Autologous Marrow Injection as a Substitute for Operative Grafting of Tibial Nonunions.

SECTION III

Clinical Orthopaedics & Related Research. 266:259-270, May 1991.
CONNOLLY, JOHN F. M.D.; GUSE, ROY M.D.; TIEDEMAN, JEFFREY M.D.; DEHNE, ROBERT M.D.

Abstract:
Autologous marrow injection was used to stimulate healing in 20 ununited tibial fractures over a five-year period. The technique was employed in conjunction with cast immobilization in ten cases and intramedullary nail fixation in ten cases. Marrow stimulated a callus formation sufficient to unite eight of the ten nonunions immobilized with casts and all ten of the fractures immobilized by intramedullary nails. Bone-marrow injection was as effective as past open autologous grafting but with considerably fewer disadvantages. The technique provides a promptly renewable and reliable source of osteogenic stem cells with numerous advantages compared with standard open-grafting techniques.