

Response to Reviewer points

Comment 1 : The study was exempt by the University of Kentucky Institutional Review Board, since it does not involve patients or clinical data.

Comment 2: COI statement is signed and attached

Comment 3: Statistical analysis on radial nerves

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1 Right and left sides

We conducted signed Wilcoxon-Mann-Whitney test for paired samples as well as a significance test (with normal distribution) for paired samples in order to compare difference between right and left sides of bi-epi lengths, pronated position, supinated position, and neutral position. For bi-epi lengths, the p-value was 0.0357 (0.0117 with normal distribution) so that there is a significant difference between them. Therefore we conducted a statistical analysis on right side and left side separately. For pronated position, the p-value was 0.0125 (0.1156 with normal distribution), for supinated lengths, we have the p-value close to 1.0, and for neutral lengths, we have the p-value 0.5716 (0.4936 with normal).

2 Differences between observers

We conducted signed Wilcoxon-Mann-Whitney test for paired samples as well as a significance test (with normal distribution) for paired samples in order to compare two different observers for measurements of bi-epi lengths, pronated position, supinated position, and neutral position. All p-values are bigger than 0.29 thus we did not find any significant difference between two measurements.

3 Fitting the data

We conducted the proportion of pronated position, supinated position, and neutral position over bi-epi length.

The 95% confidence intervals for the proportions of the radial nerve length with pronated position, supinated position, and neutral position over the bi-epi length are the following:

_ For the proportion of the radial nerve length with pronated position over the bi-epi length from the left side: 1.006504 _ 0.035050.

_ For the proportion of the radial nerve length with supinated position over the bi-epi length from the left side: 0.732042 _ 0.029705.

_ For the proportion of the radial nerve length with neutral position over the bi-epi length from the left side: 0.84300786 _ 0.031166.

_ For the proportion of the radial nerve length with pronated position over the bi-epi length from the right side: 1.02329932 _ 0.040817.

_ For the proportion of the radial nerve length with supinated position over the bi-epi length from the right side: 0:71450642 _ 0:025206.
_ For the proportion of the radial nerve length with neutral position over the bi-epi length from the right side: 0:83715816 _ 0:033967.

Figure 1: Curves _tted to the proportion of the radial nerve length with pronated position over the bi-epi length from the data for the left side.

Figure 2: Curves _tted to the proportion of the radial nerve length with supinated position over the bi-epi length from the data for the left side.

Figure 3: Curves _tted to the proportion of the radial nerve length with neutral position over the bi-epi length from the data for the left side.

Figure 4: Curves _tted to the proportion of the radial nerve length with pronated position over the bi-epi length from the data for the right side.

Figure 5: Curves _tted to the proportion of the radial nerve length with supinated position over the bi-epi length from the data for the right side.

Figure 6: Curves _tted to the proportion of the radial nerve length with neutral position over the bi-epi length from the data for the right side.

Comment 4 : This university does not allow access to data siloed in the university mainframe due to security issues. I will be able to upload the data into your server for sharing this data with you

Comment 5: informed consent was not required in this study since this was cadaveric basic science

Comment 6: audio core tip: this will be provided by WJO

Comment 7: all references have now been edited into superscript

Comment 8: 70% when supinated (**Appendix, Figure 5**), 85% in neutral (**Appendix, Figure 4**), and 100% when pronated (**Appendix, Figure 6**).

Has been changed to : “85% in neutral (**Appendix, Figure 4**), 70% when supinated (**Appendix, Figure 5**), and 100% when pronated (**Appendix, Figure 6**).” In accordance to the reviewers comments

Comment 9 : **COMMENTS**

(1) Background

We describe a simple method, based on cadaveric data and corroborated in clinical practice, of locating the posterior interosseous nerve in the proximal forearm. The location of the posterior

批注 [W用1]: All figure number should list in order. Thank you!

批注 [W用2]: Please write the comments.

Writing requirements for each subsection

(1) Background

To summarize concisely and accurately the relevant background information so that readers may gain some basic knowledge about your study's relevance and understand its significance for the field as a whole.

(2) Research frontiers

To introduce briefly the current hotspots or important areas in the research field as related to your study.

(3) Innovations and breakthroughs

To summarize and emphasize the differences, particularly the advances, achievements, innovations and breakthroughs, as compared to other related or similar studies in the literature, which will allow the readers to assimilate the major points of your article.

(4) Applications

To summarize the practical applications of your research findings, so that readers may understand the perspectives by which this study will affect the field and future research.

(5) Terminology

To describe concisely and accurately any terms that may not be familiar to the majority of the readers, but which are essential for understanding your article.

interosseous nerve (PIN) can be simply summarized by the 70-85-100 rule. We have demonstrated that the location of the PIN from the lateral epicondyle, in terms of the patient's trans-epicondylar distance (TED) is approximately 70% TED with forearm supination, 85% TED in neutral forearm rotation, and 100% TED when pronated. This will help clinicians to localize the PIN when dealing with a proximal forearm painful differential diagnosis, injections around the PIN for diagnostic and therapeutic purposes, and when surgically approaching the PIN for a decompressive operation.

(2) Research frontiers

The PIN is increasingly recognized as a differential diagnosis and a coexistent pathology in tennis elbow. Our ability to locate the PIN accurately in relation to the patient's own anatomy is a very important step towards an accurate diagnosis.

(3) Innovations and breakthroughs

The significant innovation of our study is that we are able to locate the PIN by "normalizing" our measurement to the patient's own anatomy. Our normalizing parameter is the trans-epicondylar distance (TED), which can easily be measured by the clinician.

(4) Applications

The practical application of our study is that it accurately locates the posterior interosseous nerve, it normalizes the location of this nerve to the patient's own anatomy, helps in the diagnosis of lateral elbow and forearm pain, improves the localization of diagnostic and therapeutic injections around the PIN, and helps the surgeon decrease in the size of the incision when decompressing the posterior interosseous nerve.

(5) Terminology

Trans-Epicondylar Distance (TED) - the distance between the most prominent part of the medial and lateral epicondyle.

Comment 10: All references have been edited to include DOI and PMID

Comment 11: Legends have been added to the Figure 4-6 as follows

Fig 4. Pictorial depiction of the location of the PIN, along the longitudinal line drawn from the lateral epicondyle to the radial styloid, at 85% TED (trans-epicondylar distance, with the forearm in neutral rotation

批注 [W用3]: Please offer figure title.
Thank you!

Fig 5. Pictoral depiction of the location of the PIN, along the longitudinal line drawn from the lateral epicondyle to the radial styloid, at 70 TED (trans-epicondylar distance, with the forearm in supination

批注 [W用4]: Please offer figure title.
Thank you!

Fig 6. Pictoral depiction of the location of the PIN, along the longitudinal line drawn from the lateral epicondyle to the radial styloid, at 100% TED (trans-epicondylar distance, with the forearm in pronation

批注 [W用5]: Please offer figure title.
Thank you!