed. St. Louis: Mosby-Year Book, Inc., pp.27,30,67-70.
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Airway Resistance

Raw = Δ Pressure/Flow (cmH2O/L/sec)

Change in pressure over flow

- Airway resistance is the friction caused by the movement of air throughout the respiratory system

- Types of flow:
  - Laminar flow: smooth, even non-tumbling flow
  - Turbulent flow: rough, tumbling uneven flow pattern
    - The pressure gradient necessary to maintain turbulent flow is much higher than that necessary to maintain laminar flow.
  - Tracheobronchial flow: is a combination of laminar and turbulent flow which is maintained throughout the respiratory system

- Airway resistance decreases with increased airway diameter, bronchodilation, laminar flow and increase in lung volume

- Airway resistance increases with decreased airway diameter, bronchoconstriction, turbulent flow and decrease in lung volume

Normal airway resistance is 0.5-2.5cmH2O/L/sec at a flow rate of 0.5 L/sec

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Modes of Ventilation Categories

Modes of Ventilation: Introduction and Overview

Define categories of ventilation

Control Modes:

Positive pressure ventilation in which the ventilator is in control mode, with its cycle entirely controlled by the apparatus and not influenced by the patient's efforts at spontaneous ventilation.

Synchronized Modes:

Synchronized Intermittent Mechanical Ventilation is a variation of IMV, in which the ventilator breaths are synchronized with patient inspiratory effort, with added pressure support.

Support Modes:

The patient initiates every breath and the ventilator delivers support with the preset pressure value. With support from the ventilator, the patient also regulates his own respiratory rate and tidal volume.

Modes of Ventilation

Ventilator mode can be defined as a set of operating characteristics that control how the ventilator functions.

Operating mode can be described by:

- The way a ventilator is triggered into inspiration and cycled into expiration.
- What variables are limited during inspiration.
- Whether or not the mode allows mandatory, spontaneous, or supported breaths.

Modes of Ventilation: Control Modes

Control Modes: Introduction and Overview

Each breath is initiated, limited and terminated by the ventilator.

Patients can breathe spontaneously between control breaths, but the ventilator does not respond to the spontaneous effort.

Mode	Primary Settings	Inspiratory Flow Pattern	Breath Timing	Patient Synchrony	Safety
AC/VC	Tidal Volume FiO2 PEEP Flow	Constant	Rate I:E, Tinsp or Tpause Insp Pause	Insp Trigger Bias Flow	Plimit Pmax
AC/PC	Inspiratory Pressure FiO2 PEEP	Decelerating	Rate I:E or Tinsp	Insp Trigger Bias Flow Rise TIme	Pmax
AC/PRVC	Tidal Volume FiO2 PEEP	Decelerating	Rate I:E or Tinsp	Insp Trigger Bias Flow Rise TIme	Pmax Pmin

Modes of Ventilation: Synchronized Modes

Synchronized Modes: Introduction and Overview

Synchronized Intermittent Mechanical Ventilation in which the ventilator breaths are synchronized with patient inspiratory effort, with added pressure support.

Mode	Primary Settings	Inspiratory Flow Pattern	Breath Timing	Patient Synchrony	Safety
SIMV VC	Tidal Volume Flow FiO2 PEEP PS	Constant	Rate Tinsp or Tpause Insp Pause	Insp Trigger Exp Trigger Bias Flow PS Rise Time	Plimit Pmax
SIMV PC	Inspiratory Pressure FiO2 PEEP PS	Decelerating	Rate Tinsp	Insp Trigger Exp Trigger Bias Flow Rise Time PS Rise Time	Pmax
SIMV PRVC BiLevel VG	Tidal Volume FiO2 PEEP PS	Decelerating	Rate Tinsp	Insp Trigger Exp Trigger Bias Flow Rise Time PS Rise Time	Pmax Pmin
BiLevel	Inspiratory Pressure FiO2 PEEP PS	Decelerating	Rate Tinsp	Insp Trigger Exp Trigger Bias Flow Rise Time PS Rise TIme	Pmax

Adapted from DOC1931778 and CARESCAPE R860 URM

Modes of Ventilation: Support Modes

Support Modes: Introduction and Overview

The ventilator supplies pressure support in response to the spontaneous breathing with no set rate; pressure support can also be added to SIMV modes of ventilation.

The patient must be spontaneously breathing and the ventilator must recognize and respond to the spontaneous effort, based on the patient's inspiratory flow.

Mode	Primary Setting	Inspiratory Flow Pattern	Breath Timing	Patient Synchrony	Safety
CPAP/PS	PEEP PS FiO2	Decelerating	Patient Controlled	Insp Trigger Exp Trigger Bias Flow PS Rise Time	Pmax Minimum Rate Backup Pinsp Backup Tinsp
VS	Tidal Volume FiO2 PEEP	Decelerating	Patient Controlled	Tsupp Insp Trigger Exp Trigger Bias Flow PS Rise Time	Pmax Pmin Minimum Rate Backup Tinsp
APRV*	Phigh Plow FiO2	Decelerating	Thigh Tlow	Insp Trigger Bias Flow Rise Time	Pmax

* Indicates these modes could be either control or spontaneous modes of ventilation depending on patient effort

Ventilation Mode Features:

Tube Compensation
Leak Compensation
Trigger Compensation

Tube Compensation

- To set Tube compensation, a Tube Type and Tube Diameter must be set in the New Patient or Current Patient menu
  - The options for tube compensation are:
    - Endotrach
    - Trach
    - ---
      - When --- is selected, the ventilator will not compensate for tube resistance

- Provides additional pressure to compensate for the difference between the lung pressure and breathing circuit pressure during the inspiratory phase of pressure controlled and pressure-supported breaths
  - Can be used to offset all or a percentage of the additional resistive pressure created by the endotracheal tube

NOTE: Tube compensation increases the pressure delivered to the patient. The pressure delivered with tube compensation is limited to Pmax - 5 cmH2O. Make sure that Pmax is set appropriately for the patient when using tube compensation.

Leak Compensation

- When leak compensation is selected, a general message will show leak compensation is on
- When the ventilator detects a leak in the breathing circuit and leak compensation is active, the ventilator will respond in the following ways:
  - Flow and volume waveforms and measured volume data are adjusted to account for leaks
- The ventilator will adjust the tidal volume delivered to compensate for leaks in the following volume controlled modes:
  - A/C VC
  - A/C PRVC
  - SIMV VC
  - SIMV PRVC
  - BiLevel VG
  - VS
- The maximum tidal volume adjustment depends on the patient type:
  - Adult – 25% of the set tidal volume
  - Pediatric – 100% of the set tidal volume or 100ml, which ever is less
  - Neonatal – 100% of the set tidal volume

NOTE: The exhaled volume of the patient can differ from the measured exhaled volume due to leaks

Trigger Compensation

- Adjusts the flow trigger to compensate for leaks
  - Leaks can cause the ventilator to initiate breath automatically (auto-triggering)

