How is saline obtained for sterile procedures? – a practice survey

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INTRODUCTION AND METHODS

•Crossover errors during central neuroaxial block performance can have disastrous consequences.

•We performed a regional survey of practice in our deanery pertaining to the use and handling of saline for three sterile procedures:

– Central venous catheter (CVC) insertion.

– Theatre epidurals.

– Epidurals for labour.

•We questioned Consultants, Trainees and SAS doctors from seven hospitals (BRI, NBT, RUH Bath, Gloucester, Cheltenham, Swindon, Weston) asking what method they use to obtain saline for sterile procedures (Photo. 1) and how they handle the skin disinfectant.

•A proforma was distributed to all anaesthetists over a two week period in September 2014. STAR members acted as principal investigators in each hospital.

•We asked two questions:

– How is skin decontaminated?

– How is saline for flush / LOR drawn up? (Fig 1.)

RESULTS

•We received 145 responses (70% response rate). Half of the respondents were Consultants (72) and the other half Trainees (51) and SAS doctors (22).

•Our results demonstrated that all clinicians use 2% chlorhexidine (CHG)/70% alcohol sponge applicators (swabsticks) for CVC insertion but there is variation for epidural insertion among the seven centres surveyed (Fig. 2).

• Most respondents ask an assistant to squirt saline from an ampoule into a container; individual practice is usually the same for each procedure (Table 1).

•20 respondents use liquid CHG <u>and</u> saline squirt during labour epidurals. Although there is a theoretical risk of crossover error, only 5 respondents do not manage this risk and have <u>two gallipots on the sterile field</u> (Fig. 3).

DISCUSSION

•Majority of respondents squirt saline (more common practice than that observed by Wee et al[1]).

•The recent AAGBI Safety Guideline[4] says 0.5% CHG is 'preferred' to 2% CHG (swabsticks) for neuraxial procedures. However CHG swabsticks and CHG spray minimise fluid spillage and make crossover errors impossible.

•Liquid CHG <u>and</u> squirt – crossover risk must be actively managed – NB Grace Wang case of paraplegia after loss-of-resistance syringe filled with CHG.

•We wanted to acknowledge Dr Christina Laxton for her contribution in obtaining the results from NBT.

Figure 1. Saline obtained by a) 'squirt' or b) 'direct from ampoule'

