Autologous chondrocyte implantation (ACI) is an accepted surgical treatment in patients with isolated cartilage defects of the knee. Age has been considered as a limiting factor and the technique has not been recommended in patients older than 40 to 50 years. Nevertheless, some more recent studies report satisfying clinical results in middle-aged patients. Analogous to the microfracture technique, age over 40 years is associated with inferior clinical outcome after ACI.

Cohort study; Level of evidence, 2.

Thirty-seven patients with an average age of 47.8 years (group 1) were matched with 37 patients with an average age of 31 years (group 2). Both groups underwent ACI for treatment of isolated cartilage defects of the knee. All patients were enrolled prospectively and followed for a period of 24 months using International Knee Documentation Committee (IKDC), Lysholm scale, Cincinnati sports scale, and Tegner activity evaluation instruments. Statistical analysis revealed a significant increase in function after ACI in both groups as early as 6 months after surgery until the end of the study period. There was only a slight tendency for better clinical outcome in younger patients (IKDC at 24 months: group 1, 72.2 ± 15.8 [standard deviation]; group 2: 76.1 ± 14.1; P = .261; Lysholm at 24 months: group 1: 80.42 ± 15.37; group...
2: 80.65 ± 12.01), no statistical significant differences were found between patients of group 1 and group 2 at any of the time points investigated. In contrast to other cartilage repair techniques, patients 40 years and older do not have an inferior outcome up to 24 months after ACI for isolated cartilage defects when compared with younger patients.