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Scots doctors pioneer trial to remove 'mad cow' risk from donated blood

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By Kate Foster
THE world's first trial to make blood transfusions free of the human form of 'mad cow disease' has been launched by doctors in Scotland.
Scotland on Sunday can reveal that heart patients in Edinburgh who need blood will be offered donations which have been 'cleaned' in a filter to remove the proteins – or prions – which cause variant Creutzfeldt-Jakob disease.

It is hoped the treat

ment will lead to the eradication of vCJD from the human blood supply and eventually from the population.

The trials are being undertaken by the Scottish Blood Transfusion service using a filter developed by an international medical supplies firm MacoPharma. The device, which works in a similar way to a coffee filter, removes the prions which cause the disease from donated blood.

It is believed that at least 1,200 Scots have vCJD, a fatal disease that causes brain damage, but do not yet know it.

Currently patients receiving blood transfusions are at risk of contracting the disease from a donor who does not even know they are infected.

The disease is caused by eating meat infected with BSE. It is triggered by an abnormal prion, which affects the central nervous system.

Dr Marc Turner, scientific director of the Scottish National Blood Transfusion Service, said yesterday that healthy volunteers who have taken part in the trials have shown no ill effects from receiving the filtered blood so similar trials can now be carried out on patients.

He said: "There are concerns about the risk of vCJD in blood supplies. If we can show these filters are likely to be effective and are safe, it's an extremely promising development."

If the process is deemed safe and effective it will be a major advance in the fight against vCJD. It will cost around £8m a year to run in Scotland.

So far 163 people in the UK are known or suspected to have died from the disease. A total of four people are

thought to have received the infection through donated blood. vCJD was first identified more than a decade ago but it has taken scientists many years to work out how to tackle it because the abnormal prions are so complex.

The major risk factors for contracting the disease were eating infected meat during the Eighties and Nineties and through blood transfusions. Following changes in farming standards, the only remaining risk factor is blood transfusion. Measures taken so far to reduce transmission risks within blood supplies include removing white blood cells from donated blood. This only cuts the risk by about half however.

Tests on the prion filter using animals have so far shown that it prevents the prions being passed on from a blood donor to a recipient.

The filter contains a resin that binds to the prions and removes them from the blood.

However, it is currently virtually impossible to test whether it stops the spread of the infection in humans because the only way to find out would be to carry out invasive tests on blood recipients' brains and other body parts like tonsils. Instead Turner and his colleagues believe that the fact it works in animals means it would also work in humans.

Hospitals in other parts of the UK and Ireland are also taking part in the study.

Cases of vCJD appear to have peaked from 1996 to 2003. In 2000 there were 28 deaths from vCJD, while there were only five in 2007. However there are concerns many more people could simply be incubating the disease.

The development was welcomed by patient groups. Gill Turner, national coordinator for the CJD Network, said: "We welcome anything that will make blood safer. Hopefully each step that is taken will eventually lead to vCJD being eliminated."

A Scottish Government spokeswoman said yesterday: "We believe that the safety of blood is paramount and welcome and support any proven advances in reducing risk to patients from blood donations.

"Further information on the outcomes of ongoing research is required."