Fixation of osteochondral fractures in rabbit knees. A comparison of Kirschner wires, fibrin sealant, and polydioxanone pins.

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Abstract:

We compared fibrin sealant, polydioxanone (PDS) pins and Kirschner wires in the fixation of osteochondral fractures in rabbit knees. Standardised osteochondral fractures of the right medial femoral condyle were made in 56 adult New Zealand white rabbits. There were equal groups of control knees, and those which had Kirschner-wire, fibrin-sealant or PDS-pin fixation. No external immobilisation was used. One animal from each group was killed at two, three and four weeks. The remaining rabbits were killed at six weeks. A fracture which healed with less than 1 mm of displacement was considered a success. There was successful healing in 29% of the control group, in all of the Kirschner-wire group, in 50% of the fibrin-sealant group, and in 86% of the PDS-pin group. The use of PDS pins appears to be a reliable alternative to the use of metal in the fixation of osteochondral fractures in rabbits.