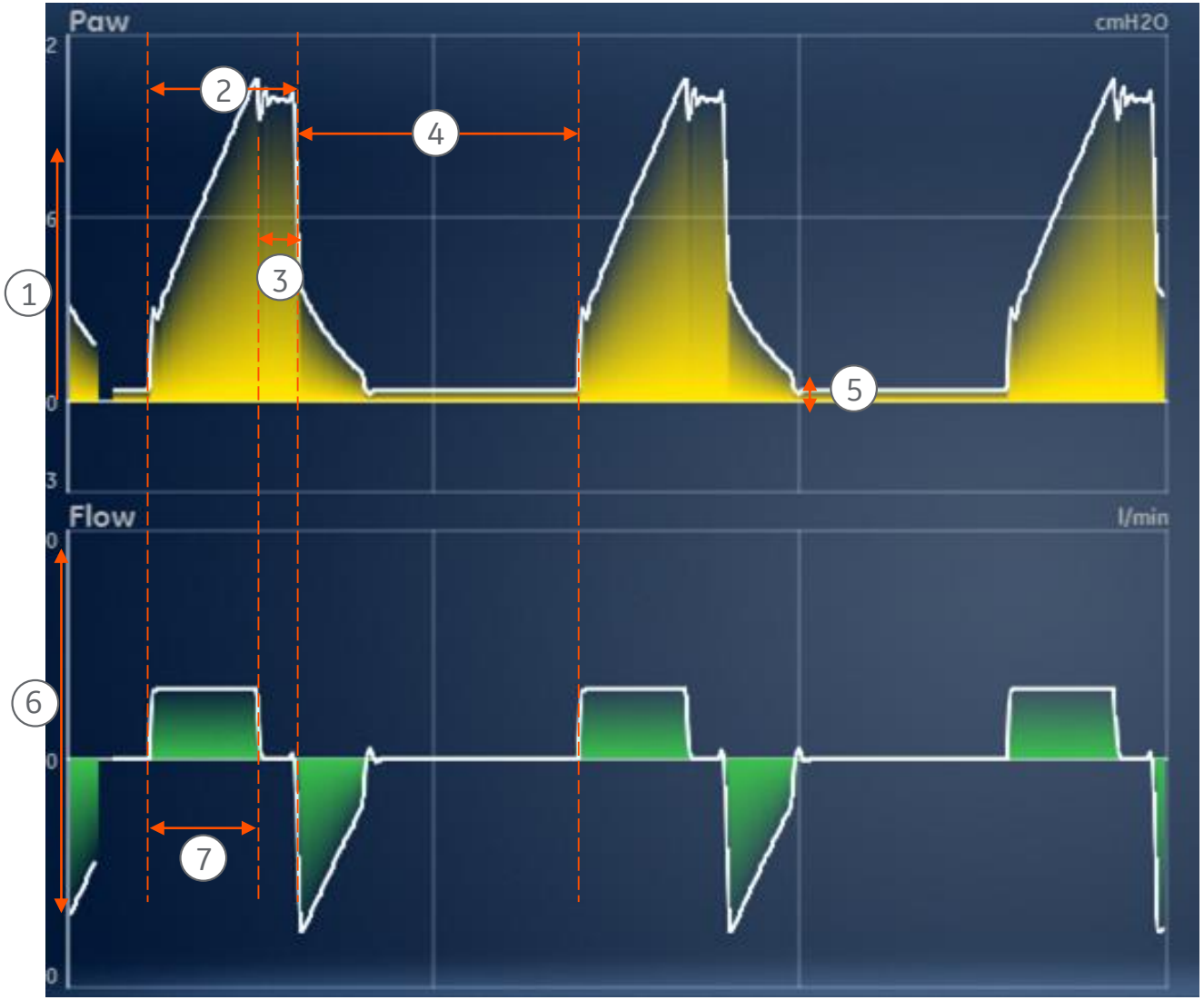
- Trigger compensation reduces the need to manually adjust the inspiratory trigger setting to prevent auto-triggering.

Modes of Ventilation- Control Modes

Assist Control Volume Control (A/C VC)

- The ventilator delivers mechanical breaths of the set tidal volume at intervals based on the set respiratory rate
  - The amount of pressure required to deliver the tidal volume depends on the patient's lung compliance and resistance
- Assist Control is available to synchronize mechanical breath to the patient's spontaneous efforts and to allow triggering of additional mechanical breaths.
  - If disabled, the patient can initiate spontaneous breaths at the set PEEP level during the expiratory phase
- The ventilator calculates an inspiratory flow based on the set tidal volume, inspiratory time and Tpause.
  - Flow is constant and maintained during the inspiratory phase while airway pressure is below the pressure limit
  - If the pressure limit is reached, the gas flow is reduced to maintain the pressure limit level for the remainder of the inspiratory period.
  - The ventilator monitors delivered tidal volume and adjusts the delivered inspiratory flow as needed to maintain the set tidal volume for subsequent breaths

Assist Control Volume Control (A/C VC)

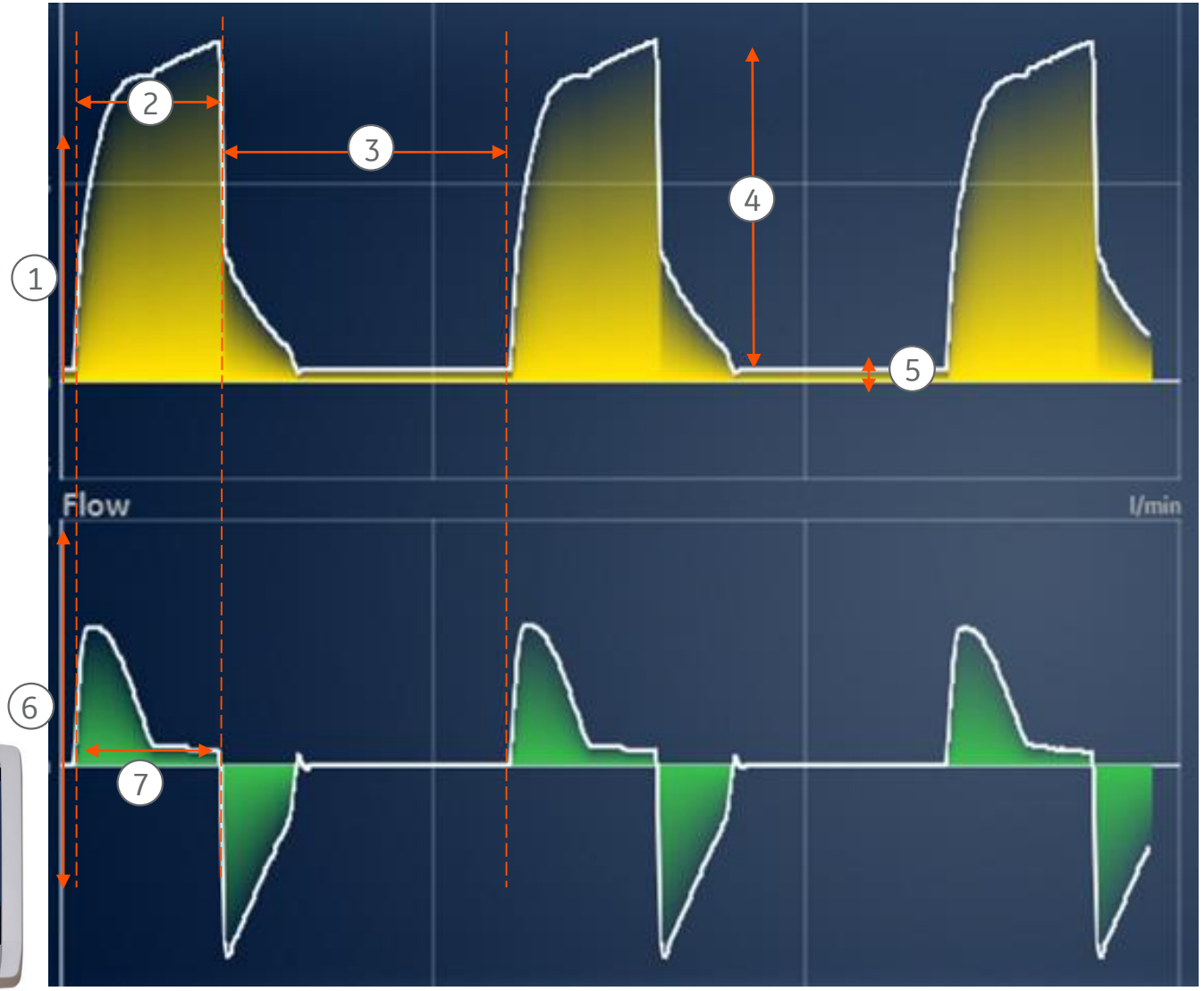


1. Airway pressure (Paw) waveform
2. Inspiratory time (Tinsp)
3. Inspiratory pause (Tpause)
4. Expiratory time (Texp)
5. PEEP
6. Flow waveform
7. Tidal volume (VT)

Assist Control Pressure Control (A/C PC)

- The ventilator delivers mechanical breaths at the set inspiratory pressure level for a set inspiratory time at intervals based on the set respiratory rate
  - The tidal volume delivered depends on the patient's lung compliance
- Assist Control is available to synchronize mechanical breath to the patient's spontaneous efforts and to allow triggering of additional mechanical breaths.
  - If disabled, the patient can initiate spontaneous breaths at the set PEEP level during the expiratory phase
- A high initial flow pressurizes the circuit to the set inspiratory pressure
  - The gas flow to the patient decreases after the pressure level reaches the pressure setting
  - The flow then decreases to maintain the set pressure for the remaining inspiratory time

