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KNEE INJURIES AND MANAGEMENT OF CARTILAGE DAMAGES IN FOOTBALLERS

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Knee injuries are accompanied with a high incidence of cartilage lesions. In professional football players up to 40% of full-thickness cartilage lesions are detected after injury in the literature.
Different treatment modalities ranging from conservative to surgical treatment are available.
Modern surgical treatment options for football players include Tissue response strategies like microfracture, osteochondral transfer and autologous chondrocyte transplantation.
Microfracture is a good option for small chondral defects up to 2 cm2 in size. It is performed arthroscopically. Cartilage defect preparation and removal of the calcified layer in the defect is essential for success. By penetrating the subchondral plate growth factors and stem cells will clot in the cartilage defect resulting after months in repair cartilage with reduced biomechanical quality compared to normal cartilage. Limitations of this technique are complications like sclerosis, intralesional osteophyts and subchondral zysts. Descending clinical scores after initial appropriate clinical results may reflect these complications.
Small size osteochondral lesions are mainly treated with osteochondral transplantation. Also professional football players are treated with this technique for chondral lesions due to the relative short recovery time. In osteochondral transplantations, osteochondral plugs from the knee joint of the player will be transferred into the defect and implanted by pressfit fixation. Limitation of this technique is donor side morbidity after harvest of multiple plugs.
Cartilage defects larger than 2cm2 are mainly treated by autologous chondrocyte transplantation. This is a two stage surgery. In the first surgery small cartilage pieces are collected. Chondrocytes are then cultured and expanded in certified laboratories. After 3 weeks, the chondrocytes are loaded in appropriate biomaterials and implanted in the patient. This technique can also be used in patients with huge osteochondral lesions, like osteochondritis dissecans.
Postoperative rehabilitation after cartilage repair procedures is long. Patients have to walk on crutches for weeks. Functional exercises start first with Continuous Passive Motion (CPM), followed by active assistive and later active exercises.
Return to sport takes months and cannot be ensured in all players. However, around 70% have a chance to return to the same activity level than before the injury.