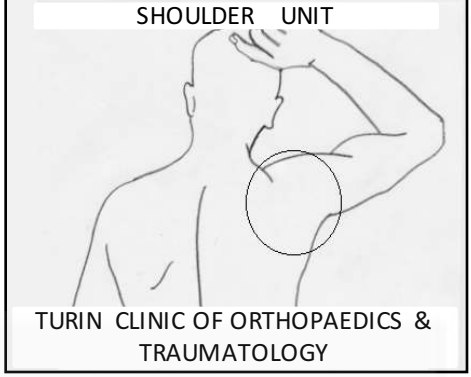

PROTESI ANATOMICA SU FRATTURA

MOTTA MADERNI SISTO VASARIO

I CLINICA ORTOPEDICA
PRESIDIO CTO
CITTA' DELLA SALUTE E DELLA SCIENZA TORINO

Indications

- Four part fracture older patients
- Three part fracture associated osteopenia
- Head split fracture
- Impaction head fracture> 40% articular surface
- Anatomic neck fracture

- Decision factors
  - The Deltoid Tuberosity Index < 1.4
  - short metaphyseal head extension (<8 mm)
  - disruption of the medial periosteal hinge

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Journal of Shoulder and Elbow Surgery

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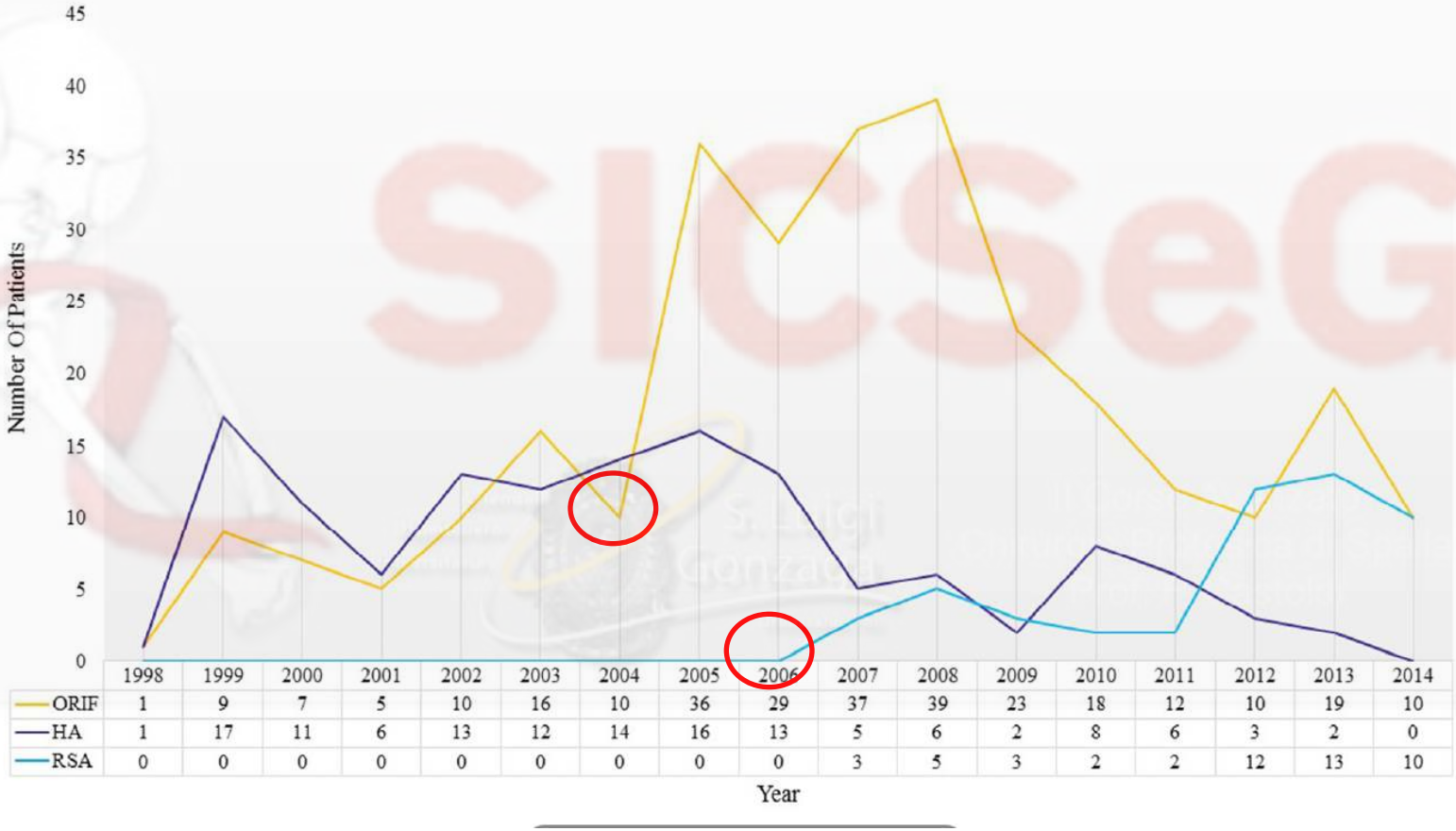
Difficulty in decision making in the treatment of displaced proximal humerus fractures: the effect of uncertainty on surgical outcomes

Joey LaMartina II, MD[a], Kaitlyn N. Christmas, BS[b], Peter Simon, PhD[b,c], Jonathan J. Streit, MD[a], Jesse W. Allert, MD[a], Jonathan Clark, MD[a], Randall J. Otto, MD[d], Adham Abdelfattah, MD[a], Mark A. Mighell, MD[a], Mark A. Frankle, MD[a,*]

Conclusion: Successful management of displaced proximal humerus fractures requires both technical and decision-making abilities. **The difficulty in making these decisions is reflected by the agreement of experienced shoulder surgeons only 63.5% of the time regarding the treatment performed.** When uncertainty occurs, patients may have reduced outcomes as seen in the ORIF treatment group.