Assist Control Pressure Control (A/C PC)

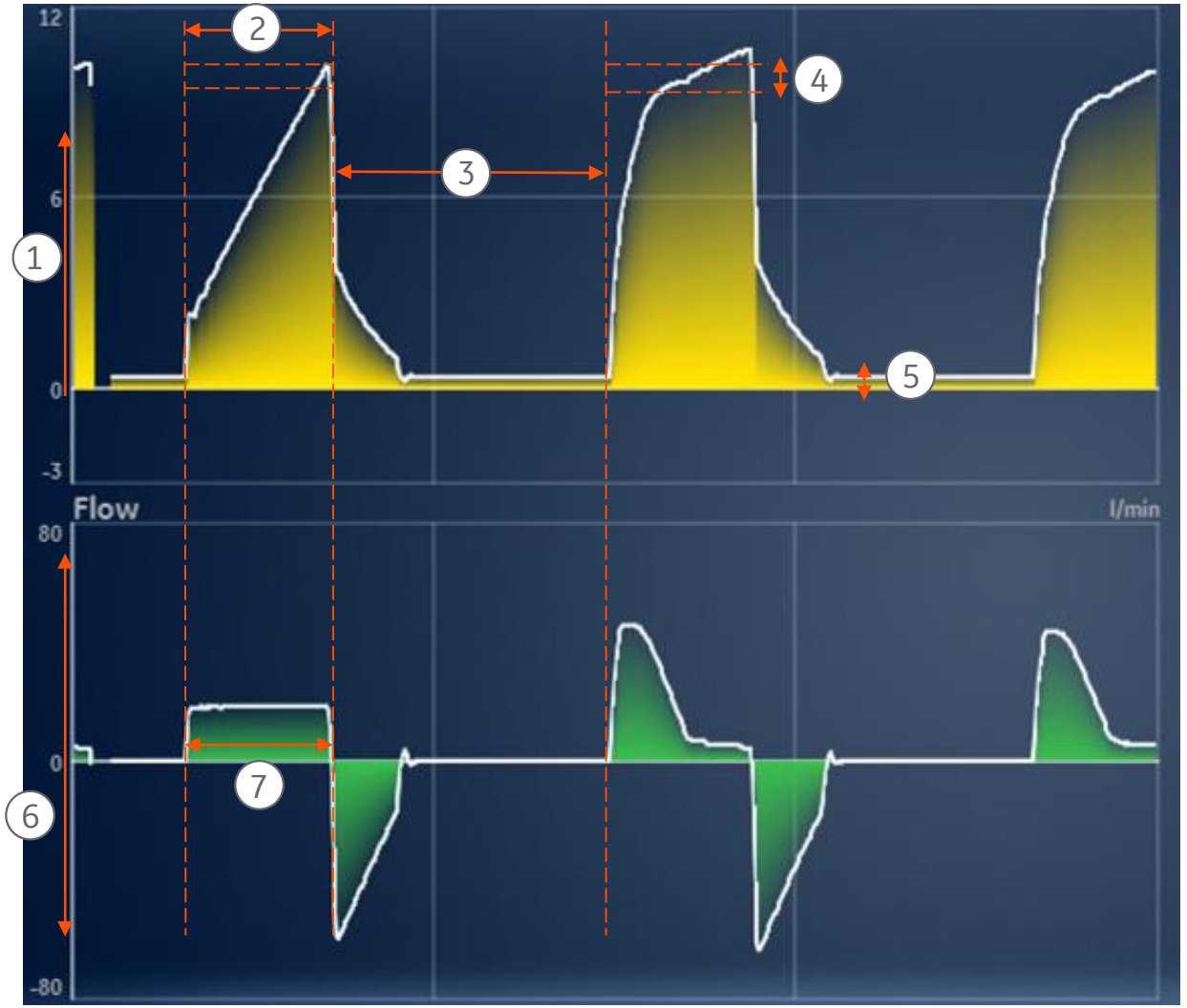


1. Airway pressure (Paw) waveform
2. Inspiratory time (Tinsp)
3. Expiratory time (Texp)
4. Inspiratory pressure (Pinsp)
5. PEEP
6. Flow waveform
7. Tidal volume (VT)

Assist Control Pressure Regulated Volume Control (A/C PRVC)

- The ventilator delivers mechanical breaths of the set tidal volume at intervals based on the set respiratory rate. For each breath, the ventilator adjusts the inspiratory pressure to use the lowest pressure required to deliver the tidal volume.
  - Actual ventilation settings may be different if breath timing settings have been changed
- To determine the patient's lung compliance, the ventilator delivers volume-controlled ventilation for 10 seconds or 2 breath periods, whichever is longer when the mode is initiated.
  - Based on the patient's lung compliance, the inspiratory pressure is established for subsequent breaths.
  - When adjusting the inspiratory pressure the following pressure range is used:
    - Low limit: PEEP + Pmin
    - High limit: Pmax-2 cmH2O
  - The difference in inspiratory pressure between breath does not exceed +/- 3 cmH2O
- Assist Control is available to synchronize mechanical breath to the patient's spontaneous efforts and to allow triggering of additional mechanical breaths.
  - If disabled, the patient can initiate spontaneous breaths at the set PEEP level during the expiratory phase

Assist Control Pressure Regulated Volume Control (A/C PRVC)



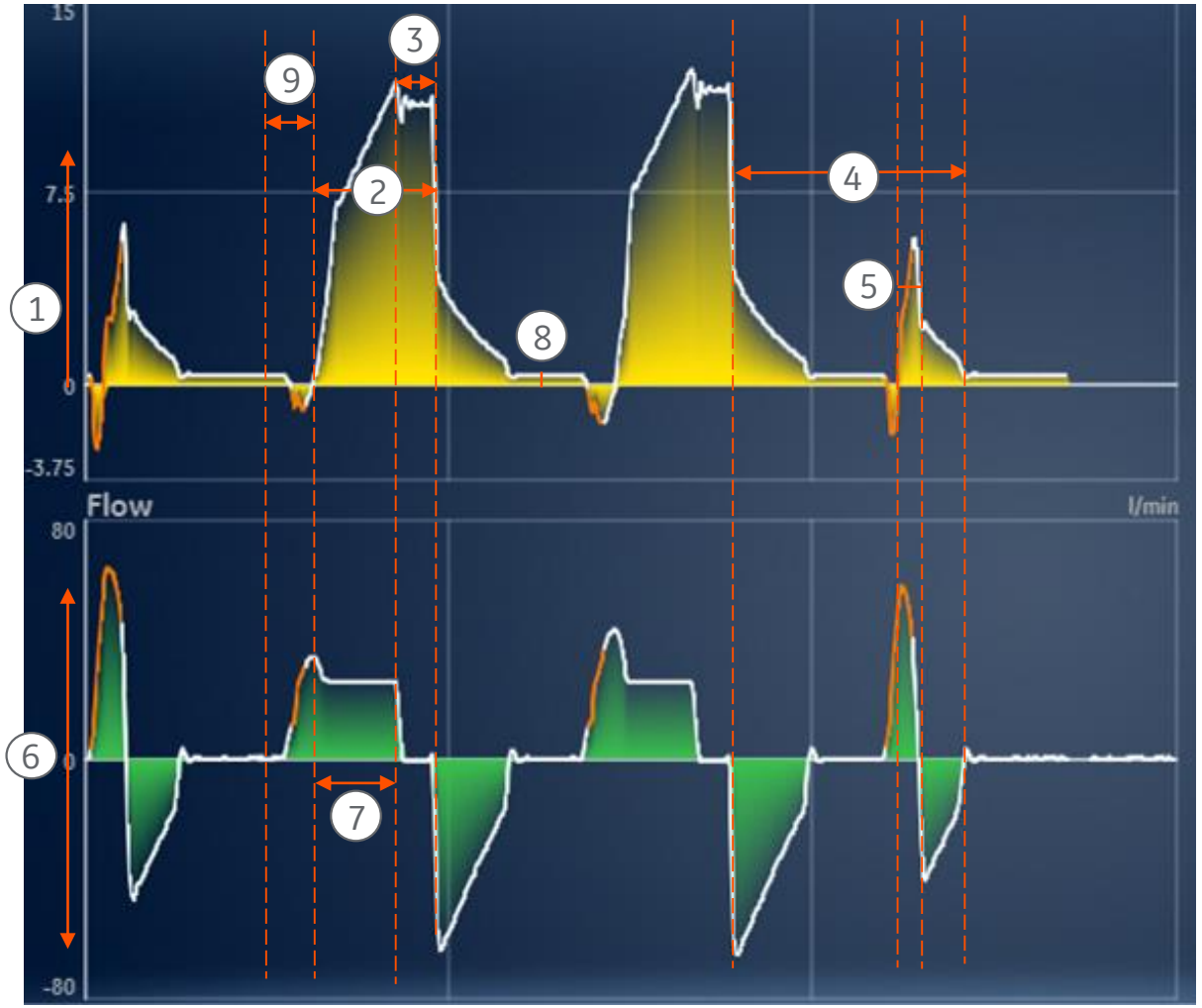
1. Airway pressure (Paw) waveform
2. Inspiratory time (Tinsp)
3. Expiratory time (Texp)
4. Variable pressure to deliver set TV
5. PEEP
6. Flow waveform
7. Tidal volume (VT)

