

# Stem cells fix pelvic flaw

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WOMEN would receive a shot of a stem cell-rich treatment straight after birth to prevent them suffering later effects of pelvic floor damage from labour, under a world-first treatment developed by Australian researchers.

Experts at the Hudson Institute of Medical Research have developed the breakthrough stem cell therapy that can repair pelvic birth injury in animals.

One in four women have a pelvic floor disorder after birth, one of which is pelvic organ prolapse.

Of these women, 20 per cent will need surgery, typically in their 50s or 60s, as the sling of muscles, tissues and ligaments supporting pelvic organs becomes weak.

And with surgical mesh banned in Australia for treating prolapse following a slew of injuries and legal action, the Hudson's Caroline Gargett said affected women were desperate for help for an injury that could see them needing to avoid exercise or lifting their baby, and one that can cause pain, discomfort or incontinence.

"Given most of the injury to the vagina and the pelvis support systems occurs during

childbirth, and it doesn't fully heal and years after they get

prolapse, then we really should be treating the cause – the birth injury," Prof Gargett said.

"We think an injection of the cells could really help to promote full healing so there is restoration of the muscle function."

The potential new treatment is based on Prof Gargett's discovery of stem cells in the endometrium stem cells, and relies on their inherent ability to promote cell repair given

they are able to completely rebuild the lining of the womb each month, ready for a new pregnancy.

Lead researcher Shayanti Mukherjee said by encasing stem cells in an aloe vera hydrogel, this protected their potency once they were injected into the pelvic floor of mice.

"The muscles of the pelvic floor stretch three times their capacity during labour. But if the calf muscles are stretched

just a bit more than usual, it's a massive injury," Dr Mukherjee said.

"Once there is a birth injury there is inflammation. What we see after giving this treatment in our proof of concept study is that inflammation comes down and it can reverse

alterations of the smooth muscles in the vagina," Dr Mukherjee said.

The next step is to test the treatment in sheep.