Level of evidence: Level IV; Decision Analysis Study

B



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
ORIF	1	9	7	5	10	16	10	36	29	37	39	23	18	12	10	19	10
HA	1	17	11	6	13	12	14	16	13	5	6	2	8	6	3	2	0
RSA	0	0	0	0	0	0	0	0	0	3	5	3	2	2	12	13	10

Thecnically challenging loss of anatomic reference points

- Impiant height :pectoralis humeral head height (58.9 mm in men and 55.2 mm in women.)
- Restore gotic arch
- head size
- stem retroversion
- tuberosity offset
- Proper tuberosity position: 90°orientation of the tuberosities to one another

Impiant height

Pectoralis humeral head height 58.9 mm in men and 55.2 mm in women. For every 10mm increase in patient height over 1.7 m, there is a 1.7 mm increase in PMT (P ¼.01).

J Shoulder Elbow Surg (2013) 22, 1567-1572

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JOURNAL OF SHOULDER AND ELBOW SURGERY

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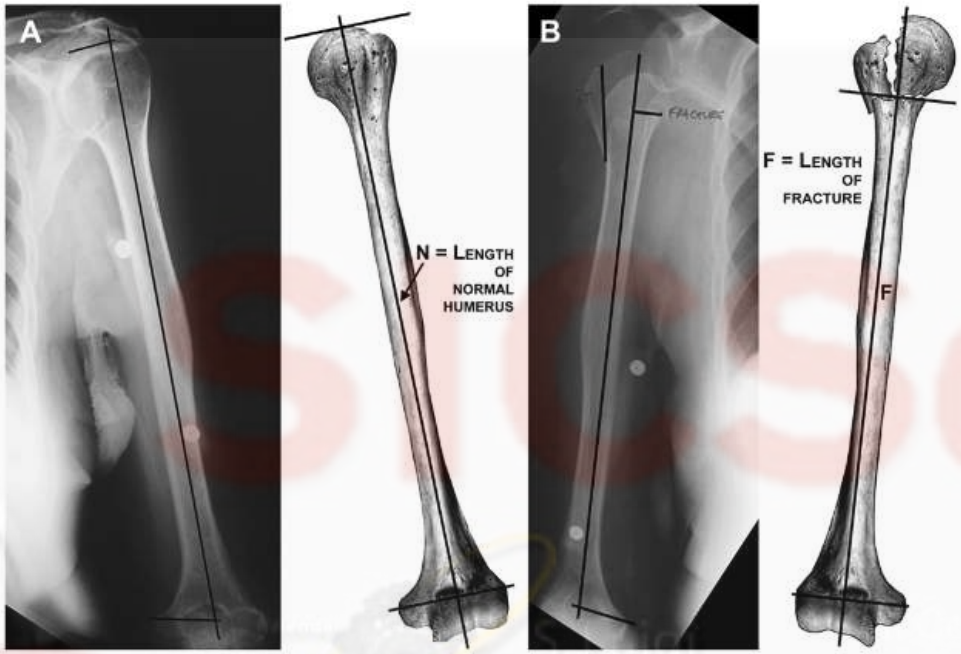
Re-evaluation of pectoralis major height as an anatomic reference for humeral height in fracture hemiarthroplasty

Brent A. Ponce, MD*, Kevin J. Thompson, MD, Seth D. Rosenzweig, MD, Janet P. Tate, PhD, David B. Sarver, MD, J. Bannon Thorpe II, BS, Evan D. Sheppard, BS, Robert R. Lopez, MD

Department of Surgery, Division of Orthopaedics, University of Alabama at Birmingham, Birmingham, AL, USA

Murachovsky J, Ikemoto RY, Nascimento LG, Fujiki EN, Milani C, Warner JJ. Pectoralis major tendon reference (PMT): a new method for accurate restoration of humeral length with hemiarthroplasty for fracture. J Shoulder Elbow Surg 2006;15:675-8.

Restoration of the gotic arch



C **Calculations to Restore Gothic Arch**

Normal side		**Fracture side**	
Ruler		**Ruler**	
Xray	11.2 cm	Xray	12.1 cm
Actual	10.0 cm	Actual	10.0 cm
Magnif.	1.12 cm	Magnif.	1.21 cm
Humeral length (N)		**Fx length (F)**	
Xray	35.0 cm	Xray	32.6 cm
Actual	31.3 cm	Actual	26.9 cm

Step 1. Fx to top of head: N - F = H
Actual N (31.3 cm) Minus Actual F (26.9 cm) Equals H (4.4 cm)

Step 2. Greater tuberosity length (G)
Xray 5.5 cm
Actual 4.5 cm (This number should be within 3-5 mm of fracture to top of head "H")

Restoration of the gotic arch

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Orthop Clin N Am 39 (2008) 441–450

ORTHOPEDIC
CLINICS
OF NORTH AMERICA

Hemiarthroplasty for Proximal Humeral Fracture: Restoration of the Gothic Arch

Sumant G. Krishnan, MD*, Phillip W. Bennion, MD,
John R. Reineck, MD, Wayne Z. Burkhead, MD

Shoulder and Elbow Service, The Carrell Clinic, 9301 North Central Expressway, Suite 400, Dallas, TX 75231, USA

