

# Mandibular reconstruction: A clinical and radiographic animal study on the use of autogenous scaffolds and platelet-rich plasma

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*Abstract.* This paper reports on an experimental animal study evaluating a method of mandibular reconstruction. After a successful pilot study, 28 goats underwent a continuity resection of the mandibular angle. Primary reconstruction was carried out using specially designed osteosynthesis plates and screws. The defect was bridged by the original cortical scaffold, filled with an autogenous bone graft from the iliac crest. To accelerate bone healing, platelet-rich plasma (PRP) was mixed with the particulate bone graft in 14 goats. All goats had uneventful healing. The osteosynthesis plates and screws withstood immediate loading for periods varying from 3 weeks to 3 months. The use of PRP appeared to enhance bone healing considerably.

Key words: mandibular reconstruction;  
platelet-rich plasma (PRP); experimental  
animals.

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