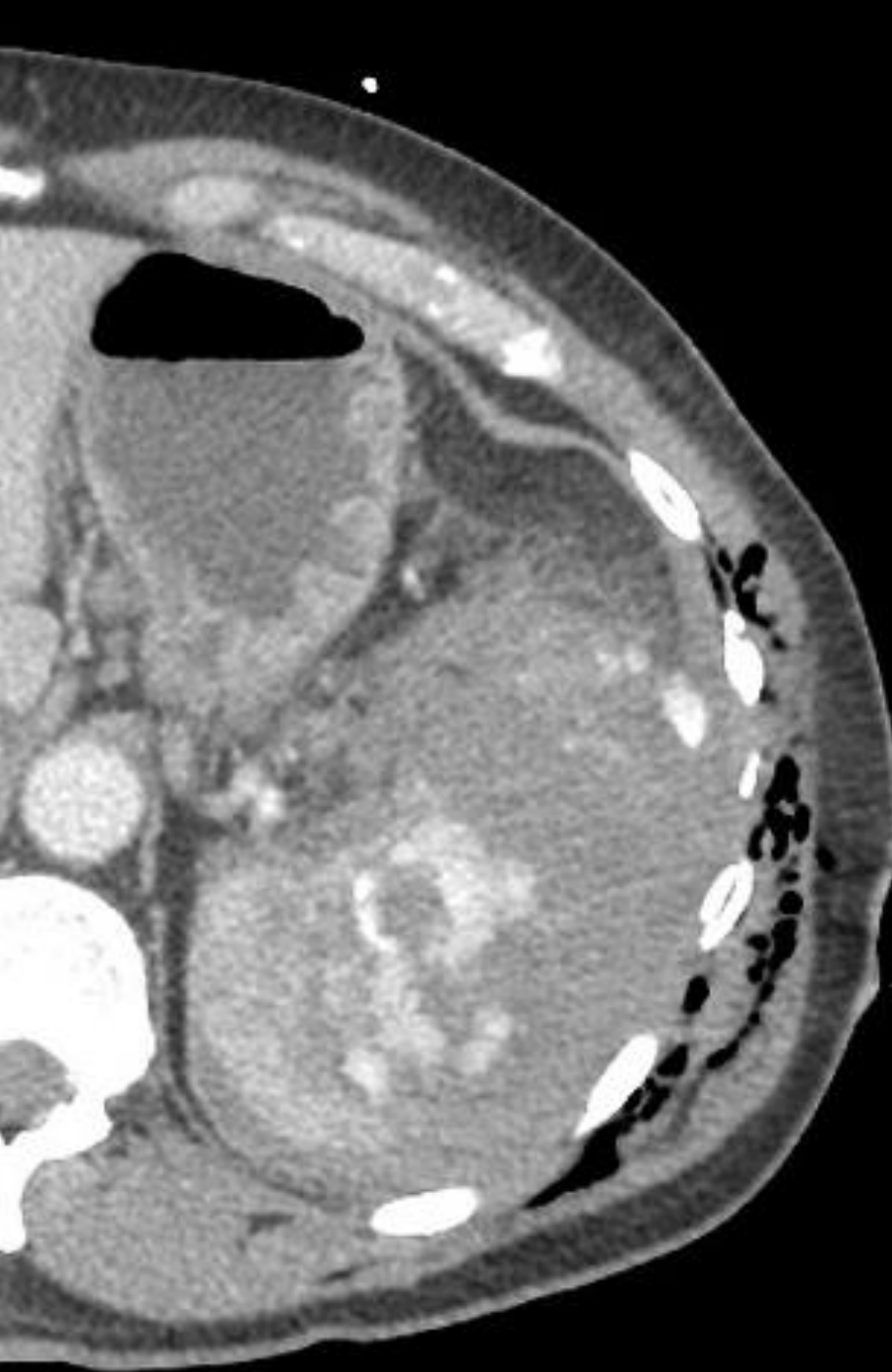


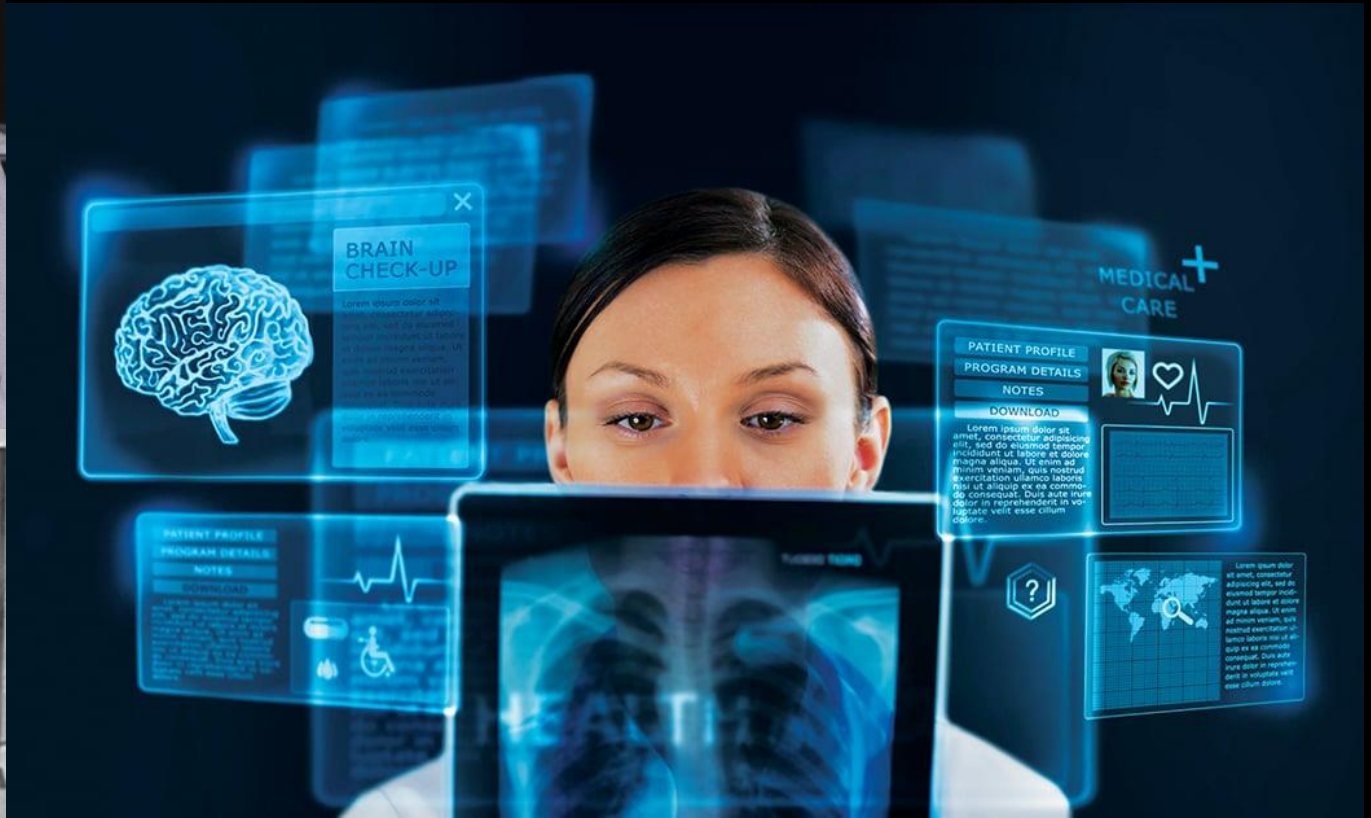


**TRAUMA RADIOLOGY 2024**

# Teleradiology in Multitrauma



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Associate Professor  
Director of Emergency Radiology



## [Teleradiography for diagnosis in emergency care. A clinical experience]

[Article in Italian]

M T Nani <sup>1</sup>, F Niccolai, L Vannucchi, P Pacini, G Piperno

Affiliations + expand

PMID: 1455030

### Abstract

This work was aimed at evaluating the role of teleradiology in a diagnostic emergency room. Over a 6-month period (September 1991-February 1992), 2,000 films made in the emergency room were transmitted to a resident radiologist 1 kilometer away: each examination included patient's data (sex, age, site of trauma, etc.) which were sent by the admitting physician. A teleradiology system (Lumiscan 100 AT&T and Philips) was used. Films were digitized on a 1024 x 1024 x 8-bit image matrix and then transmitted over a dedicated standard phone line to the Department of Radiology. The autograph report was sent by fax to the emergency room. Four radiologists, of varying experience, independently reviewed a sample of 179 digitized radiographs and, 30 days later, the original films on a conventional light-box. The results appear to be encouraging because no significant differences were observed in the performance of any of the radiologists. Good video/films agreement was obtained, together with high sensitivity and specificity. A good result was the relatively small number (0.4% of all examined cases) of false negatives diagnosed on faxed films relative to the actual clinical diagnosis.