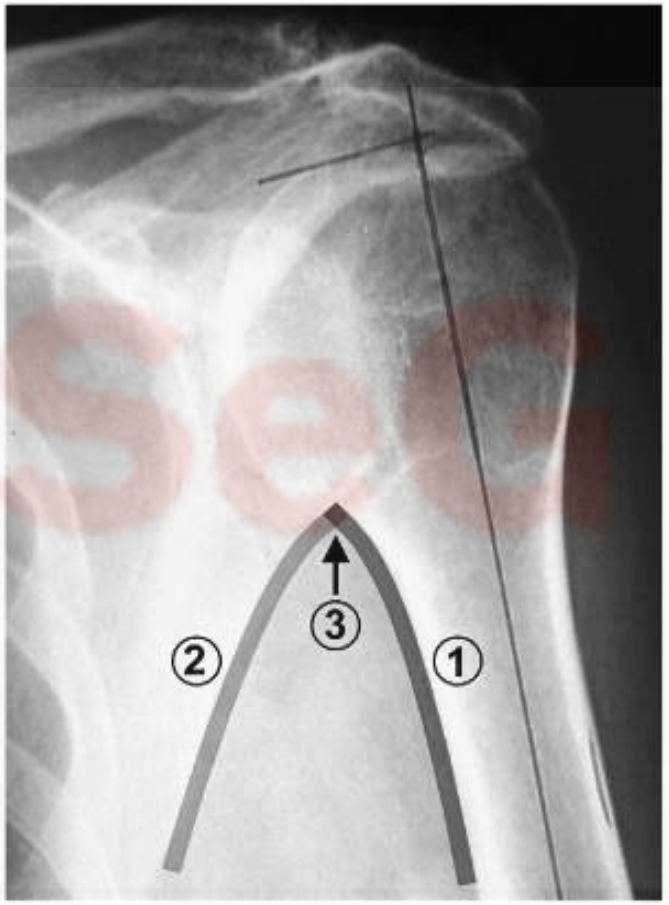


Fig. 2. The Gothic arch of a normal shoulder girdle: (1) Outline the medial border of the proximal humeral shaft ("medial calcar") to the base of the humeral articular surface. (2) Outline the lateral border of the scapula to the base of the glenoid articular surface. (3) Joining these lines creates a classical "vaulted" arch or Gothic arch shape. (*From* Krishnan SG, Pennington SD, Burkhead

Stem retroversion

Tuberosity malposition and migration: Reasons for poor outcomes after hemiarthroplasty for displaced fractures of the proximal humerus

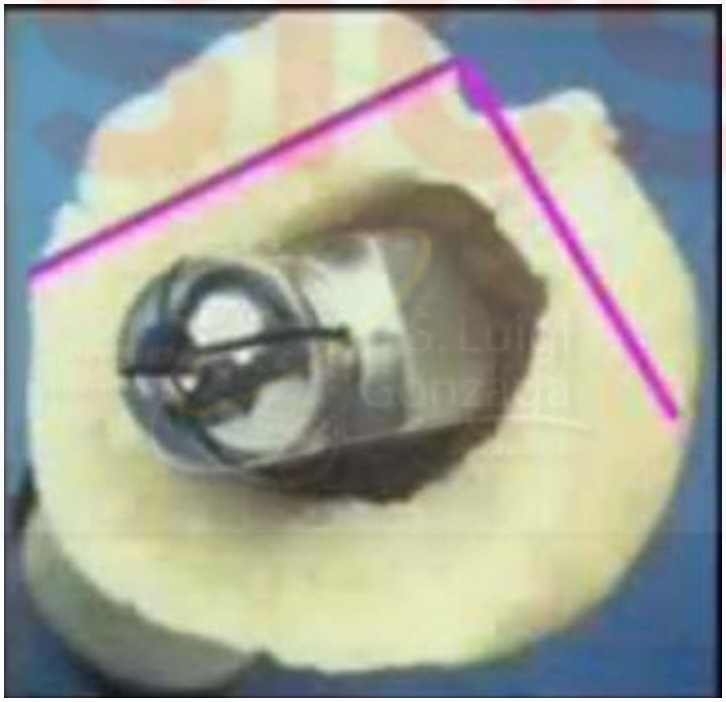
P. Boileau, S. G. Krishnan, L. Tinsi, G. Walch, J. S. Coste, and D. Molé, *Nice, France*

J Shoulder Elbow Surg. 2002 Sep-Oct;11(5):401-12.

