

Musculoskeletal Interventional Oncologic Interventions:

Year in Review

Steven Yevich, MD, MPH

Assistant Professor

Interventional Radiology

Univ. Texas MD Anderson Cancer Center

Disclosures

Speakers' Bureau:

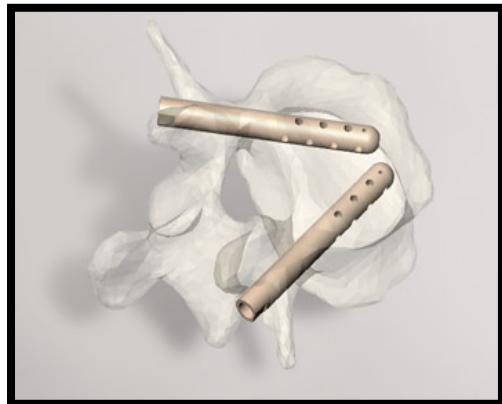
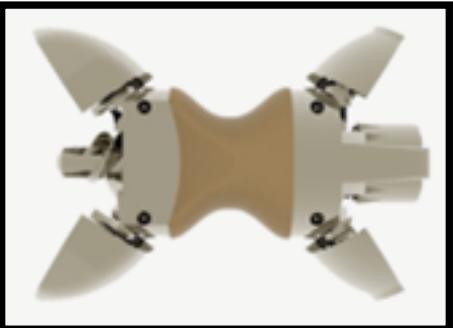
- Medtronic
- Endocare

*Brand names are included in this presentation for participant clarification purposes only.
No product promotion should be inferred.*



The 2020 Global Work Year in Review

MSK IO Year in Review

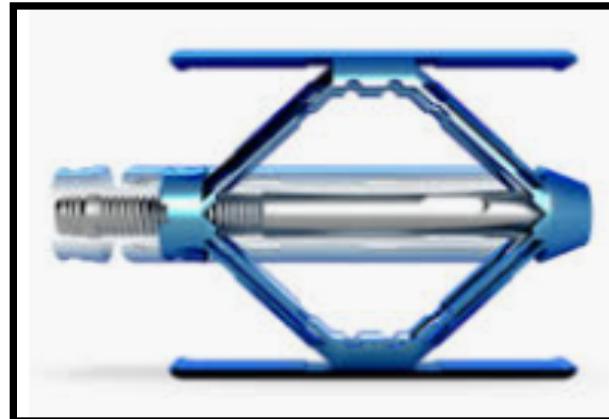


Review | Published: 15 August 2020

Vertebral augmentation with spinal implants: third-generation vertebroplasty

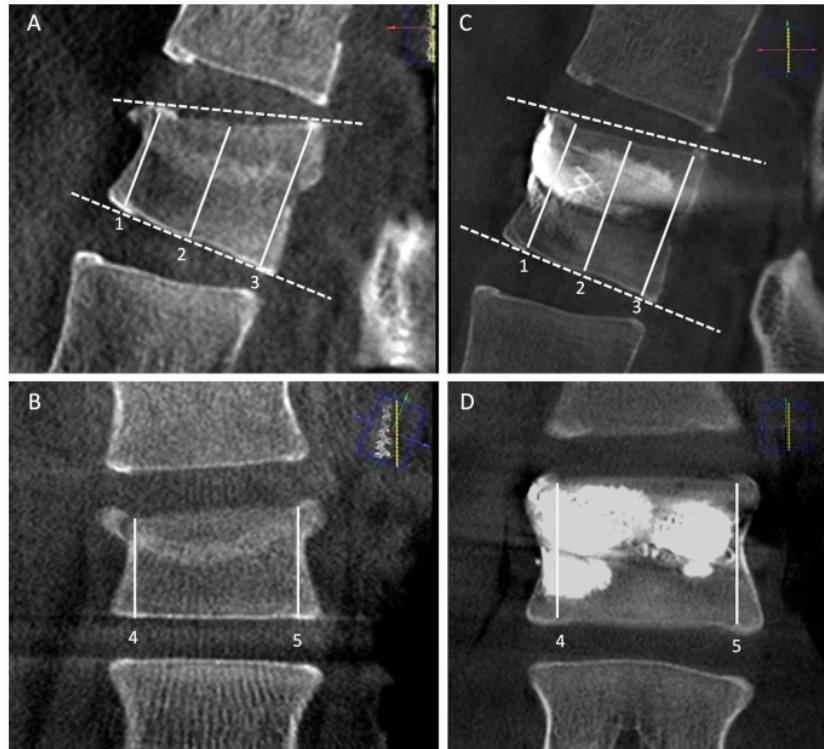
[Danielle Manz](#), [Mark Georgy](#), [Douglas P. Beall](#), [Gamal Baroud](#), [Bassem A. Georgy](#)✉ & [Mario Muto](#)

[Neuroradiology](#) (2020) | [Cite this article](#)



