

## Scientific Report

# Rupture of the peroneous tertius in a horse

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## Summary

Rupture of the peroneous tertius was diagnosed in a 7-year-old stallion, based on clinical examinations. The stifle joint flexed as the limb was advanced forward without flexing the hock. When the limb was pulled backward, the hock joint extended but the stifle was in the normal position. The recommended treatment included complete stall rest for 6 weeks followed by limited exercise for 2 months. The animal, ultimately, returned back to its normal exercise.

**Key words:** Peroneous tertius, Lameness, Horse

## Introduction

A fairly common injury to the hind leg is rupture of the peroneous tertius (Whitton *et al.*, 2000). Peroneous tertius is an entirely tendinous structure, originating from the long digital flexor tendon passing through the extensor fossa of the distal femur. The tendon travels downward over the cranial aspect of the tibia between the cranial tibialis and long digital extensor muscles (Welch, 1999). It is an important part of the reciprocal apparatus, mechanically flexing the hock when the stifle joint is flexed (Sullins, 2002). The mechanism allows both the stifle and hock joints to move in unison, so when one flexes, the other flexes too. This aids in both movement and the stay apparatus (Updike, 1984). The peroneous tertius is not involved in the stay apparatus, but is involved in flexing the hock joint when the stifle joint flexes during movement (Dyson, 2003). The peroneous tertius may rupture anywhere along its path, but this occurs most frequently in the distal third part, just proximal to the tarsus (Welch, 1999). This article describes the clinical features, treatment and outcome of a case with rupture of the peroneous tertius in a horse.

## Case report

A 7-year-old stallion was presented to the Veterinary Teaching Hospital of Ferdowsi University, with the signs of lameness in the rear limb. The horse showed a grade 4 (out of 5) lameness of the right hind limb at trot with a significant swelling on its dorsal part of the tarsal joint (Fig. 1). The history indicated that the horse slept on his box. The stifle joint was flexed as the limb advanced, and the hock joint was carried forward with little flexion. When the foot was put down, the horse had no trouble bearing weight and showed little pain during rest. However, when the limb was pulled backward, the hock joint extended but the stifle was in normal position and a dimpling in the tendon of Achilles was seen (Fig. 2). On the basis of the clinical findings, the diagnosis of rupture of the peroneous tertius was made. The recommended treatment included stall rest for six weeks followed by controlled exercise for two months. Flunixin meglumine, 4 mg/kg was administered intravenously as an anti-inflammatory drug for five days. After this period, the horse showed normal limb action and ultimately, returned back to normal exercise.

**Fig. 1: The swelling is evident on the dorsal aspect of the tarsus**

**Fig. 2: The arrow indicates a dimpling in the Achilles tendon when the limb is extended. Note that the hock is extended, but the stifle is flexed**

## Discussion

Diagnosis of rupture of the peroneus tertius is easily made by clinical examinations (Sullins, 2002). This problem should not be confused with other conditions, because the ability to extend the

hock while the stifle is flexed is pathognomonic of the condition (Whitton *et al.*, 2000) (Fig. 2). The case presented was diagnosed as a rupture of the peroneus tertius based on clinical findings with a history of sleep on his box. Complete stall rest was reported as the best treatment for

cases with rupture of the peroneus tertius (Dyson, 2003). The horse should be placed in a box stall and kept quiet for at least 4 to 6 weeks. Limited exercise should be initiated for at least 2 months (Sullins, 2002). After this period, most cases will cure and show normal limb action. Although, surgical intervention is usually not recommended, if there are avulsion fragments of the femoral extensor fossa, arthrotomy and removal of the avulsion fragments may be indicated (Welch, 1999). Although prognosis of the case presented here was good, generally, the outcome depends on the location and the severity of the tendon rupture (Whitton *et al.*, 2000). When the horse is properly rested by box-stall confinement, cure usually occurs. If signs of healing are not evident by the end of 4-6th week, the prognosis is unfavourable, as the tendon may not unite (Sullins, 2002). Three-month follow-up in the case presented here showed a smooth recovery and a satisfactory performance.

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