Comparison of prone and kneeling intubation in mannequin model with limitation of neck movement, cross over design.

Jenpanitpong C., Silarak C., Srinaowech N., Patchkrua J., Thiamdao N., Yuksen C., Sittichanbuncha Y.

Department of Emergency Medicine, Faculty of Medicine Ramathibodi Hospital,

Mahidol University, Bangkok, Thailand.

Abstract

Backgrounds: Endotracheal intubation is the lifesaving procedure for airways management in critical injured patients. In situation of prehospital care, to intubate patient who lying on the floor is more difficult especially in traumatic injury patient who need cervical spine restriction.

Objective: This study aims to compare the optimal position between prone and kneeling intubation in case of limitation of neck movement.

Method: This was an experimental study conducted in Faculty of Medicine Ramathibodi Hospital. Paramedic students were participated to intubation the supine mannequin model which was applied a cervical hard collar. The participants were assigned by SNOSE to intubate in prone or kneeling position as first method, then performed the other method in 7 days later. Study outcomes included percentage of success intubation, time to perform intubation successfully and Cormack and Lehane's classification of laryngeal view.

Result: There were 39 participants (Mean age 23.2 years, weight 67.4 Kg., height 167.4 cm. and 22; 56.41% are male). The number of success intubation in kneeling and prone position (35; 89.7% and 37; 94.9%, P=0.675), time to perform intubation successfully (23.4 ± 35.7 and 15.9 ± 10.4, P=0.222) and Cormack and Lehane's classification of laryngeal view is no difference (P=0.948).

Conclusion: Prone or knelling position in lying patient with cervical spine restriction is no difference. But consideration for shortening on scene time, prone position intubation is more appropriate.