



Is anterior cruciate ligament surgery protective against osteoarthritis?

Ön çapraz bağ cerrahisi osteoartrit oluşumunu engelliyor mu?

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Osteoarthritis (OA) progression after anterior cruciate ligament (ACL) reconstruction is a common and serious problem. Short- and mid-term results of the ACL surgery are satisfactory. But, 10 to 20 years follow-up, on average, 50% of those with a diagnosed ACL or meniscus tear have OA with associated pain and functional impairment.^[1] A high prevalence of radiographic knee OA (78%) was seen in male soccer players 14 years after an ACL disruption.^[2] No differences were seen between surgically and conservatively treated players.

There is yet no strong evidence to support a protective role of reconstructive surgery of the ACL or meniscus against OA development.

Articular cartilage and meniscus injuries at the time of surgery are particularly important factors that contribute to OA progression.^[3]

Anterior cruciate ligament deficiency alters the *in vivo* motion of the tibiofemoral cartilage contact points in both the anteroposterior and mediolateral directions; they shift both posteriorly and laterally on the surface of the tibial plateau.^[4]

Central bone marrow lesions (BMLs) strongly related to ACL pathology, suggesting a role in OA. Only BMLs with medial extension were related to ipsilateral cartilage loss.^[5]

Osteoarthritis development in the ACL deficient joints is probably caused by intra-articular pathogenic processes initiated at the time of injury, and progressed with long-term changes in *in vivo* motion of the tibiofemoral cartilage contact points.

Is ACL surgery protective against OA? The answer is still "Not enough!". Current surgical treatment options appear not to reduce OA following ACL injury. The mechanisms leading to OA following ACL injury are still unclear. They are most likely multifactorial: mechanical factors (e.g. altered joint loading), biological factors (e.g. inflammation), and the associated injuries (subchondral bone bruising, meniscal damage). A better understanding of these mechanisms will lead to a better conservative and surgical treatment options.

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