When it's night in Europe...



...the sun shines in Australia

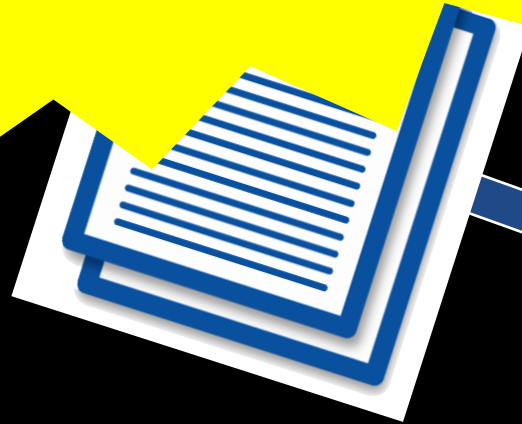




Yes We Can!



**SPOILER  
ALERT!**



**TMC**

## **KEY POINTS:**

- Skilled radiologists**
- Connectivity**
- Communication**



# KEY POINTS:

**-Skilled radiologists**

Full-time dedicated to emergency and trauma radiology

1000 emergency and trauma CT scans a day

Approx. 50 full body trauma scans a day

**-Connectivity**

**-Communication**

# KEY POINTS:

-Skilled radiologists

-Connectivity

-Communication

Dedicated data centers and data lines

6 reporting hubs

- Stockholm
- Copenhagen
- Barcelona
- Sydney
- Noosa
- Auckland



# KEY POINTS:

- **Skilled radiologists**

- **Connectivity**

- **Communication**

Dedicated Ops team (switchboard)

