

×

Search Radiopaedia.org

- [Articles](#)
- [Log In](#)
- [Cases](#)
- [Sign Up](#)
- [Courses](#)
- [Quiz](#)
- [Donate](#)
- [About](#)

×

Search Radiopaedia.org

[Menu](#)



[Search](#)

ADVERTISEMENT: Radiopaedia is free thanks to our supporters and advertisers. Become a Gold Supporter and see no ads.

[Articles](#)

[Cases](#)

[Courses](#)

[Log In](#)



- [Log in](#)
- [Sign up](#)

error

[Articles](#)[Cases](#)[Courses](#)[Quiz](#)

[About](#)[Recent Edits](#)[Go ad-free](#)

Search Radiopaedia.org Search

Carpal coalition

Last revised by [Asst Prof Dr Aidi Aswadi Bin Halim Lim](#) on 11 Nov 2021

[Edit article](#)

- [View revision history](#)
- [Report problem with Article](#)

Citation, DOI and article data

Citation:

Weerakkody, Y., Lim, A. Carpal coalition. Reference article, Radiopaedia.org. (accessed on 11 Nov 2021) <https://doi.org/10.53347/rID-10789>

DOI:

<https://doi.org/10.53347/rID-10789>

Permalink:

<https://radiopaedia.org/articles/10789>

rID:

10789

Article created:

21 Sep 2010 by [Dr Yuranga Weerakkody](#) ©

Revisions:

39 times by 17 users - [see full revision history](#)

System:

[Musculoskeletal](#)

Section:

[Anatomy](#)

Tag:

[carpus](#)

Synonyms:

- Coalition of carpal bones

URL of Article

Carpal coalition refers to failure of separation of two or more [carpal bones](#), and although the most commonly involved bones are the [lunate](#) and [triquetrum](#), most combinations of adjacent bones can be found to be coalesced.

On this page:

Article:

- [Terminology](#)
- [Epidemiology](#)
- [Pathology](#)
- [Related articles](#)
- [References](#)

Images:

- [Cases and figures](#)

Terminology

Carpal fusion is a misnomer, as it is the failure of normal segmentation of carpal mesenchyme that results in the anomaly⁸. Carpal coalition is less contentious as its definition means a connection between two bones, it says nothing about how they came to be connected⁹.

Epidemiology

The estimated prevalence is ~0.1% in Caucasian Americans and ~1.5% in African Americans, and it tends to affect women more commonly^{1,2}.

Associations

There are several associated conditions, especially with multiple coalitions:

- [Ellis-van Creveld syndrome](#)
- [Holt-Oram syndrome](#)
- [arthrogryposis](#)
- [Turner syndrome](#)
- [symphalangism](#)

Pathology

As with [tarsal coalition](#), congenital carpal coalition can either be osseous (synostosis), cartilaginous ([synchondrosis](#)), or fibrous ([syndesmosis](#)).

Etiology

Non-syndromic congenital carpal coalition is transmitted via a Mendelian inheritance pattern. Acquired intercarpal fusion can either be a consequence of an inflammatory arthropathy (e.g. [rheumatoid arthritis](#), [psoriatic arthritis](#), [reactive arthritis](#)) or injury, or due to intentional surgical arthrodesis.

Types

The two most common types are:

- [lunotriquetral coalition](#): much more common than all other types combined
- [capitohamate coalition](#)

References

Related articles: Anatomy: Upper limb

Promoted articles (advertising)

Tarsal–carpal coalition syndrome: importance of early diagnosis

Gloria Tze Yan Lau et al., Case Rep, 2019

Proximal row carpectomy vs. four-corner fusion: Patient selection is the key

Healio

AB1181 ULTRASOUND PATHOLOGICAL PATTERNS AT CARPAL TUNNEL LEVEL IN RHEUMATOID ARTHRITIS AND IDIOPATHIC CARPAL TUNNEL SYNDROME

Gianluca Smerilli et al., Ann Rheum Dis, 2019

Vascularized Bone Grafts in the Treatment of Preiser's Disease

Healio

COVID-19 and coagulation: bleeding and thrombotic manifestations of SARS-CoV-2 infection

Hanny Al-Samkari et al., Blood, 2020

New surgical option for wrist arthritis reduces pain, improves hand function

Healio

Powered by **TREND MD**

ADVERTISEMENT: Supporters see fewer/no ads

Cases and figures

-



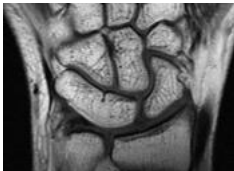
[Case 1: luno-triquetral coalition](#) Case 1: luno-triquetral coalition
Drag here to reorder.

