

La Radiologia e la Revisione protesica: primo step di una strategia chirurgica

G. Grappiolo



OSPEDALE S. CORONA

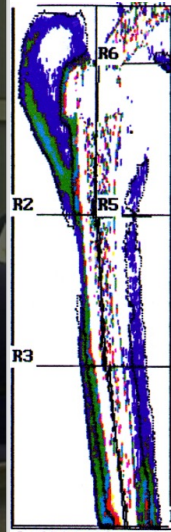
Pietra L. (SV)

DIPARTIMENTO DI ORTOPEDIA E TRAUMATOLOGIA

L. Spotorno - G. Grappiolo

Il rimodellamento osseo di adattamento

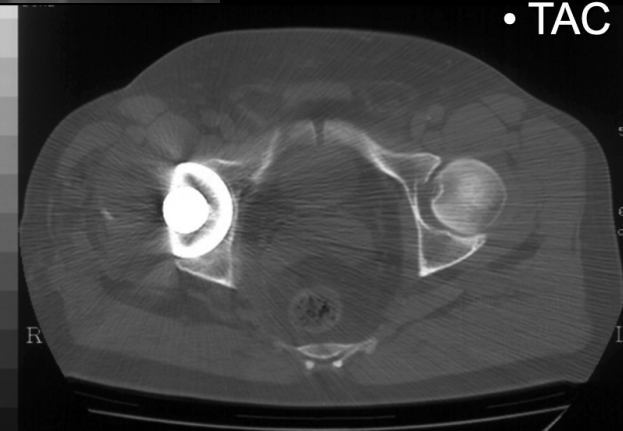
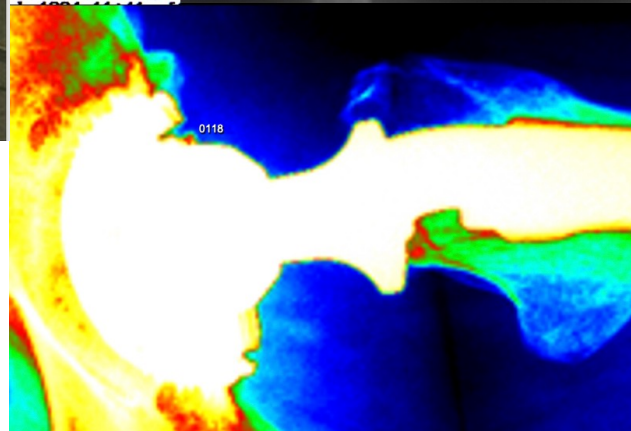
Fisiopatologia e metodiche di valutazione



Rimodellamento Osseo Periprotetico Metodiche di Valutazione

Indirette:

- Radiografia convenzionale
- Radiografia digitalizzata
- DEXA
- Scintigrafia
- TAC



Biomechanics

Ward 1838
Wyman 1857
Roux 1895
Meyer and
Culmann 1867
Wolf 1892

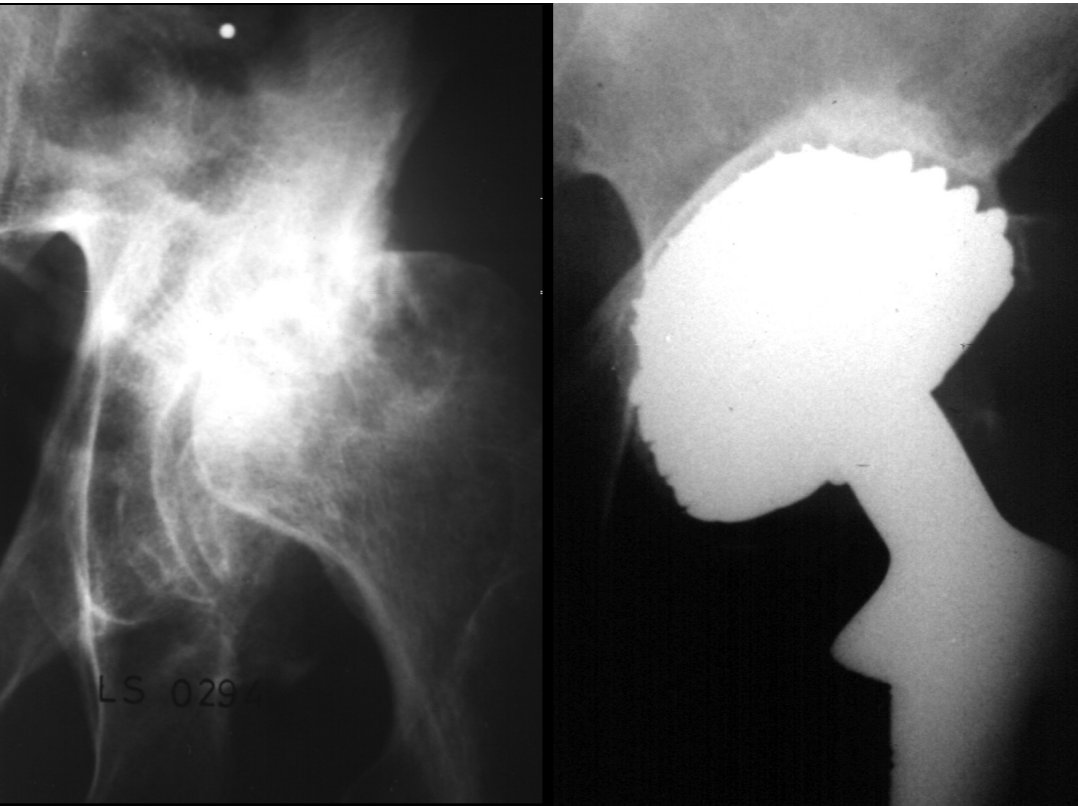
Pauwels 1940:

*Analysis of the Reciprocal
Effects between
Living Tissue and Stresses*

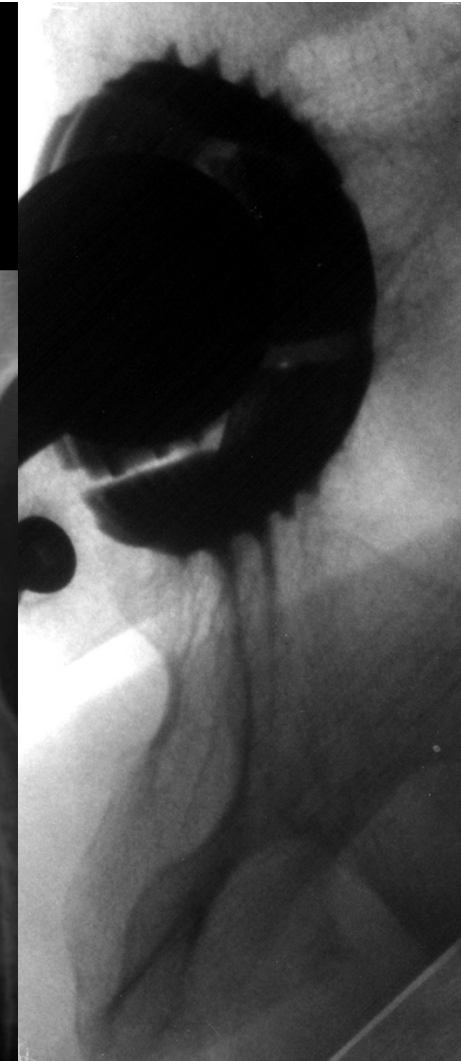
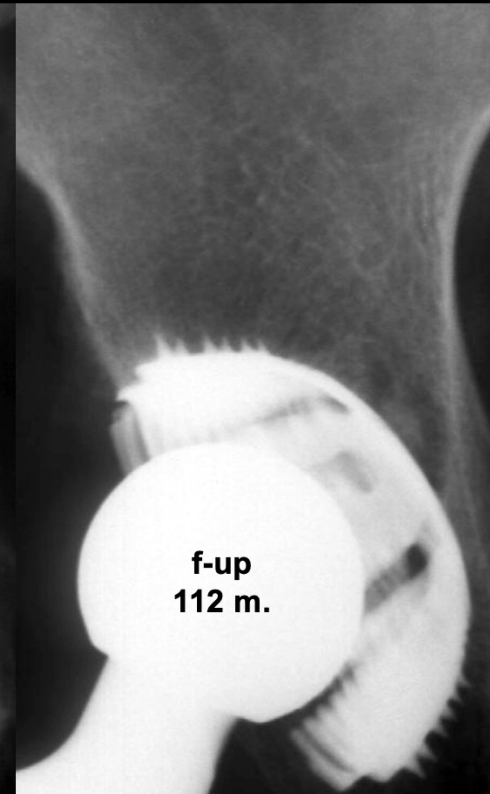
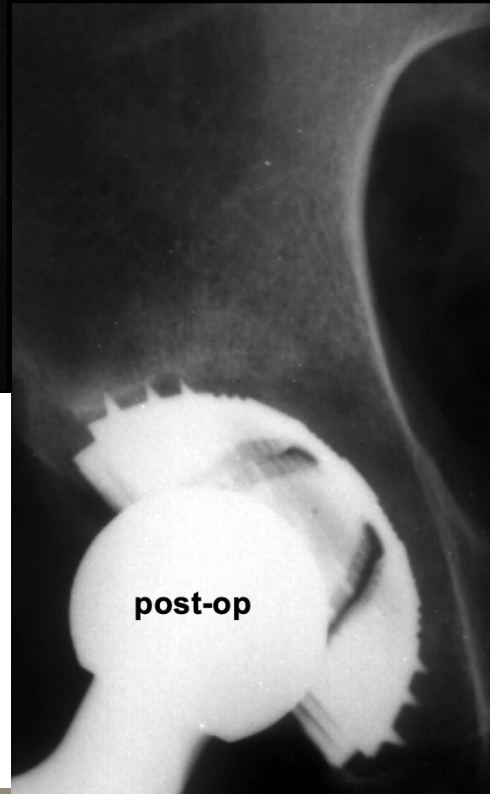
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Il Recupero delle geometrie articolari nelle revisioni protesiche

Verona 7-8 marzo 2024



La lettura della trama ossea, nei limiti della bidimensionalità, evidenzia il quadro dell'adattamento morfofunzionale in accordo con la legge di Wolff.



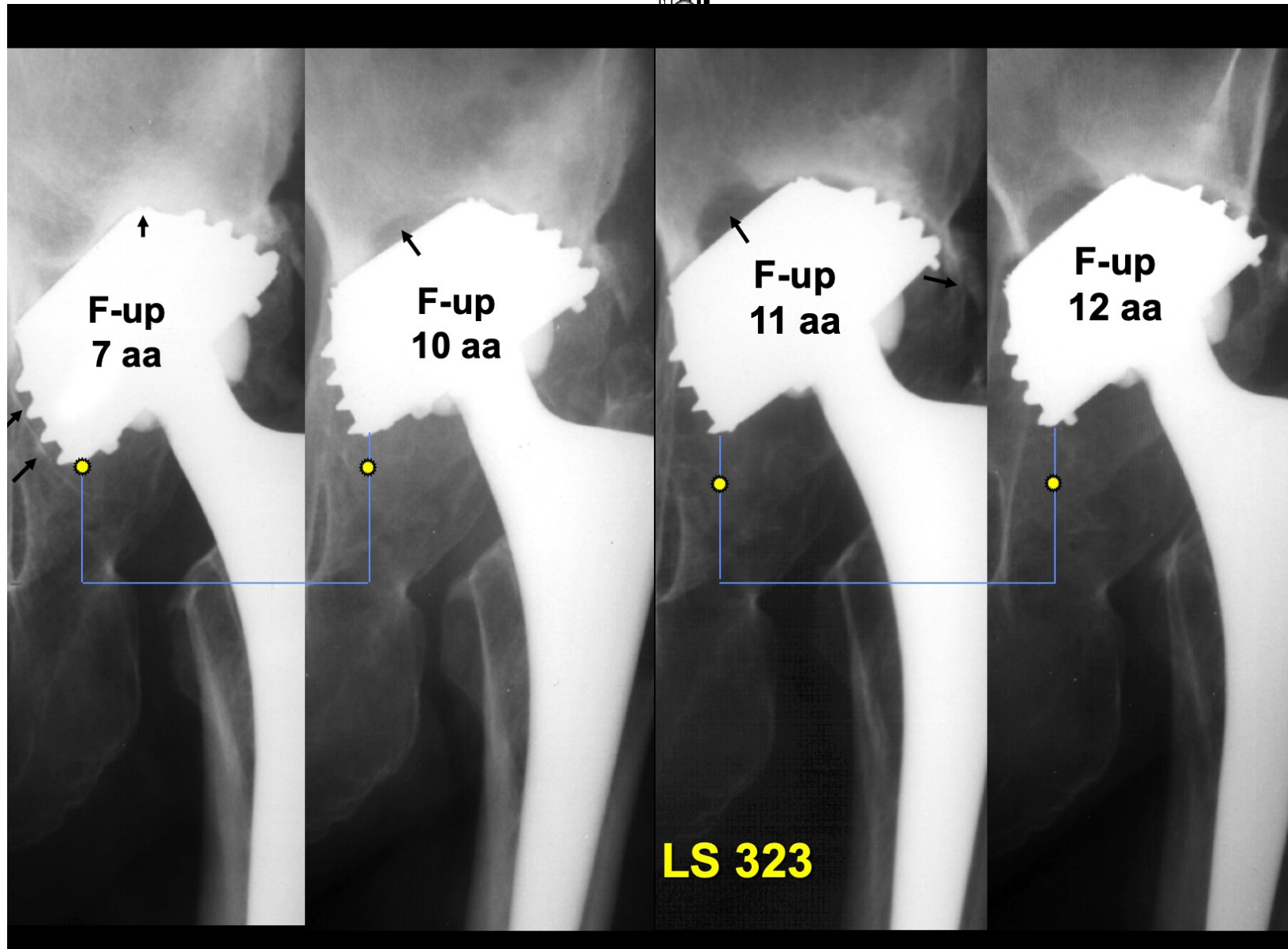
**Tra i metodi indiretti la semplice radiografia
rimane il principale mezzo di indagine nella valutazione routinaria.**

i.d.
N 1610



**Grazie alle esperienze acquisite,
l'esame seriato dei radiogrammi
consente considerazioni
prognostiche con un elevato
grado di sensibilità specificità
ed accuratezza**

(Cfr. Lieberman et al. 1993)