Special line for critical patients

## **KEY POINTS:**

- Skilled radiologists**
- Connectivity**
- Communication**



# KEY POINTS:

- **Dedicated workflows**

Prioritization to top of the list

5 minutes "ABC" report

- **Quality control**

- **Artificial Intelligence**

## KEY POINTS:

-Dedicated workflows

-Quality control

-Artificial Intelligence

Retrospective double reading

REALM

# KEY POINTS:

-Dedicated workflows

-Quality control

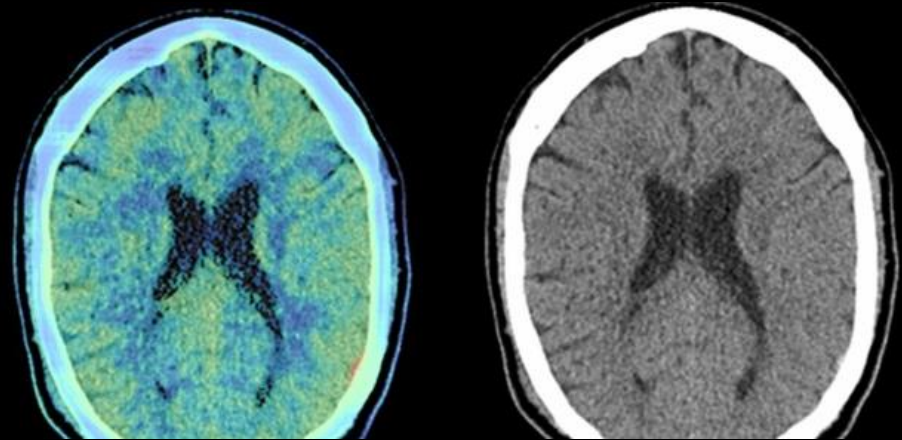
-Artificial Intelligence

Improving accuracy

- Intracranial bleedings
- Fractures
- Pneumothorax

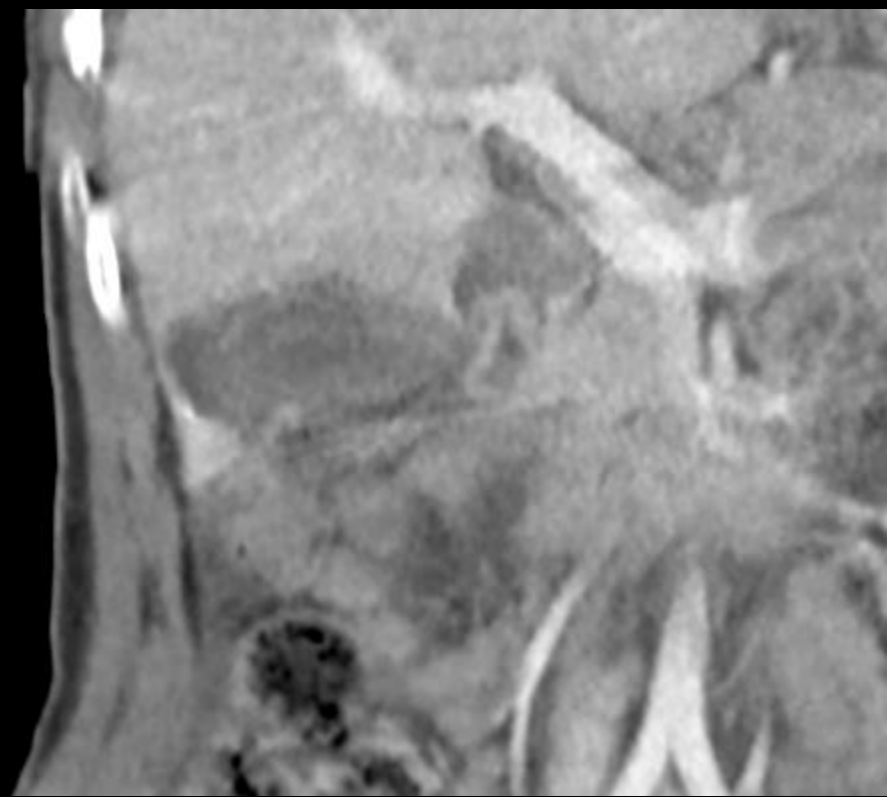
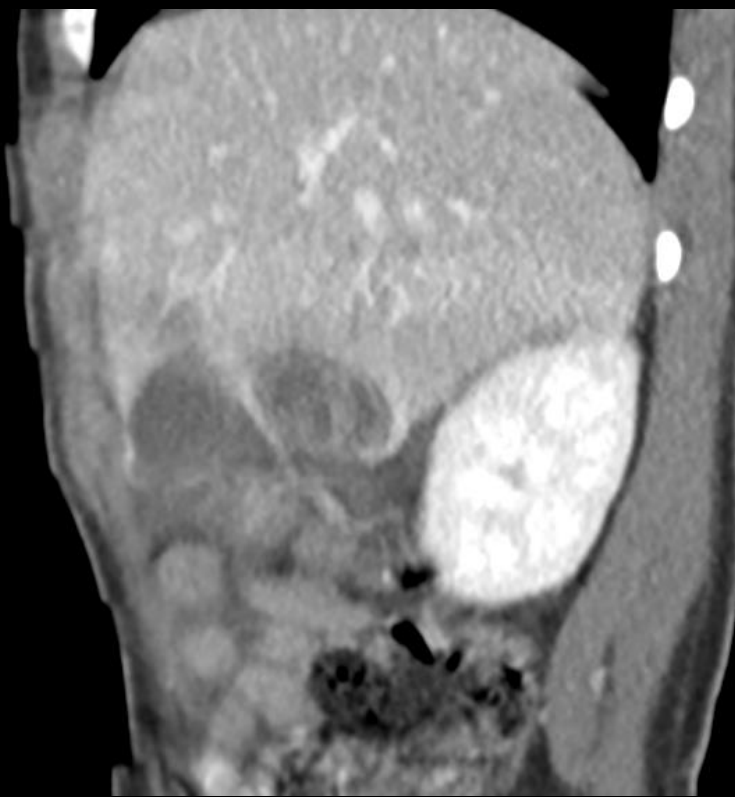
Prioritization

