Clinical gait analysis after knee ligamentoplasty with Knee KG system
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Introduction.– Injuries of the anterior cruciate ligament are the most frequent of the locomotoropathies in athletic population. The main treatment is surgical ligamentoplasty. Follow up and rehabilitation after ligamentoplasty are a major stake.

Patients and methods.– We carried out a preliminary study in order to assess the interest of the use of the new KNEE KG system by EMOVI for knee kinematics parameters assessment in clinical practice after ligamentoplasty. Gait kinematics data of 18 patients 3 weeks to 18 month after a reconstruction of the cruciate anterior ligament were compared to a control group of 18 subjects.

Results.– The use of the Knee KG system allowed us to collect and analyze kinematic data of the knee during gait: flexing-extension, abduction-adduction and internal-external rotation. The implementation of the device and the collect of the data needed 30 minutes. We could bring to light three groups of ligament reconstruction patients: a group of subjects with a decrease in joint amplitudes during gait, a group with unchanged joint amplitudes and a group with non explained data. We found out a variability of the data in patients between the sixth and the 18th month.

Discussion.– The Knee KG system using appeared quite simple and fast. This new system seems quite interesting in clinical practice in the follow up of the patients between the sixth and the 18th month after a reconstruction of the cruciate anterior ligament: it could allow the evaluation of gait, search for correlation between other parameters of the knee such as muscular strength in isokinetic analysis, instability in posturography, laxity and rehabilitation optimization.

Evaluation of clinical maneuvers in piriformis syndrome
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Objective.– The piriformis muscle syndrome (PMS) remains a controversial diagnosis. Indeed it is not found abnormalities paraclinical sensitive and specific enough to authenticate it. Its diagnosis is suspected in the interrogation confirmed by clinical maneuvers often extended to reproduce the buttock and sciatic irradiation.

Method.– The nine major clinical maneuvers for diagnosing piriformis syndrome from publications or anatomical-functional reflections were evaluated in 100 subjects with piriformis syndrome, 30 subjects suffering from sciatica by conflict herniation and 30 control subjects. All patients underwent clinical assessment (the sequence of passage of nine maneuvers were randomly distributed, time of onset of characteristic buttock pain and sciatica irradiation were recorded in seconds, the maneuvers being extended 60 seconds maximum) and paraclinical (CT or MRI lumbar MRI of pelvis and lower limb electromyography).

Results.– A higher discriminating character is demonstrated for six of nine maneuvers (DMS sensitized Freiberg maneuver, bending test adduction internal rotation in the supine position, TGCL, Beatty maneuver, Lasegue awareness internally rotated). However, two of them (DMS sensitized and sensitized Lasegue in rotation), have a lower specificity, even if they are educated in internal rotation and sciatica that irradiation is qualified by a delayed time to onset from the buttock, which is usually not the case in the sciatic herniation conflict. The last three maneuvers (FAIR test maneuver, Pace and Nagle, and test in the prone position) have a lower sensitivity and time of onset of fessalgies and sciatica are longer.

Conclusion.– This work underlines the interest to favor certain maneuvers (Freiberg maneuver, bending test adduction internal rotation in the supine position, Beatty maneuver already known and maneuver TGCL reported by our team), by extending several tens of seconds to reproduce the characteristic pain symptoms of piriformis syndrome. It also highlights the importance of the patient interview, including the notion of triggering pain in prolonged sitting, taken as a contributory factor.