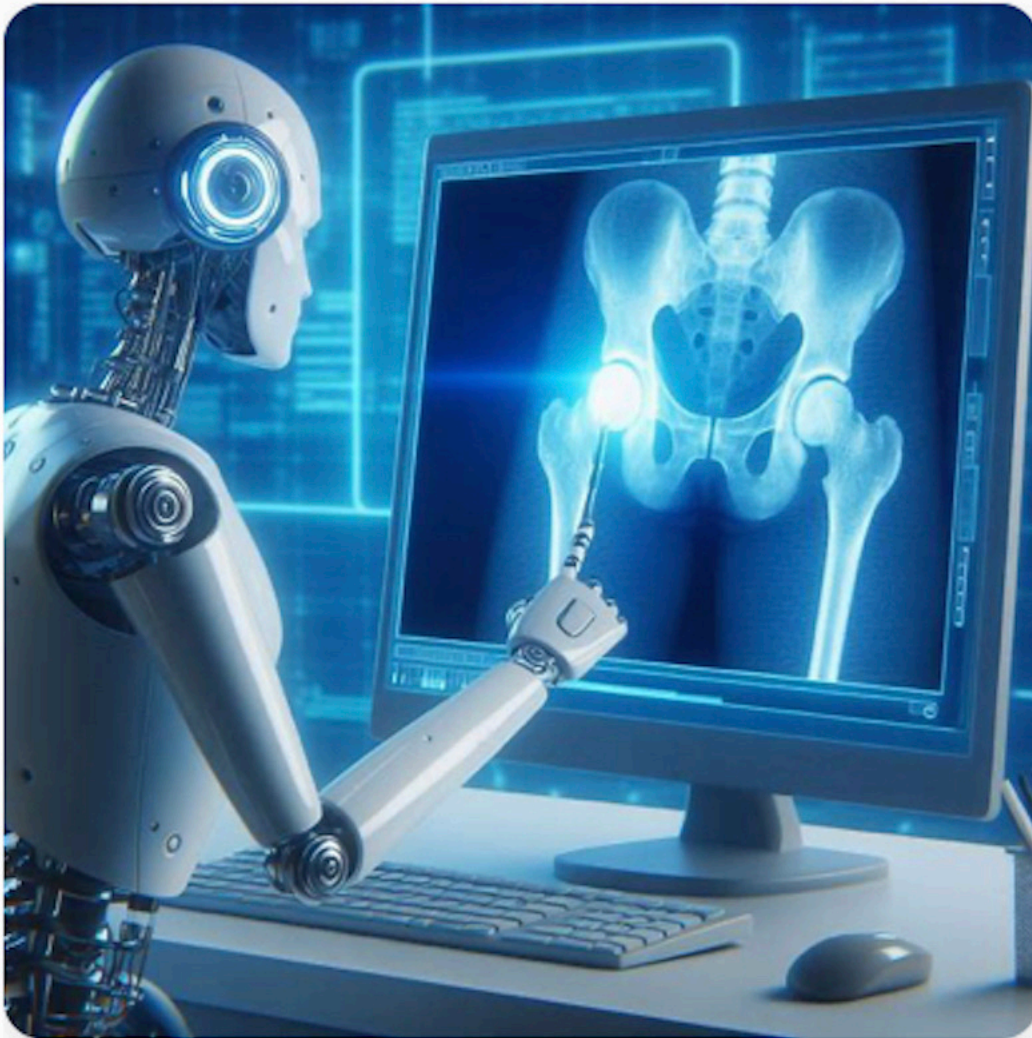
**Il paradosso di
Philippe Piriou**

**L'intelligenza potrebbe
essere definita
come la capacità di
risolvere problemi, di
adattarsi e di imparare
dall'esperienza**



**Large variation in timing of follow-up visits after hip
replacement: a review of the literature**

Mattia Loppini^{1,2,5}, Francesco Manlio Gambaro¹, Rob G H H Nelissen^{3,4} and Guido Grappiolo^{2,5}



Article

Automatic Identification of Failure in Hip Replacement: An Artificial Intelligence Approach

Mattia Loppini ^{1,2,3,*} , Francesco Manlio Gambaro ¹, Katia Chiappetta ², Guido Grappiolo ^{2,3}, Anna Maria Bianchi ⁴  and Valentina D. A. Corino ^{4,5} 

Combining deep learning and machine learning for the automatic identification of hip prosthesis failure: Development, validation and explainability analysis

Federico Muscato ^a, Anna Corti ^b, Francesco Manlio Gambaro ^c, Katia Chiappetta ^c, Mattia Loppini ^{c,d,e}, Valentina D.A. Corino ^{a,f,*}

2019-2023



Copilot

Blocco Appunti



Tu

lorenzo.cap...



Protetto

genera una foto rappresentante un robot che guarda lo schermo di un pc con una radiografia dell'anca



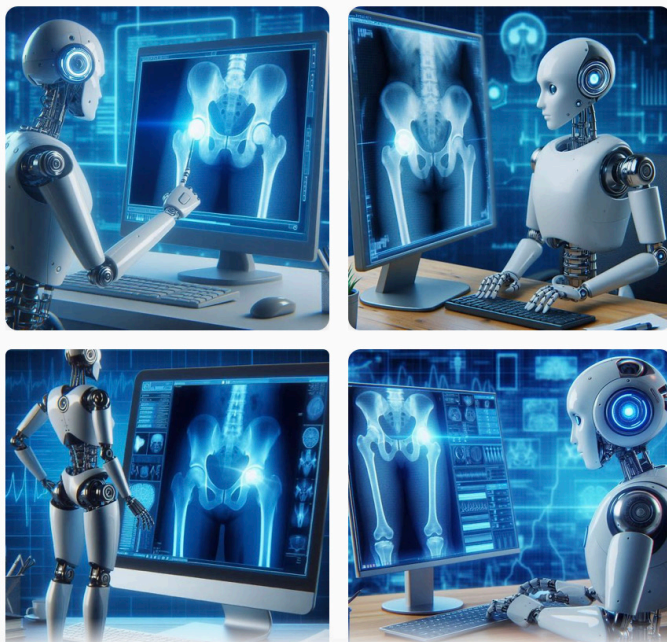
Copilot

I tuoi dati personali e aziendali sono protetti in questa chat

Proverò a creare quella immagine. 🤖🖥️🔧



1 di 30 risposte



I tuoi dati personali e aziendali sono protetti

Chiedimi qualsiasi cosa...



0/2000



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sulle geometrie articolari nelle revisioni protesiche
Verona 7-8 marzo 2024