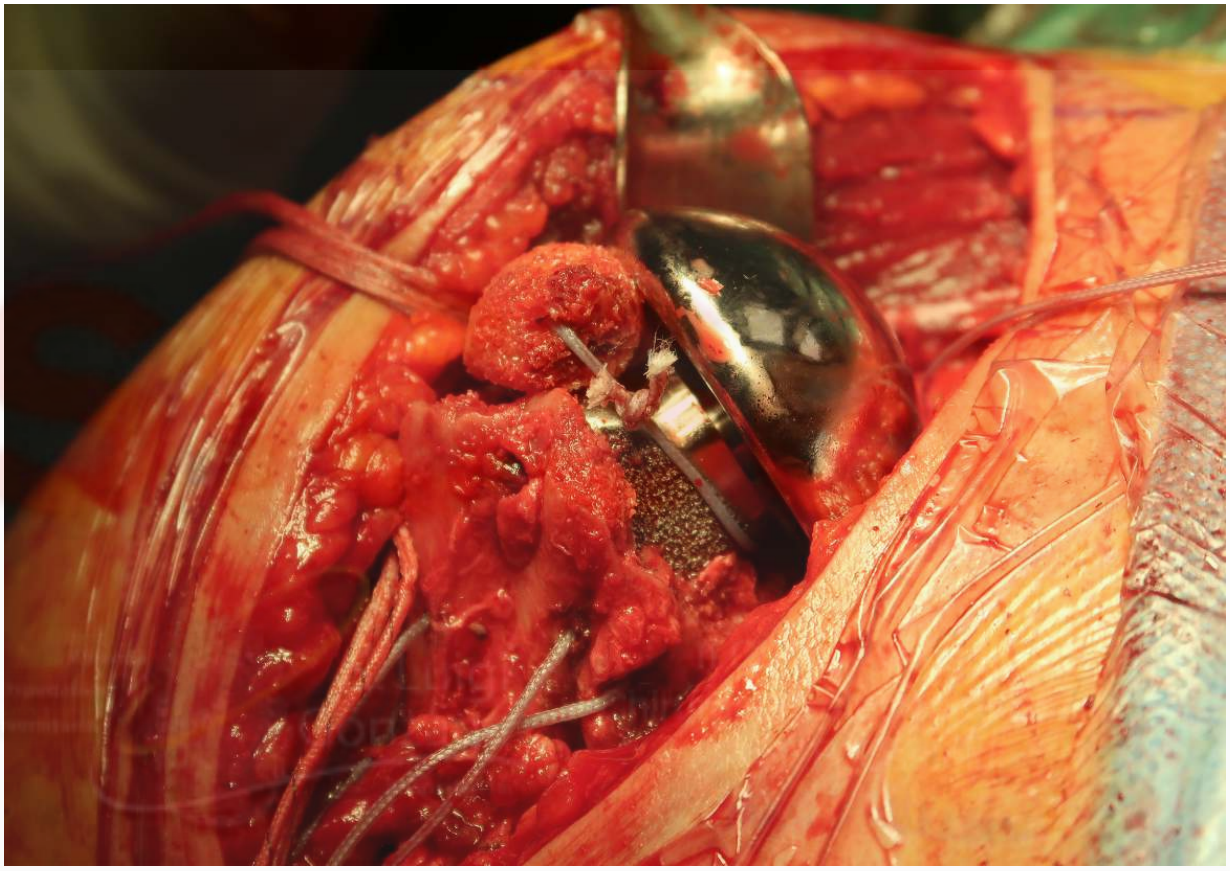
Head size

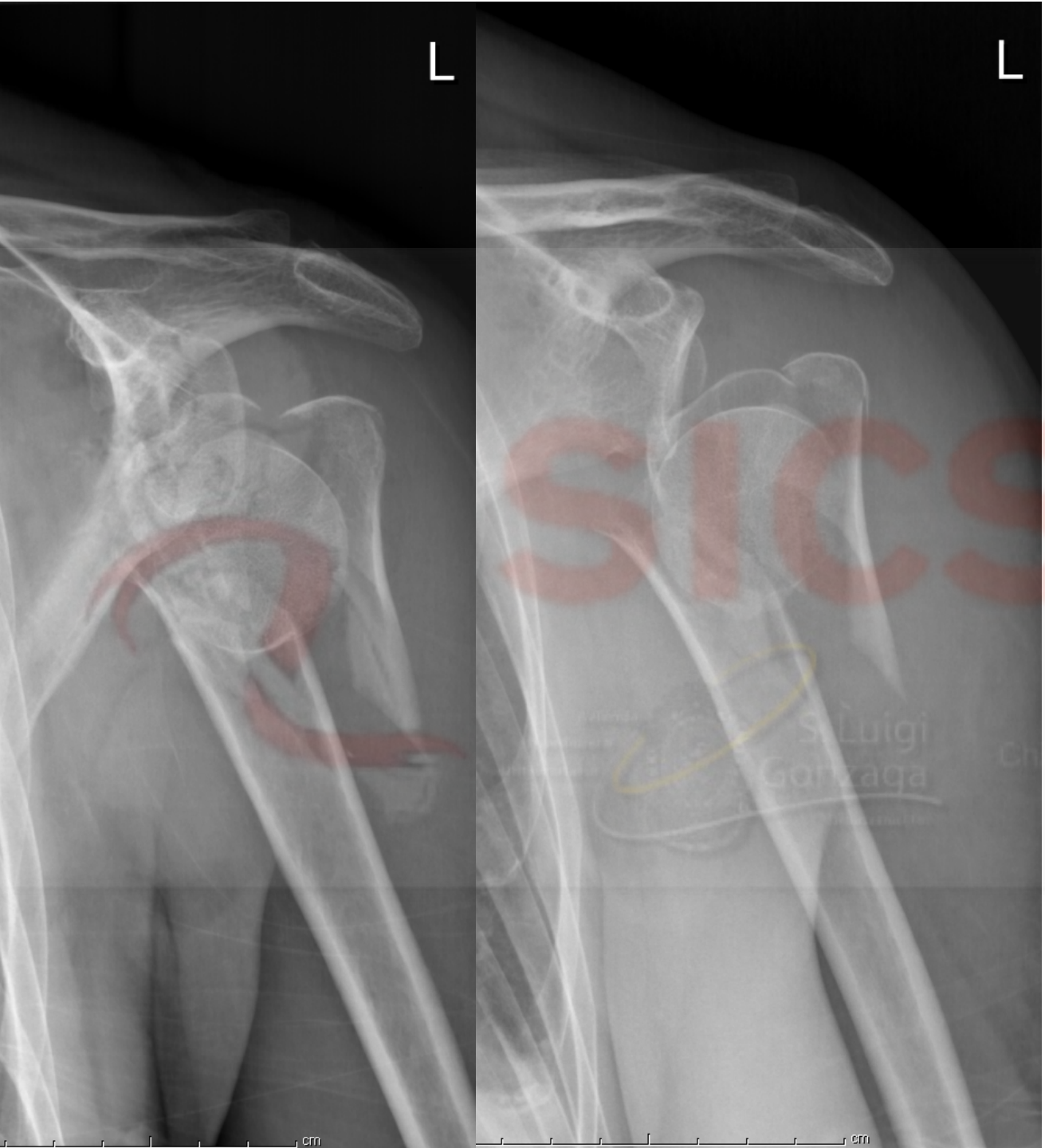
VERSA-DIAL HEAD TE
46 mm DIA
46 X 27 X 46
113048
47 mm DIA
50 mm DIA
50 X 24 X 52
113056
57 mm DIA
50 X 21 X 57
113054
50 mm