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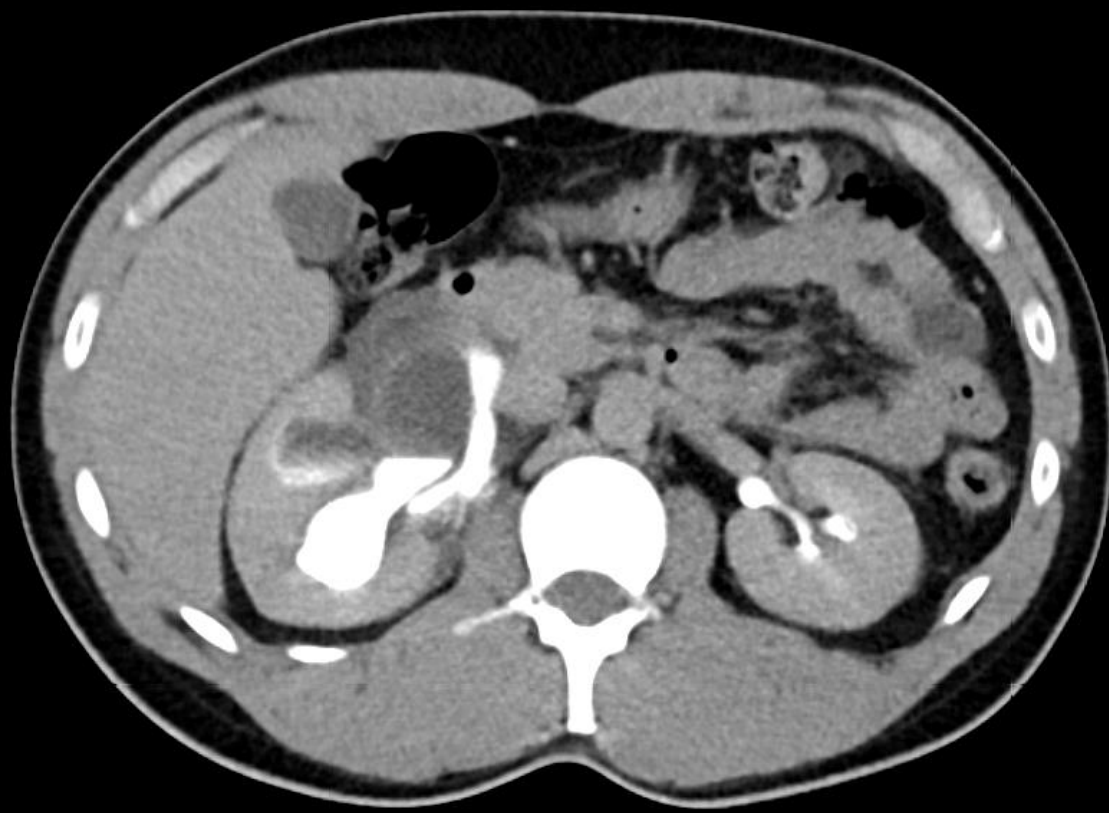


