

ABSTRACT**MODIFIED JONES TENDON TRANSFER BY ERWIN RAMAWAN:
CADAVERIC STUDY**

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Background: The radial nerve lesions were common complication of humeral shaft fractures. In the case of high radial nerve lesion, the tendon transfer is an effective modality in restoring hand function. Until now, Many tendon transfer techniques available, but there is no agreement which is the best technique to be applied. Erwin Ramawan modified jones tendon transfer using two combinations, *Palmaris longus* tendon (PL) being transferred to *Extensor Pollicis Longus* tendon, and the *Flexor Carpi Radialis* tendon (FCR) to *Extensor Carpi Radialis Brevis* tendon and *Extensor digitorum Communis* tendons. The superiority of this technique is still preserves *Pronator Teres* muscle, so the pronation function with good extension as result of tendon transfer.

Methods: This is an experimental study on cadavers. The tendon pulling force and range of motion (ROM) of wrist extension and finger extension were analyzed before and after tendon transfer procedure with the Erwin Ramawan's technique. After tendon transfer, finger flexion and thumb extension test were also conducted.

Results: After tendon transfer, an average of 61,5° wrist extension and 164,6° of finger extension (Metacarpo Phalangeal angle) were achieved from the pull of the FCR tendon. There was no significant difference ($p > 0.05$) of wrist and finger extension ROM of the hands before and after tendon transfer by Erwin Ramawan's technique. An average of 36° thumb abduction were also obtained by the pull of the PL tendon. Furthermore, satisfying finger flexion (Finger Tip to Mid Palmar Crease 0 inch) were obtained either on neutral or wrist extension position.

Conclusion: Tendon transfer with Erwin Ramawan technique is able to produce similiar wrist extension, finger extension, and thumb extension ROM compared to normal hand.

Keyword : radial nerve lession, tendon transfer.