Renewed interest in vertebral implants

MSK IO Year in Review

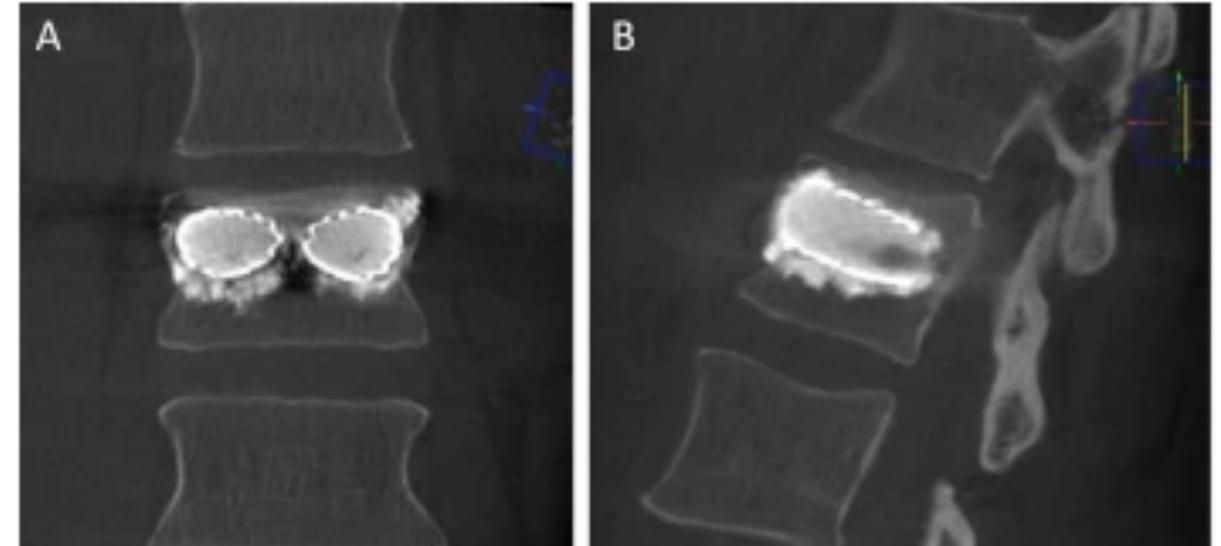


Clinical Investigation | Published: 14 June 2019

Efficacy of the Vertebral Body Stenting System for the Restoration of Vertebral Height in Acute Traumatic Compression Fractures in a Non-osteoporotic Population

Julien Garnon , Benjamin Doré, Pierre Auloge, Jean Caudrelier, Danoob Dalili, Nitin Ramamurthy, Guillaume Koch, Roberto Luigi Cazzato & Afshin Gangi

CardioVascular and Interventional Radiology 42, 1579–1587(2019) | [Cite this article](#)



The re-examination of vertebral stenting for traumatic non-osteoporotic fractures

MSK IO Year in Review



Observational Study

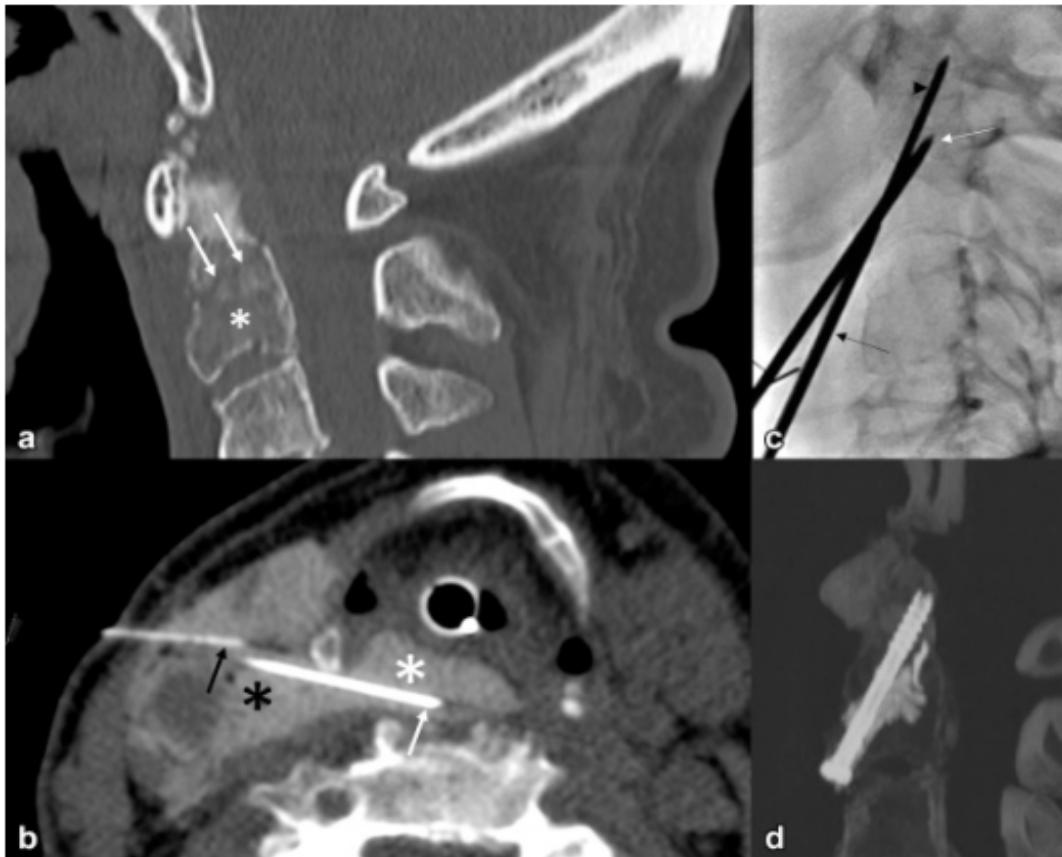
› Eur Radiol. 2020 Mar;30(3):1571-1583. doi: 10.1007/s00330-019-06525-w.
Epub 2019 Nov 20.

