

ON THE  
LACERATION  
OF THE  
FIBRES OF MUSCLES,  
PARTICULARLY OF THE  
EXTERNAL GASTROCNEMIUS.

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**T**HERE is an accident to which the muscles are occasionally liable, and though not unknown to some surgeons, I am not aware has ever been noticed by surgical writers. As I have observed a few instances of it, perhaps a short account of them may not be deemed unworthy of being laid before the Society.

It sometimes happens that muscles during violent action tear asunder their tendons, and they have been known to break through the bones to which they are attached. In the injury now to be described, only a few of the muscular fibres are torn, and as far as I have been able to observe, the

laceration is most apt to take place near the part where the muscle becomes tendinous. This description of injury is not confined to any particular muscles; it is an accident by no means unfrequent, and it appears to me that many of those anomalous injuries of muscles, and injuries which have been often attributed to the lacerations of tendons, as of the plantaris longus, are of this description.

Perhaps there is no muscle so liable to this injury as the external gastrocnemius, and it can occur in few where the symptoms are so strongly marked, or where a proper treatment is of such importance; the limits of this paper will therefore be confined to a description of the injury of this muscle.

When any of the fibres of the external gastrocnemius are torn, it will always be found to be the consequence of some untoward, or sudden action of the muscle; and the attention of the patient is called to it, by suddenly feeling a sharp pain in some part of the leg, most commonly at that part where the fibres become tendinous, accompanied by lameness. When the limb is examined, an inequality will be perceived at the pained part, a distinct concavity being formed by the separation of the lacerated extremities of the muscular fibres. This part is very tender to the touch, and though

in a short time after the accident, the whole calf of the leg becomes more or less swelled and tense; yet the particular part where the muscle has been injured, can always be distinctly pointed out by the patient.

The consequences of this kind of injury are extremely troublesome; a very considerable swelling with tension of a part of the limb come on, and the patient remains quite lame. These symptoms continue with little abatement until means are adopted to keep the lacerated parts at rest, so that the accompanying inflammation may subside, and a reunion of the lacerated fibres take place; for whenever the patient begins to move about, the tender parts are stretched; acute pain is brought on, and he thus becomes more lame. In this manner I have known patients suffer from the injury for several months.

The cure of this kind of injury is sometimes extremely tedious, particularly if, from early inattention, the necessary treatment has been neglected. The lacerated extremities of the fibres should be placed as soon as possible in contact, and carefully retained in that situation until they adhere. This is to be accomplished by relaxing the whole muscle, and preventing its extension to such a degree as would separate the ends of the torn fibres, until adhesion has taken place. The foot should be moderately

extended, and the knee slightly bent. A strip of linen should then be placed on the upper part of the foot, carried over the toes along the sole of the foot, heel, calf of the leg, and over the bend of the knee, and part of the posterior part of the thigh. This is to be secured in that situation by means of a circular roller, extending from the foot over the whole limb. The bandage is to be worn until the lacerated fibres are completely reunited; and this will be known from the patient acquiring a feeling of strength, and being able to throw the muscle into action without pain or uneasiness. In some cases, adhesion has taken place in a few days, when the proper treatment was employed speedily after the injury. In other instances it has required several months before the limb could be used.

The symptoms and treatment of this injury may be farther illustrated by narrating the following cases.

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### *CASE I.*

A gentleman, when going across a street, stopped quickly to avoid a carriage. At this moment he had a sensation in the calf of his left leg, as if it had been struck with a stone, or by some very hard body swinging in his pocket; and so strongly was he impressed with this feeling, that he was surprised when putting his hand into his pocket, to find

it empty. This happened late at night, and I saw him early on the following morning. The posterior part of the limb had by this time swollen considerably. At the spot where he first felt the pain, there was a great degree of tenderness to the touch, and it was unequal and knotty to the feel, with a distinct depression at one part. Any motion of the limb gave pain, and he was unable to rest the weight of his body upon it.

The limb was bandaged in the manner which has been described, and from being lame and unable to move without great uneasiness, he could put his toes on the ground, and exercise that limited motion which the bandage admitted of, without pain. The swelling and tenderness of the limb abated daily, and in less than a fortnight he was able to use it freely without the bandage.

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## CASE II.

A muscular man, 40 years of age, when quickly running across a street, felt, to use his own expression, as if he "was shot on the leg." He became quite lame, and complained of acute pain at that part of the calf of the right leg where the muscular and tendinous fibres of the external gastrocnemius muscle unite. A good deal of swelling succeeded, and I saw him eight days after the acci-

dent. He was then very lame, complaining of pain in the calf of the leg where a distinct inequality or depression could be perceived, and there was a good deal of discoloration of the whole inferior part of the limb.

A bandage was applied in the usual manner ; the pain and swelling subsided ; and in ten days he was walking about with only a very slight lameness.