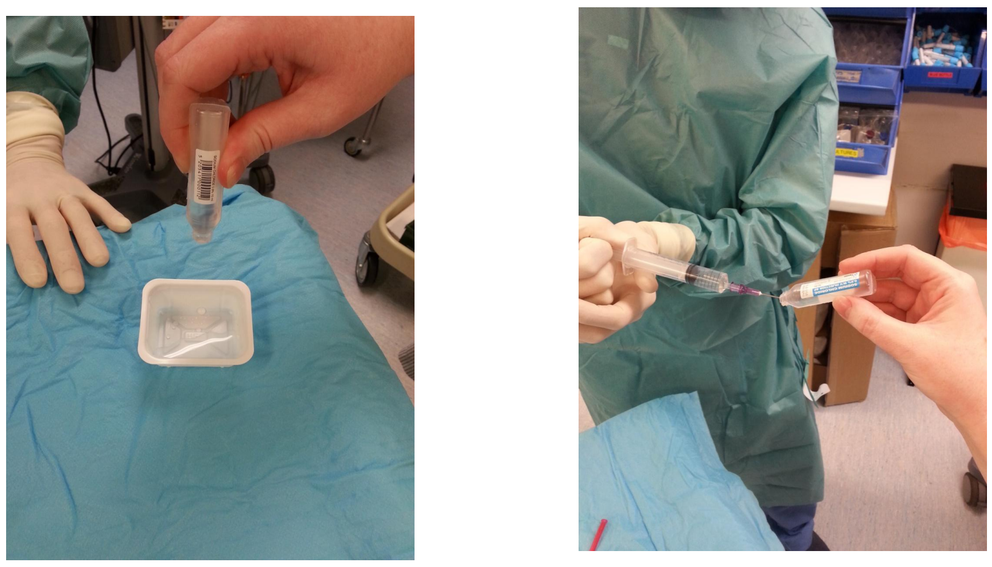


Figure 2. Skin preparation methods for CVC and epidural

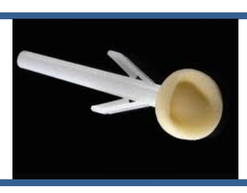
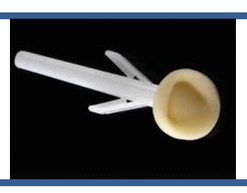
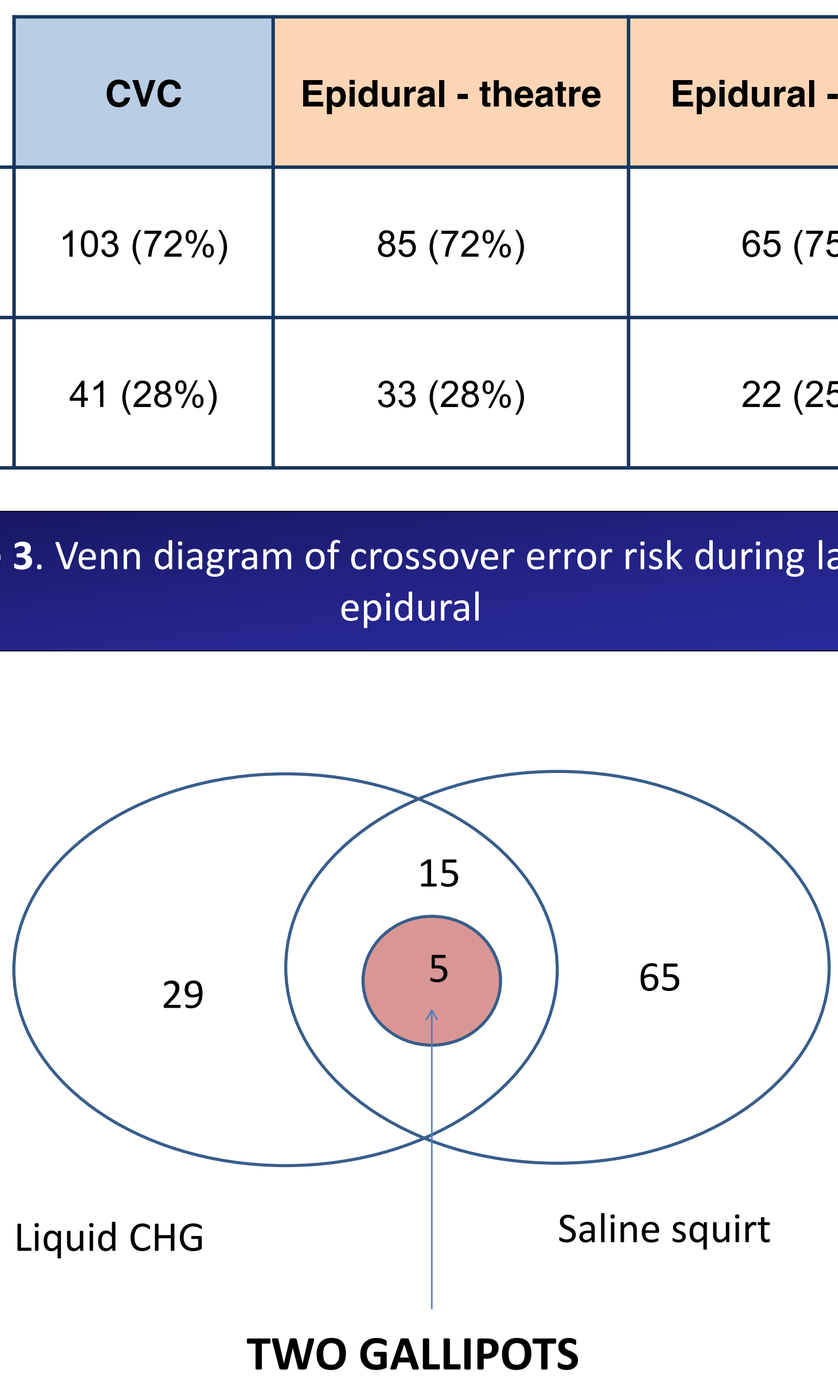
	Epidural		
CVC (All)	Stick (1)	Liquid (3)	Spray (3)
			

Table 1. Obtaining saline for procedures – responses

	CVC	Epidural - theatre	Epidural - labour
Squirt	103 (72%)	85 (72%)	65 (75%)
Direct from ampoule	41 (28%)	33 (28%)	22 (25%)

Figure 3. Venn diagram of crossover error risk during labour epidural



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