

A banner image showing a medical scene. A patient is lying in a hospital bed, wearing a clear oxygen mask with a yellow cannula. Two medical professionals, a man and a woman in white coats, are standing behind the bed, looking at the patient. In the background, there is a medical monitor displaying vital signs. The Philips logo is in the top left corner.

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Seminar



第46回日本集中治療医学会学術集会 教育セミナー（ランチョン）17

日時 2019年3月2日(土) 12:40～13:40

会場 第5会場（国立京都国際会館 1F Room D）

【同時通訳】

NPPV: pre-hospital and early use in acute pulmonary edema in Europe

座長：竹田 晋浩 先生（医療法人社団康幸会 かわぐち心臓呼吸器病院）

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参加方法：教育セミナー（ランチョン）は整理券制です。整理券は自動発券機にて、当日分のみ、先着順で配布します。
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発券機設置場所：国立京都国際会館 ニューホール参加受付付近／国立京都国際会館 正面玄関入ってすぐの通路
グランドプリンスホテル京都B2Fホワイエ参加受付付近

整理券配布時間：3月2日（土）8:15～12:10

共催
第46回日本集中治療医学会学術集会／フィリップス・レスピロニクス合同会社

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NPPV: pre-hospital and early use in acute pulmonary edema in Europe

Alexandre Mebazaa

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Position:

2000-now **Professor in Anesthesiology and Critical Care Medicine**, Paris Diderot School of Medicine,

2009-now **Co-Director of the Biomarker in cardiac failure team at U 942 Inserm**, 42 Boulevard de la Chapelle, 75010, Paris, France

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Abstract

In the past decade, the use of noninvasive positive pressure ventilation (NPPV) as an alternative to intubation and conventional ventilation has become a standard of care in emergency rooms and intensive care units. NPPV helps reduce the need for endotracheal intubations, decreases complication rates, and improves patient outcomes. Our group showed that benefits of NPPV is even striking in acute pulmonary edema (APE) patients when administered in the pre-hospital setting.

In APE, congestion affects lung function and increases intrapulmonary shunting, resulting in hypoxemia. A decrease in SpO_2 may be detected even in mild forms of AHF. FiO_2 should be increased up to 100% if necessary, according to SpO_2 , unless contra-indicated. Hyperoxia, however, should be avoided. NPPV reduces respiratory distress and may decrease the intubation and mortality rates, although data regarding mortality are less conclusive. NPPV should be started as soon as possible in patients with APE showing respiratory distress. Continuous positive airway pressure (CPAP) is a feasible technique in the prehospital setting because it is simpler than pressure-support positive end-expiratory pressure (PS-PEEP) and requires minimal training or equipment. NPPV is even started at home, during the first contact with either paramedics or physicians. On hospital arrival, patients who still show signs of respiratory distress should continue with NPPV, in case of acidosis and hypercapnia, particularly in those with previous history of COPD or signs of fatigue.

Thus, European experts recommended the followings (Mebazaa A et Eur Heart Journal 2015):

- Oxygenation should be monitored with pulse-oximetry (SpO_2)
- Acid-base balance, complementing SpO_2 monitoring, should be obtained on admission, especially in patients with APE or previous history of chronic obstructive pulmonary disease, using venous blood or especially in patients with cardiogenic shock through the arterial line
- Oxygen therapy should be considered in patients with APE having $\text{SpO}_2 < 90\%$
- NPPV is indicated in patients with respiratory distress and should be started as soon as possible. Non-invasive ventilation decreases respiratory distress and also reduces the rate of mechanical endotracheal intubation.