Proper tuberosity position: 90°orientation of the tuberosities

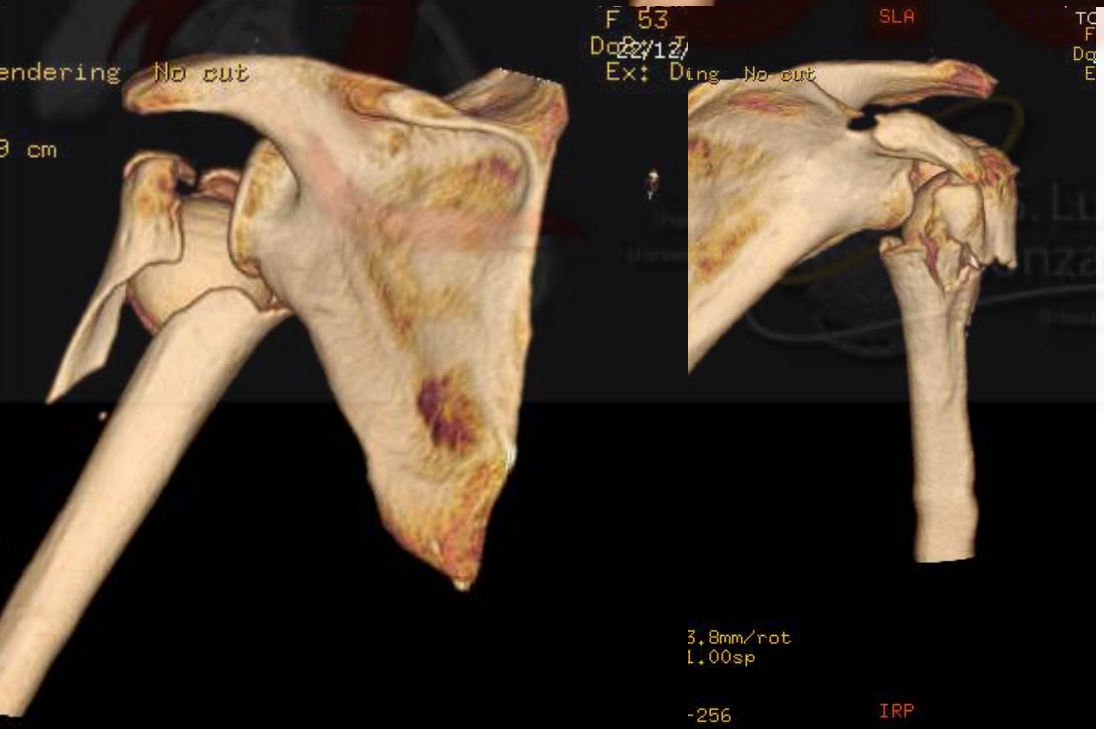


Tuberosity Offset





G P
FEMMINA
56AA



G P
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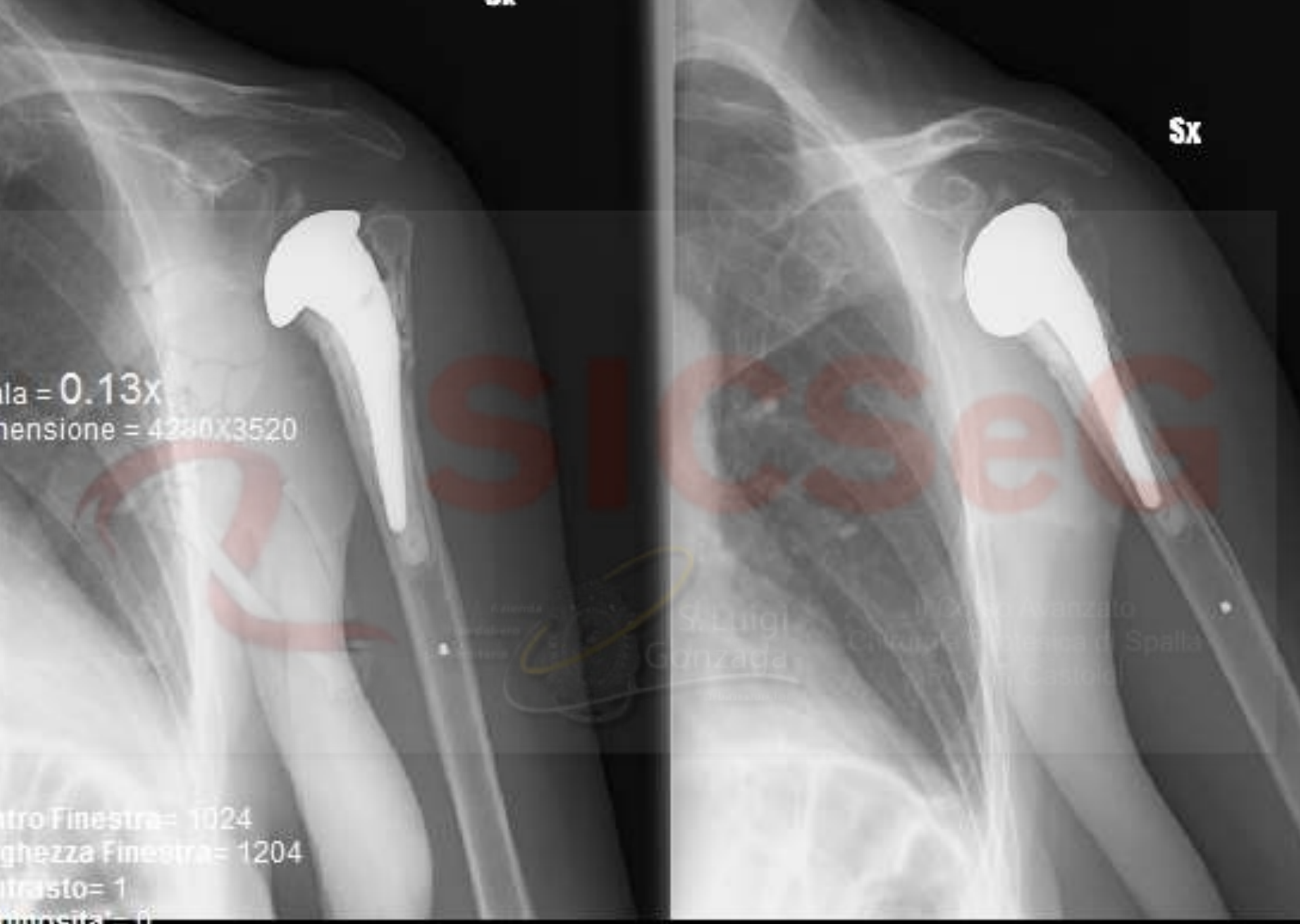
SICSeG

