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## Poster Presentation

# Use of Stem Cells to Regenerate Degenerative Optic Nerve

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### *Abstract*

Stem cells are undifferentiated cells that have the ability to convert to different types of cells and after dividing, they can produce their own cells or other cells. Axons of the retinal ganglion cells, from the optic nerve. These cells lose the ability to regenerate themselves before birth. Optic nerve degeneration can result from various causes including increased intraocular pressure, compromised vascular supply and physical trauma. There are currently no effective treatment for this disease. Scientists believe that every internal organ of the body has its own stem cells. In the Retina, the stem cells of pigmented epithelium of the eye have been identified which can, to some extent replace the ganglion cells after the optic nerve damage. they are not able to fully repair the nerve. Therefore, researchers are looking for a way to Retinal stem cell transplantation to compensate for defects. There are batches of genes that can convert conventional cells into stem cells using specific genetic agents. These cells called induced pluripotent stem cells (IPSCs). The purpose of this study was to review use of stem cells to regenerate degenerative optic nerve. Stem cell technology is now an important way to treat and replace lost cells. The use of these cells in rats has been successful in the visual acuity damage model. Research has shown that IPSCs can be differentiated into various retinal cells, but whether these cells can functionally replace retinal lost cells, must be further researched.

***Keywords:*** Stem Cells, Regenerative Optic Nerve

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