Article

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2019-2023

**“BISOGNA AVERE IL CAOS DENTRO DI SE’ PER
PARTORIRE UNA STELLA DANZANTE”**

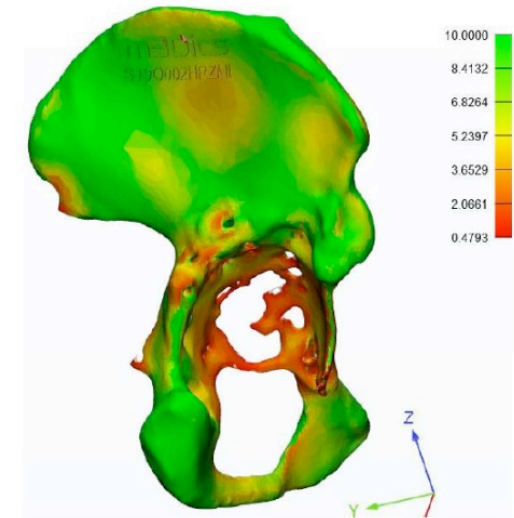
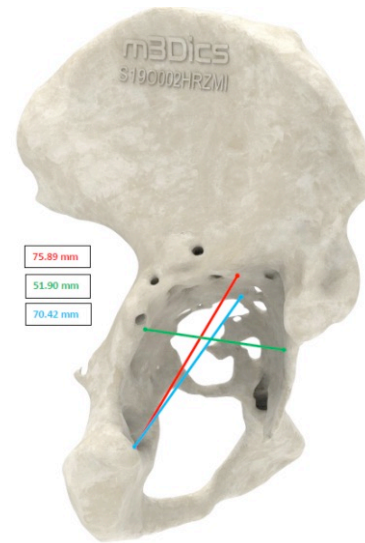
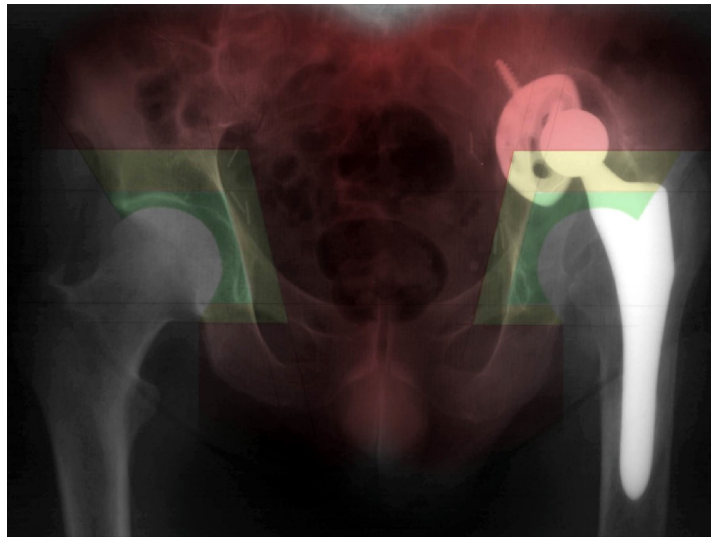


Under review

A new classification to characterize and predict treatment of acetabular bone defects

Mattia Loppini ^{1,2,3}, MD, PhD; Edoardo Guazzoni^{1,4}, MD; Francesco Manlio Gambaro^{1,2}, MD;
Francesco La Camera^{1,2}, MD; Emanuela Morengi¹, PhD; Guido Grappiolo^{2,3}, MD

We observed a higher inter-rater agreement of the newly proposed classification (k: 0.81) than the Paprosky (k: 0.45) and the AAOS classification (k: 0.51), the two most frequently employed classifications of acetabular bone defects .



Paprosky WG, J Arthroplasty 1994
D'Antonio J, Clin Orthop Relat Res 1993
Loppini M, AOTS 2024

| | X-ray | CT | 3D Model |
|---------------------------|---------------|---------------|---------------|
| Kohler's line | 3 (K:0.76) | 5 (K:0.61) | 3 (K:0.75) |
| Ischial lysis | 0 (K:1) | 4 (K:0.68) | 1 (K:0.91) |
| Vertical migration | 2 (K:0.83) | 4 (K:0.68) | 2 (K:0.83) |

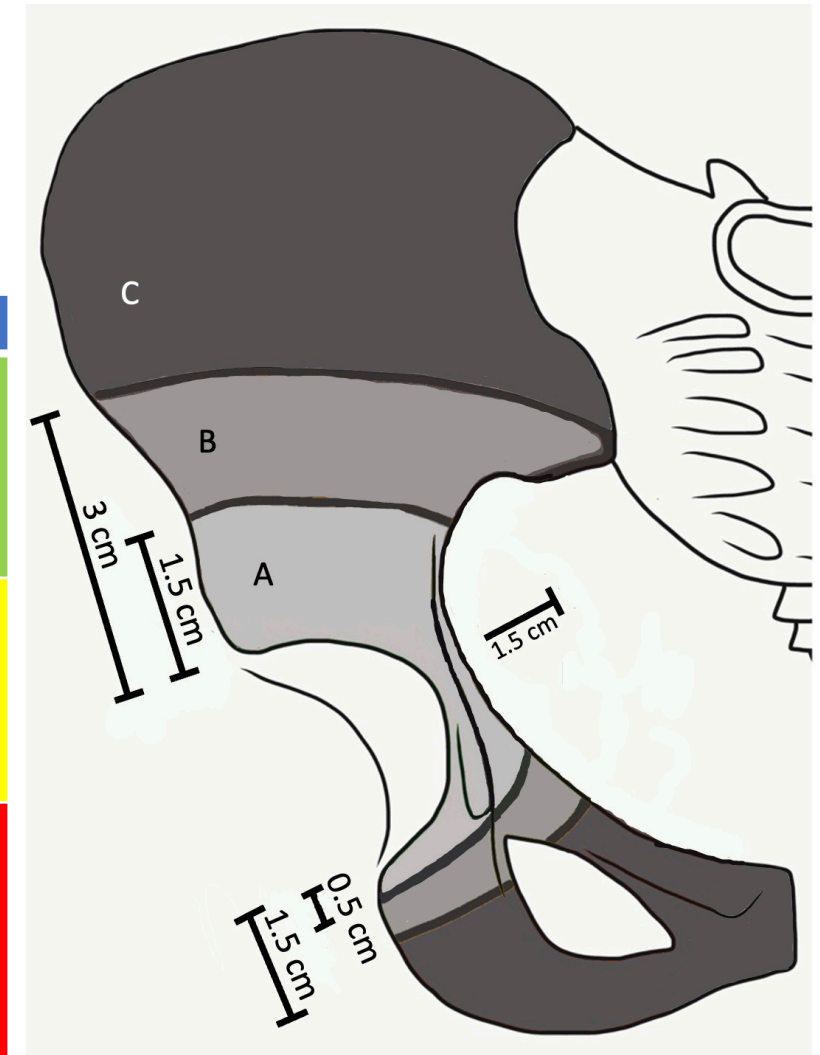


Preoperative Accuracy of Acetabular Bone Defect Assessment in Complex Hip Revision Arthroplasty Based on 3D Life-Sized Model: A Case Series

Francesco La Camera ^{1,2,*}, Alessandro Pisano ³, Carlo Maria Favazzi ^{1,2}, Edoardo Guazzoni ¹, Vincenzo Di Matteo ³, Emanuela Morengi ³, Guido Grappiolo ^{1,2} and Mattia Loppini ^{1,2,3}

CLASSIFICAZIONE DEI DIFETTI ACETABOLARI

| Zone | Definition | Treatment | Further Medical Examination |
|------|---|--|---|
| A | <p>Sup < 1.5 cm</p> <p>Med: no invasion of the Kohler line</p> <p>Inf < 0.5 cm</p> | Hemispherical cup with or without screws | none |
| B | <p>Sup 1.5-3 cm</p> <p>Med: 0-1.5 cm beyond the Kohler line</p> <p>Inf 0.5 – 1.5 cm</p> | Jumbo cup, hemispherical cup + single augment, BIG with a cemented or uncemented hemispherical cup | CT scan on a case by case approach |
| C | <p>Sup > 3 cm</p> <p>Med > 1.5 beyond the Kohler line</p> <p>Inf > 1.5 cm</p> | Custom implant, triflange cage, modular reconstructions (hemispherical cup + >2 augment, Cup and cage, Cup on cup)), BIG with the use of an antiprotrusio cage | CT scan possibly with a 3D printed reconstruction |

