

**The repair of segmental bone defects with porous bioglass:**

**An experimental study in goat**

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By Samit K Nandi, Biswanath Kundu, Someshwar Datta, Dipak K De, Debabrata Basu

**Synopsis** - This study was exclusively conducted to evaluate healing of surgically created defects on the radius of adult Black Bengal goat after implantation of porous bioglass blocks and compare the process kinetics with normal healing. Twelve Black Bengal goats were divided randomly into two groups: control and experimental group implanted with bioglass blocks. Unicortical bone defects in radius were generated in all animals under aseptic condition. Local inflammatory reaction and healing of wound, radiological investigations, histological studies, oxytetracycline leveling and angiographic studies were performed up to 90<sup>th</sup> day post-operatively and compared with normal healing. It has been found that extensive new bone formation originating from host bone towards the implant whereas in control, the process was active from both the ends, the defect site appeared as homogenous nonfluorescent area. Thus porous bioglass promoted bone formation over the entire extension of the defect independent of size of block in comparison to control group.

For complete text of the Article, please write to [ragarwal@bajoria.in](mailto:ragarwal@bajoria.in)