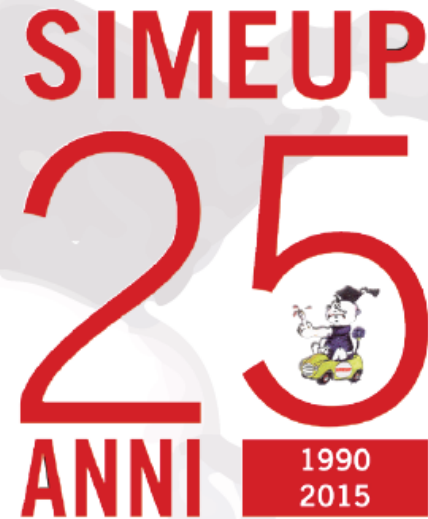


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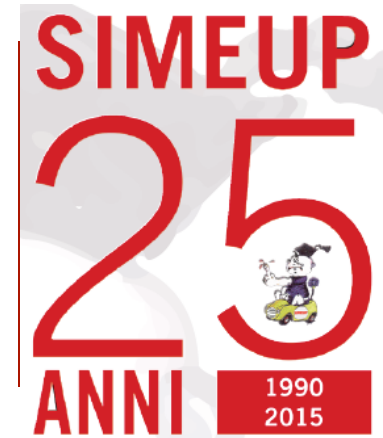


**La Ricerca**

**Raffaele Falsaperla**

Az. OU Policlinico-OVE, Catania

# Premessa



## Ricerca biomedica:

- a) una massa critica di **ricercatori** con competenze complementari che garantiscano costanti interazioni, discussioni, interscambi di idee e di cultura (la *cross-fertilization* dei saperi);
- b) Le **strutture** dedicate alla ricerca che permettono ai singoli istituti/ università di essere competitivi ed in grado di “attrarre cervelli”.
- c) le risorse **finanziarie** adeguate.

In Italia, a fronte di un numero di ricercatori piu che adeguato ed a una produttività scientifica di tutto rispetto, l'Italia non ha finanziamenti sufficienti.

Infatti la nostra ITALIA è tra gli ultimi paesi europei dell'OCSE in termini di finanziamenti a ricerca e sviluppo con un investimento inferiore all'1% del prodotto interno lordo (solo la Grecia e il Messico destinano alla ricerca meno fondi di noi).



## Pediatrics & Therapeutics

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### Recommended Conferences

- ➔ Annual Congress and Medicare Expo on Trauma & Critical Care  
March 07-09, 2016 Madrid, Spain
- ➔ 4th Pediatrics Conference  
March 29-31 2016 Atlanta USA

### Pediatric Critical Care

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Pediatric critical care is a branch of medicine concerned with the diagnosis and management of life-threatening conditions requiring sophisticated organ support and invasive monitoring. It is a field of pediatrics with a focus on the utmost care of the critically ill or unstable children. Pediatric critical care can be found working in a wide variety of environments and specialties such as general intensive care units, medical intensive care units, surgical intensive care units, trauma intensive care units, coronary care units, cardiothoracic intensive care units, etc.

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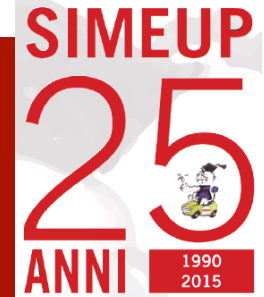
### Pediatric Neurology

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Pediatric neurology is a combination of both neurology and pediatrics. Pediatric neurology is a branch of medicine mainly dealing with disorders of nervous system. Pediatric neurology deals with the diagnosis and treatment of all diseases involving the central and peripheral nervous system and its subdivisions, the autonomic nervous system and the somatic nervous system, including their coverings, blood vessels and all effector tissues such as muscles. A medical practitioner who specializes in this field of pediatric neurology is called pediatric neurologists.

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[Resuscitation](#). 2012 Dec;83(12):1473-7. doi: 10.1016/j.resuscitation.2012.04.011. Epub 2012 May 8.

## Comparison of times of intervention during pediatric CPR maneuvers using ABC and CAB sequences: a randomized trial.

[Lubrano R](#)<sup>1</sup>, [Cecchetti C](#), [Bellelli E](#), [Gentile I](#), [Loayza Levano H](#), [Orsini F](#), [Bertazzoni G](#), [Messi G](#), [Rugolotto S](#), [Pirozzi N](#), [Elli M](#).

### ⊕ Author information

#### Abstract

**BACKGROUND:** The proposed introduction of the CAB (circulation, airway, breathing) sequence for cardiopulmonary resuscitation has raised some perplexity within the pediatric community. We designed a randomized trial intended to verify if and how much timing of intervention in pediatric cardiopulmonary resuscitation is affected by the use of the CAB vs. the ABC (airway, breathing, circulation) sequence.

