

# DIAMETER OF DIGITAL ARTERIES AND THEIR CORRELATION WITH FINGER ANTHROPOMETRIC MEASUREMENTS - A PRELIMINARY CADAVERIC STUDY

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**Introduction:** Finger injuries are one of the commonest injuries we encounter in our daily practice. Digital amputation of the fingers is also commonly seen whereby replantation of the digit is usually attempted especially in tertiary hospitals. In most cases, repairing the digital neurovascular bundle is not as easy as it seems. The surgeons need to perform the surgery under magnification with proper lighting and in a bloodless field. They may require plenty of training before being able to successfully repair one. The ability to know the exact/estimated size of the digital artery may be beneficial for the surgeons before the surgery. The purpose of this study is to measure the sizes of digital artery in the fingers and to see any correlation with the anthropometric measurements of the finger.

**Methodology:** In this descriptive study, a total of 106 samples of digital arteries will be harvested randomly from 8 cadavers during the Silent Mentor Workshop (SMW) in University Malaya. Anthropometric measurement of the finger which is the length and circumference at the palmar digital crease will be obtained first before the harvesting process. The vessels harvested will be kept in formalin 10% solution and later undergo histology process with H&E staining. Samples will be read under light microscopy with the help of a computer software.

**Discussion:** Statistical analysis done showed that the mean wall thickness of the digital artery is 155 micrometer ( $\mu\text{m}$ ) with the outer diameter of 1975  $\mu\text{m}$  and inner diameter of 1700  $\mu\text{m}$ . Pearson correlation also showed that there is a significant correlation between finger circumference and wall thickness, as well as the outer diameter of the artery.

**Conclusion:** There is a significant correlation between anthropometric measurement of the finger, which is the finger circumference to the wall thickness and outer diameter of digital artery at the palmar digital crease level.