

# NEWSLETTER

## Case of the month

presented by  
Dr. Marco Becciolini

Further readings (free articles):

[https://ard.eular.org/article/S0003-4967\(24\)21100-6/fulltext](https://ard.eular.org/article/S0003-4967(24)21100-6/fulltext)

<https://www.jrheum.org/content/38/9/2014.long>

Pisotriquetral arthritis: 'forgotten' joint in ultrasound imaging of the wrist.

The ulnar aspect of the radiocarpal joint and the pisotriquetral joint (PTJ) are the most involved by synovitis. Moreover, triquetrum is among the most frequent erosion-affected bone and, according to recent MRI investigations, seems to be the first morphological site to be affected by RA.

PTJ is a small joint of the ulnar side of the wrist communicating with the radiocarpal joint in 75%–85% of the cases

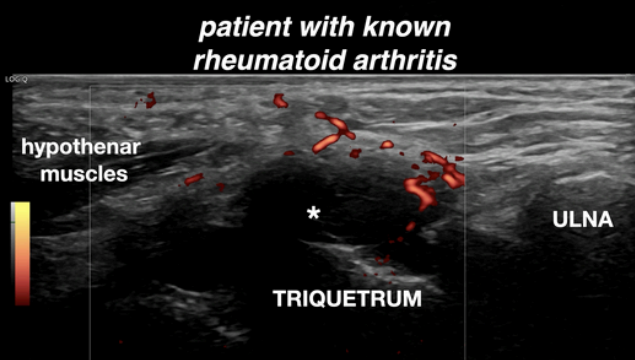
### Piso-Triquetral joint

Condylar joint between pisiform / triquetrum  
Proximal recess smooth & round > distal (rectangular).  
It may communicate with the RCj in up to 82% of the cases.

#### PRACTICAL TIP

Start with sagittal sonogram of the distal **fcu** and Pisiform bone. The recess (usually the proximal one) can be depicted when distended (asterisk)

Then move ulnar to obtain an intermediate plane between a sagittal and coronal view. The recess is mostly evident when the pisiform disappears with its bony acoustic shadowing



## Interview with Dr. Marco Becciolini

<https://www.researchgate.net/profile/Marco-Becciolini>

Misericordia di Pistoia, Pistoia, Italy; Scuola Siumb di  
Ecografia Muscolo-Scheletrica, Pisa, Italy

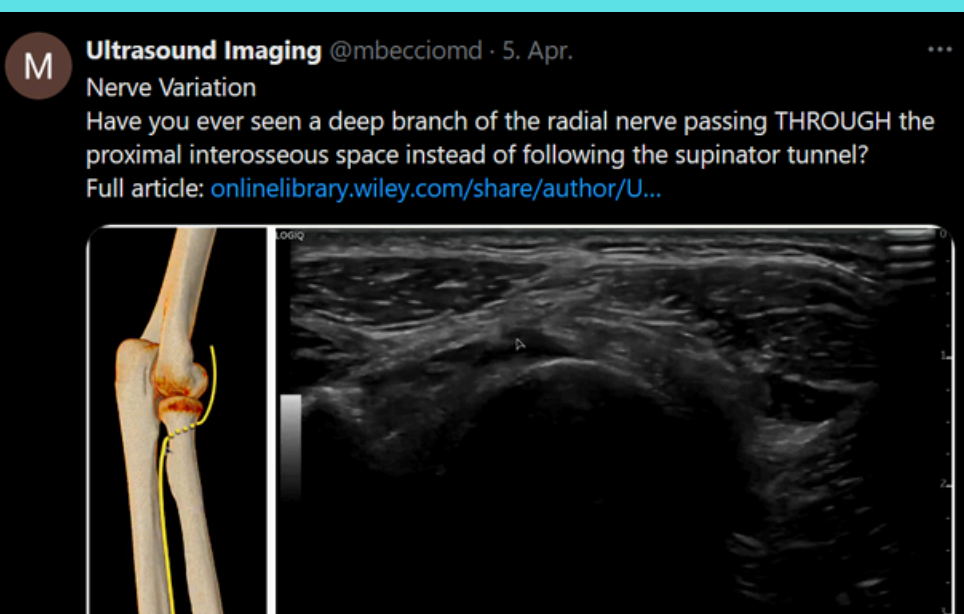


MSUS Academy: Recently, you have released some anatomically very precise publications, e.g. on the sonography of nerves. What fascinates you in particular about nerve sonography?

*MB: Ultrasound is an excellent modality for visualizing nerve anatomy, particularly when the nerves are superficially located and examined with modern high-frequency transducers. With a good knowledge of anatomy, it's easy to follow the nerves for a long tract by axial continuous sonograms (with the "elevator technique"). In pathological conditions, ultrasound can precisely identify the underlying cause and guide appropriate management — a capability that makes nerve sonography especially valuable. It is important to emphasize, however, that sonographic alterations in nerve structure do not invariably correspond to pathological symptoms. Accordingly, ultrasound findings should always be interpreted in the context of the patient's history and clinical examination.*

MSUS Academy: Isolated lumbar transverse process fractures may be missed using x-ray. Recently you showed in a case series the superiority of ultrasound in some cases. Does ultrasound already have an established role in fracture diagnostics?