**PATIENTS AND METHODS:** 340 volunteers, paired into 170 two-person teams, performed 2-rescuer healthcare provider BLS with both a CAB and ABC sequence. Their performances were audio-video recorded and times of intervention in the two scenarios, cardiac and respiratory arrest, were monitored.

**RESULTS:** The CAB sequence compared to ABC prompts quicker recognition of respiratory (CAB vs. ABC=17.48 ± 2.19 vs. 19.17 ± 2.38s; p<0.05) or cardiac arrest (CAB vs. ABC=17.48 ± 2.19 vs. 41.67 ± 4.95; p<0.05) and faster start of ventilatory maneuvers (CAB vs. ABC=19.13 ± 1.47s vs. 22.66 ± 3.07; p<0.05) or chest compressions (CAB vs. ABC=19.27 ± 2.64 vs. 43.40 ± 5.036; p<0.05).

**CONCLUSIONS:** Compared to ABC the CAB sequence prompts shorter time of intervention both in diagnosing respiratory or cardiac arrest and in starting ventilation or chest compression. However, this does not necessarily entail prompter resumption of spontaneous circulation and significant reduction of neurological sequelae, an issue that requires further studies.

2012



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## Noninvasive ventilation for acute respiratory distress in children with central nervous system disorders



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### KEYWORDS

Noninvasive ventilation;  
Neurological and neuromuscular diseases;  
Central nervous system disorders;  
Acute respiratory distress;  
Children

### Summary

**Background:** Acute respiratory distress (ARD) is a relatively frequent occurrence in patients suffering from central nervous system disorders (CNSD) and moderate to severe mental retardation. Whenever conventional therapy is little effective, noninvasive mechanical ventilation (NIV) is the additional treatment in patients with diseases of the peripheral nervous system. However, NIV is traditionally little employed in the acute phase in patients suffering from CNSD. In the latter, either conventional therapy is maintained or invasive mechanical ventilation is instituted if the patient's condition worsens severely. To challenge the traditional view, we conducted the study to prove that NIV is both applicable and effective in the treatment of ARD also in children with moderate to severe mental retardation.

**Methods:** We studied 44 children with ARD secondary to pneumonia and CNSD causing moderate to severe mental retardation. The children were divided in two groups. One group received conventional therapy and NIV, the other conventional therapy only, before being advanced to invasive ventilator support when nonresponding. On admission to hospital and one hour following admission we registered pH, PaCO<sub>2</sub>, PaO<sub>2</sub>, A – a DO<sub>2</sub> and the PaO<sub>2</sub>/FIO<sub>2</sub> ratio. The mean hospital stay was also recorded.

**Results:** After one hour on NIV PaO<sub>2</sub> and pH increased, PaCO<sub>2</sub> decreased, A – a DO<sub>2</sub> and PaO<sub>2</sub>/FIO<sub>2</sub> ratio improved. No changes in the above parameters were observed in children on conventional therapy only. Hospital stay was shorter when NIV was instituted.

**Conclusions:** NIV is both applicable and beneficial in stabilizing blood gases, respiratory and cardiovascular parameters also in children with CNSD. Moreover its use shortens the hospital stay.

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EXPERT  
REVIEWS

# Usefulness of video-EEG in the paediatric emergency department

Expert Rev. Neurother. Early online, 1–17 (2014)

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Over the past two decades the EEG has technically improved from the use of analog to digital machines and more recently to video-EEG systems. Despite these advances, recording a technically acceptable EEG in an electrically hostile environment such as the emergency department (ED) remains a challenge, particularly with infants or young children. In 1996, a meeting of French experts established a set of guidelines for performing an EEG in the ED based on a review of the available literature. The authors highlighted the most suitable indications for an emergency EEG including clinical suspicion of cerebral death, convulsive and myoclonic status epilepticus, focal or generalized relapsing convulsive seizures as well as follow-up of known convulsive patients. They further recommended emergency EEG in the presence of doubt regarding the epileptic nature of the presentation as well as during the initiation or modification of sedation following brain injury. Subsequently, proposals for expanding the use of EEG in emergency patients have been advocated including trauma, vascular and anoxic-ischemic injury due to cardiorespiratory arrest, postinfective encephalopathy and nonconvulsive status epilepticus. The aim of this review is to show the diagnostic importance of video-EEG, as well as highlighting the predictive prognostic factors for positive and negative outcomes, when utilized in the pediatric ED for seizures as well as other neurological presentations.

**Keywords:** acute differential diagnosis • diagnostic value • emergent department • emergent video EEG • pediatric • therapy perspective

Over the past two decades, technical improvements in performing an EEG have been substantial with a shift from analog to digital machines and more recently to video-EEG systems. Despite these advances, recording a tech-

The different patterns of the EEG obtained from emergency patients, although often non-specific, can be correlated with the etiology of CNS disease, such as trauma (1), vascular injury as well as anoxic-ischemic injury due to cardio-

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