



**FCBARCELONA**  
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ASPETAR **أسبیتار**

# MUSCLE INJURIES CLINICAL GUIDE 3.0

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### 8.2.4. Вторичная профилактика: Аддукторы

Эксцентриковые настольные упражнения для аддукторов

- а) Атлет ложится на бок с бедрами и колени слегка согнуты. Положите руки на внутренности колени, партнер упражнения делает похищение движение, потянув за ближайшее к нему колено. Пока человек сопротивляется движению. После завершения одной ногой, повторите с другой ногой.

*(Для удобства передвижения нога спортсмена может быть расположенных в области переднего подвздошного отдела позвоночника для облегчения движения шарнира ноги осуществляется.)*

- б) Человек, лежащий на спине с бедром и коленями сгибается примерно под углом 45 градусов, ноги вместе, партнер упражнений кладет руки на внутреннюю сторону колени, делая движение похищения, в то время как спортсмен сопротивляется движению.

Эксцентричный боковой выпад

Человек, стоящий с полотенцем под одной ногой, удары боком, сдвинув ногу с полотенцем под ним по полу, насколько это возможно. На этом этапе, человек приносит свою статическую ногу до ножного полотенца,

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## CHAPTER 4

**DIAGNOSIS AND MANAGEMENT OF MUSCULAR INJURIES**

As a result of the frequency of muscle injuries, many are treated clinically in the absence of confirmatory imaging. However, the clinical appearance is not always clear, and determining the optimal treatment for an injury can be difficult. Imaging can help confirm both the presence and extent of muscle injury, and the typical modalities utilised include

Magnetic Resonance Imaging (MRI) and ultrasound (US.)<sup>1</sup>

The clinical appearance of a skeletal muscle injury depends on the severity of the injury and, in part, on the nature of the resulting hematoma<sup>2</sup>. Detailed history of the injury mechanism and preceding history in combination with careful examination is essential in making

a correct diagnosis. A critical goal of the history and examination is to differentiate between those patients with injuries possibly requiring surgical treatment and those patients with non-surgical injuries.

An appropriate history should incorporate the following elements:-

**Regarding the general history about the athlete:**

- *Has the player suffered similar injuries before? (some muscle injuries have a high rate of recurrence, patients may report a previous injury, often adjacent to or near the current site of injury<sup>3</sup>.)*
- *Is he/she susceptible to injuries?*
- *Is the patient using any medications?*

**Regarding the mechanism of injury:**

- *What was the trauma mechanism? (a direct blow to the muscle, or an indirect mechanism.)*
- *During work, leisure, training or competition?*
- *When did it start? Date and relationship with the sport session (beginning, middle or the end of the session)*
- *How did it start? (suddenly, gradually, progressive)*
- *Any audible pop or snapping sensation, with the onset of pain<sup>4</sup>*

**Regarding the initial progress:**

- *Was the player able to continue or was he/she forced to stop?*
- *How was the patient treated during the immediate injury?*
- *How is the pain evolving over time?*

*An appropriate history should incorporate the following elements: (table 1)*

### 8.2.2. Secondary Prevention Hamstring

#### Seated Eccentric Knee Flexor Stretch (Seated Straight-Leg Raise)

The athlete sits on a treatment table with knees bent at a 90° angle and pelvis tilted forward. Grasping the athlete's heel with one hand and placing his other hand on the distal part of the athlete's thigh as a counterhold, the exercise partner progressively extends the athlete's knee towards full extension whilst the athlete resists. After completing with one leg, repeat with the other leg.



In a second series, the trunk can be flexed further so as to stretch the posterior muscle chain to a greater degree. It is important for the pelvic forward tilt to be maintained at all times.



### Eccentric Knee Flexor Extension with Inertial Technology (Yo-Yo Knee Extension)

Starting from the prone position, the athlete is assisted while bending both knees at the same time to then offer resistance to the inertial knee extension movement with one leg only. After doing the repetitions with one leg, repeat the exercise with the other leg.

