

# Non-invasive Ventilation in Emergency Care Online Course



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<b>Latest Review</b>	April 2020
<b>Accreditation:</b>	RACGP (Activity Number 201899) & ACRRM (Activity Number: 20174) for the 2020-2022 triennium

## Learning outcomes

### At the completion of the workshop the participants should be able to:

1. Discriminate the indications for non-invasive ventilation in the emergency patient
2. Differentiate the pressures in non-invasive ventilation using CPAP and BiPAP
3. Outline the contraindications and potential adverse effects associated with non-invasive ventilation
4. Discriminate the clinical findings and management of life threatening acute pulmonary oedema
5. Prioritise the ventilator settings and procedure for commencing CPAP in acute pulmonary oedema
6. Outline the role of NIV for treating acute exacerbations of chronic obstructive pulmonary disease
7. Differentiate the pressure settings and procedure for titrating BiPAP in the patient with an acuter exacerbation of COPD

### Summary of the e-Learning Program

The e-learning is interactive and requires the clinician to consider a range of the clinical problems and scenarios and provide a response. At the end of each topic a summative quiz is used to evaluate learning and understanding of the topic material. There are four topics, each expected to take the medical practitioner 105 minutes to complete with a total course time of 6.5 hours.

The four topics are:

1. Noninvasive Ventilation: Basic principles
2. Using CPAP in clinical practice
3. Using BiPAP in clinical practice
4. Setting up the ventilator for noninvasive ventilation (optional)

# Outline of the Program

## Pre – Course Quiz

### 1. Non-invasive Ventilation in the Emergency Patient: Basic Principles

**Module summary:** Noninvasive Ventilation (NIV) is an effective means of delivering positive pressure ventilation in the patient with severe respiratory distress without the use of an endotracheal tube. Often referred to as “CPAP” or “BiPAP,” NIV uses the patient’s upper airway and a mask for the delivery of positive pressure and is most frequently used to treat patients with moderate to severe respiratory distress due to COAD and Acute Pulmonary Oedema. In the first section of this topic we explore the core principles of Noninvasive Ventilation including how NIV works at a physiologic level, clinical applications, contraindications, starting pressures and potential complications.

#### Interaction/Assessment:

- Interactive module: Intriduction to CPAP and BiPAP (Formative assessment: 90 mins)
- Topic Quiz – Principles of Noninvasive Ventilation (Summative assessment: 30 mins)

### 2. CPAP In Acute Pulmonary Oedema

**Module summary:** The real "magic" of noninvasive ventilation is best viewed from the perspective of a clinical case. In the following module a clinical scenario is used to illustrate how noninvasive ventilation can be applied in acute care to manage the critically ill patient presenting with shortness of breath. We consider the questions of when CPAP is most likely to be of benefit and how the therapy fits in with current pharmacological strategies.

#### Interation/Assessment:

- Interactive module CPAP in Clinical Care (Formative assessment: 90 mins)
- Topic Quiz – CPAP in Clinical Care (Summative assessment: 30 mins)

### 3. BiPAP in Chronic Pulmonary Disease

**Module summary:** In this module we continue to explore the role of NIV in clinical care, this time focusing on the use of BiPAP and considering which patients are most likely to benefit from the use of BiPAP, how the therapy fits in with pharmacological approaches to management, contraindications to the use of BIPAP and the practical selection of pressures and monitoring of response.

#### Interaction/Assessment:

- Interactive module: BiPAP in Clinical Care (Formative assessment: 90 mins)
- Topic Quiz – BiPAP in Clinical Care (Summative assessment: 30 mins)

### 4. Final Post Course Assessment Quiz

Final Course Quiz – Non-invasive Ventilation in Emergency Care (Summative assessment: 30 mins)