Safety and effectiveness of cervical vertebroplasty: report of a large cohort and systematic review

Frédéric Clarençon ^{1 2}, Robert Fahed ³, Evelyne Cormier ⁴, Idriss Haffaf ⁴, Jean-Philippe Spano ^{5 6}, Eimad Shotar ^{4 5}, Kévin Premat ^{4 5}, Raphael Bonaccorsi ⁷, Vincent Degos ^{5 8}, Jacques Chiras ^{4 5}

Safety of cervical vertebroplasty: 140 patients

MSK IO Year in Review



Case Reports > J Vasc Interv Radiol. 2019 Oct;30(10):1667-1669.

doi: 10.1016/j.jvir.2019.05.003. Epub 2019 Aug 22.

Combined Percutaneous Screw Fixation and Cementoplasty of the Odontoid Process

Julien Garnon ¹, Pierre Auloge ¹, Danoob Dalili ², Guillaume Koch ¹, Roberto Luigi Cazzato ¹, Afshin Gangi ¹

Adventures in odontoid fixation

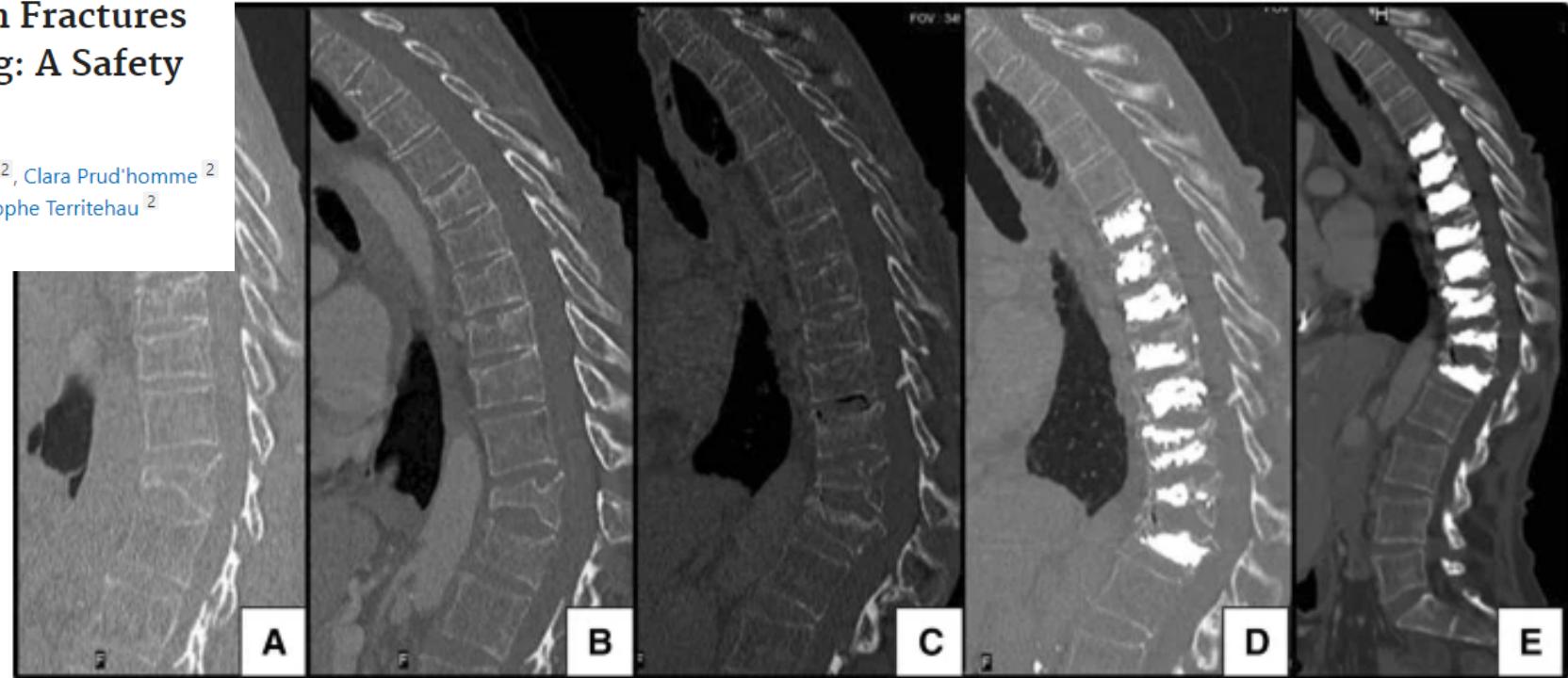
MSK IO Year in Review

➤ *Cardiovasc Interv Radiol.* 2020 Jul;43(7):1041-1048. doi: 10.1007/s00270-020-02480-y.