S. Luigi Gonzaga

Il Corso Avanzato
Chirurgia Protesica di Spalla
Prof. F. Castoldi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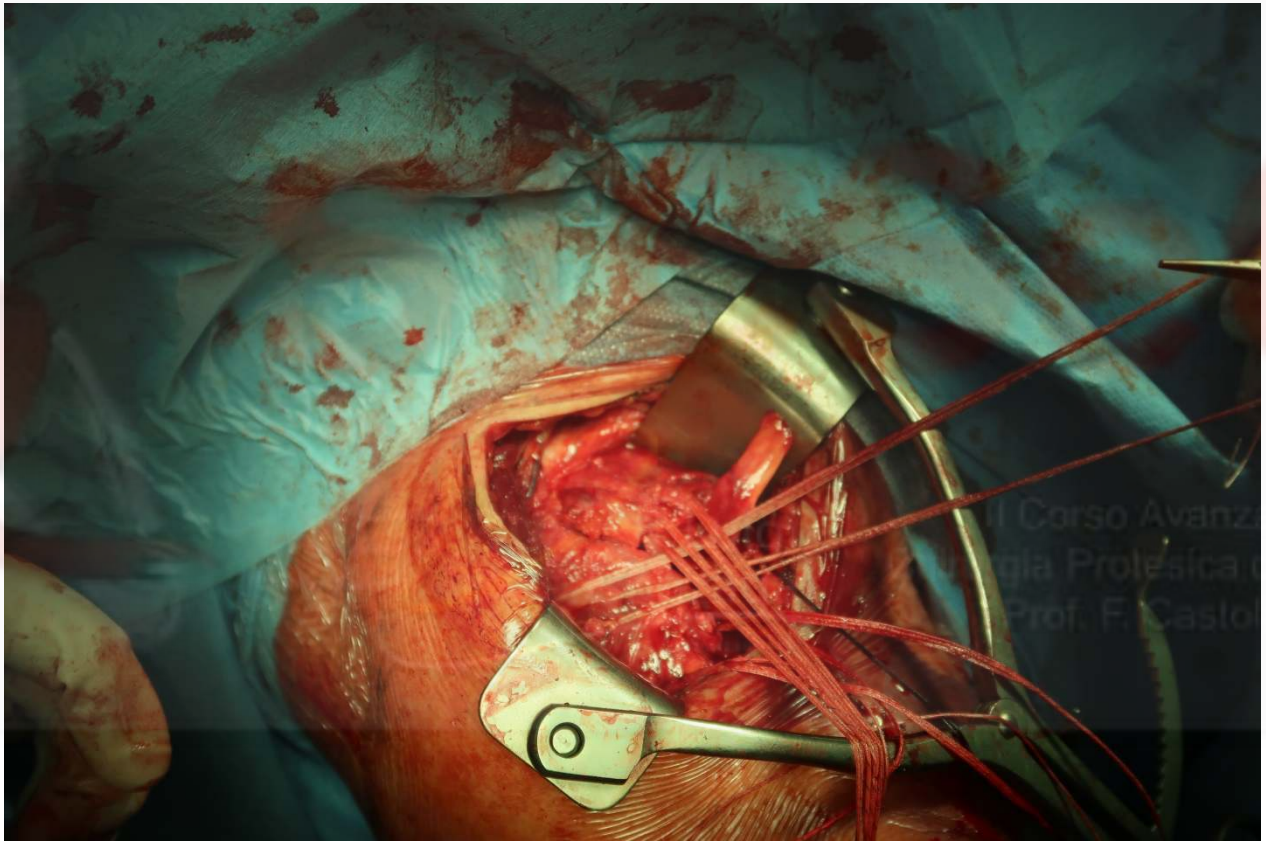
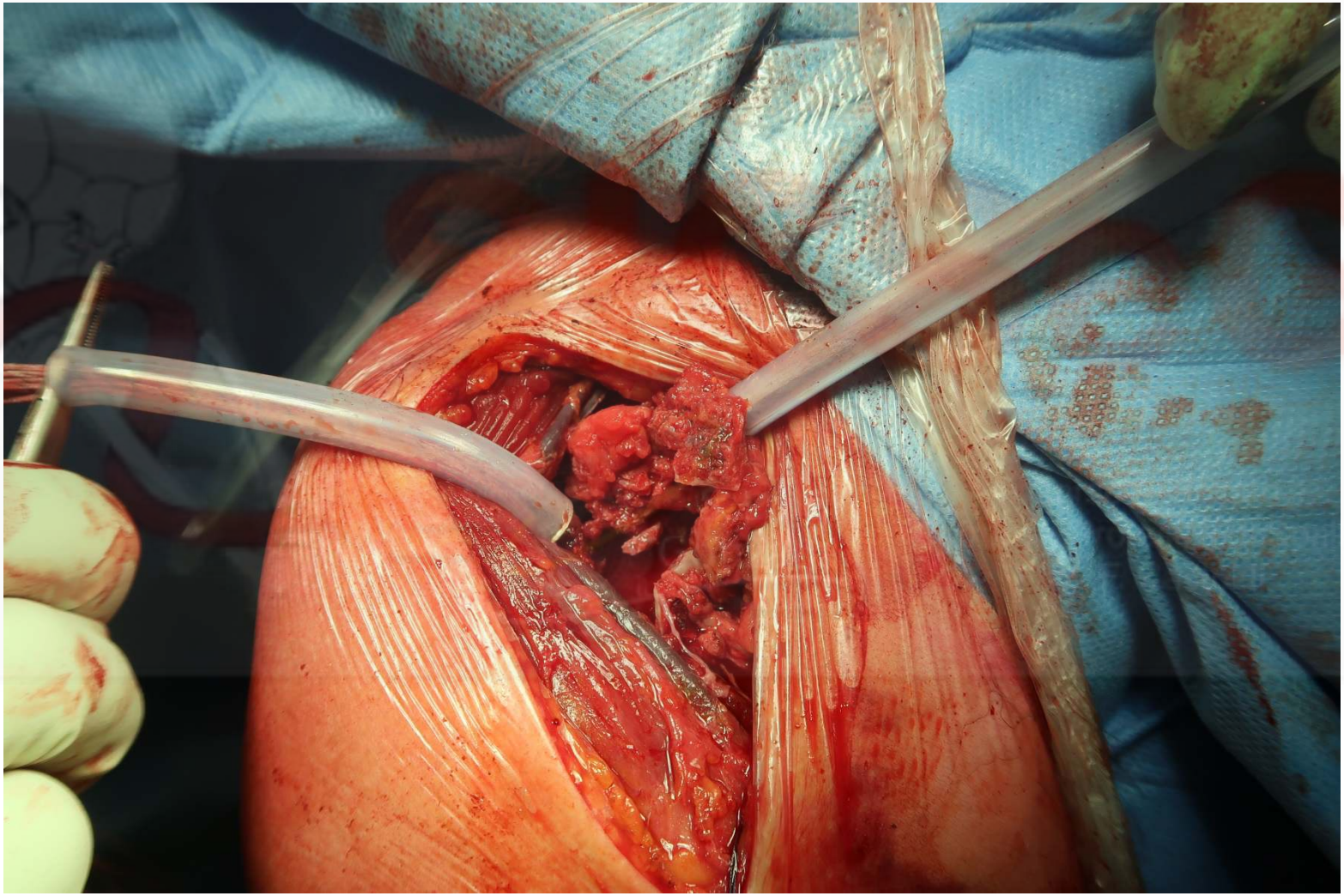
S. Luigi
Gon
II Corso Avanzato
rgia Protesica di Spalla
Prof. F. Castoldi

