

First face transplant

By Peter Allen
and Jenny Hope

SURGEONS have carried out the world's first face transplant in a breakthrough mired in controversy.

It was performed in France on a 36-year-old woman who lost her nose, lips and chin when she was savaged by a dog.

Doctors replaced the central triangle of her face with tissue taken from a donor's face.

The woman has survived the critical first 48 hours without rejection but is still in intensive care. Some experts put the risk of rejection of facial tissue as high as 50 per cent within five to 10 years.

The operation will intensify the ethical and moral debate which has surrounded research into face transplants.

Four teams around the world have been working towards this point but efforts in the UK effectively stalled in 2003 when the Royal College of Surgeons called for more research, saying the psychological impact of failure would be 'immense'.

The ultimate goal of the pioneers is to replace an entire face.

The operation, believed to have taken around ten hours, was carried out on Sunday and Monday in the northern town of Amiens.

The team was headed by Jean-Michel Dubernard, who carried out the first hand transplant in 1998. The surgeons worked through the night to remove the facial skin, fat and some blood vessels from a donor from Lille who had been declared brain dead. Permission had been

Doctors give woman savaged by dog a new nose, lips and chin

granted by relatives.

The team then placed the graft over the recipient's face before using microsurgical techniques to connect the tissues.

The patient, from the northern town of Valenciennes, was disfigured by a dog bite in May and it is believed she had undergone counselling to prepare her for a possible transplant.

The donor will have been matched for facial colouring and skin texture, but the recipient will not take on her appearance because underlying bone structure forms such an important part of an individual's appearance.

The medical team will be monitoring the patient for signs of rejection. If there are serious complications the tissue will have to be removed.

Even if the operation is a success she will have to take drugs for life to suppress her immune system.

These drugs heighten the risk of cancer.

A source at the hospital said: 'The team were very excited after the operation. It is a world first which has massive implications for many badly disfigured people around the world.'

British doctors also hailed the breakthrough. Professor Peter Butler, consultant plastic surgeon at London's Royal Free Hospital, has carried out extensive research into the psychological issues in anticipation of being able to carry out surgery here.

He said: 'It is a great step forward for European science and medicine.'

Consultant facial surgeon Iain Hutchison at Barts Hospital, London, and chief executive of Saving Faces - The Facial Surgery Research Foundation, said: 'This is the first facial transplant of the modern era. It is a genuine medical advance which is to be celebrated. But it throws up many moral and ethical issues.'

There are more than 400,000 people in the UK with facial deformity, 250,000 of those severe.



THIS is a computer-simulated attempt to illustrate the effect of a full face transplant. London plastic surgeon Professor Peter Butler wanted to show how, because they retain their own bone structure, the recipient would not take on the looks of the donor. He used himself (above left) and a female colleague Alex Clarke (below left) as subjects. The picture above right shows how she would look with his face. The image below right is how he would look with hers.



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The surgery of science fiction

ANALYSIS



By Michael Hanlon

Science Editor

THIS is an operation which has been talked about for decades, but which no surgeon in the modern era has been brave enough to attempt. While it could have offered hope to some of the most unfortunate people alive, ethical concerns and public distaste kept it firmly within the realms of medical theory.

Which is why news that the world's first partial face transplant has taken place will cause such controversy.

The face, most of us think, is the window to our soul. It is the one human component that is indisputably 'us'. Our internal organs are out of sight; we do not know what they look like and do not much care. They do their job and when they fail, most of us would have no compunction about being given a replacement.

But faces are different. We recognise people by their faces. Humans are visual animals, and the idea of transplanting a face raises all sorts of confusing issues to do with identity and personality.

So does this breakthrough pave the way for more face transplants? Who will benefit? Could they be used as a way of giving people - protected witnesses say, or career criminals - a new identity? And just what must it be like to see someone else's flesh whenever you look in the mirror?

What happened in France was not the first attempt at a face transplant. In ancient India, for example, there was a thriving underground trade in noses and facial tissue from corpses. The penalty for thieves was to have the nose sliced off, and replacements would be eagerly sought.

Through the ages people who have suffered facial disfigurement through burns, accidents or cancer have been treated with skin grafts taken from the dead. All will

have failed with gruesome results. Now of course, our deeper understanding of tissue rejection and reconstructive surgery means that such operations are feasible.

In principle, a face transplant is not that much different to any other form of transplant surgery. The face is not a single organ, but comprises skin, fat, blood vessels, nerves and connective tissues all underlaid by muscle and bone.

What has been attempted in France is effectively a skin transplant, in which a flap of tissue maybe a quarter of an inch thick was taken from a donor and stitched, painstakingly, over the recipient's 'scaffolding' of bone, cartilage and muscle.

Because the surgery involved just the skin, the new face will not in any way take on the appearance of the donor. The idea that a face transplant could in some way enable someone to take on a new identity, as in the 1997 John Tra-

volta movie *Face Off*, is a fiction. The operation itself would have been difficult, but not much more complex than many forms of cosmetic surgery. The surgeons would have made sure that the blood vessels from the recipient were 'plumbed in' to the new skin, and they would also have attempted to connect up the major nerves.

SO FAR, it seems to have worked. But the French patient faces many problems ahead. She will need to take anti-rejection drugs for the rest of her life. These increase by 100 times or more the chances of her contracting certain cancers such as skin cancer. She is only 36 so this is a serious concern.

She will already have had many months of painful and traumatic reconstruction surgery following

the accident. This will have been completely undone. Without the transplant there would probably have been attempts to rebuild her face using her own tissue, taken from her back or buttocks. The results would not have been perfect, but there would have been no rejection issues.

If the transplant fails, she will effectively be back at square one.

The trauma of facial disfigurement can only be imagined by those fortunate enough not to have suffered it, but in this case at least, the patient was not suffering from a life-threatening condition.

If your heart fails you have little choice. This woman would have had to judge the potential benefits of a better appearance against life-threatening risks.

Then there are the donor issues. If you agree to donate your heart or lungs or liver, the operation to 'harvest' these organs will, by

definition, kill you once and for all. This is not the case with a face transplant. The body the skin is taken from must be in good condition with a beating heart. What happens if (as has happened in rare cases) the doctors switch off the ventilator after the operation and the heart keeps on beating?

In theory - and it must be stressed that this is very rare - someone in the sort of coma where surgeons might decide to take donated tissue could, theoretically, recover consciousness.

If this happened after a face donation the results don't bear thinking about.

The grieving process for relatives is another issue. How would this be affected by the prospect of not being able to look at the face of the loved one?

There will probably be no shortage of willing recipients for face transplants, but there may well be fewer donors.

The same surgeon who performed this operation transplanted a hand on to a man called Clint Hallam seven years ago.

ALTHOUGH the operation was mostly successful, Mr Hallam never felt that his new hand really 'belonged' and asked surgeons to remove it two years later.

Sadly, if you are not happy with your new face, this will not be an option.

This will not be the last face transplant. Several thousand people a year in Britain suffer serious, disfiguring injuries and illnesses that would make them candidates.

But the risks are high and the ethical issues need to be fully addressed before this operation, which seemed like the stuff of the most gruesome horror film only a few years ago, becomes as routine as receiving a kidney, liver or heart.