Epub 2020 May 7.

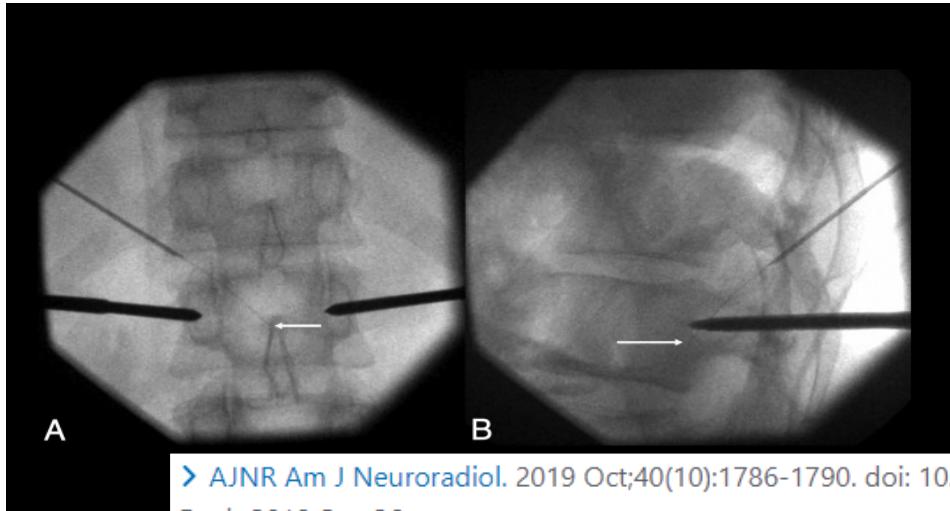
Multi-Level Vertebroplasty for 6 or More Painful Osteoporotic Vertebral Body Compression Fractures Performed in the Same Procedural Setting: A Safety and Efficacy Report in Cancer Patients

Benjamin Moulin ¹, Alexandre Delpla ², Lambros Tselikas ^{2 3}, Marc Al Ahmar ², Clara Prud'homme ², Charles Roux ², Steven Yevich ², Sophie Laurent ⁴, Antoine Hakime ², Christophe Territehau ², Guillaume Gravel ², Thierry De Baere ^{2 3}, Frédéric Deschamps ^{2 3}



