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Titel des Beitrags:       | Function of the extensor mechanism of the knee after using the 'patellar-loop technique' to reconstruct the patellar tendon when replacing the proximal tibia for tumour.  
Abstract:                 | The aim of this study was to analyse the gait pattern, muscle force and functional outcome of patients who had undergone replacement of the proximal tibia for tumour and alloplastic reconstruction of the extensor mechanism using the patellar-loop technique. Between February 1998 and December 2009, we carried out wide local excision of a primary sarcoma of the proximal tibia, proximal tibial replacement and reconstruction of the extensor mechanism using the patellar-loop technique in 18 patients. Of these, nine were available for evaluation after a mean of 11.6 years (0.5 to 21.6). The strength of the knee extensors was measured using an Isobex machine and gait analysis was undertaken in our gait assessment laboratory. Functional outcome was assessed using the American Knee Society (AKS) and Musculoskeletal Tumor Society (MSTS) scores. The gait pattern of the patients differed in ground contact time, flexion heel strike, maximal flexion loading response and total sagittal plane excursion. The mean maximum active flexion was 91° (30° to 110°). The overall mean extensor lag was 1° (0° to 5°). The mean extensor muscle strength was 25.8% (8.3% to 90.3%) of that in the non-operated leg (p< 0.001). The mean functional scores were 68.7% (43.4% to 83.3%) (MSTS) and 71.1 (30 to 90) (AKS functional
In summary, the results show that reconstruction of the extensor mechanism using this technique gives good biomechanical and functional results. The patients' gait pattern is close to normal, except for a somewhat stiff knee gait pattern. The strength of the extensor mechanism is reduced, but sufficient for walking.