-



[Case 2: luno-triquetral coalition](#) Case 2: luno-triquetral coalition
Drag here to reorder.

-



[Case 3: luno-triquetral coalition](#) Case 3: luno-triquetral coalition
Drag here to reorder.

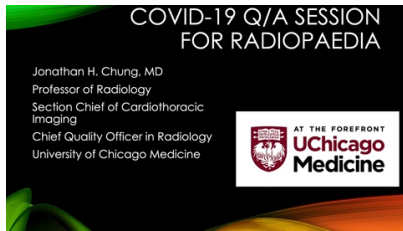
-



[Case 4: luno-triquetral coalition](#) Case 4: luno-triquetral coalition

Drag here to reorder.

FEATURED VIDEOS



yt1s.com - Imaging of COVID19 QA session with Dr Jonathan Chung



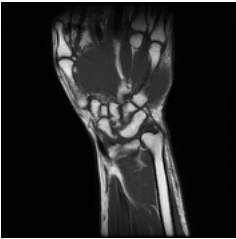
[Case 5: capitato-trapezoid](#) Case 5: capitato-trapezoid

Drag here to reorder.





[Case 6: extensive](#)Case 6: extensive
Drag here to reorder.



[Case 7](#)Case 7
Drag here to reorder.



[Multiple carpal coalitions](#)Multiple carpal coalitions
Drag here to reorder.

:

[Encyclopaedia](#)

By Section:

- [Anatomy](#)
- [Approach](#)
- [Artificial Intelligence](#)
- [Classifications](#)

- [Gamuts](#)
- [Imaging Technology](#)
- [Interventional Radiology](#)
- [Mnemonics](#)
- [Pathology](#)
- [Radiography](#)
- [Signs](#)
- [Staging](#)
- [Syndromes](#)

By System:

- [Breast](#)
- [Cardiac](#)
- [Central Nervous System](#)
- [Chest](#)
- [Forensic](#)
- [Gastrointestinal](#)
- [Gynaecology](#)
- [Haematology](#)
- [Head & Neck](#)
- [Hepatobiliary](#)

- [Interventional](#)
- [Musculoskeletal](#)
- [Obstetrics](#)
- [Oncology](#)
- [Paediatrics](#)
- [Spine](#)
- [Trauma](#)
- [Urogenital](#)
- [Vascular](#)

Patient Cases

- [Breast](#)
- [Cardiac](#)
- [Central Nervous System](#)
- [Chest](#)
- [Forensic](#)
- [Gastrointestinal](#)
- [Gynaecology](#)
- [Haematology](#)
- [Head & Neck](#)
- [Hepatobiliary](#)

- [Interventional](#)
- [Musculoskeletal](#)
- [Obstetrics](#)
- [Oncology](#)
- [Paediatrics](#)
- [Spine](#)
- [Trauma](#)
- [Urogenital](#)
- [Vascular](#)
- [Not Applicable](#)

- [About](#)
- [Blog](#)
- [Feature Sponsor](#)
- [Donate](#)
- [Editors](#)
- [Expert advisers](#)
- [Help](#)



[Facebook](#)



[Twitter](#)



[Newsletter](#)

- Do not share my Personal Information.

- [Contact Us](#)
- [Terms of Use](#)
- [Privacy Policy](#)
- [Licensing](#)
- [Sponsorship](#)
- [Developers](#)

Updating... Please wait.



Unable to process the form. Check for errors and try again.



Thank you for updating your details.

© 2005–2021 Radiopaedia.org

This site is for use by [medical professionals](#). To continue you must accept our [use of cookies](#) and the site's [Terms of Use](#).