Multilevel vertebral augmentations with safety publication

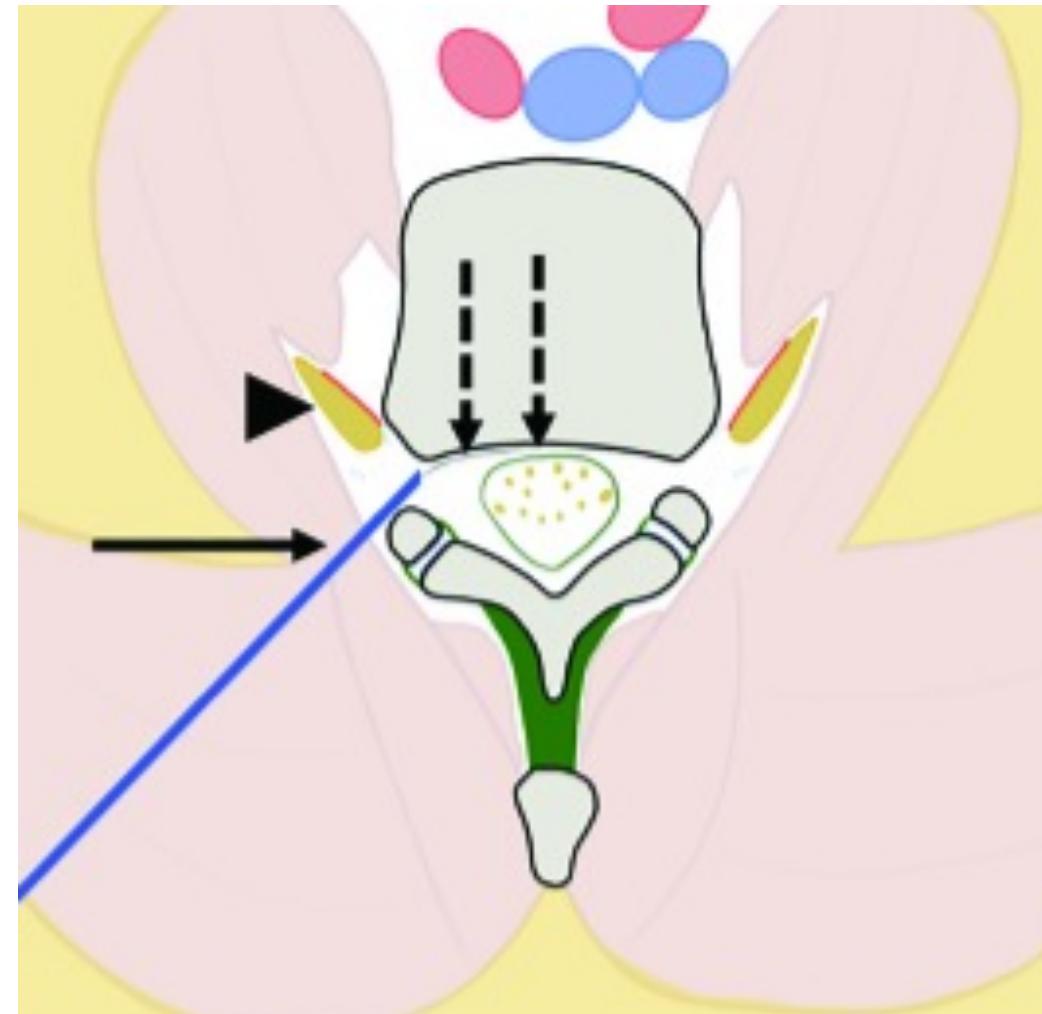
MSK IO Year in Review



➤ AJNR Am J Neuroradiol. 2019 Oct;40(10):1786-1790. doi: 10.3174/ajnr.A6233.
Epub 2019 Sep 26.

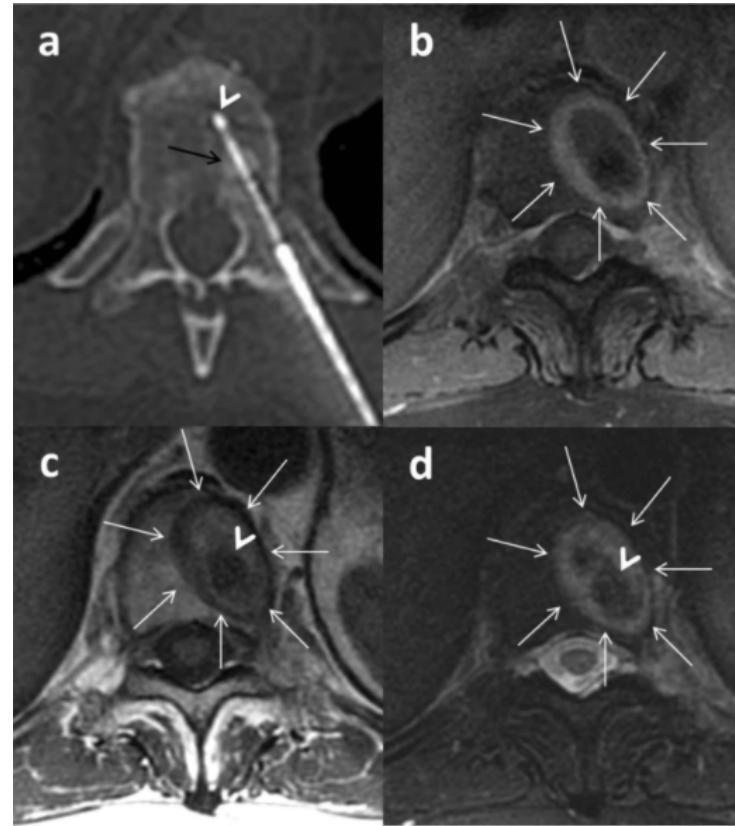
Transforaminal Insertion of a Thermocouple on the Posterior Vertebral Wall Combined with Hydrodissection during Lumbar Spinal Radiofrequency Ablation

R Lecigne ¹, J Garnon ², R L Cazzato ², P Auloge ², D Dalili ³, G Koch ², A Gangi ²



Description of thermocouple placement for accurate monitoring of posterior vertebral wall during RFA