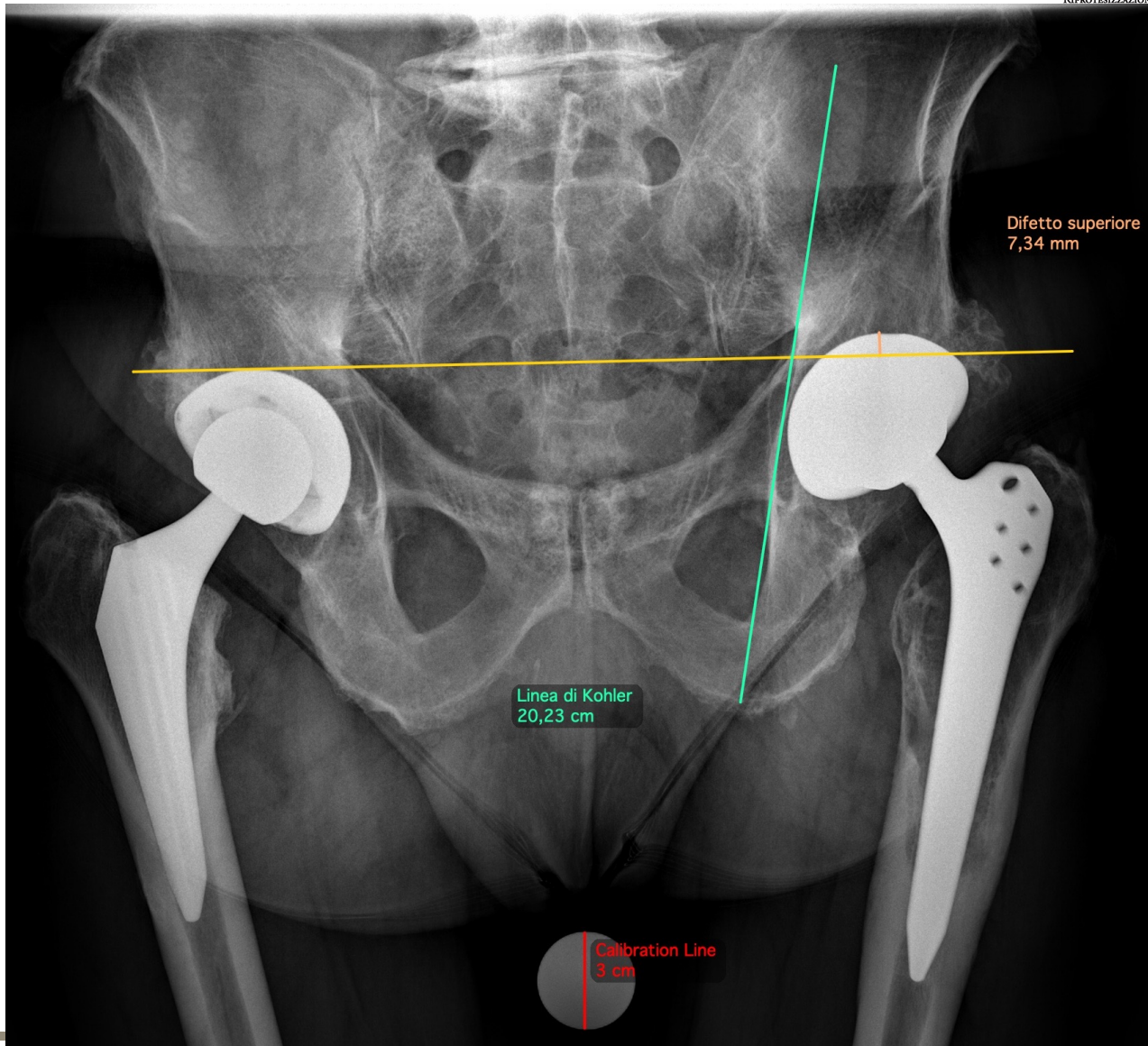


A new classification to characterize and predict treatment of acetabular bone defects

La classificazione

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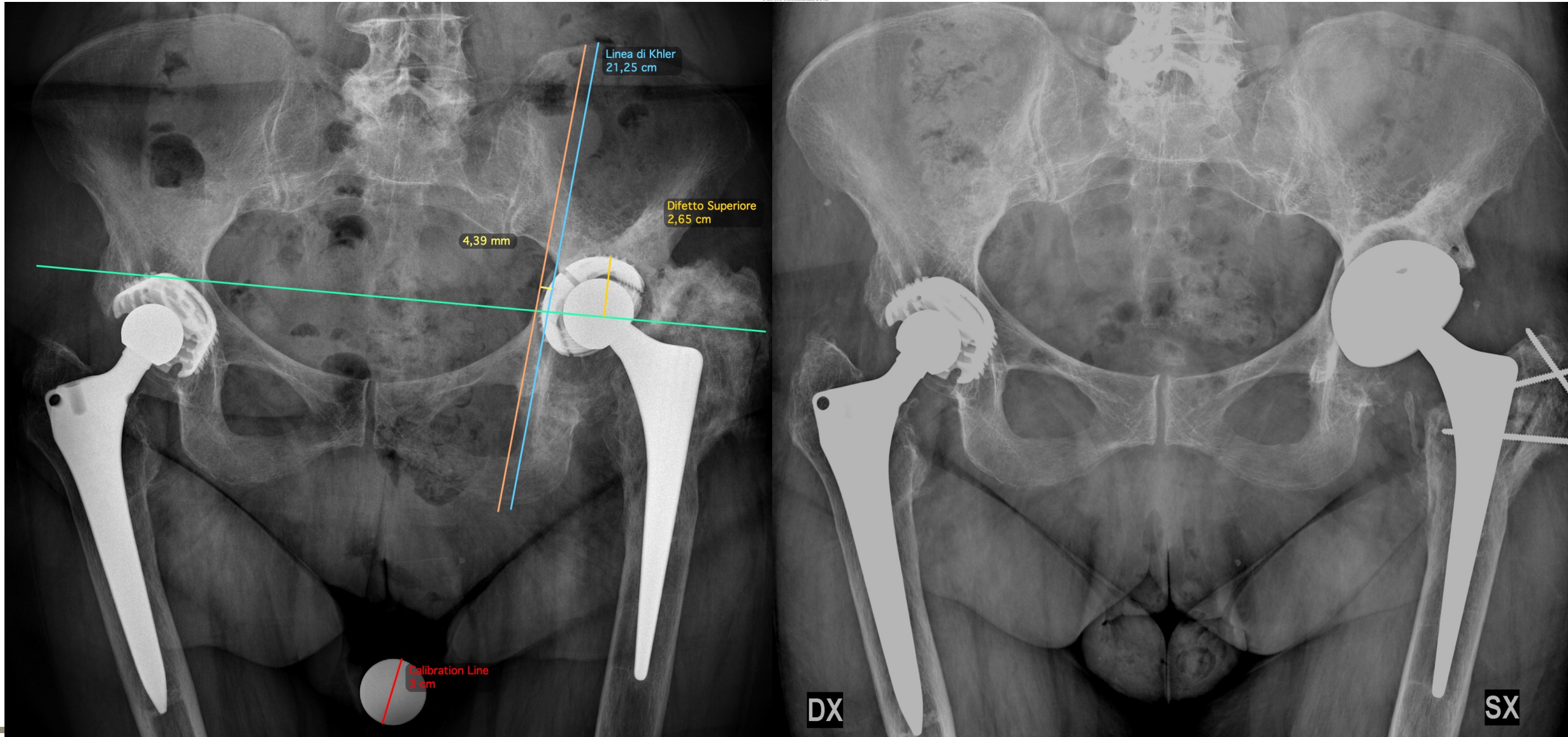




