This Signal addresses the risk of a patient being burned when diathermy is used in the presence of alcohol based skin preparation solutions.

A sample incident report reads:
“Patient undergoing surgery received burns during an incident whilst using diathermy. Patient skin cleaned with hydrex (pink chlorhexidine gluconate 0.5% w/v in 70% DEB) as per surgeon request. Sunlight drapes used to cover patient. Further skin area required cleaning to allow procedure to continue, same solution used. Whilst using diathermy, drapes caught fire resulting in burns to patient’s upper abdomen and right hand.”

A search of incidents reported to the National Reporting and Learning System (NRLS) from inception to October 2011 identified 23 incidents of fire in which the involvement of skin prep was clearly stated. A further ten incidents were identified where diathermy was used but the involvement of skin prep was likely but not stated. Four of these incidents were reported as resulting in death or severe harm to the patient.

The key issues identified were that:
• sufficient time is not allowed for surgical sites to dry before commencement of surgery, and,
• skin preparations were being allowed to pool when used.

Organisations may wish to refer to the guidance in The Standards and Recommendation for Safe Perioperative Practice (2011) from The Association for Perioperative Practice (AfPP) which state:
“Alcoholic skin preparations and other alcohol-based or aerosol products may ignite if they come into contact with sparks from electrosurgery. This can be avoided by not allowing alcoholic prep solutions to pool around the site of surgery while prepping, and allowing them to dry or be dried with a surgical swab prior to the start of any surgical procedure (MDA 2000). The practitioner should also be aware of the risk that the prep solution will not be able to evaporate if covered with impervious single use drapes.”

A similar incident occurred in an obstetric theatre in New Zealand in 2002 and a detailed report has been produced.

We would like to hear from you – please contact us with your initiatives to reduce risks in these areas. We can share them with an appropriate forum for example the Clinical Board for Surgical Safety.

Signals are notifications of key risks emerging from review of serious incidents reported to the NRLS and shared by the NPSA.