

# REFERENCE VALUES

## for nerve ultrasound

All values representing the upper limit normal of the cross-sectional area ( $\text{mm}^2$ ) based on cited studies.  
Further information: [www.sonocampus.org](http://www.sonocampus.org)

## UPPER EXTREMITY

### BRACHIAL PLEXUS

#### Roots

C5	11 $\text{mm}^2$
C6	15 $\text{mm}^2$
C7	17 $\text{mm}^2$
C8	16 $\text{mm}^2$

Haun US Med & Biol 2010

#### Trunks

upper	23 $\text{mm}^2$
middle	20 $\text{mm}^2$
lower	19 $\text{mm}^2$

Won Muscle Nerve 2012

#### Whole plexus

inter-scalene	23 $\text{mm}^2$
supra-clavicular	20 $\text{mm}^2$

Kerasnoudis Clin Neurophysiol 2013

### AXILLARY NERVE

between teres major and humeral head	5 $\text{mm}^2$ *
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Yoon Muscle Nerve 2019

### MEDIAN NERVE

1/2 upper arm	16 $\text{mm}^2$ *
Cubita	17 $\text{mm}^2$
1/2 forearm	11 $\text{mm}^2$
Wrist	15 $\text{mm}^2$

Qrimli Muscle Nerve 2016

### ULNAR NERVE

1/2 upper arm	13 $\text{mm}^2$ <sup>a</sup>
Cubita	12 $\text{mm}^2$ <sup>a</sup>
1/2 forearm	9 $\text{mm}^2$ <sup>b</sup>
Wrist	8 $\text{mm}^2$ <sup>b</sup>

a. Boehm USchall Med 2014  
b. Qrimli Muscle Nerve 2016



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### MUSCULOCUTANEOUS NERVE

between biceps and brachialis muscle

12 mm<sup>2\*</sup>

Tagliafico J Ultrasound Med 2013

### RADIAL NERVE

1/2 upper arm 13 mm<sup>2 a\*</sup>

Cubita 14 mm<sup>2 b\*</sup>

Superficial radial (middle lower arm) 4 mm<sup>2 a</sup>

Deep radial (at supinator) 5 mm<sup>2 c</sup>

a. Boehm USchall Med 2014

b. Cartwright Muscle Nerve 2008

c. Tagliafico J Ultrasound Med 2013

## LOWER EXTREMITY

### SCIATIC NERVE

Gluteal fold 50 mm<sup>2 a</sup>

Mid thigh 63 mm<sup>2 b</sup>

Distal thigh 80 mm<sup>2 c</sup>

a. Chen J Med Ultrasound 2018

b. Seok Muscle Nerve 2014

c. Cartwright Muscle Nerve 2008

### PERONEAL NERVE

Popliteal fossa 21 mm<sup>2 a</sup>

Fibular head 20 mm<sup>2 b</sup>

Superficial peroneal (distal leg) 3 mm<sup>2 c</sup>

a. Cartwright Muscle Nerve 2008

b. Kerasnoudis Clin Neurophysiol 2013

c. Qrimli Muscle Nerve 2016

### TIBIAL NERVE

Popliteal fossa 56 mm<sup>2\*</sup>

Ankle 23 mm<sup>2\*</sup>

Cartwright Muscle Nerve 2008

### SURAL NERVE

distal calf 9 mm<sup>2\*</sup>

Cartwright Muscle Nerve 2008

\* > 100% of discrepancy between studies observed. Highest value provided.  
For details please see: [www.sonocampus.org/additionalresources](http://www.sonocampus.org/additionalresources)

Your partner in  
nerve ultrasound



SONOCAMPUS