

Innovation. US doctors have pioneered an astonishing new treatment for spina bifida in which the baby is operated on before birth

Doctors remove mother's uterus to treat foetus in unique operation

It might look like a glowing egg from an alien world, but this red ovoid is actually a human womb containing a baby, removed from its mother before birth, in a ground-breaking operation.

Doctors in the US have been pioneering an astonishing new treatment for spina bifida in which the baby is operated on before birth.

Spina bifida occurs when a baby's spine and spinal cord do not develop properly, causing a gap in the spine. Foetal surgery for spina bifida has been common since the 1990s, but trying to repair the spine while the baby is still inside its mother is fraught with difficulty and cutting into the womb risks premature birth.

Now Dr Michael Belford of Baylor College of Medicine in Houston, Texas, has developed a new technique to remove the baby and womb so that spinal defect can be fixed before amniotic fluid eats away further at the gap in the spinal nerve tissue.

Although the womb is still attached to the mother, once outside her body, doctors can drain it, light it up and operate through tiny incisions.



First operation

One of the first operations was performed last month on hairdresser Lexi Royer, 28, who was initially offered an abortion, but chose instead to take part in the experimental surgery when her baby was 24 weeks.

"It sounded like we were looking at brain damage, feeding tubes, a breathing tube, a wheelchair, just a bad quality of life," Ms Royer told the *New York Times*.

"It's not done by any means, but I definitely feel it's the right thing for us. Seeing the ultrasound and how good he's doing, moving his ankles and feet, it's such a happy moment."

During the three-hour operation at Texas Children's Hospital in Houston, Mr Belford opened Ms Royer's abdomen but instead of cutting into the uterus, removed the whole womb through the hole. He then made two slits in the womb, one for a fetoscope - a tiny camera

Ground-breaking. Surgeons use an experimental technique in which the uterus is lifted from a woman's body to operate upon a foetus. COURTESY PHOTOS

designed to light up and film inside - and another for surgical tools.

Doctors pumped in carbon dioxide to keep the uterus buoyant, and allowing them to see the spine more easily.

After injecting the foetus with anaesthetic, the team moved skin over the exposed spinal cord and stitched it in place. Doctors then refilled the womb with saltwater and replaced it back into Ms Royer.

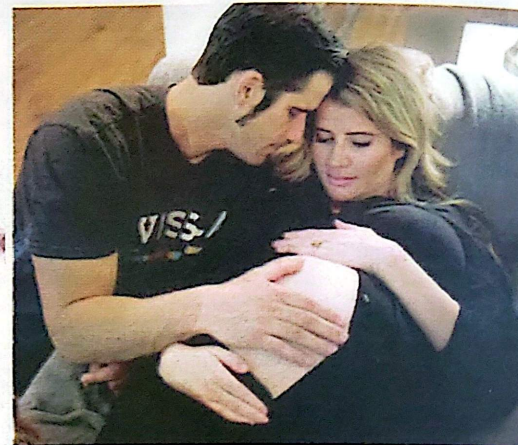
ABOUT CONDITION

Spina bifida affects 24 babies in 100,000 and there are 14,000 people living with the condition in Britain, with sufferers unable to walk, with fluid buildup in the brain and lack of bladder control.

To develop the procedure, Dr Belford and his colleague, Dr Whitehead, spent two years practicing on sheep and a rubber ball with a doll insides wrapped in chicken skin to mimic the defect in spina bifida.

The team is now reporting on their work in the *Journal of Obstetrics and Gynecology* following 28 successful operations in which no foetuses have died, and only a few have needed shunts to drain fluid from the brain. Some of the mothers have also not needed caesarean sections.

However, some doctors have warned that pumping the womb with carbon dioxide during the procedure could damage the baby. Ms Royer's baby is due in January.



By Agencies

Relieved. Ms Lexi Royer with her husband Joshuwa after the operation.

7,000 UGANDAN CHILDREN BORN WITH SPINA BIFIDA ANNUALLY