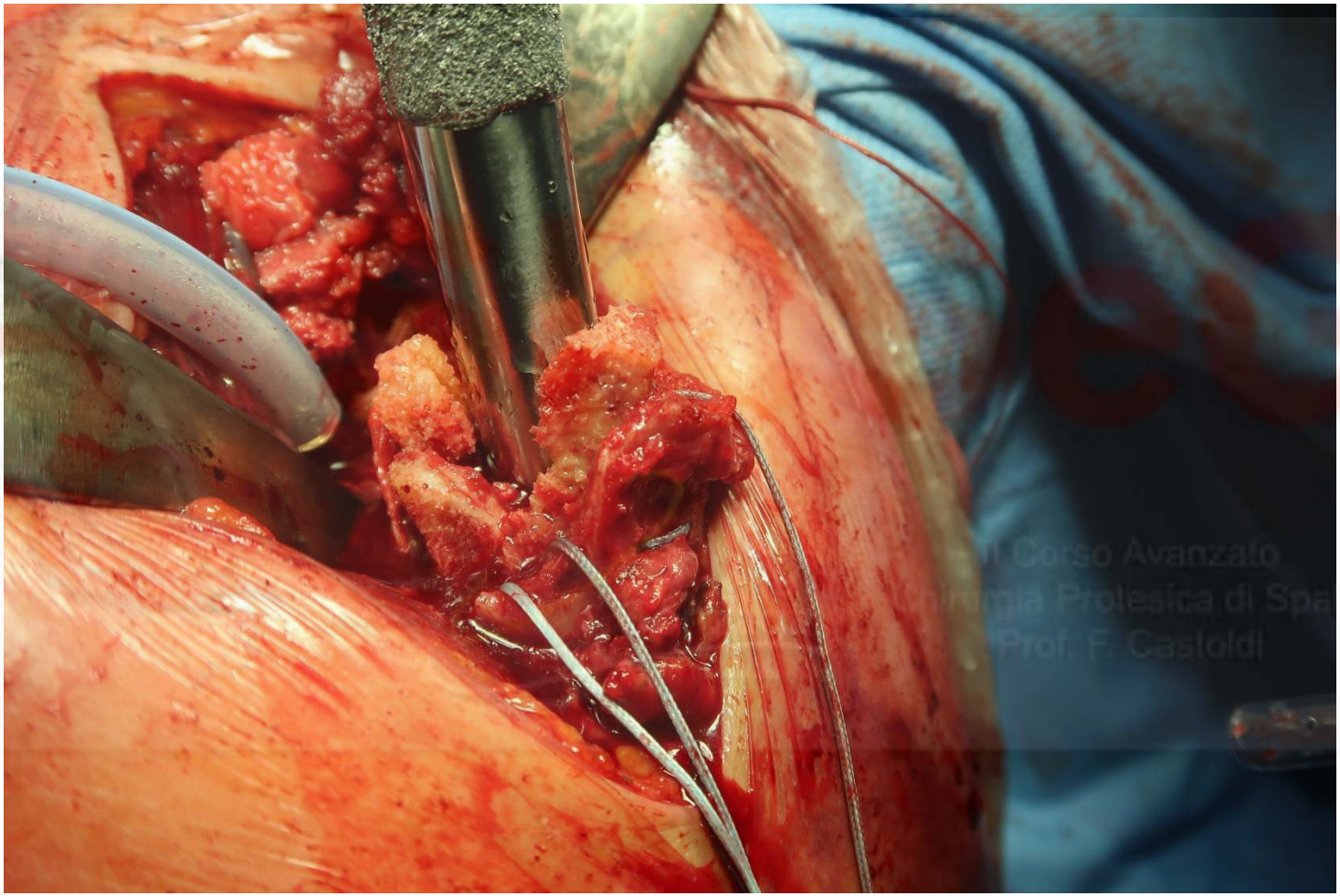
Tips and tricks



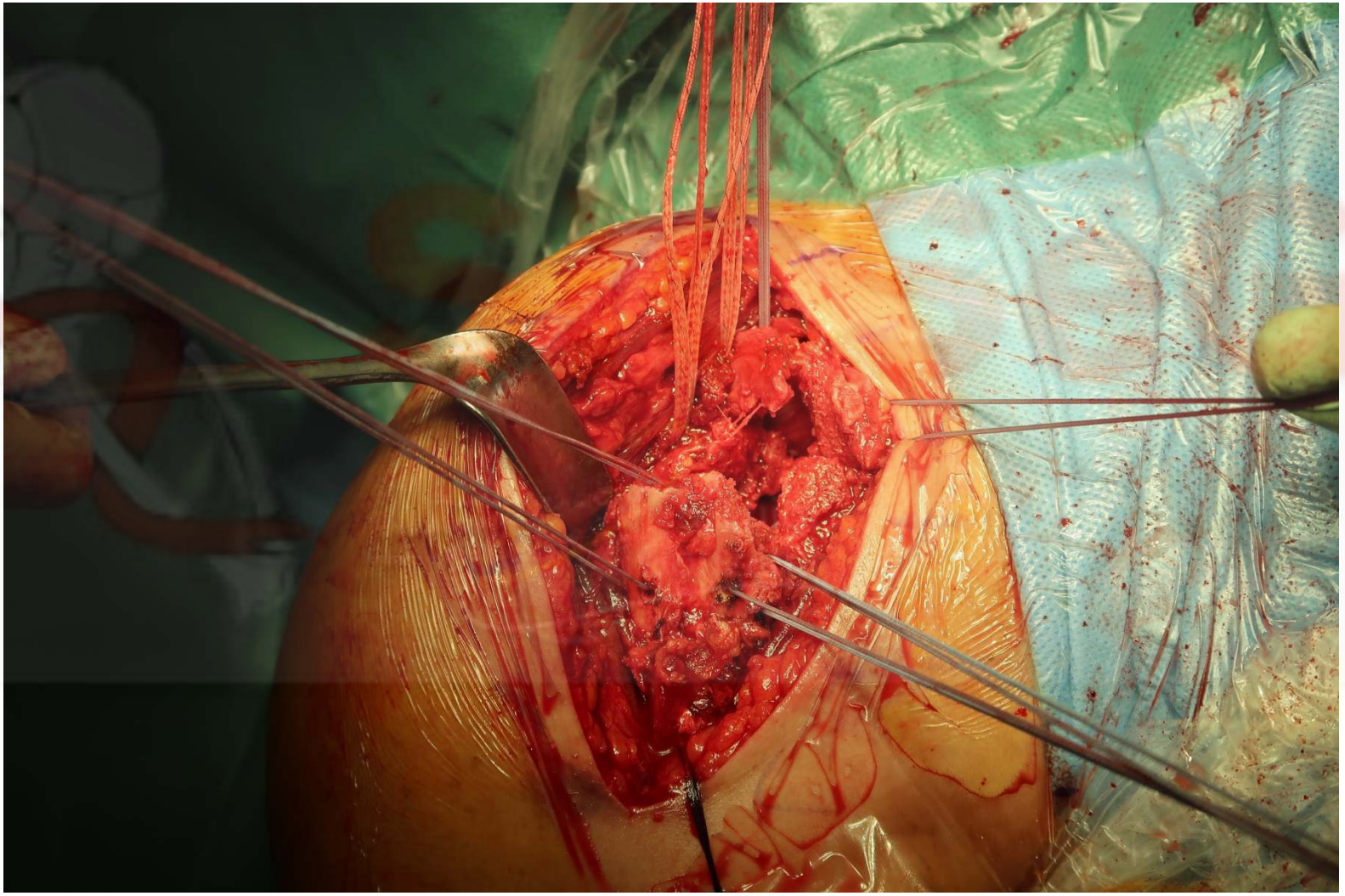
