

We can also offer a pancreas transplant, as the pancreas contains the insulin-making cells, but this is major surgery with a three-to-six month recovery time.

But with islet cell transplantation we transplant just the islet cells which make insulin, instead of the entire pancreas.

There are risks - the patient needs to take immunosuppressants for life, to stop the body rejecting the donor cells, leaving them vulnerable to anaemia, infection and cancer.

And donor cells don't last for ever - between one and five years, and we simply don't have enough donors. So if patients like Richard had terrible problems with hypos, we might consider another transplant.

The procedure takes around 30 minutes. First we inject a dye into the vein that leads to the liver so that it shows up under X-ray. Then we put a needle into the vein and deliver the islet cells to the patient.

More...