MEDICINE

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Human head transplants no problem, doctor says Spinal cord attachment and ethical issues only things standing in the way

By Bev Wake, Southam newspapers

An American neurosurgeon who successfully transplanted the head of one monkey onto the body of another more than 30 years ago says a human head transplant could be undertaken within a year with a "very high probability" of success.

"This may surprise you, but I think we're ready," said Dr. Robert White, a professor at Case Western Reserve University in Cleveland.

White unveils detailed plans of a human head transplant for an episode of the television show Extreme Body Parts, which will air this fall on the Discovery Health Channel.

White says only ethical concerns prevent successful head transplants, once confined to the world of science fiction.

Moving from monkeys to man, he admits evokes the image of the Frankenstein monster.

He offers this rebuttal – once the brain is dead, the body needs to be kept alive artificailly or it will die.

"You have to turn that around and say when the brain is alive, and everything else is dead, the individual, the soul, the component that characterizes us, is still intact, still functioning."

If the head is attached to a donor body - connected to its veins and arteries, secured with metal plates and sewn in place — the brain can continue to live.

Dr. White and his team of researchers have known the technology could work since the 1960s, when they began a series of experiments on brains, working first with dogs before moving on to monkeys.

"For the first time in the history of medicine we were now able to keep alive a highly sophisticated animal's brain," White, 76, says. "The next step was to develop a transplant model where we actually took the head to the body of another animal from which its own head had been removed."

That step was accomplished in 1970. "I must admit there was great jubilation when the brain awakened, using its cranial nerves, and

looked around the room, reacted to noise and almost bit the finger off one of my associates," White said.

The monkey, and others like it, were kept alive for about a week before being euthanized for humane reasons.

The problem with head transplants, then as now, is that scientists have yet to discover how to reattach severed spinal cords so the brain can control the body. Until that issue is resolved, a transplant recipient would be left a quadriplegic after surgery.

Unlike nerves in other parts of the body, which quickly regenerate after injuries, spinal cord nerves do not regenerate on their own. Researchers around the world are currently looking at ways to coax the nerves to grow to reverse the effects of paralysis.

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