La classificazione

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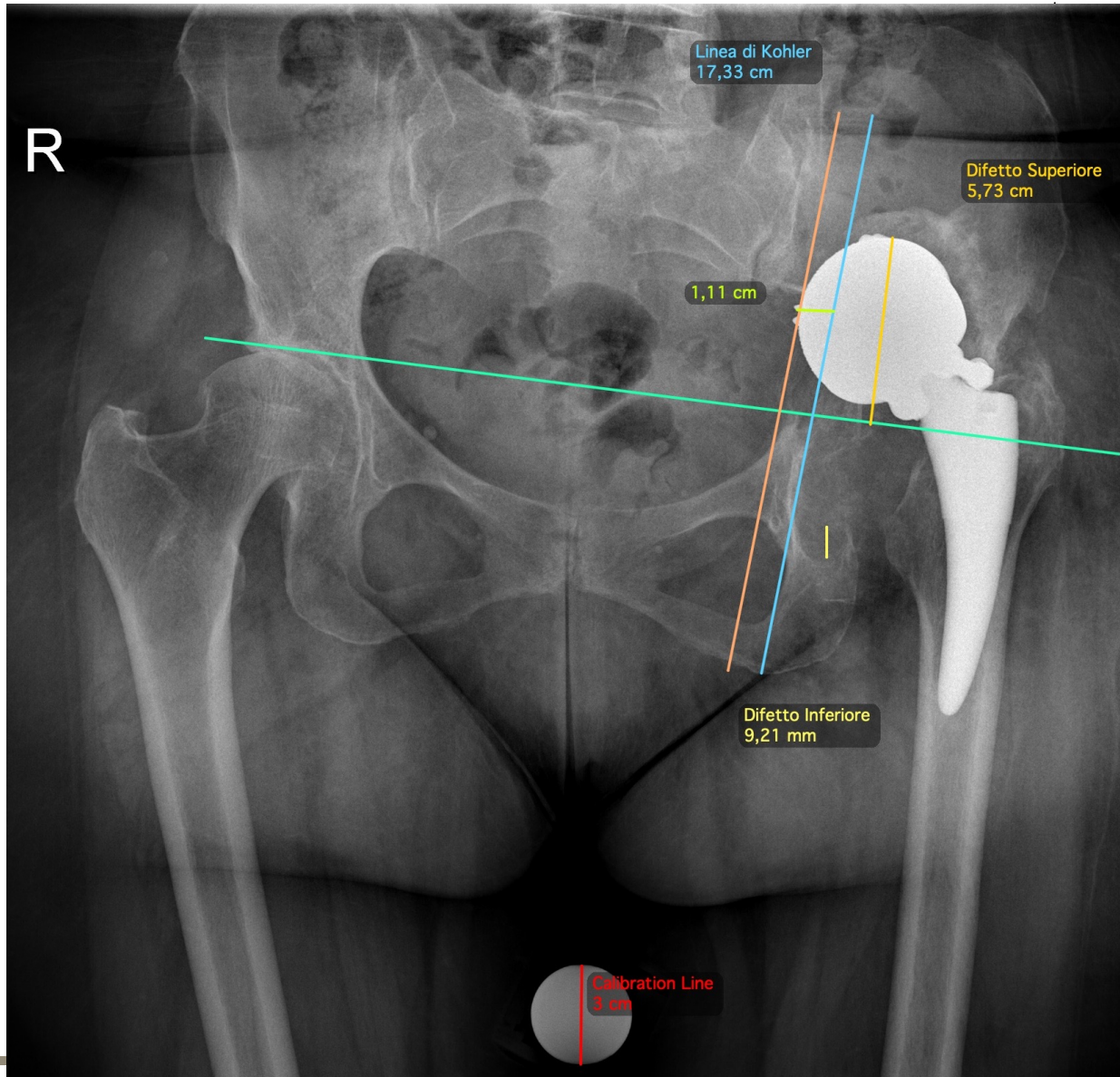




La classificazione

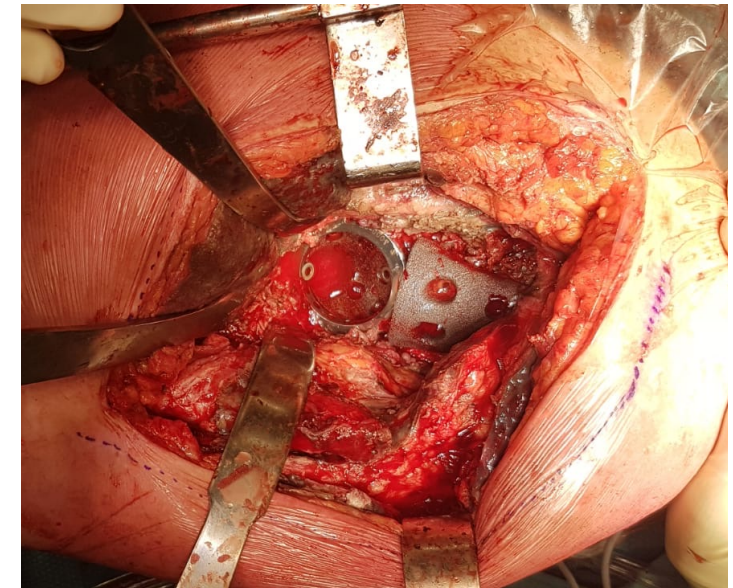
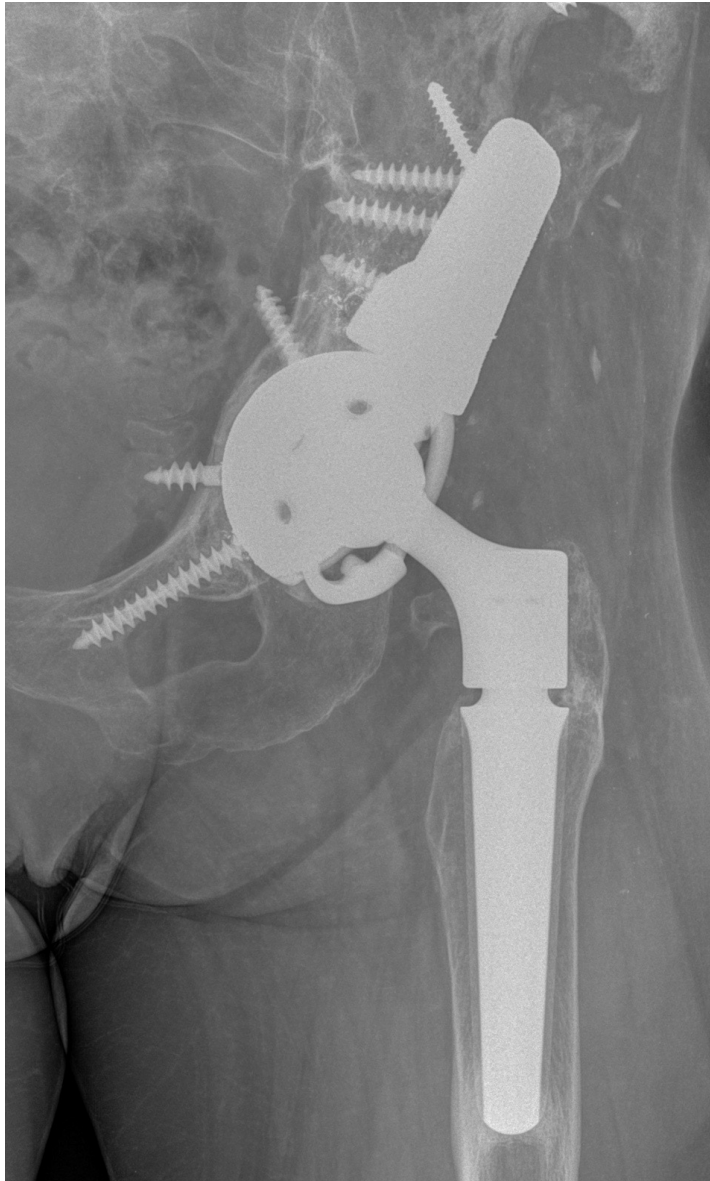
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COSA DICE LA LETTERATURA?

