

## Clinical Image

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# Clinical images: Cinematic rendering of tophaceous gout

Hannah S Recht<sup>1\*</sup>; Elliot K Fishman<sup>2</sup>

<sup>1</sup>Northwestern University Feinberg School of Medicine, Department of Radiology, 676 North St. Clair Street, Suite 800. Chicago, IL 60611, USA.

<sup>2</sup>Johns Hopkins University School of Medicine, The Russell H Morgan Department of Radiology and Radiological Science, 601 North Caroline Street, JHOC 4260 C, Baltimore, Maryland 21287, USA.

**\*Corresponding Author: Hannah S Recht, MD,**

Northwestern University Feinberg School of Medicine, Department of Radiology, 676 North St. Clair Street, Suite 800, Chicago, IL 60611, USA.

Tel: (216) – 570-2406;

Email: Hannah.recht@northwestern.edu

ORCID ID: 0000-0003-2697-3831

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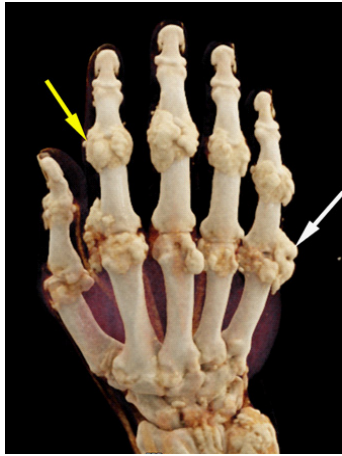
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### Description

A 77 year-old-man with a complex medical history, notable for multiple myeloma in remission and gout, presented for non-contrast Computed Tomography (CT) of the right upper extremity using dual energy technique, from which cinematic rendered images were created (Figure 1). The cinematic rendered images provide a unique, photorealistic, three-dimensional representation of the extensive tophi and their relationship to the adjacent structures within the hand.

Gout is a common inflammatory arthropathy caused by the deposition of monosodium urate crystals. Multiple advanced

imaging techniques have been utilized in the evaluation of gout, including dual-energy CT [1,2]. However cinematic rendering, through its use of a complex global lighting model, has the unique ability to provide three-dimensional photorealistic images from volumetric CT datasets. Cinematic rendering can help improve visualization of complex anatomy and pathology, particularly for those without formal training. The photorealistic images created by this novel technique may help increase patient understanding and improve communication between patients and clinicians.



**Figure 1A:** Coronal cinematic rendered image provides improved global visualization of the extensive periarticular monosodium urate crystal deposition, with prominent involvement at the metacarpophalangeal joints (white arrow) and proximal interphalangeal joints (yellow arrow).



**Figure 1B:** Coronal cinematic rendered reconstruction utilizing different parameters demonstrates an excellent view of the relationship of the flexor tendons to the monosodium urate crystals, particularly at the level of the carpometacarpal and intercarpal joints (yellow arrows).

### Declarations

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### References

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