

# Median Nerve Compression At The Wrist Caused By A Reversed Palmaris Longus Muscle

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## Abstract

The human Palmaris Longus muscle is subject to much variation. Here we report an unusual variation causing exercise related compression of the Median Nerve at the wrist. A brief review of the literature is included.

## INTRODUCTION

The Palmaris Longus muscle in the forearm is, classically, a slender, fusiform muscle with a proximal belly and a long distal tendon<sup>1</sup>. It arises from the medial epicondyle of the humerus at the common flexor origin. Its distal tendon passes anterior to the flexor retinaculum attaching to the anterior surface of its distal half and to the central part of the palmar aponeurosis. Its function is to act as a flexor of the wrist and to tension the palmar aponeurosis. It is greatly developed in arboreal primates, in whom it acts to produce powerful wrist flexion and to aid in the flexion of the Metacarpophalangeal joints to aid in the gripping of tree branches.

Palmaris Longus in the human is subject to much variation both between individuals and even between the forearms of an individual<sup>1</sup>. It is absent in around 12% of cases and may also exhibit accessory slips or be duplicated. 16 cases have been reported in the literature of reversed Palmaris Longus<sup>2</sup>. There has been one previous report of a three headed, reversed palmaris longus tendon<sup>2</sup>. We report a case of a reversed, bi-pennate palmaris longus in a 35 year old woman causing compression of the median nerve proximal to the Carpal tunnel.

## CASE REPORT

A 35 year old housewife presented to the outpatients' clinic complaining of a swelling over the volar aspect of her right wrist. She was concerned that this swelling had increased in size over the preceding twelve months. She had also noted some mild symptoms of Median Nerve compression in the hand and reported that these were more troublesome following use of the hand.

The swelling was noted to be relatively soft, non-fluctuant and appeared to be separate from the long flexor tendons. Examination of the opposite wrist revealed no similar swelling and the presence of an unremarkable palmaris longus tendon. Ultrasound scanning was inconclusive, showing only a soft tissue mass. In view of the history of growth and the presence of Median Nerve symptoms the decision was made to explore the mass.

At operation a two-headed, reversed palmaris longus with a narrow proximal tendon was encountered. Distally the central head inserted into the palmar fascia with the deep head inserting into the flexor retinaculum. Simple excision was performed and the wound closed. The patient was discharged the following day. Her recovery was uncomplicated.

## DISCUSSION

Anomalies of forearm musculature, in particular involving the palmaris longus, are not uncommon, although the precise incidence varies between studies. Agenesis of palmaris longus has been reported to have an incidence of 12.8% with other anomalies in a further 9%<sup>2</sup>. These muscular variations around the wrist may cause median and ulnar nerve compression<sup>3</sup>. The literature to date includes around 16 cases. The Median nerve is reported as being compressed in around three-quarters of cases, and all cases has involved the right side (though one patient had bilateral involvement and the side is not recorded in 5 cases). MRI has been reported as providing a means of pre-operative diagnosis<sup>4</sup>.

The possibility of muscular anomalies should be considered for cases of Median nerve compression worsening following

exercise of the hand and forearm. In cases where the diagnosis is in doubt MRI may be a useful investigation prior to exploration.

### **References**

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