Impact of three-dimensional printed planning in Paprosky III acetabular defects: a case–control and cost-comparison analysis

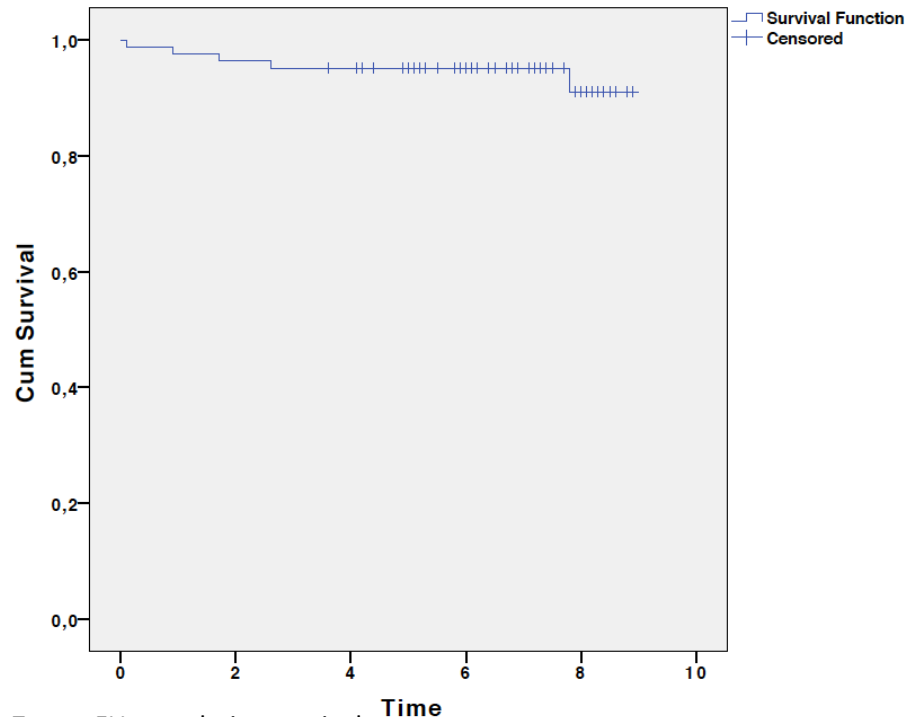
M. Giachino¹  · A. Aprato¹  · B. Limone¹  · G. Ciccone² · T. Rosso² · A. Massè¹ 

- Il costo della pianificazione con modelli 3D printed deve essere considerato (~ 1000€ per modello)
- I modelli 3D permettono una riduzione dei tempi intraoperatori, perdite ematiche e tempi di ospedalizzazione
- Permettono un migliore studio del caso e una più ottimale scelta dell'impianto per il ripristino della geometria
- Il resoconto finale è un risparmio del 20% sul singolo paziente (~ 4000€ nello studio sottoriportato)



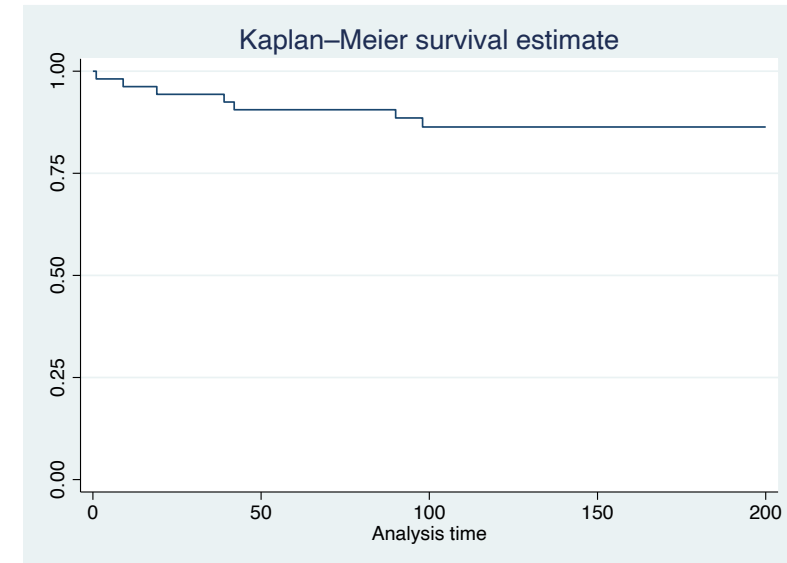
Trabecular metal augments for the management of Paprosky type III Defects. A minimum 7-year follow up retrospective study.

Loppini Mattia, Edoardo Guazzoni, Francesco Manlio Gambaro, Francesco La Camera, Riccardo Ruggeri, Guido Grappiolo



7-year FU cumulative survival:

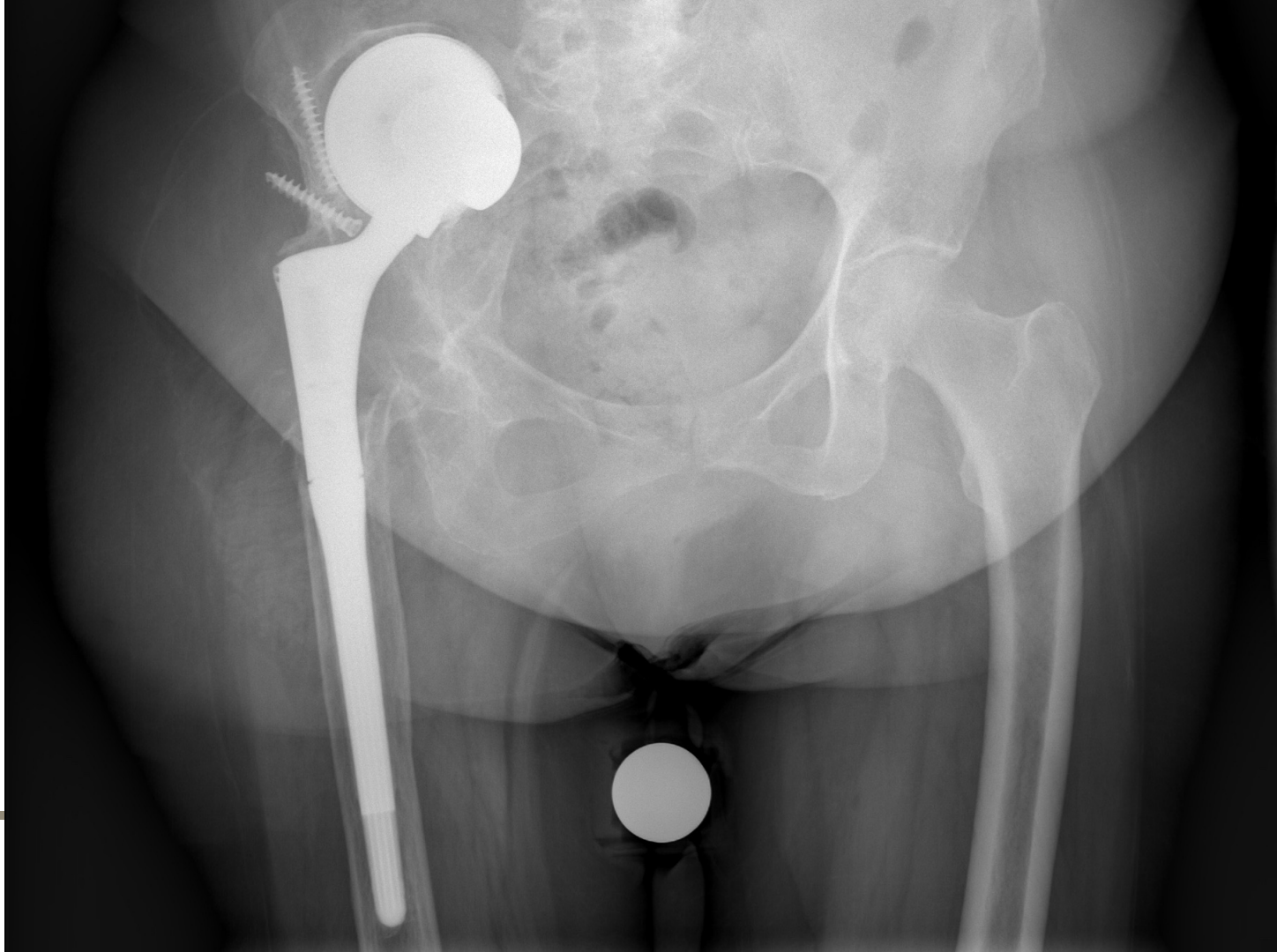
- **95.1% (95%CI, 90.3% - 99.9%)** with revision for any reason;
- **96.3% (95%CI, 92.1% - 100%)** with revision for aseptic loosening.



10-year FU cumulative survival:

- **86.3% (95%CI: 73.4% - 93.2%)** with revision for any reason

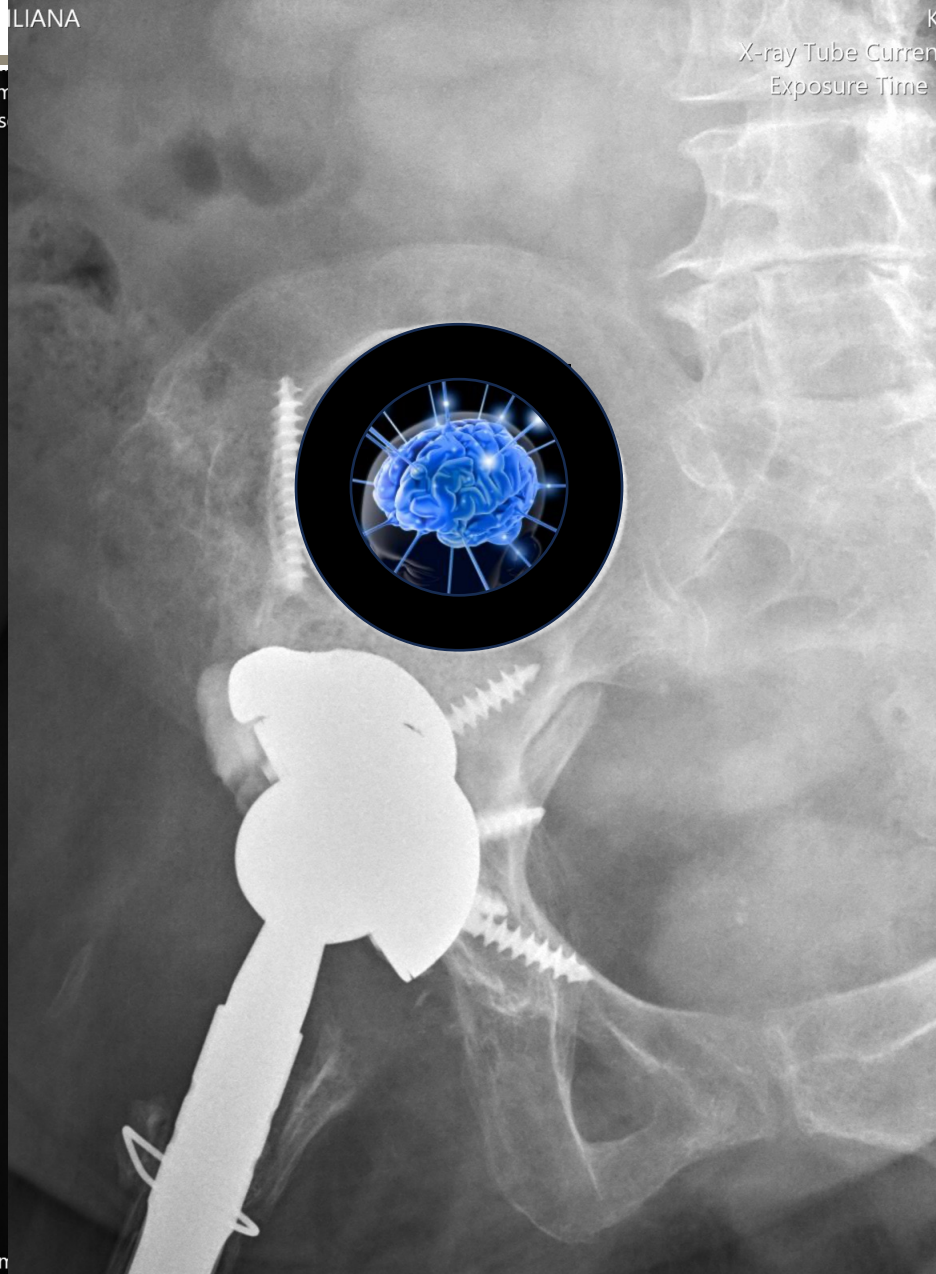
Intelligenza umana e artificiale:



Body Part : HIP

X-ray Tube Current : 400m
Exposure Time : 100ms

DX



Institution Name : CASA DI CURA MADONNA DELLA SALUTE

DAP(mGycm2) : 4065mGycm

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CASA DI CURA MADONNA DELLA SALUTE

DAP(mGycm2) : 354

GAP II

Web
Edition



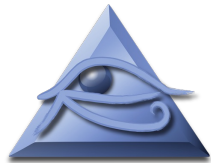
HUMANITAS
RESEARCH HOSPITAL

Grazie

per la vostracortese attenzione



grappiolo
and group.
bottega ortopedica Italiana



World's fastest DICOM viewer



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