Modes of Ventilation- Synchronized Modes

Synchronized Intermittent Mandatory Ventilation Volume Control (SIMV VC)

- The ventilator delivers synchronized mechanical breaths of the set tidal volume at intervals based on the set respiratory rate. All other spontaneous efforts are delivered as pressure-supported breaths
  - The amount of pressure required to deliver the tidal volume depends on the patient's lung compliance and resistance
  - Actual ventilation settings may be different if breath timing settings (Time and Flow) have been changed
  - Backup ventilation is available
- The ventilator calculated an inspiratory flow based on the set tidal volume, inspiratory time and Tpause.
  - Flow is constant and maintained during the inspiratory phase while airway pressure is below the pressure limit
  - If the pressure limit is reached, the gas flow is reduced to maintain the pressure limit level for the remainder of the inspiratory period.
  - The ventilator monitors delivered tidal volume and adjusts the delivered inspiratory flow as needed to maintain the set tidal volume for subsequent breaths

Synchronized Intermittent Mandatory Ventilation Volume Control (SIMV VC)

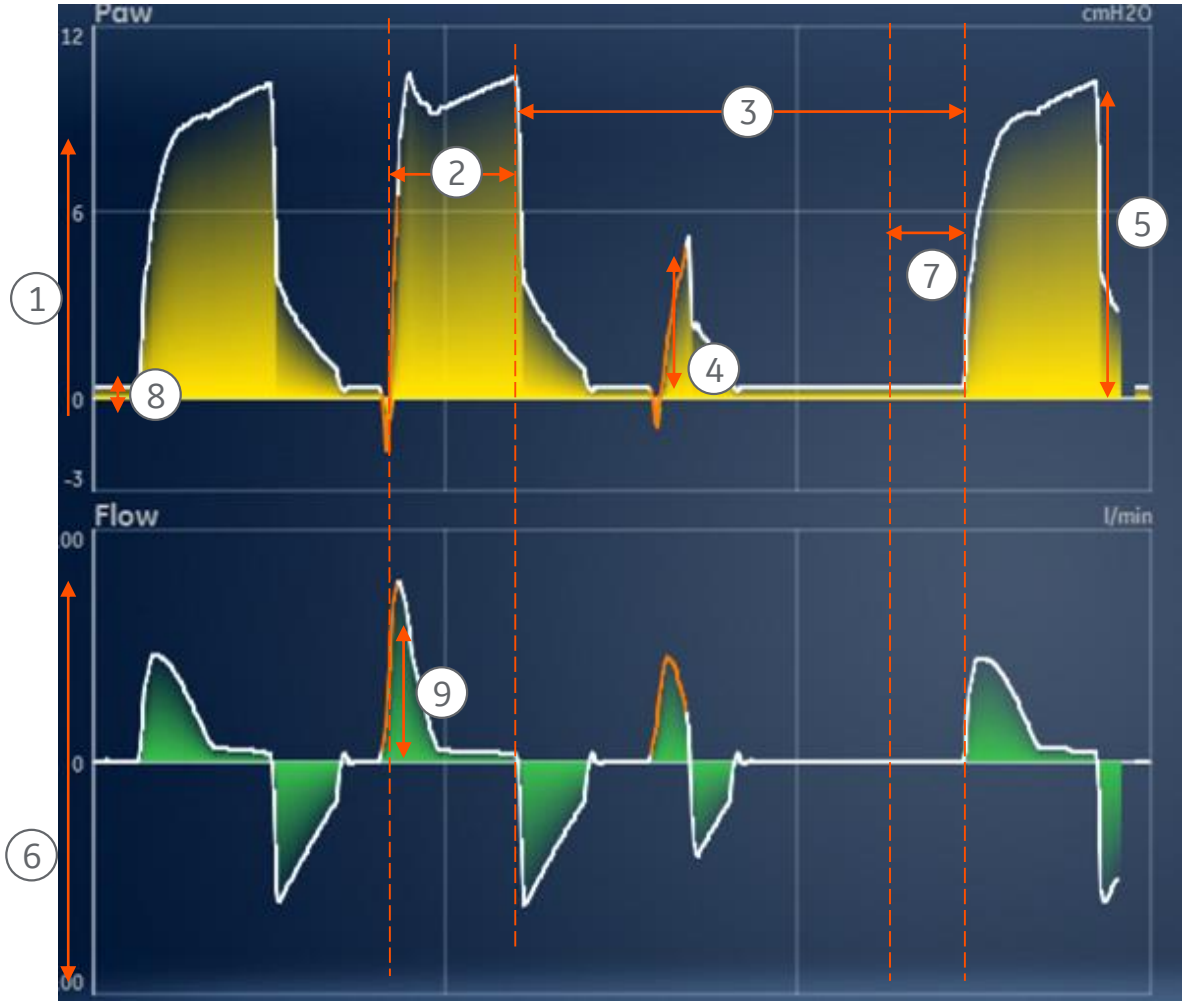


1. Airway pressure (Paw) waveform
2. Inspiratory time (Tinsp)
3. Inspiratory pause (Tpause)
4. Spontaneous breathing period
5. Pressure-supported breath
6. Flow waveform
7. Tidal volume (VT)
8. PEEP
9. Trigger window

Synchronized Intermittent Mandatory Ventilation Pressure Control (SIMV PC)

- The ventilator delivers synchronized mechanical breaths at the set inspiratory pressure level for a set inspiratory time at intervals based on the set respiratory rate. All other spontaneous efforts are delivered as pressure-supported breaths
  - The tidal volume delivered depends on the patient's lung compliance
  - Backup ventilation is available
- A high initial flow pressurizes the circuit to the set inspiratory pressure
  - The gas flow to the patient decreases after the pressure level reaches the pressure setting
  - The flow then decreases to maintain the set pressure for the remaining inspiratory time

Synchronized Intermittent Mandatory Ventilation Pressure Control (SIMV PC)

