

# CARDIOPULMONARY RESUSCITATION IN THE PRONE POSITION

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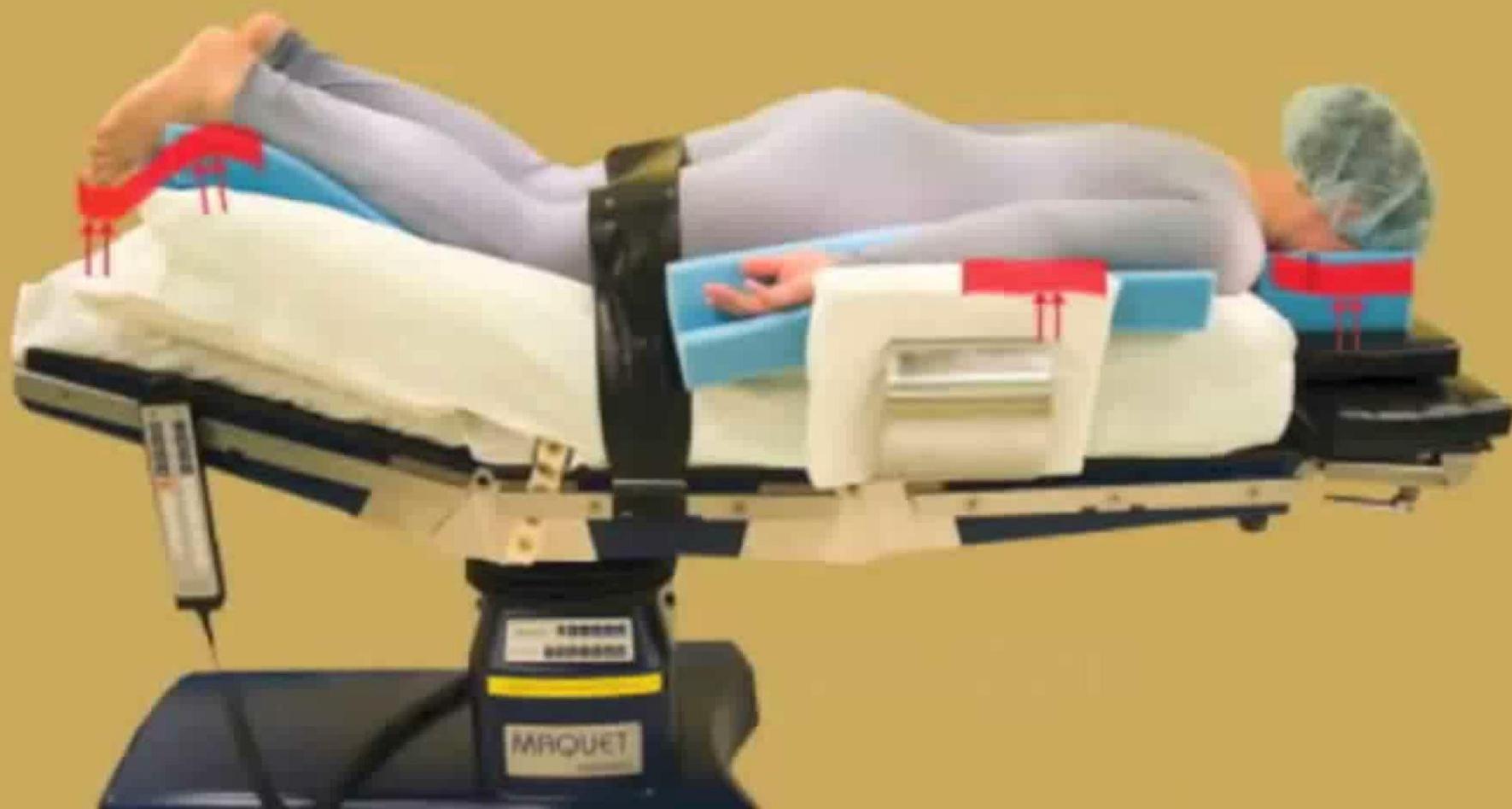