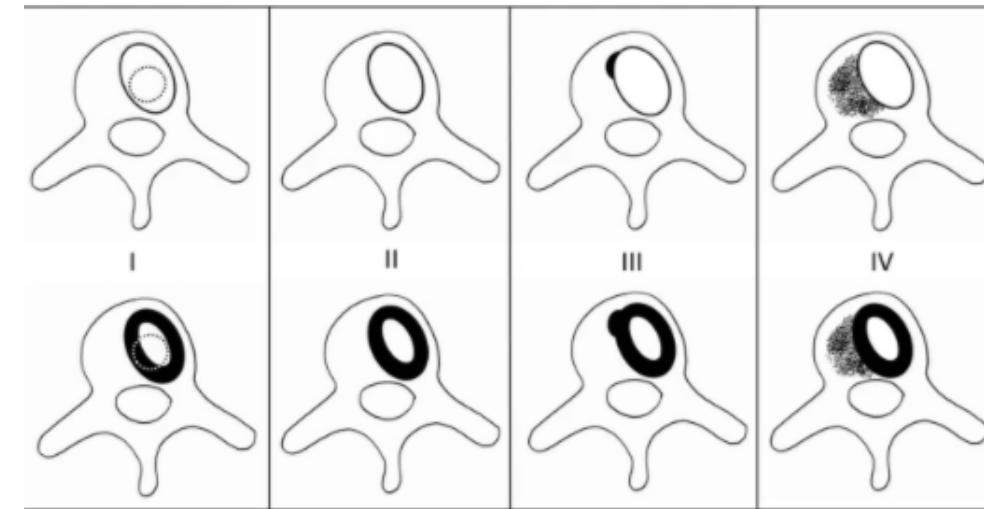
MSK IO Year in Review



> *Eur Radiol.* 2019 Oct;29(10):5655-5663. doi: 10.1007/s00330-019-06040-y.
Epub 2019 Mar 15.

Early detection with MRI of incomplete treatment of spine metastases after percutaneous cryoablation

Guillaume Gravel ¹, Lambros Tselikas ², Benjamin Moulin ², Steven Yevich ²,
Eric Baudin ³, Antoine Hakime ², Salma Moalla ^{2 4}, Fadila Mihoubi ⁴,
Corinne Balleymaier ⁴, Thierry de Baere ², Frederic Deschamps ²



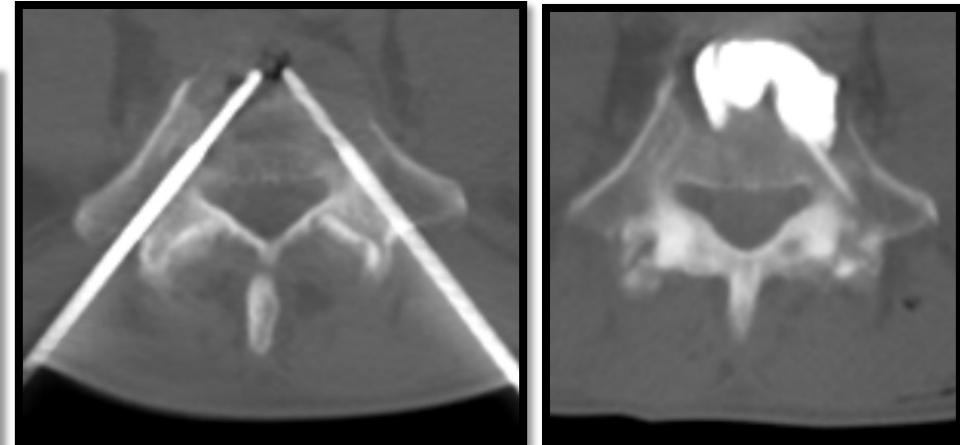
MRI obtained 1 month after cryoablation of spine lesions is useful to evaluate for local control efficacy

MSK IO Year in Review

➤ *Skeletal Radiol.* 2020 Jun 6. doi: 10.1007/s00256-020-03473-1. Online ahead of print.

Comparison of post-operative pain scores and opioid use between kyphoplasty and radiofrequency ablation (RFA) systems combined with cement augmentation

