

Erectile tissue restored in rabbits, gives hope to men



WASHINGTON, Erectile tissue grown in the laboratory has successfully restored sexual function in rabbits, bringing hope to sexually impaired by accident or disease, US researchers said Tuesday in a published study.

In the most complete replacement of functional penile erectile tissue to date, researchers from North Carolina's Wake Forest University Baptist Medical Centre's Institute for Regenerative Medicine said their method could one day benefit humans.

In the study, published in the online edition of the Proceedings of the National Academy of Sciences, scientists harvested smooth muscle cells and endothelial cells, the same type of cells that line blood vessels, from the animals' erectile tissue.

Grown in test tubes, the replacement cells were injected into a three-dimensional scaffold that later was implanted in the rabbit penis where, one month later, organized tissue with vessel structures began to form.

After a time, sexual and reproductive functions were fully restored to the rabbits, the researchers said.

"Further studies are required, of course, but our results are encouraging and suggest that the technology has considerable potential for patients who need penile reconstruction," said director Anthony Atala.

"Our hope is that patients with congenital abnormalities, penile cancer, traumatic injury and some cases of erectile dysfunction will benefit from this technology in the future," he added.

Replacing damaged, sponge-like erectile tissue in men has been a challenge due to the tissue's unique structure and complex function, the researchers said.

For now, they added, no replacement technique can restore natural erectile function, including silicone penile prosthesis.

The Wake Forest Baptist team was the first in the world to develop a human organ in the laboratory; bladders they engineered have been implanted so far in some 30 children and adults.

Many of the same techniques used to build bladders were used in the current study, the researchers said.