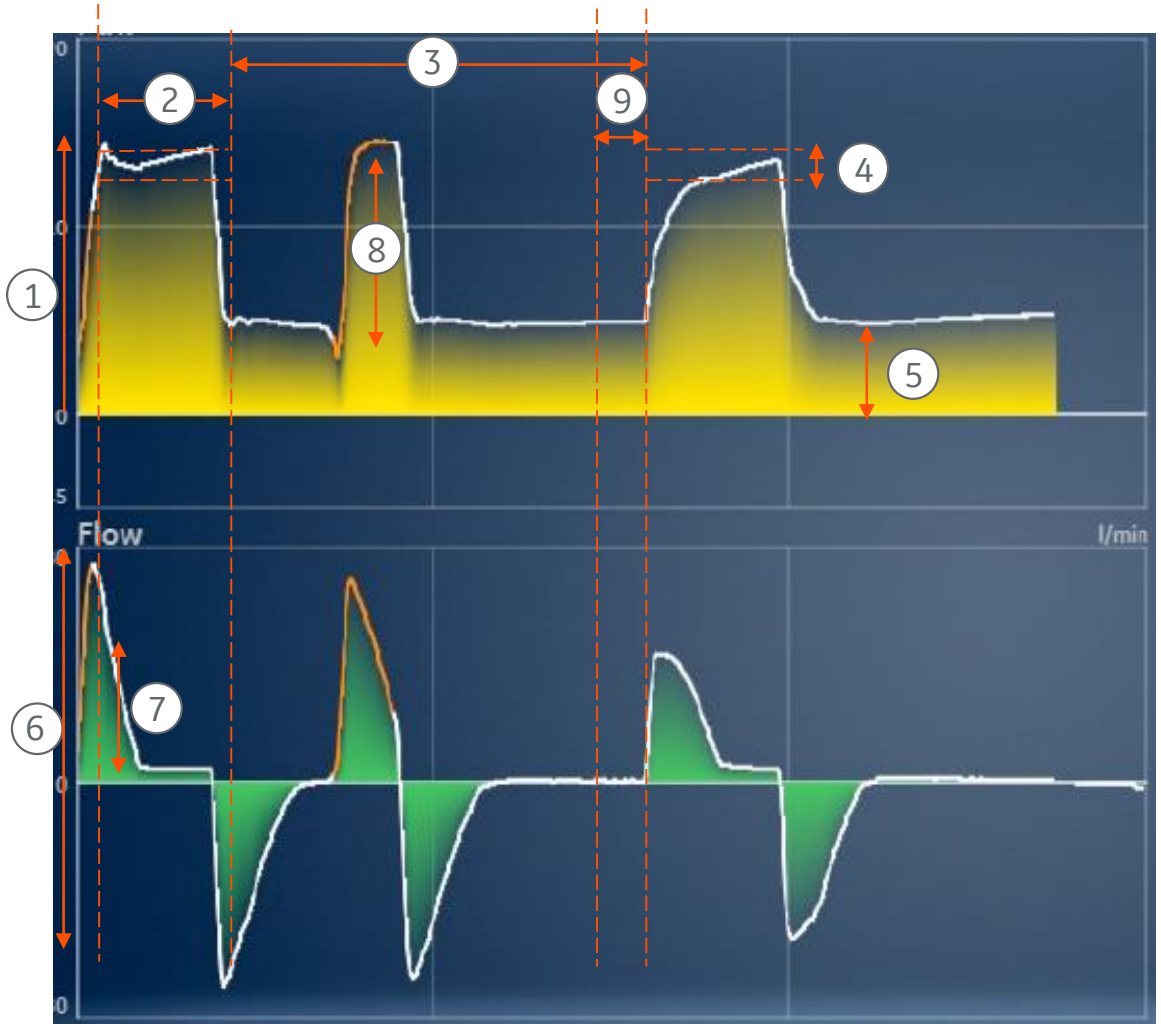


1. Airway pressure (Paw) waveform
2. Inspiratory time (Tinsp)
3. Spontaneous breathing time
4. Pressure-supported breath
5. Inspiratory pressure (Pinsp)
6. Flow waveform
7. Trigger window
8. PEEP
9. Tidal Volume (VT)

Synchronized Intermittent Mandatory Ventilation Pressure Regulated Volume Control (SIMV PRVC)

- The ventilator delivers synchronized mechanical breaths of the set tidal volume at intervals based on the set respiratory rate. For each mechanical breath, the ventilator adjusts the inspiratory pressure to use the lowest pressure required to deliver the tidal volume. All other spontaneous efforts are delivered as pressure-supported breaths.
  - Actual ventilation settings may be different if breath timing settings have been changed
  - Backup ventilation is available
- To determine the patient's lung compliance, the ventilator delivers volume-controlled ventilation for 10 seconds or 2 breath periods, whichever is longer when the mode is initiated.
  - Based on the patient's lung compliance, the inspiratory pressure is established for subsequent breaths.
  - When adjusting the inspiratory pressure the following pressure range is used:
    - Low limit: PEEP + Pmin
    - High limit: Pmax-2 cmH2O
  - The difference in inspiratory pressure between breath does not exceed +/- 3 cmH2O

Synchronized Intermittent Mandatory Ventilation Pressure Regulated Volume Control (SIMV PRVC)

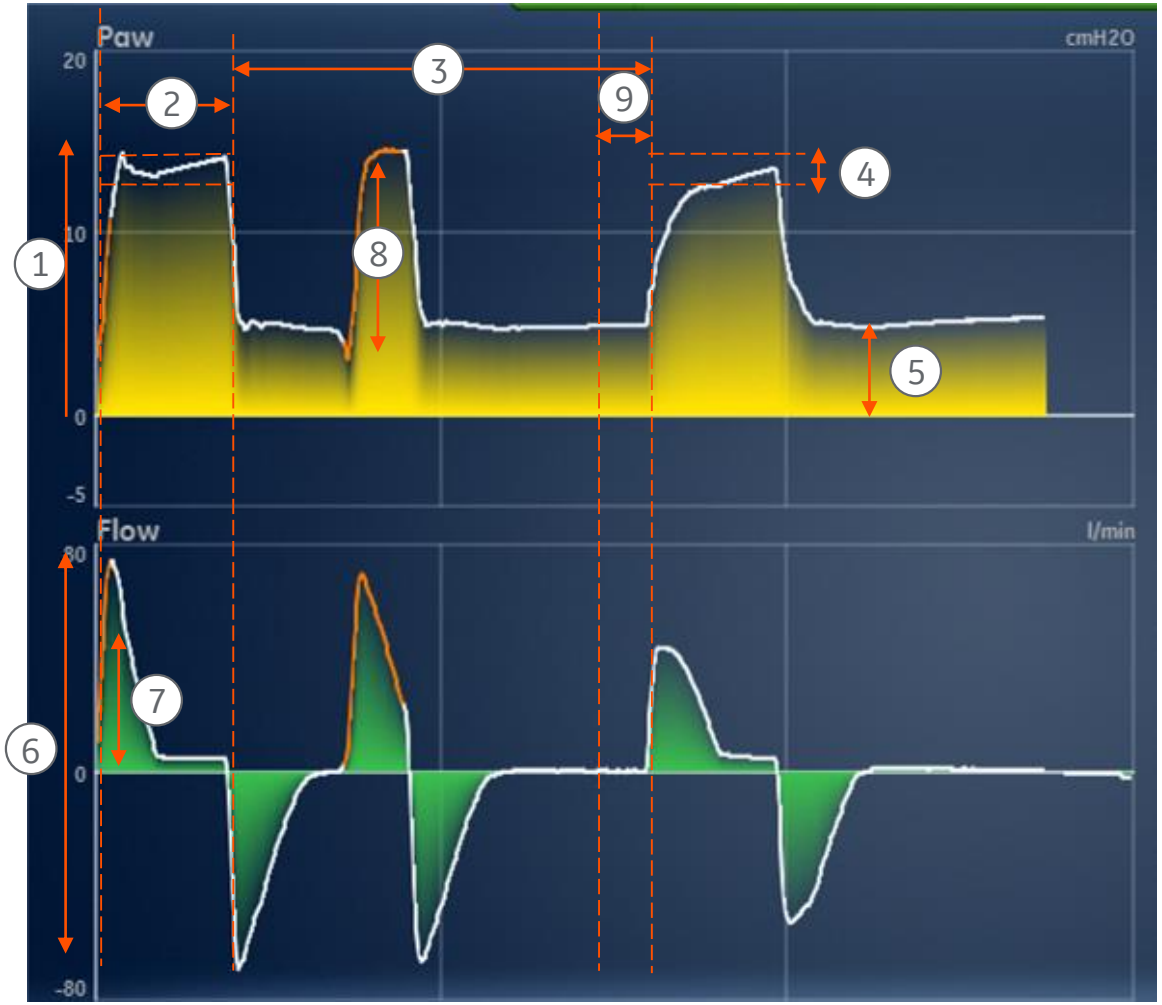


1. Airway pressure (Paw) waveform
2. Inspiratory time (Tinsp)
3. Spontaneous breathing time
4. Variable pressure
5. PEEP
6. Flow waveform
7. Tidal volume (VT)
8. Pressure supported breath
9. Trigger window