Sumit Jain ¹, Logan Kinch ^{2 3}, Maunak Rana ², Magdalena Anitescu ²



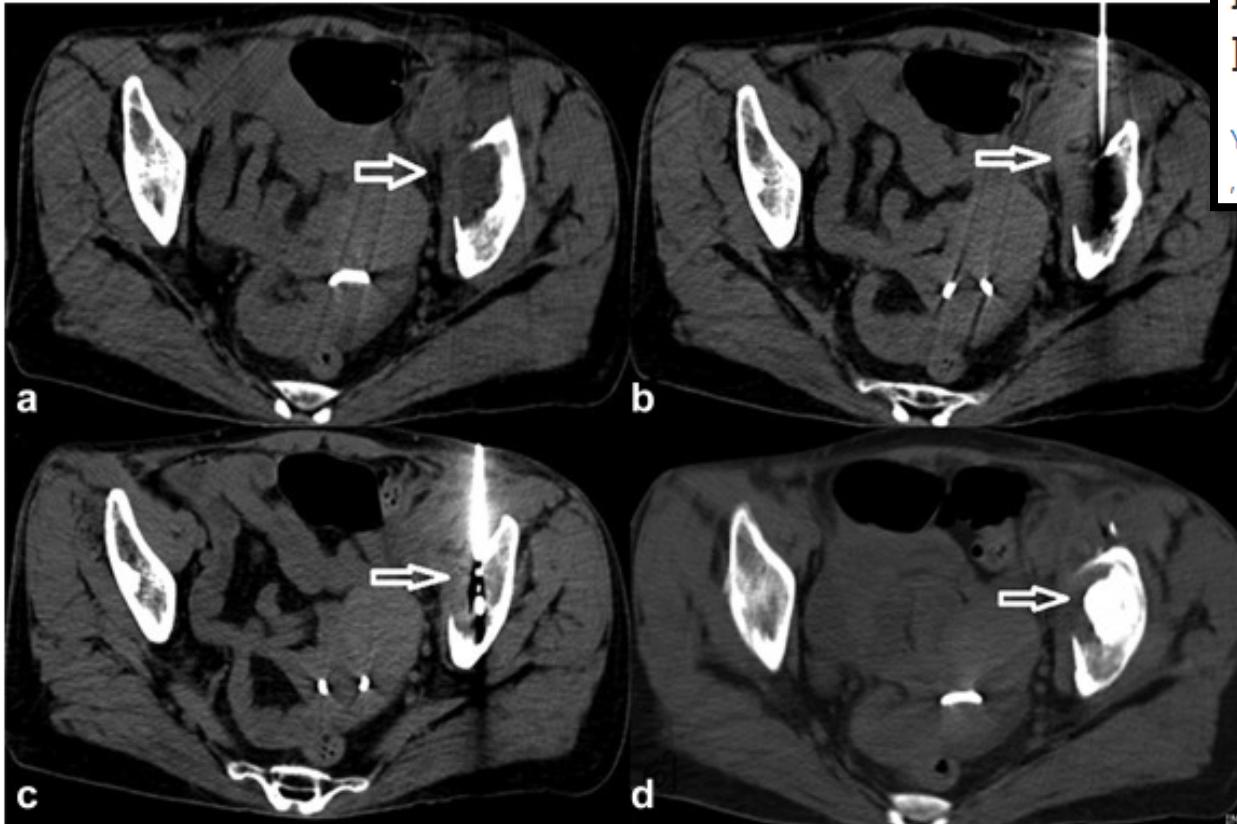
➤ *Pain Physician.* 2019 Sep;22(5):E441-E449.

Spinal Radiofrequency Ablation Combined with Cement Augmentation for Painful Spinal Vertebral Metastasis: A Single-Center Prospective Study

Dawood Sayed ¹, Daniel Jacobs ², Timothy Sowder ², Daniel Haines ², Walter Orr ¹

Acceptance of the application for ablation + vertebral augmentation for pathologic vertebral compression fractures and initial comparisons to augmentation alone (TBD).

MSK IO Year in Review



➤ *J Vasc Interv Radiol.* 2019 Dec;30(12):1934-1940. doi: 10.1016/j.jvir.2019.08.008. Epub 2019 Oct 24.

Combination of Microwave Ablation and Percutaneous Osteoplasty for Treatment of Painful Extraspinal Bone Metastasis

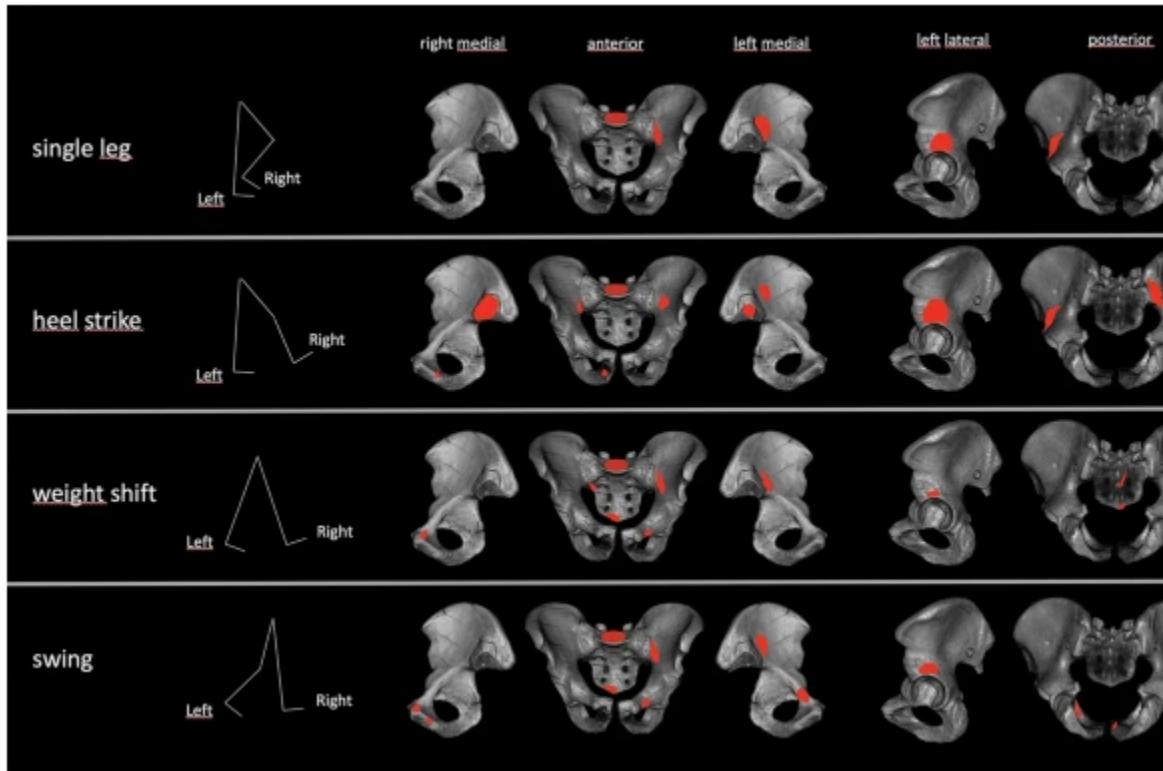
Yuan-Yuan Qiu ¹, Kai-Xian Zhang ², Xin Ye ³, Xu-Sheng Zhang ¹, Chao Xing ¹, Qing-Song Wu ⁴, Miao-Miao Hu ¹, Peng-Xin Li ⁵, Jun-Jie Wang ⁶

