

Returning To Sports After Surgical Repair Of Acute Proximal Hamstring Ruptures

Nicolas Lefevre, MD, FRANCE

Yoann Bohu, MD, FRANCE

Jean François Naouri, MD, FRANCE

Shahnaz Klouche, MD, FRANCE

Serge Herman, FRANCE

Clinique du Sport Paris V
Paris, FRANCE

Summary:

This prospective study has shown that although surgical repair of acute proximal hamstring ruptures has significantly improved the functional prognosis of patients it remains a serious condition that can compromise future sports activities.

Abstract:

Introduction:

Although surgical repair of acute proximal hamstring ruptures is now the treatment of choice, this technique is relatively new and requires further evaluation. Evaluation of the level of activity in these patients after surgery is mainly based on when they begin practicing sports again and at what level. The main aim of this study was to obtain a more detailed and quantified description of the level of activity before the trauma and compare this to the one after surgery. Our hypothesis was that patients have the same level of sports activity after surgical repair of acute hamstring ruptures as before the injury.

Methods:

From January 2002 to July 2011, a prospective observational study including 34 patients, mean age 39.3 (18-60) years underwent surgical repair of an acute proximal hamstring rupture that is within 4 weeks after injury. The diagnosis of rupture was based on clinical signs (violent pain in the buttocks, weakness in the leg, posterior hematoma, and palpable gap distal to the ischial tuberosity) and emergency MRI confirmed the rupture. Surgical, rehabilitation and follow-up protocols were standardized. The mean follow-up was 27.2 (6-85.7) months and none of the patients was lost to follow-up. The primary outcome was the level of activity on the UCLA and Tegner scores, before injury and after at least 6-month follow-up. The secondary end points were the healing of tendons on MRI and the hamstring/ quadriceps ratio isokinetic testing at 240 degree per second.

Results:

The mean level of activity on the UCLA score was 9.1 (6-10) before injury and 8.7 (3-10) at the last follow-up, $p=0.03$. The mean Tegner activity level was 6.5 (4-10) before injury and 6.2 (3-10) at the final follow-up, $p=0.05$. The two scores were strongly correlated ($r=0.76$, $p=0.00001$). All patients began their sporting activities within a average of 5.7 (2.3-9.3) months, at the same level in 27 patients (79.4%) and at a lower level in 7 patients (20.6%). The hamstring tendon was found to be healed on MRI after a minimum 6-month follow-up in all patients. The average hamstring/ quadriceps ratio at 240 degree per second was 54.7 (41-74) % positively correlated to the activity level according to the UCLA score ($r=0.49$, $p=0.09$). Over 88% of patients were satisfied and this level of satisfaction was related to their level of activity at the last follow-up ($p=0.03$).

Conclusion:

Although surgical repair of acute proximal hamstring ruptures has significantly improved the functional prognosis of patients it remains a serious condition that can compromise future sports activities.