BiLevel Airway Pressure Ventilation Volume Guaranteed (BiLevel VG)

- The ventilator alternates between a set PEEP and the minimum pressure to deliver the set tidal volume based on the set rate and inspiratory time.
  - If the patient initiates a breath at the PEEP level, a pressure supported breath at the PS settings is delivered.
- To determine the patient's lung compliance, the ventilator delivers volume-controlled ventilation for 10 seconds or 2 breath periods, whichever is longer when the mode is initiated.
  - Based on the patient's lung compliance, the inspiratory pressure is established for subsequent breaths.
  - When adjusting the inspiratory pressure the following pressure range is used:
    - Low limit: PEEP + Pmin
    - High limit: Pmax-2 cmH2O
  - The difference in inspiratory pressure between breath does not exceed +/- 3 cmH2O
  - If a high airway pressure alarm is active for the current breath, the next breath's pressure target is 0.5 cmH2O lower
- Backup ventilation is also available

BiLevel Airway Pressure Ventilation Volume Guaranteed (BiLevel VG)

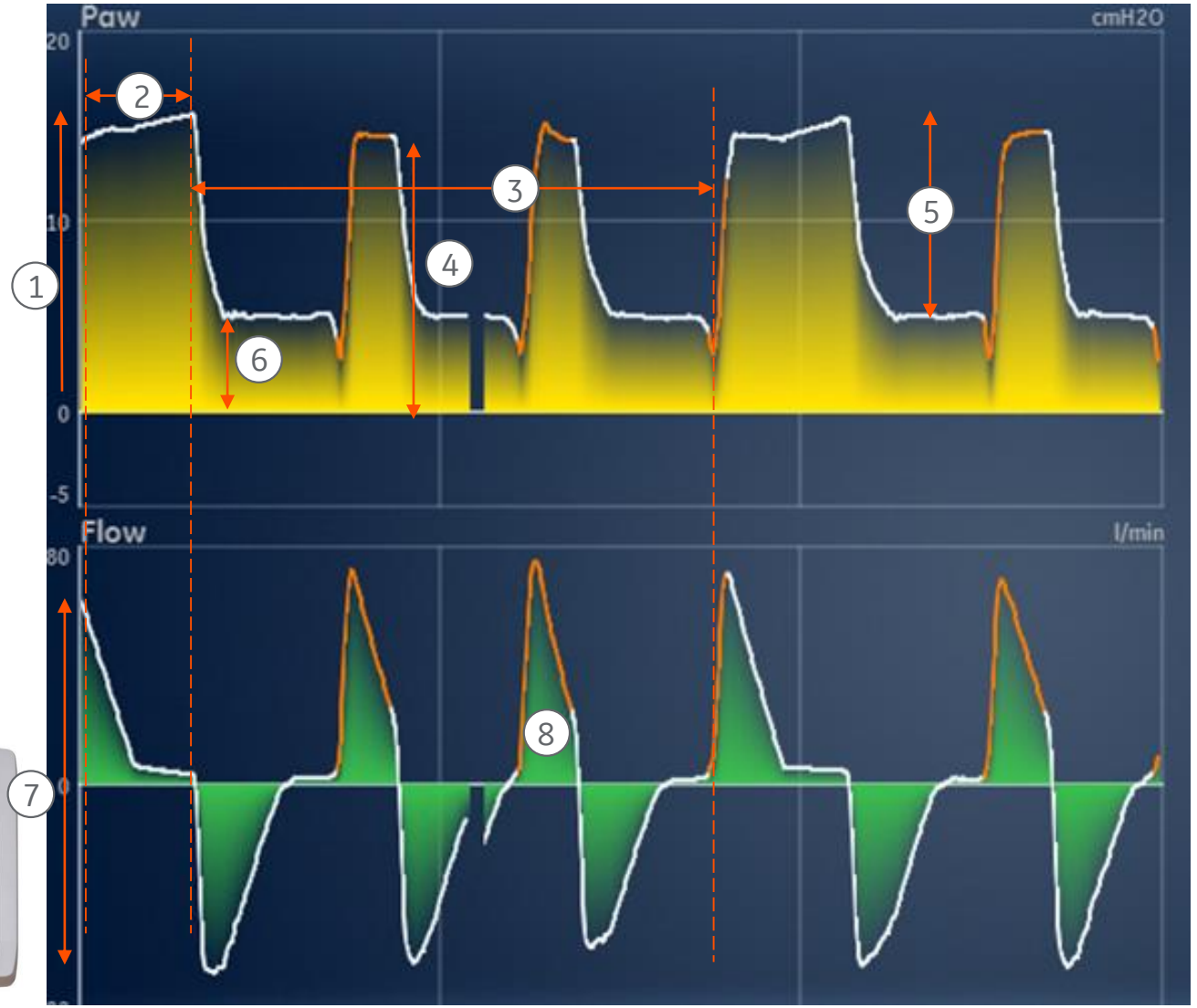


1. Airway pressure (Paw) waveform
2. Inspiratory time (Tinsp)
3. Spontaneous breathing time
4. Variable pressure
5. PEEP
6. Flow waveform
7. Tidal volume (VT)
8. Pressure supported breath
9. Trigger window

BiLevel Airway Pressure Ventilation (BiLevel)*

- The ventilator alternates between the set PEEP level and the set inspiratory pressure level based on the set rate and Inspiratory time.
  - The patient can breath spontaneously at either level
  - If a patient initiates a breath at the PEEP level, a pressure-supported breath at the set PS setting is delivered.
- If a spontaneous breath is initiated during the high pressure period (Tinsp), the level of inspiratory pressure provided depends on the PS and Pinsp settings.
  - If PS is greater than Pinsp, the ventilator provides the additional pressure to support the breath
  - If Pinsp is greater than PS, the ventilator provides no additional pressure support.
- If a spontaneous breath is initiated near the end of Thigh, the ventilator continues to deliver at Pinsp or PS, whichever is greater, until it detects the Exp Trigger or the maximum inspiratory duration for the pressure-supported breath. The ventilator will then transition to the PEEP level.
- Backup ventilation is available

