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Reducing the risk of transmission of Creutzfeldt–Jakob disease (CJD) from surgical instruments used for interventional procedures on high-risk tissues

Information for the public
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Creutzfeldt–Jakob disease (CJD) is an incurable brain disease that leads to dementia, brain damage and death. There are different types of CJD. Most cases are sporadic CJD, the cause of which is not known. It affects about 1 in a million people. Another form is called familial CJD, which means it is inherited and runs in families. It affects about 1 in 9 million people. A more recently discovered form, first found in the UK in 1996, is called variant CJD (vCJD). It affects younger people and is probably caused by eating food from cattle infected with bovine spongiform encephalopathy (BSE or 'mad-cow disease'). By September 2006, 156 people in the UK had died because of definite or probable vCJD.

All types of CJD are caused by an abnormal protein called a prion. The highest levels of prions are found in tissues such as the brain, pituitary gland, spinal cord and parts of the eye. Prions cannot be inactivated or removed by normal hospital cleaning and sterilisation (decontamination) methods. So there is a risk that surgical instruments carrying prions could spread CJD from one patient to another, even when the instruments have been properly washed and disinfected. So far, no cases of this have been reported, but there is a risk of it happening in the future.

Special safety measures are needed for reusable surgical instruments that are used on high-risk tissues to reduce the risk of prion transmission during surgery or medical procedures:

- they must be kept moist and separated from other instruments until they are cleaned, disinfected and sterilised
- they must be kept together as a set, separate from other sets of instruments (and not moved from one set to another)
- if additional instruments are used, which are not part of the original set, they should then be kept with the set to which they were introduced
- there should be a system in place to trace and track individual instruments and record which patients they have been used on
- neuroendoscopes (tubes that are put into the brain) should be rigid not flexible because they are easier to steam clean at a high temperature and pressure (this is called autoclave cleaning)
- some hospitals keep and maintain separate sets of instruments for use on people born after 1996, who are less likely to have come into contact with prions; but not every hospital does this, and stopping using different sets of instruments on people born after 1996 does not significantly increase the risk of surgical transmission
- for the procedures covered by this guidance, single use instruments cannot be recommended to reduce the risk of CJD transmission; this is because the evidence shows they are not cost effective.

The NHS website may be a good place to find out more.

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