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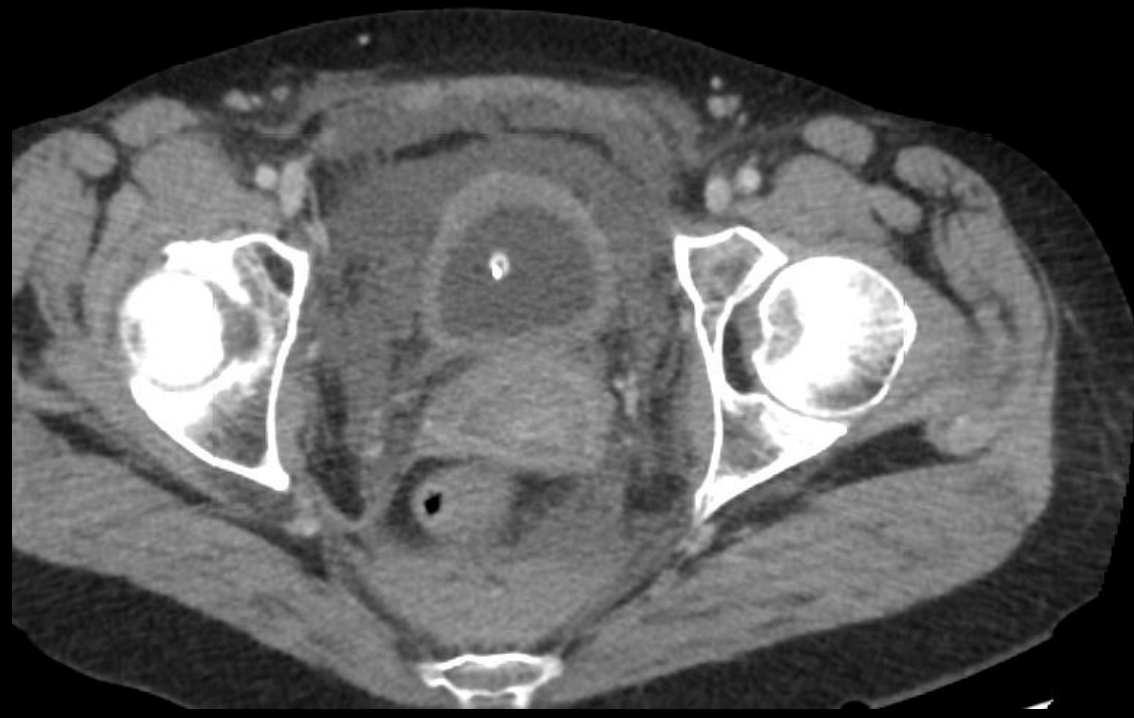
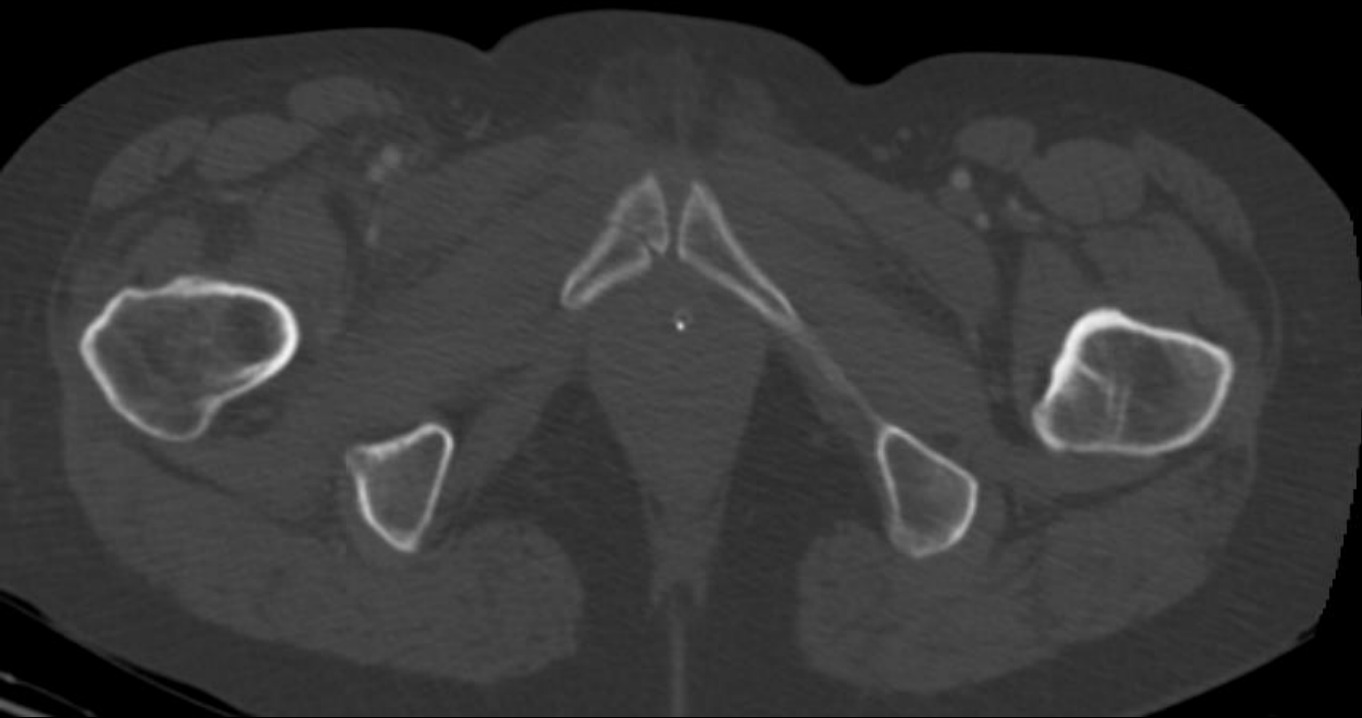








9 minutes later







# CONCLUSION

Can teleradiology safely substitute the in-house radiology in multitrauma?

The answer is **YES**

However :

Your teleradiology provider **must** be held accountable for delivering the highest standard of care and quality control and **must** be open to new solutions in an evolving discipline



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