*MB: This article was a sort of provocation, as there are still physicians who are unaware that ultrasound can be used to depict fractures. Of course, ultrasound is not the best modality for evaluating the spine and/or lumbar transverse process fractures, and I do not recommend its use in every case. As a general rule, X-ray should remain the first imaging modality when a fracture is clinically suspected. However, in the appropriate clinical context, US can detect fractures that may be missed by conventional radiography. Examples include rib fractures, fractures of the anterolateral process of the calcaneus, and stress fractures. After sonography, when clinically indicated, a confirmation with an advanced imaging modality (such as CT or MRI) can be suggested to demonstrate the pattern of fracture in detail.*



<https://x.com/mbecciomd/status/1908519433645019201>



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MSUS Academy: Can you explain to us what is the “hourglass” biceps tendon and why we should know this?

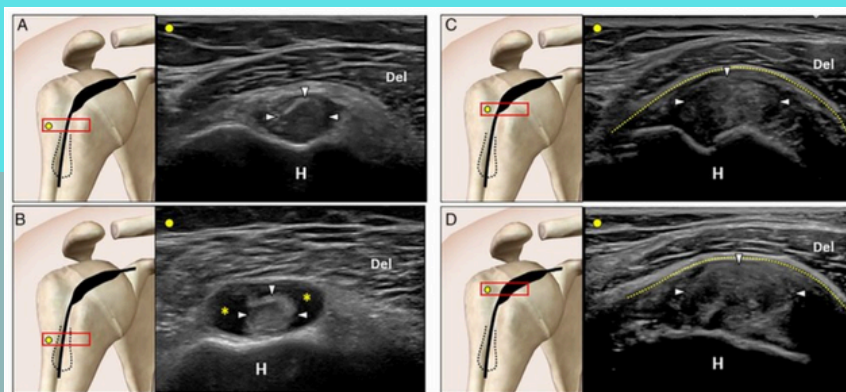
**MB:** *It is a pathologic condition of the intra-articular portion of the long head of the biceps tendon (LHBT). The thickened and hypertrophic proximal segment of the LHBT leads to entrapment within the joint on arm elevation, causing pain and functional impairment. Therefore, the intra-articular portion of the LHBT should be carefully evaluated during shoulder US examination.*

MSUS Academy: Finally, do you have any advice for young colleagues in training using musculoskeletal ultrasound?

**MB:** *My luck was to find an enthusiastic and competent teacher, whom I followed in his practice almost daily for a long period (3 years). One of his first suggestions was “Steal my work with your eyes”. Which means that you need to learn your teacher’s know-how by observing every detail of his work. US is not easy, and a good teacher is essential to help you recognize when your skills are not yet good enough and you need to train! But with training, your skills will improve! Patient feedback can also be productive (e.g. “you’re pressing too much” or “you’re not even pressing half as much as your teacher”...): you’ll learn that different structures require different probe pressure!*

*Another suggestion is to study and attend as many high-quality courses as possible. You’ll meet people who share your interest, doubt, discoveries... yes, Ultrasound is a process of discovery -often of something already known, but sometimes you may find something that your teacher does not know, nor is it described in the literature!*

*Practicing is essential for demonstrating structures effectively. Anatomy may seem boring at first, but with a good sonographic technique and modern US machines/transducers, you can depict the fine musculoskeletal anatomy with incredible detail.*



Ultrasound pattern of the hourglass biceps: from the distal effusion to the proximal thickening. By positioning the transducer (red rectangle) in a transverse plane over the anterior aspect of the shoulder, the LHBT (white arrowheads) can be easily visualized in the bicipital groove of the humerus (H; A). Then, ultrasound tracking in a caudal direction can show the effusion (yellow asterisks) located inside the synovial sheath (B). In a sitting position, the fluid is predominantly located in the cul-de-sac of the synovial sheath due to gravity, generating the inferior half of the hourglass. By moving the probe (red rectangle) in a cranial direction, a remarkable thickening of the proximal portion of the LHBT (white arrowheads) is clearly visualized at the cranial edge of the bicipital groove (C) and inside the rotator interval (D), generating the superior half of the hourglass. A bulging of the subdeltoid fascia (yellow dotted line) overlying the rotator interval can be considered an indirect ultrasound sign of the mass effect developed by the thickened intracapsular portion of the LHBT (C and D). Black line indicates LHBT; Del, deltoid muscle; and dotted line, synovial sheath of the LHBT.

