

# Introduction to **CLASSIFICATION OF VENTILATORS**

In order to keep up with new types and predict their operation during certain conditions.

# Phases That Need Classification



# FOUR PHASES REQUIRE CLASSIFICATION:

- INSPIRATORY PHASE
- INSPIRATORY TO EXPIRATORY CHANGEOVER PHASE
- EXPIRATORY PHASE
- EXPIRATORY TO INSPIRATORY CHANGEOVER PHASE

# INSPIRATORY PHASE:

- FLOW GENERATOR
  - CONSTANT
  - NON-CONSTANT
- PRESSURE GENERATOR
  - CONSTANT OR NONCONSTANT
  - LOW GENERATING PRESSURE

# Phases That Need Classification

## INSPIRATORY PHASE:

Inspiration	I:E	Expiration	E:I	Next Insp.
<ul style="list-style-type: none"><li>● FLOW GENERATOR<ul style="list-style-type: none"><li>- CONSTANT</li><li>- NON-CONSTANT</li></ul></li><li>● PRESSURE GENERATOR<ul style="list-style-type: none"><li>- CONSTANT OR NONCONSTANT</li><li>- LOW GENERATING PRESSURE</li></ul></li></ul>				

# INSPIRATORY TO EXPIRATORY CHANGEOVER PHASE

- PRESSURE CYCLED
- TIME CYCLED
- VOLUME CYCLED
- MIXED CYCLING
  - WHICHEVER IS CYCLING FACTOR OTHER FACTORS MAY VARY!

# Phases That Need Classification

## INSPIRATORY TO EXPIRATORY CHANGEOVER PHASE

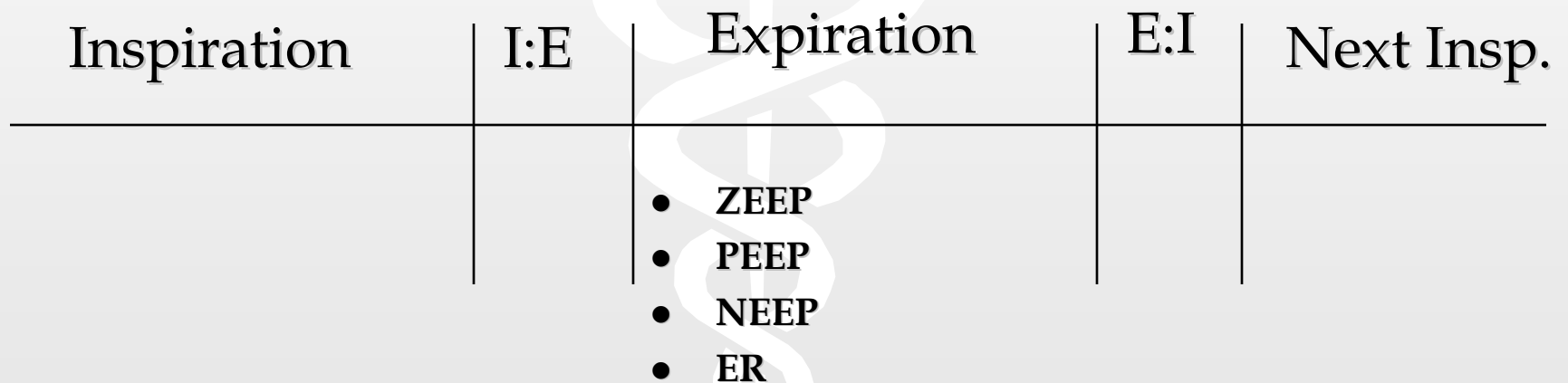
Inspiration	I:E	Expiration	E:I	Next Insp.
	<ul style="list-style-type: none"> <li>• PRESSURE CYCLED</li> <li>• TIME CYCLED</li> <li>• VOLUME CYCLED</li> <li>• MIXED CYCLING                             <ul style="list-style-type: none"> <li>- WHICHEVER IS CYCLING FACTOR OTHER FACTORS MAY VARY!</li> </ul> </li> </ul>			

# EXPIRATORY PHASE:

- ZEEP
  - PEEP
  - NEEP
  - ER
- WHAT IS OCCURRING DURING THE EXPIRATORY PHASE OF VENTILATION.