BiLevel Airway Pressure Ventilation (BiLevel)*



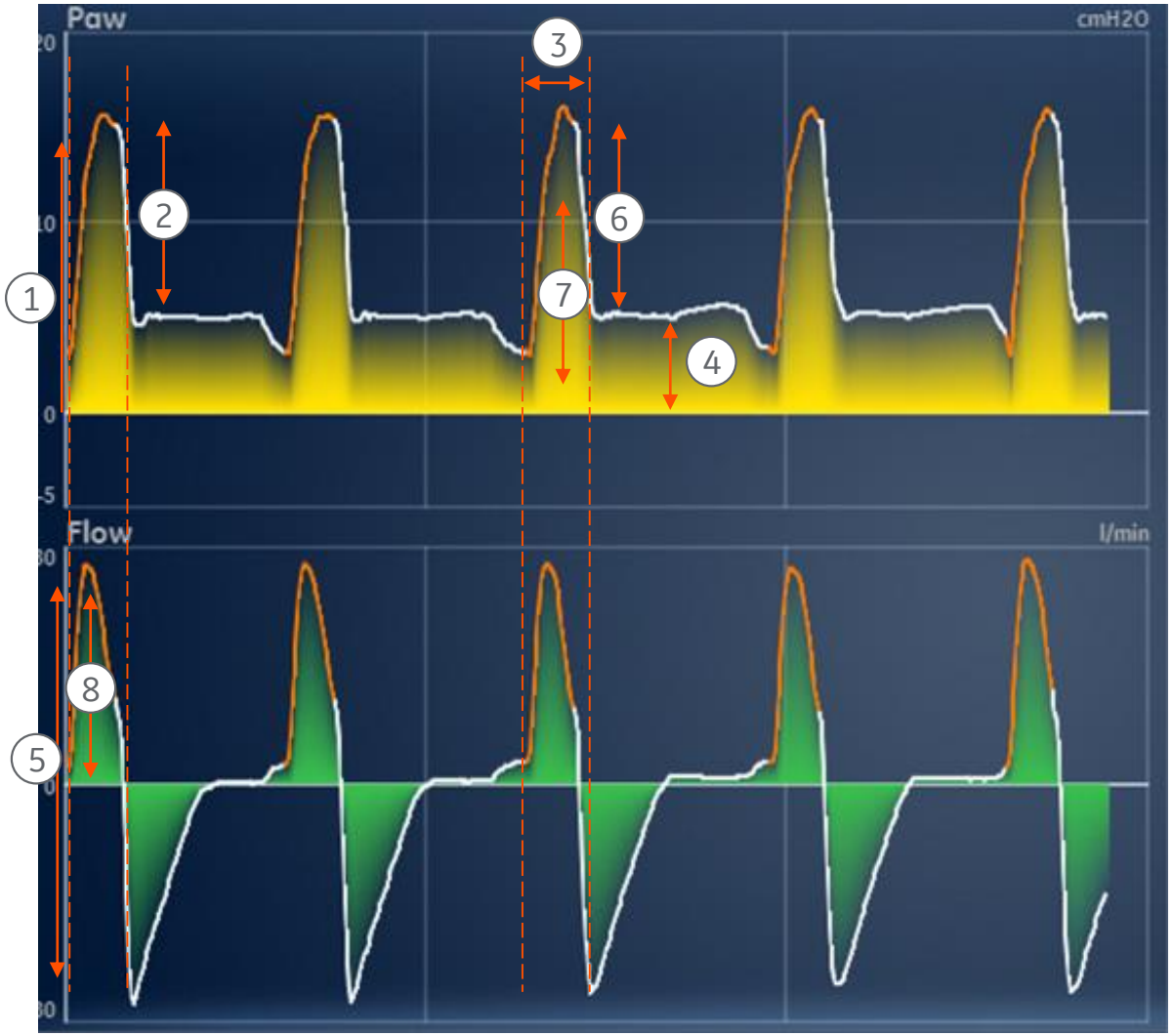
1. Airway pressure (Paw) waveform
2. Tinsp
3. Exp time
4. Pressure Support (PS)
5. Pinsp
6. PEEP
7. Flow waveform
8. Tidal Volume (VT)

Modes of Ventilation- Support Modes

Continuous Positive Airway Pressure /Pressure Support (CPAP/PS)

- The ventilator maintains a PEEP level and provides pressure support.
  - Intended to be used on spontaneously breathing patients
  - Patient initiates spontaneous breaths and determines respiratory rate, timing, and tidal volume.
- When the Minimum Rate is set, the ventilator will deliver a pressure controlled mechanical breath if the patient's spontaneous rate is less than the minimum rate.
  - The mechanical breath will be delivered at the Backup Inspiratory Pressure setting for the time duration of the Backup Inspiratory Time setting.
- Backup ventilation is also available

Continuous Positive Airway Pressure /Pressure Support (CPAP/PS)

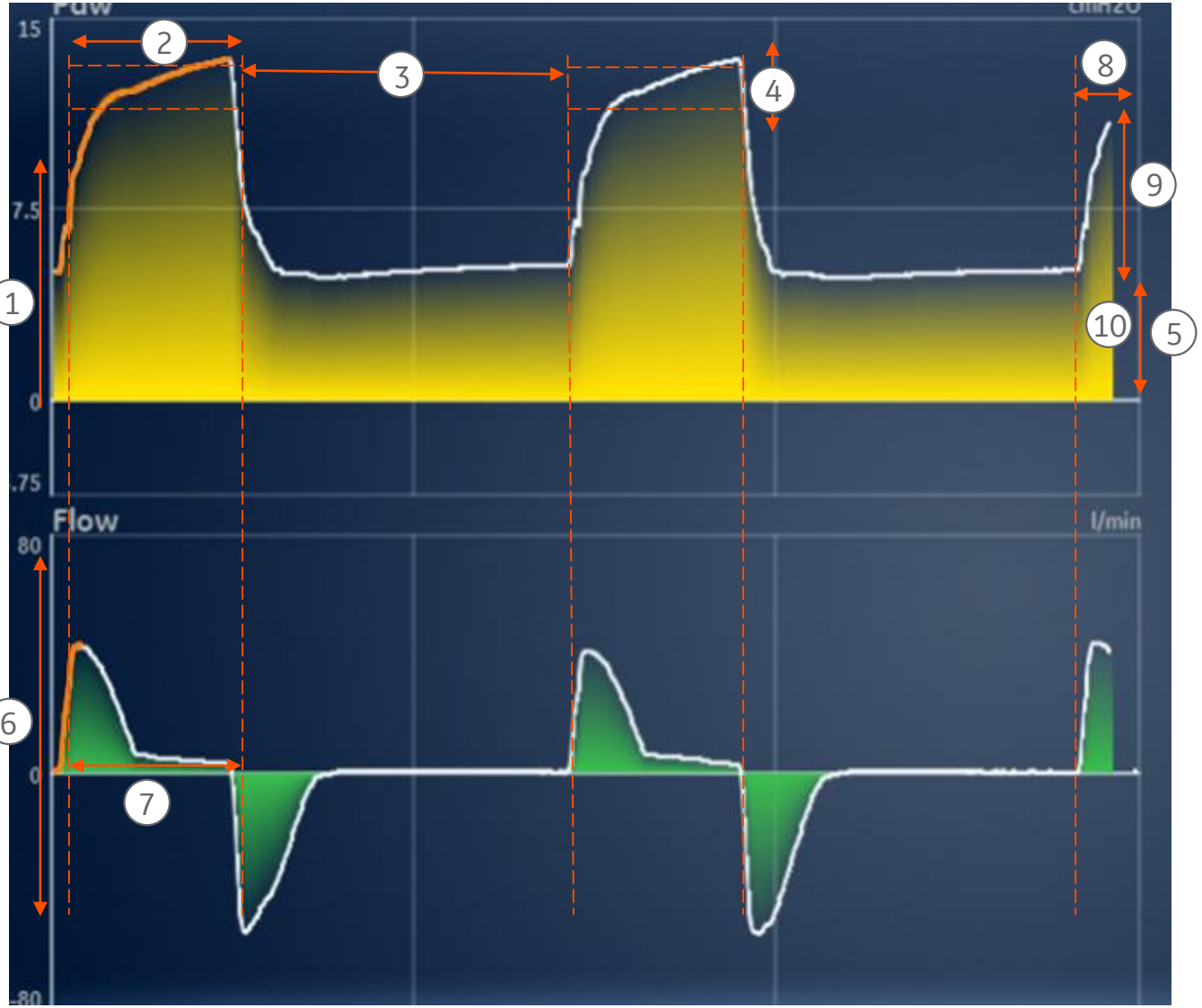


1. Airway pressure (Paw) waveform
2. Pressure support (PS)
3. Inspiratory time (Backup Tinsp)
4. PEEP
5. Flow waveform
6. Backup Pinsp
7. Minimum rate backup breath
8. Tidal volume (TV)

Volume Support (VS)

- The patient initiates spontaneous breaths and determines respiratory rate and timing. The ventilator maintains a PEEP level and provides support to deliver the set tidal volume.
  - Intended for spontaneously breathing patients
  - For each breath, the ventilator adjusts the inspiratory pressure to use the lowest pressure required to deliver the tidal volume.
- To determine the patient's lung compliance, the ventilator delivers volume-controlled ventilation for 10 seconds or 2 breath periods, whichever is longer when the mode is initiated.
  - Based on the patient's lung compliance, the inspiratory pressure is established for subsequent breaths.
  - When adjusting the inspiratory pressure the following pressure range is used:
    - Low limit: PEEP + Pmin
    - High limit: Pmax-2 cmH2O
  - The difference in inspiratory pressure between breaths does not exceed +/- 3 cmH2O
- When the Minimum Rate is set, the ventilator will deliver a pressure controlled mechanical breath if the patient's spontaneous rate is less than the minimum rate.
  - The mechanical breath will be delivered at the Backup PRVC settings for the time duration of the Backup Inspiratory Time setting.
  - If a high airway pressure alarm is active for the current breath, the next breath's pressure target is 0.5 cmH2O lower
- Backup ventilation is also available

Volume Support (VS)

