



## LITERATURE REVIEWS

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### Can they stop the bleed? Evaluation of tourniquet application by individuals with varying levels of prior self-reported training

McCarthy J, Caterson E, Chaudhary M, Herrera-Escobar J, Hashmi Z, Goldberg S, Goolsby C, Lipsitz S, Haider A, Goralnick E. *Injury*, (2019), 50, 10 – 15 <https://doi.org/10.1016/j.injury.2018.09.041>

#### Background

This paper explored the application of extremity tourniquets for haemorrhage control by a layperson population on a simulation model. This is an interesting article as it gives an understanding of the ability of the general public in applying this limb and life-saving adjunct. This would be important to know if a patient presents to the Emergency department with one that has been applied by the general public.

#### Aims

The aim of the study was to assess the ability of a population of laypeople to apply an extremity tourniquet for haemorrhage control.

#### Design

A prospective study was carried out at a single location recruiting the general public and using a simulation model they assessed their ability to apply a combat extremity tourniquet for haemorrhage control.

#### Sample

The study population were recruited locally from the general public and were sub grouped into those without first aid training, those with first aid training and those with first aid and haemorrhage control training.

#### Data collection

The prospective study was carried out with observational analysis of the participant on the simulation model.

#### Data analysis

Appropriate statistical analysis was performed using logistical regression, confidence intervals and p values.

#### Results

Three hundred and seventeen participants were included in the study. 15% of those with no prior training and 25% of those with first aid training applied the tourniquet correctly. The highest percentage of correct application was the subgroup with first aid and haemorrhage control training where 36% correctly applied the extremity tourniquet.

#### Conclusion

This study interestingly showed that although the group who claimed first aid and haemorrhage control training applied an extremity tourniquet correctly only 36% of the time. This highlights that education of the general public on this skill is required. It also highlights if a patient presents to the emergency department with a tourniquet applied by the general public that there is a high chance it will be incorrectly placed. An extremity tourniquet is a limb and life saving aid but if placed incorrectly could cause damage to the tissues or be ineffective at controlling the haemorrhage.

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## **The influence of anesthetic techniques on postoperative cognitive function in elderly patients undergoing hip fracture surgery: General vs spinal anesthesia**

Tzimas P, Samara E, Petrou A, Korompilias A, Chalkias A, Papadopoulous G. *Injury*, (2018) 49 2221 – 2226

### **Introduction and background**

The nursing management of hip fracture patients can be extremely challenging particularly when they have postoperative cognitive dysfunction (POCD) or delirium. This paper compares patients who undergo surgery with a general anaesthetic with those that receive a spinal anesthesia for a hip fracture and the prevalence of POCD. The ability to understand the prevalence of this condition within these two groups could aid in allocating nursing resources and predicting which patients will require extra support or monitoring.

### **Aims**

The aim of this study was to compare a general anaesthetic with a spinal anaesthetic for hip fracture surgery and the development of POCD.

### **Design**

This study looked at the prevalence of POCD for up to 30 days after surgery in patients over the age of 65 years and undergo surgery for a hip fracture.

### **Data collection**

Ten different neurophysiological tests were performed at baseline and at 30 days postoperatively. Tests for delirium were also carried out along with the collection patient and surgical factors.

### **Data analysis**

The data was appropriately statistically analysed using a statistical package. They achieved the sample size stipulated from the power analysis and performed T-tests, Chi square, Klmogorov Smirnov and Mann Whitney tests on the data.

### **Results**

Seventy patients were included in the study with a mean age of 76 years. 33 patients underwent a general anaesthetic with 37 receiving a spinal anesthesia. They demonstrated no statistical difference in 8 out of the 10 neurocognitive tests in the baseline or at 30 days. There was a statistically significant difference with a decline in the spinal group with the instrumental activities of daily living scale and the colour-word task test both at baseline and 30 days postoperatively. They reported 12% of GA patients having delirium with 27 % of patients having it in the spinal group.

### **Conclusion**

This study shows that there was no statistical significant difference in the presentation of delirium, depression or postoperative cognitive dysfunction between the two groups. This highlights from a cognitive function aspect there is no difference and therefore would require similar nursing resources.