

Should anaesthetists scrub? The case for and against

Stephanie Strachan, Philippa Higgins

INTRODUCTION

Hand hygiene is accepted as the leading measure in preventing the cross-transmission of microorganisms and in reducing the incidence of health-care associated infections. Anaesthetists use an 'aseptic technique' when performing invasive procedures, such as central venous lines, epidurals and spinals. However, there are a number of ideas as to what 'asepsis' involves, with differing views on which particular component is most important in the avoidance of infective contamination.

Studies have shown that professionals in technical specialties with a high workload and a high risk of cross infection (as found in anaesthesia) are particularly bad at following simple hand washing techniques (Pittet et al, 2004). The current practice for anaesthetists may be related to the fact that the majority have not received training in scrub technique and are also unaware of both local and national guidelines on hand washing.

THE CASE FOR HAND-WASHING

The Association of Anaesthetists guidelines (2002) for aseptic technique advocate 'maximal barrier precautions', i.e. full hand-washing, the wearing of sterile gloves and gown, a mask and cap, and use of a large sterile drape. The guidelines also state that anaesthetists must ensure that hand hygiene is an indispensable part of their clinical culture (Moen et al, 2004).

It is difficult to ascertain the actual

Dr Stephanie Strachan is Specialist Registrar in Anaesthesia, **Dr Philippa Higgins** is Specialist Registrar in Anaesthesia at Kingston Hospital, Kingston upon Thames, Surrey, KT2 7QB.

Correspondence to: Stephanie Strachan

rate of iatrogenic infection, as other 'patient' factors contribute to an increased infective risk (e.g. immunosuppression), but catheter-related sepsis occurs in approximately 3% of central venous catheterizations, while the post-procedure incidence of meningitis is <1:68 000, and epidural abscess <1:131 500 (Moen et al, 2004). Although uncommon, the implications (e.g. severe sepsis, paraplegia, death) are disastrous and should be avoided.

An audit to establish the effectiveness of scrub technique as performed by anaesthetists compared with scrub nurses (a group of professionals who are well taught, likely to follow policy, and perform scrubbing more routinely) demonstrated that the scrubbed hands of anaesthetists were significantly less sterile than those of the scrub nurses ($P<0.01$), illustrating poor current practice by the anaesthetists (Strachan and Williams, 2005). It is likely that the results are representative of the wider anaesthetic population.

THE CASE AGAINST SCRUBBING

Does rigorous hand washing really make a difference to the anaesthetist? If it were just a case of washing hands between patients, then yes, the spread of vectors from patient-to-patient can be reduced; but anaesthetists may ask how clean their hands really need to be for performing anaesthetic procedures when, in addition to scrubbing, they also wear sterile gloves. The only scenario in which hand washing is likely to be relevant is when gloves are damaged, thereby leaving a hand exposed.

For invasive procedures anaesthetists are more likely to further decrease infective risk to patients by ensuring they wear facemasks that cover the nose –

a practice which has been identified as lacking and debated at length in the anaesthetic journals – as well as ensuring meticulous skin preparation (the majority of infective organisms are skin commensals).

The incidence of infective complications, following the insertion of spinals and epidurals in particular, is so immensely small that improving hand-washing technique may not reduce the risk of infection further. To perform a study to quantify this, comparing good and bad hand washing technique, would be difficult, not only ethically, but also in terms of sample size required to make a statistical significance.

CONCLUSION

Considering the potentially disastrous sequelae by infection from the procedures with which anaesthetists are involved, and the simplicity of good hand-washing technique, they would be well advised to strictly adhere to this practice, not just because it represents good clinical practice, but for the ultimate care of our patients. **HM**

Association of Anaesthetists of Great Britain and Ireland (2002) *Infection Control in Anaesthesia*. AAGBI, London. www.aagbi.org/pdf/Infection.pdf (accessed 20 June 2005)

Moen V, Dahlgren N, Irestedt L (2004) Severe neurological complications after central neuraxial blockades in Sweden 1990-1999. *Anesthesiology* **101**(4): 950-9

Pittet D, Simon A, Hugonnet S, Pessoa-Silva Ca, Sauvan V, Perneger V (2004) Hand hygiene among physicians: performance, beliefs, and perceptions. *Ann Int Med* **141**(1): 1-8

Strachan S, Williams E (2005) *How Clean Are We? An Audit Studying Hand-Washing Practices By Anaesthetists*. Poster Presentation, ESA, Vienna

Anaesthetic and critical care dilemmas are coordinated by **Dr Natasha Curran** and **Dr Ramani Moonsinghe**, Research Fellows at the Centre for Anaesthesia, UCL, London. Ideas for future dilemmas can be sent to Kate Saunders hmed@markallengroup.com