Interventions to reduce the risk of surgically transmitted Creutzfeldt–Jakob disease: a cost-effective modelling review

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Declared competing interests of authors: none

Published February 2020
DOI: 10.3310/hta24110

Plain English summary

Surgically transmitted Creutzfeldt–Jakob disease risk
Health Technology Assessment 2020; Vol. 24: No. 11
DOI: 10.3310/hta24110

NIHR Journals Library www.journalslibrary.nihr.ac.uk
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The aims of this report were to summarise evidence relating to surgically transmitted Creutzfeldt-Jakob disease and to explore the value for money of strategies to reduce the chance of any future surgically transmitted Creutzfeldt-Jakob disease cases. Current recommendations include keeping sets of surgical instruments together for high-risk operations and using separate instruments for people born after 1996. The project involved reviewing published papers, speaking with experts and building a computer model.

The literature reviews found that Creutzfeldt-Jakob disease occurs in around 1–2 per million people and that no definite cases of surgically transmitted Creutzfeldt-Jakob disease have been observed since the 1970s. The reviews also looked for information on the possibility of patients being infected with Creutzfeldt-Jakob disease after having surgery on high-risk tissues, such as the brain and the back of the eye. They found that there was a great deal of uncertainty regarding who might have Creutzfeldt-Jakob disease, but not yet have symptoms, as well as the risk of transmission and the ability of strategies to reduce this risk.

The computer model aimed to estimate value for money of different strategies to reduce the risks of surgically transmitted Creutzfeldt-Jakob disease. However, the reviews found that some of the numbers needed for the model were not known, so experts were asked to estimate this information instead along with the range of possible values. This information included the effectiveness of different cleaning practices and the chances of infected tissue being transmitted between patients undergoing high-risk surgery.

The model found that keeping surgical instruments moist prior to cleaning was likely to save money and reduce the chance of future surgically transmitted Creutzfeldt-Jakob disease cases. However, additional measures, such as using only sets of single-use instruments, ensuring that instruments were kept together in their sets or using separate instruments for those born after 1996, appeared to be poor value for money.
Health Technology Assessment (HTA) research is undertaken where some evidence already exists to show that a technology can be effective and this needs to be compared to the current standard intervention to see which works best. Research can evaluate any intervention used in the treatment, prevention or diagnosis of disease, provided the study outcomes lead to findings that have the potential to be of direct benefit to NHS patients. Technologies in this context mean any method used to promote health; prevent and treat disease; and improve rehabilitation or long-term care. They are not confined to new drugs and include any intervention used in the treatment, prevention or diagnosis of disease.

The journal is indexed in NHS Evidence via its abstracts included in MEDLINE and its Technology Assessment Reports inform National Institute for Health and Care Excellence (NICE) guidance. HTA research is also an important source of evidence for National Screening Committee (NSC) policy decisions.

This report
The research reported in this issue of the journal was funded by the HTA programme as project number 17/48/01. The contractual start date was in August 2017. The draft report began editorial review in October 2018 and was accepted for publication in June 2019. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors’ report and would like to thank the reviewers for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this report.

This report presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health and Social Care. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health and Social Care.

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