## MSUS

## Publication of the month

<https://pmc.ncbi.nlm.nih.gov/articles/PMC11608064/>



### Ultrasonography of the ulnar nerve loop in relation to the flexor carpi ulnaris tendon

**Aim:** The purpose of this study is to present the ultrasound appearance of a previously undescribed-at-imaging variant of the ulnar nerve near the Guyon's canal. **Material and methods:** The ultrasound database of one of the authors, who has more than 10 years of experience in peripheral nerve ultrasound, was searched for the phrases "UN variant" or "UN loop." The other two authors, with more than 10 years of experience in nerve imaging, retrospectively reviewed the static sonograms as well as the videoclips stored, to confirm the findings. **Results:** Between October 2019 and October 2023, six cases were found in five patients, where ultrasound demonstrated previously undescribed-at-imaging anatomical variations of the distal ulnar nerve on six distal forearms. The variant was symptomatic in three cases in which possible distal compression was clinically suspected. A branch of the ulnar nerve made a loop around the flexor carpi ulnaris, which also presented with a variation of normal anatomy. In symptomatic patients, the diameter of the aberrant branch (retrospectively measured) was significantly enlarged. **Conclusions:** High-resolution ultrasound can accurately demonstrate ulnar nerve variants even when only small nerve fascicles are involved, which may be clinically relevant and misinterpreted. Loops of the ulnar nerve are rare, but likely under-recognized. We think that symptoms are generally tolerated by patients if the motor branch of the ulnar nerve is not affected, as in our cases.

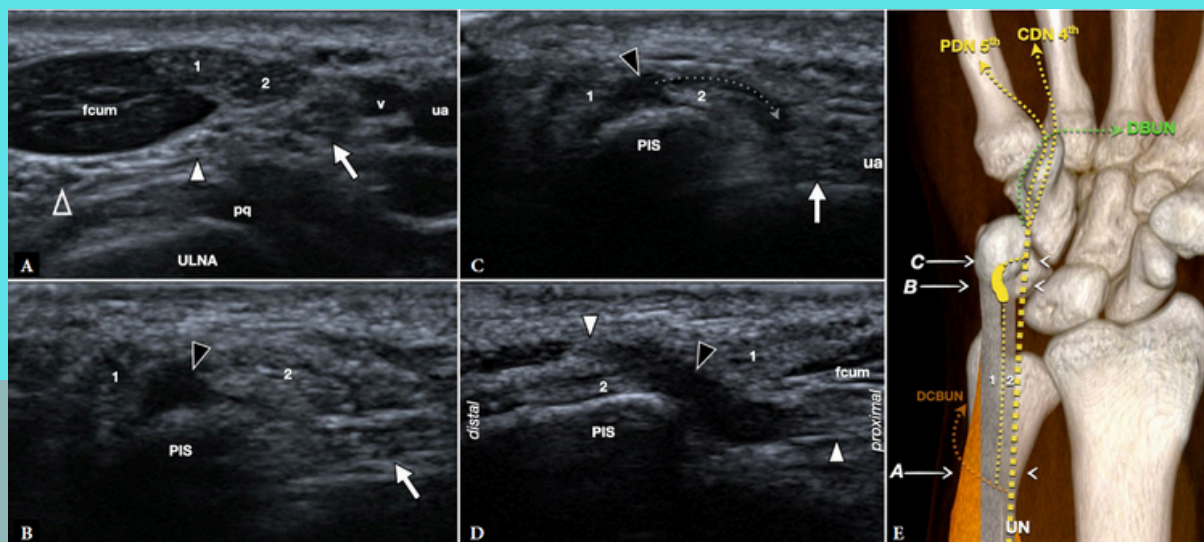


Fig. 1. Case 1. A–C. Axial sonograms from proximal (A) to distal (C) at the distal third of the forearm and wrist in a patient with paresthesia of the 4<sup>th</sup> and 5<sup>th</sup> fingers. In A, the UN is indicated by the white arrow. An aberrant branch (white arrowhead) had detached from the DCBUN (open arrowhead). The FCU is composed of two tendons (1, 2). B. At the entrance of the Guyon's canal, the aberrant branch (black arrowhead) is thickened between the proximal pole of the pisiform bone (PIS) and the two tendons of the FCU. In C, slightly distal, the branch forms a loop (curved dotted arrow) over the radial tendon of the FCU (2) to rejoin the UN. D. Correspondent long-axis of the aberrant branch, clearly confirming its thickening. E. Schematic CT-3D drawing of the variant. Probe position of the axial images is indicated. CDN 4<sup>th</sup> indicates the common digital nerve of the 4<sup>th</sup> space; DBUN – deep branch of the ulnar nerve; fcum – flexor carpi ulnaris muscle; PDN 5<sup>th</sup> – proper digital nerve of the little finger; pq – pronator quadratus; ua – ulnar artery; v – vein



# MSUS News

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