# OBJECTIVE

1. What is cardiopulmonary resuscitation in the prone position ( P- CPR)?
2. Researchs.
3. Discussion.
4. Conclusion.

Surrey and Sussex  
Healthcare NHS Trust

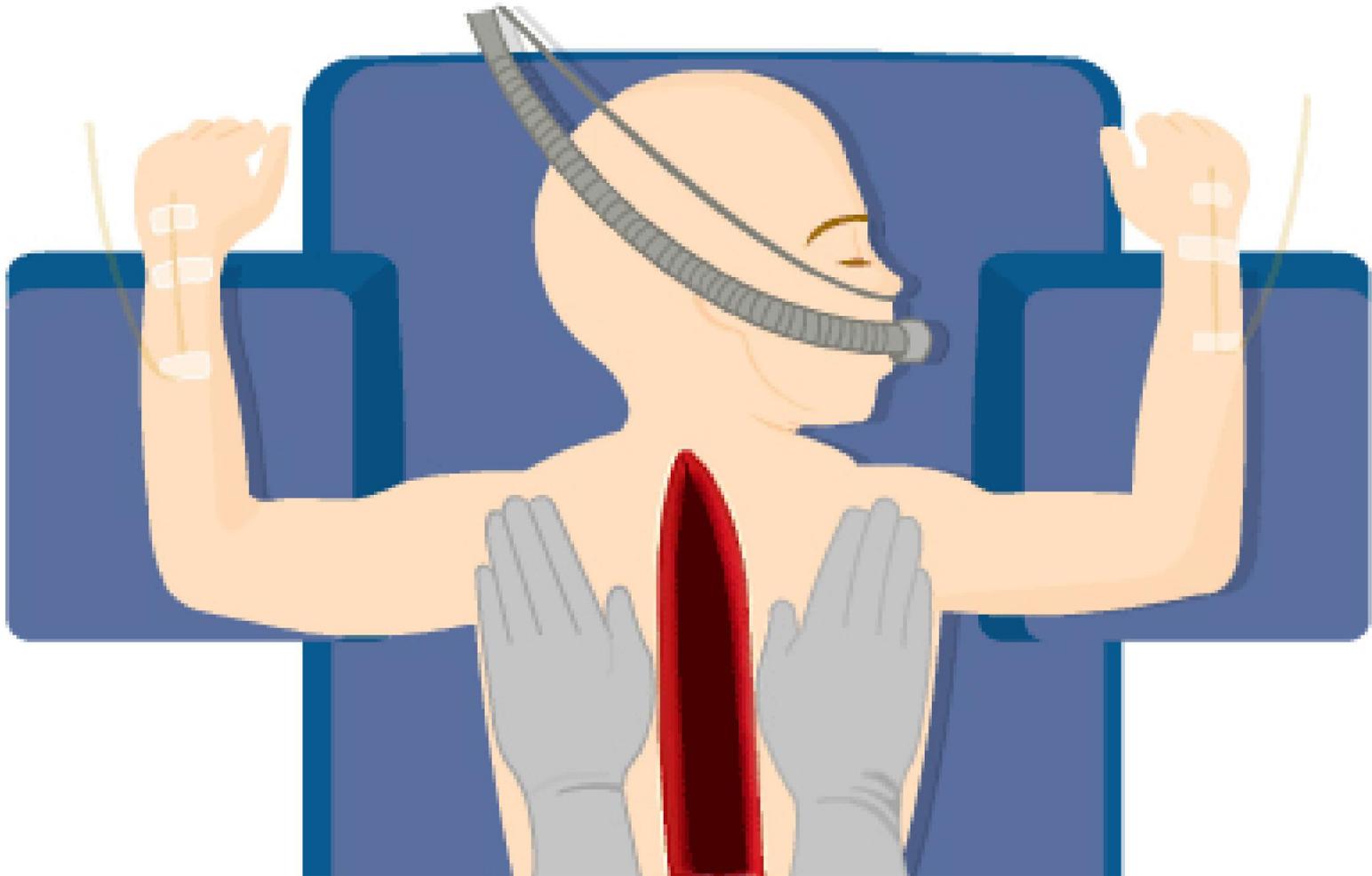
**NHS**



# P – CPR ON PATIENTS WITH NEUROSURGERY



# P – CPR ON PATIENTS WITH SCOLIOSIS



# P – CPR IN THE ICU WITH ARDS



# HISTORY OF P – CPR

- 1989: 1<sup>st</sup> P-CPR was proposed by McNeil.
- 1990: Safer, reevaluated previous practices.
- 2001: 1<sup>st</sup> systematic review of 16 articles, Brown et al, 10/22 P-CPR survived to discharged. (1966-1999)
- 2002: Stewart, reinforced use.
- 2003: Mazer, high blood pressure in P-CPR.

# “ The Efficacy of Cardiopulmonary Resuscitation in the Prone Position”

M. C. ATKINSON

Department of Anaesthesia, Royal Infirmary of Edinburgh,  
SCOTLAND.

*(Critical Care and Resuscitation 2000; 2: 188-190)*

**Conclusions:** *Efficient CPR can be performed on a mannequin in the prone position, although additional instruction in technique is required. This may be applicable to patients turned to the prone position. (Class IIa, Grade C)*

# “Is the Upside-down Position Better in Cardiopulmonary Resuscitation?”

Huey Wen Yien & Wei

National Yang Ming University of Medicine & Taipei Veterans General Hospital, Taiwan.

*(J China Med Assoc, May 2006, vol 69, No 5)*

P-CPR:  $79 \pm 20 / 17 \pm 10$  mmHg. M.T.Volume:  $300 \pm 110$  ml.

S-CPR:  $55 \pm 20 / 13 \pm 7$  mmHg.

**Conclusions:** *In some case reports of higher mean blood pressure and intrathoracic pressure, prone CPR may be initiated in a well controlled environment, such as the OR or ICU, to avoid delay in onset of CPR. (Class I, Grade B)*

# “Cardiopulmonary Resuscitation in the Prone Position”

D.Gomes & C.Bercot

Department of A. at the Lagoa Federal Hospital, RJ, Brazil.

*(Open Journal of Anesthesiology, 2012, 2, 199-201)*

**Conclusions:** *high-quality chest compressions in the prone position were able to generate sufficient cardiac output.*

*(Class IIa, Grade C)*

# GUIDELINES

The 2005 American Heart Association (AHA)

Guidelines for CPR and Emergency Cardiovascular

Care (ECC) recommended “when the patient cannot be placed in the supine position, rescuers may consider providing CPR with the patient in the prone position, particularly in hospitalized patients with an advanced airway in place” (*Class IIb, Level of evidence 5*)

# DISCUSSION

## **Benefits:**

1. The thoracic pump model supported CPR more than cardiac pump model ( Mc Neil, Mazer, Wei)
2. Easier training, no need to be alert for airway, less risk of aspiration pneumonia, no delay in compression.
3. Reduce the risk of changing patient's position.

## **Limitations:**

1. More staffs needed to perform the procedure, difficult ventilation without intubation.
2. Can't do P-CPR out of hospital.

# CONCLUSSION

- P-CPR in operating room.
- High blood pressure in P-CPR.
- Need more researchs with strong evidence.

THANK YOU !

