Appendix 1: Clinical examination test descriptions.

**Adductor longus palpation**  
The patient lies supine on the examination bed with the tested leg placed in a relaxed position with the knee on the examiners thigh, which is supported by the examination bed. The hip of the tested leg is flexed, slightly abducted and externally rotated. The examiner palpates the adductor longus insertion on the pubic bone just inferior to the pubic tubercle and follows the adductor longus tendon and muscle distally.

**Gracilis palpation**  
The patient lies supine on the examination bed with the tested leg placed in a relaxed position with the knee on the examiners thigh, which is supported by the examination bed. The hip of the tested leg is flexed, slightly abducted and externally rotated. The examiner palpates the gracilis muscle a few centimeters distal to the pubic insertion to distinguish the gracilis from the adductor longus. The gracilis is then palpated both proximally and distally from the starting point.

**Pectineus palpation**  
The patient lies supine on the examination bed with the tested leg placed in a relaxed position with the knee on the examiners thigh, which is supported by the examination bed. The hip of the tested leg is flexed, slightly abducted and externally rotated. The examiner palpates the pubic tubercle and follows the superior pubic ramus a few centimeters laterally. Palpation is then performed a few centimeters distal from this point within the femoral triangle, lateral to the adductor longus, and medial to the femoral vein, artery and nerve. While the examiner palpates the pectineus with a firm pressure with one hand, the patient is asked to push against the examiners other arm which is placed medially with the elbow on the knee of the tested leg. The examiner should then be able to feel the contraction of the pectineus.
**Proximal sartorius palpation**
The patient lies supine on the examination bed with the tested leg placed in a relaxed position with the knee on the examiners thigh, which is supported by the examination bed. The hip of the tested leg is flexed, slightly abducted and externally rotated. The patient is asked to push against the examiners hand which is placed on the medial malleolus of the tested leg. This will make the sartorius appear clearly, and the muscle can be differentiated from the surrounding muscles proximally near the insertion on the Anterior Superior Iliac Spine.

**Iliopsoas palpation (infra-inguinal)**
The patient lies supine on the examination bed with the tested leg placed in a relaxed position with the knee on the examiners thigh, which is supported by the examination bed. The hip of the tested leg is flexed, slightly abducted and externally rotated. The patient is asked to push against the examiners hand which is placed on the medial malleolus of the tested leg. This will make the sartorius appear clearly, and the examiner can locate the distal iliopsoas in the femoral triangle just medial to the sartorius below the inguinal ligament. If the examiner cannot clearly distinguish the iliopsoas a resisted hip flexion can be performed while the examiner palpates.

**Proximal rectus femoris palpation**
The patient lies supine on the examination bed. The rectus femoris is located by asking the patient to push against the examiners hand, which is placed anteriorly on the distal tibia. The rectus femoris is then palpated proximally towards the insertion on the anterior inferior iliac spine in the small triangle between the sartorius medially and the tensor fascia latae laterally.

**Psoas palpation (supra-inguinal)**
The patient lies supine on the examination bed. The examiner locates the lateral edge of the rectus abdominis muscle at the level of the anterior superior iliac spine. Palpation is performed laterally to this. The fingers are gently pressed posteriorly while pushing the abdominal structures away to reach the psoas muscle. The patient must be relaxed. When the hands are as “deep” as possible, the patient is told to elevate the foot slightly on the side being tested. The psoas muscle is now palpated firmly over as large an area as possible.
### Rectus abdominis palpation
The patient lies supine on the examination bed. The rectus abdominis muscle is palpated slightly lateral to the umbilicus and followed distally to the pubic insertion.

### Superficial inguinal ring palpation
The patient lies supine on the examination bed and the pubic tubercle is located. The examiner then moves the finger slightly proximally and laterally until a clear softer area is felt, indicating the superficial inguinal ring. The examiner then palpates the borders of the inguinal ring.

### Inguinal canal palpation
The patient is standing in front of the examiner. The examiner inverts the scrotum with one finger and the external inguinal ring can be palpated slightly proximally and laterally to the pubic tubercle. The examiner then gently attempts to move the tip of the finger through the external inguinal ring into the inguinal canal.