# Phases That Need Classification

## EXPIRATORY PHASE:

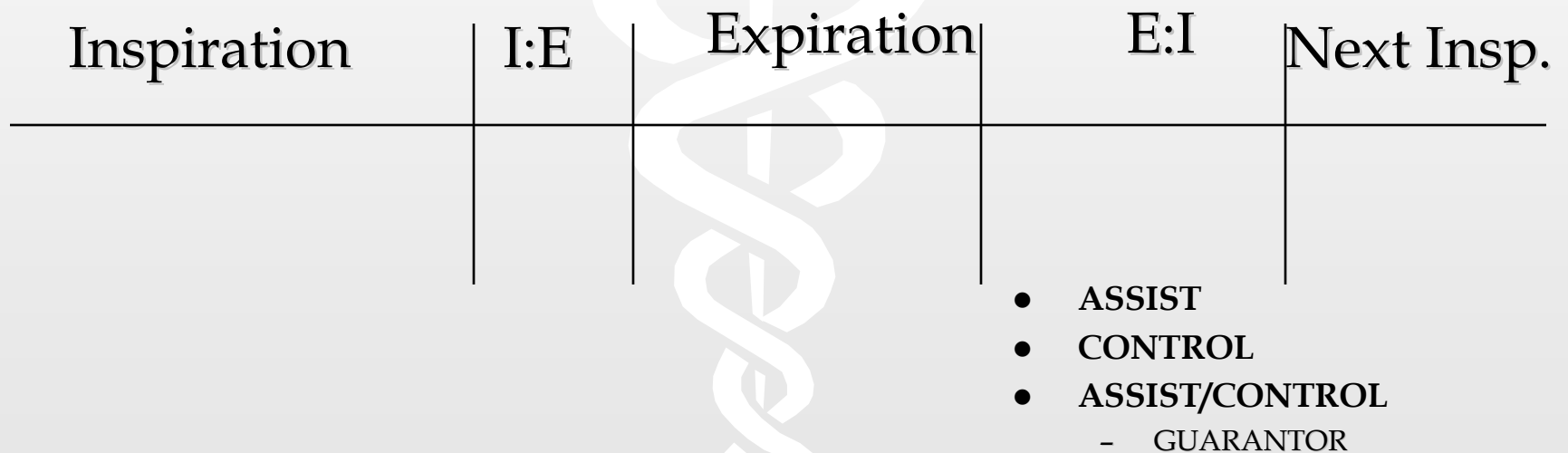


• WHAT IS OCCURRING DURING THE EXPIRATORY PHASE OF VENTILATION.

# EXPIRATORY TO INSPIRATORY PHASE:

- ASSIST
- CONTROL
- ASSIST/CONTROL
- GUARANTOR

# Phases That Need Classification



# Phases That Need Classification

Inspiration	I:E	Expiration	E:I
<ul style="list-style-type: none"> <li>• FLOW GENERATOR               <ul style="list-style-type: none"> <li>- CONSTANT</li> <li>- NON-CONSTANT</li> </ul> </li> <li>• PRESSURE GENERATOR               <ul style="list-style-type: none"> <li>- CONSTANT OR NONCONSTANT</li> <li>- LOW GENERATING PRESSURE</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• PRESSURE CYCLED</li> <li>• TIME CYCLED</li> <li>• VOLUME CYCLED</li> <li>• MIXED CYCLING</li> </ul>	<ul style="list-style-type: none"> <li>• ZEEP</li> <li>• PEEP</li> <li>• NEEP</li> <li>• ER</li> </ul>	<ul style="list-style-type: none"> <li>• ASSIST</li> <li>• CONTROL</li> <li>• ASSIST/CONTROL</li> </ul>

# Mark *Vary* or *Not Vary* if Change in Patient

Parameter Ventilator	Vt	Minute Ve	I:E ratio
7200 in A/C			
Bear 5 in A/C			
Servo 300			

ECC V=Vary

NV=Not Vary  
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# TYPICAL QUESTIONS

- A patient receiving ventilation via a volume-cycled, pressure-generator ventilator in the assist/control mode, which of the following will vary if lungs become harder to ventilate?(no alarms ring)
  - Expired Tidal Volume
  - System Pressure
  - Inspiratory Time
  - Minute Volume

# TYPICAL QUESTIONS

- A patient receiving ventilation via a Time-cycled, Flow-generator ventilator in the assist/control mode, which of the following will vary if lungs become harder to ventilate?(no alarms ring)
  - Expired Tidal Volume
  - System Pressure
  - Inspiratory Time
  - Minute Volume

# Typical Questions

- If the 7200 is in the PCV mode, answer the following:
  - What is causing the I:E Changeover?
  - If the patient's lungs get stiffer, which of the following will be effected:
    - Expired Tidal Volume? RR?
    - System Pressure? Flowrate?
    - Inspiratory Time? Sensitivity?
    - Minute Volume? I:E ratio?
  - How is MITP being effected during this mode?
  - Draw the Pressure / Time curve to illustrate.

# Typical Questions

- If the 7200 is in the Pressure-support mode, answer the following:
  - What is causing the I:E Changeover?
  - If the patient's lungs get stiffer, which of the following will be effected:
    - Expired Tidal Volume? RR?
    - System Pressure? Flowrate?
    - Inspiratory Time? Sensitivity?
    - Minute Volume? I:E ratio?
  - How is MITP being effected during this mode?
  - Draw the Pressure / Time curve to illustrate.