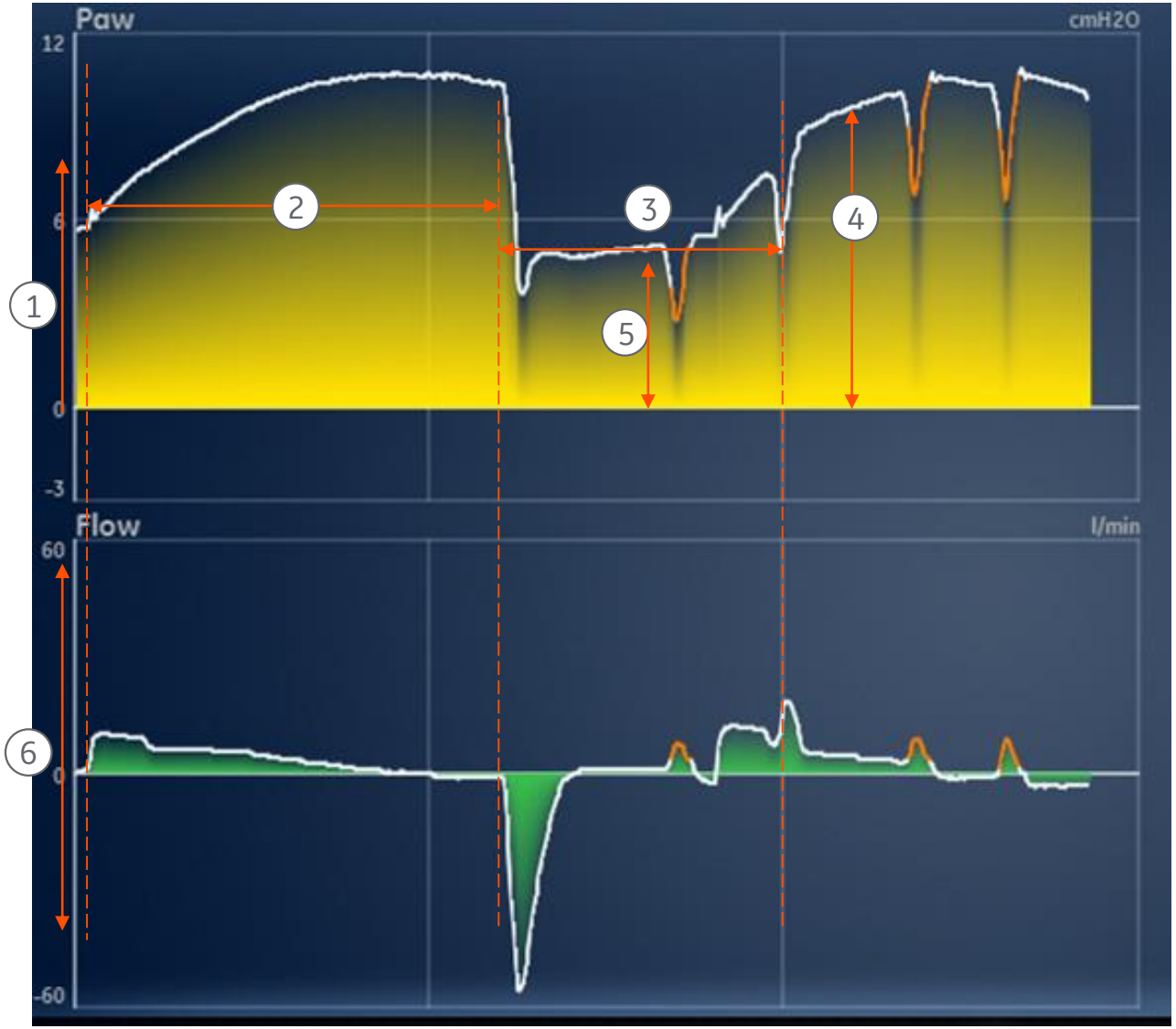


1. Airway pressure (Paw) waveform
2. Spontaneous inspiratory time
3. Spontaneous breathing period
4. Variable pressure
5. PEEP
6. Flow waveform
7. Tidal Volume (VT)
8. Inspiratory time (Backup Tinsp)
9. Backup Pinsp
10. Minimum rate backup breath

Airway Pressure Release Ventilation (APRV)*

- The ventilator alternates between a set high (Phigh) and low (Plow) pressure level.
  - Intended to be used on spontaneously breathing patients
  - The ventilator will deliver the set (Phigh) pressure for the set (Thigh) duration of time.
  - The ventilator will deliver the set (Plow) pressure for the set (Tlow) duration of time.
  - The patient can initiate spontaneous breaths at either level
- Backup ventilation is available

Airway Pressure Release Ventilation (APRV)*



1. Airway pressure (Paw) waveform
2. Thigh
3. Tlow
4. Phigh
5. Plow
6. Flow waveform

Modes of Ventilation Advantages and Disadvantages

Advantages and Disadvantages of Volume Control and Pressure Control

	Advantages	Disadvantages
Volume Control	• Constant tidal volume • Consistent alveolar ventilation • Easily identify changes in PIP and Pplat as respiratory mechanics change	• Constant flow rate • Increase in potential asynchronies • Varying pressures
Pressure Control	• PIP and peak alveolar pressures are constant • Flow varies with patient demand	• Varying tidal volumes

Hess DR, Kacmarek RM. Chapter 7: Pressure and Volume Ventilation. In: *Essentials of Mechanical Ventilation*. 4th ed. New York: McGraw Hill Education; 2019:70.

Advantages and Disadvantages of Pressure Regulated Volume Control

	Advantages	Disadvantages
Pressure Regulated Volume Control	• Targeted tidal volume • Pressure automatically adjusts based on lung compliance and airway resistance • Decelerating waveform • Variable inspiratory flow to meet patient's demand	• Pressure adjusts based on the tidal volume of the last breath • Asynchronies may occur with variable patient effort

Hess DR, Kacmarek RM. Chapter 8: Advanced Modes of Mechanical Ventilation. In: *Essentials of Mechanical Ventilation*. 4th ed. New York: McGraw Hill Education; 2019:74.

Advantages and Disadvantages of Airway Pressure Release Ventilation

	Advantages	Disadvantages

Airway Pressure Release Ventilation	• Uses "Open lung" concept
	  • Maximize and maintain alveolar recruitment
	  • Improve Oxygenation
	  • Potential lung protective effect
	• Preservation of spontaneous breathing
	  • Less need for sedation and neuromuscular blocking agents
	  • Better ventilation to dependent lung regions
	  • Better cardiac filling with spontaneous breathing
	  • Reduce the risk of ventilator induced diaphragmatic dysfunction
		• Increased work of breathing and oxygen consumption with spontaneous breathing
		• May create asynchrony and discomfort
		• Potential risks for volutrauma
		  • Large tidal volume swings with spontaneous effort
		  • Increased transpulmonary pressures
		• Greater need for clinical trials to demonstrate better clinical outcomes over conventional ventilation

Daoud EG, Farag HL, Chatburn RL. Airway Pressure Release Ventilation: What Do We Know? *Respiratory Care*. 2012;57(2):282. doi:10.4187/respcare.01238
Mireles-Cabodevila E, Kacmarek RM. Should Airway Pressure Release Ventilation Be the Primary Mode in ARDS? *Respiratory Care*. 2016;61(6):761. doi:10.4187/respcare.04653
Myers TR, Macintyre NR. Does Airway Pressure Release Ventilation Offer Important New Advantages in Mechanical Ventilator Support? *Respiratory Care*. 2007;52(4):452.

Conclusion

This concludes the CARESCAPE R860 Modes of Ventilation.

In this course, you learned about:

- Compliance, Elastance and Airway resistance
- CARESCAPE R860 ventilation modes categories
- Tube compensation, leak compensation and trigger compensation
- The CARESCAPE R860 modes of ventilation
- The advantages and disadvantages of volume control, pressure control, pressure regulated volume control and airway pressure release ventilation

Disclaimers

Always refer to device manufacturers user reference manual for specific application of your CARESCAPE R860.
Use this information as guidance and each patient may require clinical decisions not covered in this information.
Ensure proper clinically appropriate alarm limits are set and monitored.