Continued publications supporting combination ablation + cementoplasty outside of the spine

MSK IO Year in Review

Review | Published: 26 August 2020

Biomechanics of the Osseous Pelvis and Its Implication for Consolidative Treatments in Interventional Oncology



[Julien Garnon](#)  [Jack W. Jennings](#), [Laurence Meylheuc](#), [Pierre Auloge](#), [Julia Weiss](#), [Guillaume Koch](#), [Jean Caudrelier](#), [Roberto Luigi Cazzato](#), [Bernard Bayle](#) & [Afshin Gangi](#)

[CardioVascular and Interventional Radiology](#) (2020) | [Cite this article](#)



Biomechanics of pelvis explained for approach to consolidative treatments

MSK IO Year in Review



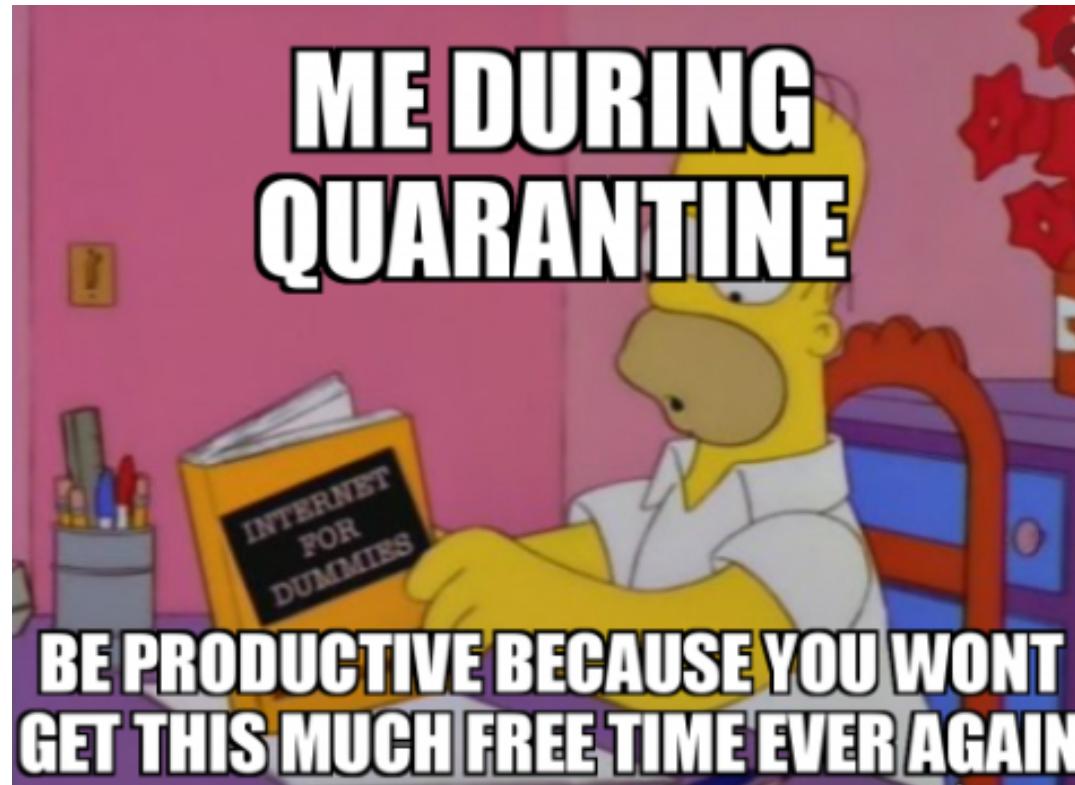
➤ Am J Hosp Palliat Care. 2020 Aug;37(8):619-623. doi: 10.1177/1049909119892003.

Percutaneous CT-Guided Cryoablation of the Bilateral Pudendal Nerves for Palliation of Intractable Pain Related to Pelvic Neoplasms

John David Prologo ¹, Sivasai Manyapu ², Zachary L Bercu ¹, Ashmit Mittal ³, Jason W Mitchell ¹

Cryoneurolysis as a long-lasting treatment for nerve pain

Musculoskeletal Interventional Oncologic Interventions: Year in Review



Stay tuned, as many new technologies are advancing, existing technologies are improving, and validation studies are around the corner...