

Should we use Prefilled Emergency Drug Syringes in Anaesthesia



Rachel Conway - Registered Nurse

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Why ?

Anaesthesia is unique as a medical specialty where a single doctor routinely prescribes, dispenses, prepares and administers *multiple medications often within an urgent or emergent time scale...many of the medications used are potentially life threatening if given erroneously.* (Goodrick et al, 2013)

ANZCA (2017) state '*Pre-filled syringes that have been appropriately manufactured, sealed and labelled, and have acceptable shelf lives can enhance safety.*

Consideration must be given to ensuring rapid access to medications that may be required urgently in the post-anaesthesia care unit'

167 deaths were considered related to anaesthesia and **inappropriate medicine dose** was considered a problem in **23 cases**. (CEC, 2012)

Efficacy & Efficiency

Nurses took 156 seconds to start infusions when using pre-filled syringes compared with 276 seconds when preparing them de novo, a mean delay of 106 seconds.

One infusion prepared from ampoules contained one-fifth of the expected concentration of adrenaline; another contained none at all.

Medication errors were 17 times less likely when prefilled syringes were used.

Infusions prepared by pharmacy and industry were significantly more likely to contain the expected concentration (Adapa et al, 2012)

Waste & Cost

Metaraminol was the emergency or contingency drug most commonly pre-drawn with half (50.2%) of the syringes discarded unused. Discard rates for suxamethonium and atropine were even higher, at 90.9% and 91.5% respectively.

Conclusion of audit - decreased overall cost when prefilled syringe drugs and used and user satisfaction high.

(2009 audit from Royal Brisbane and Women's Hospital, quoted in Goodrick et al, 2013)

References

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<[http://bjanaesthesia.org/article/S0007-0912\(17\)31634-3/pdf](http://bjanaesthesia.org/article/S0007-0912(17)31634-3/pdf)>

ANZCA - Australian and New Zealand College of Anaesthetists (2017) Australian and New Zealand College of Anaesthetists *PS51- Guidelines for the Safe Management and Use of Medications in Anaesthesia*. (2017)

CEC - Clinical Excellence Commission (2012) Activities of the special committee investigating deaths under anaesthesia - 2010. Sydney, 2012.

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