### Squeeze test with 0° hip flexion
The patient lies supine on the examination bed. The examiner stands at the end of the examination bed with the lower arm between the feet of the patient to hold them apart. The feet of the patient point straight up, and the patient presses the feet together with maximal force without lifting the legs or pelvis.
<table>
<thead>
<tr>
<th><strong>Squeeze test with 45° hip flexion and 90° knee flexion</strong></th>
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<tbody>
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<td>The patient lies supine on the examination bed. One leg is flexed until the medial malleolus is positioned at the level of the contralateral medial knee joint line. The other leg is then flexed similarly, so both medial malleoli are next to each other and the feet flat on the bed. The hips will then be approximately 45 degrees flexed and the knees flexed approximately 90 degrees. The examiner then positions a clenched fist between the patient’s knees, and the patient is asked to press the knees together with maximal force.</td>
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<thead>
<tr>
<th><strong>Passive adductor stretch</strong></th>
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<td>The patient lies supine on the examination bed. The examiner abducts the tested leg, holding it with one hand to ensure the foot points straight up. With the other hand, the contralateral leg is supported to stabilize the testing position. The tested leg is then moved into maximal abduction.</td>
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<tr>
<th><strong>Outer-range hip adduction</strong></th>
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<td>The patient lies supine on the examination bed. The examiner abducts the tested leg, holding it with one hand to ensure the foot points straight up. With the other hand, the contralateral leg is supported to stabilize the testing position. The tested leg is then maximally abducted and in this position the patient is asked to push the leg in towards the examiner’s body.</td>
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<th><strong>FABER test</strong></th>
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<td>The patient lies supine on the examination bed. The hip and knee of the tested leg is flexed, abducted and externally rotated, as the foot of the tested leg is placed on the contralateral thigh just proximal to the knee. While stabilizing the pelvis on the contralateral side, a gentle pressure is applied downwards on the knee of the tested leg.</td>
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Resisted Hip Flexion 0°
The patient lies supine on the examination bed. The patient is asked to flex the hip keeping the leg straight, while the examiner applies resistance slightly proximal to the ankle of the tested leg.

Resisted Hip Flexion 90°
The patient lies supine on the examination bed. The tested leg is flexed to approximately 90 degrees in both the hip and knee. The examiner tries to extend the flexed hip by pulling it with one arm wrapped around the thigh just proximal to the knee.

Resisted straight sit-up
The patient lies supine on the examination bed with the hips in approximately 45 degrees flexion and the knees approximately 90 degrees flexion. The feet are flat on the examination bed and the patient’s arms are folded over the chest. The patient performs a sit-up movement, lifting head and scapulae from the couch, while the examiner resists the movement by holding one arm on the patient’s knees and the other arm on the patient’s chest.

Resisted oblique sit-up
The patient lies supine on the examination bed with the hips in approximately 45 degrees flexion and the knees approximately 90 degrees flexion. The feet are flat on the examination bed and the patient’s arms are folded over the chest. The patient performs a diagonal sit-up movement, attempting to move one shoulder towards the contralateral knee. The examiner resists the movement by holding one arm on the patient’s shoulder and the other on the contralateral knee.
Modified Thomas Test
The patient lies supine on the examination bed with the legs hanging from the end. The patient then flexes one hip by holding the knee with both arms and pulling it down to the chest. The other leg is hanging relaxed from the end of the couch, and the head and shoulders are resting on the bed. The examiner stands at the end of the couch supporting the position by pressing the side of the trunk against the foot of the flexed leg.

A: Hip extension stretch
The examiner then places one hand on the thigh of the hanging leg just above the knee, and presses the leg down applying a hip extension stretch.

B: Hip flexion resistance
The patient is then asked to push against the examiner’s hand, while the examiner resists hip flexion movement.

C: Knee flexion stretch
The patient relaxes the tested leg, and hip extension pressure is applied with the examiner’s hand, and with the examiner’s lower leg, a maximal knee flexion pressure is applied.

D: Knee extension resistance
The patient is then asked to kick the examiners leg away, while the examiner resists knee extension movement.