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(54) Title: TISSUE INTERFACE AUGMENTATION DEVICE FOR LIGAMENT/TENDON RECONSTRUCTION

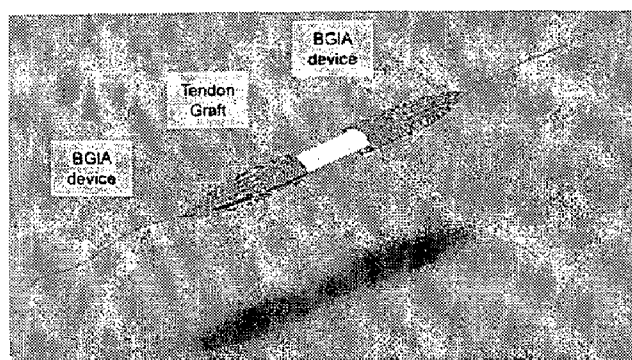


Figure 3

(57) Abstract: The present invention relates to a device for the interfacial augmentation of tissue grafts for the purpose of tendon and ligament reconstruction. The inventive device works both as a delivery vessel for osteoconductive and osteoinductive factors and as a scaffold to stimulate and support bone ingrowth and comprises a tubular composite silk sheath, said tubular composite silk sheath comprising: a backbone consisting of a tubular silk mesh, and a carrier material consisting of a porous silk sponge, wherein said tubular silk mesh consists of degummed silk fibroin fibers, wherein said porous silk sponge comprises silk fibroin fibers and hydroxyapatite particles and said tubular silk mesh and said porous silk sponge form a composite material. The present invention is also directed to a method for the manufacturing of such augmentation devices, a method for fixation of the thus fabricated tissue interface augmentation devices onto ligament or tendon grafts, a method for applying such devices for ligament and/or tendon reconstruction to tendon grafts, as well as their application in ligament and tendon reconstruction.

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