Tips and tricks



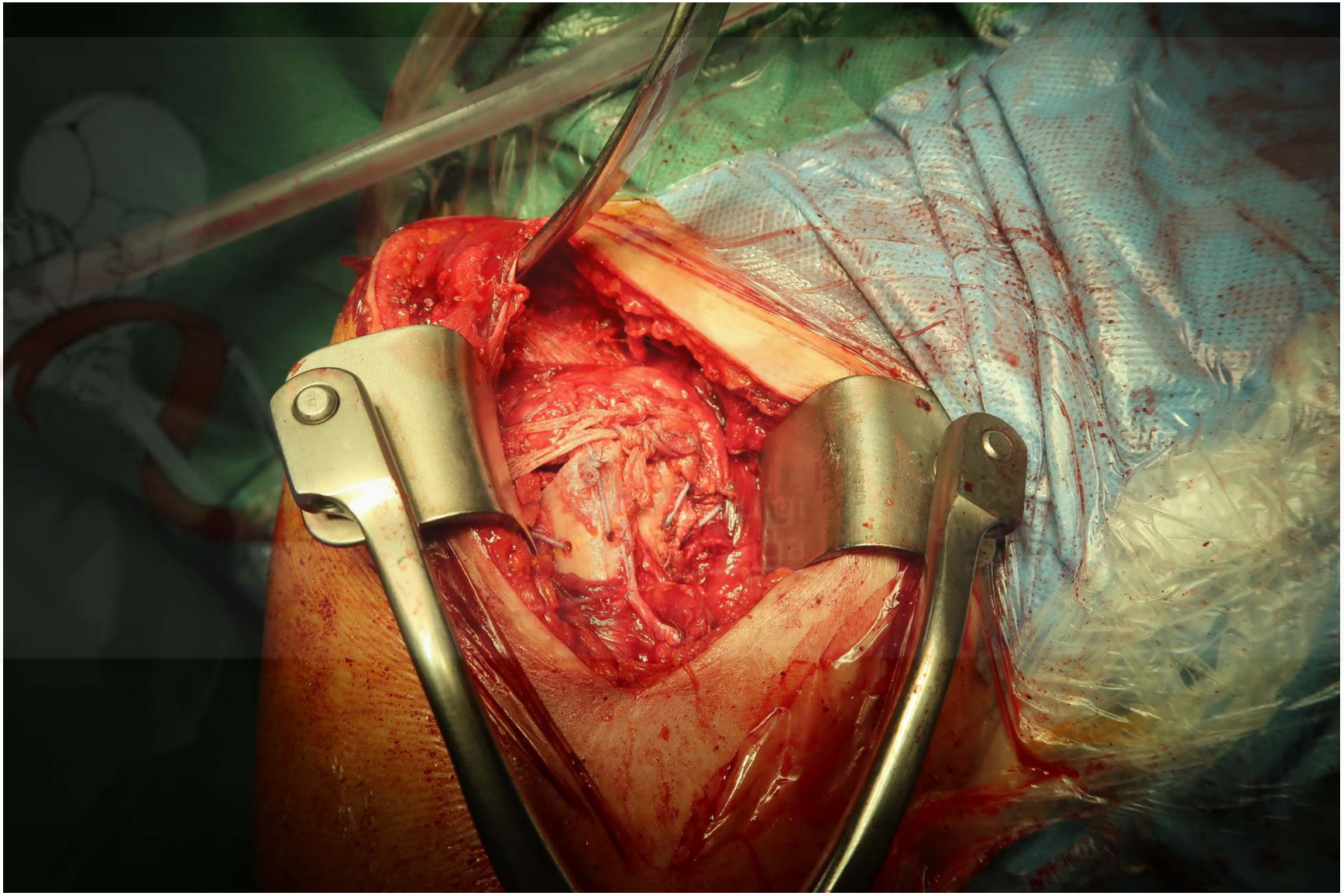
Tips and tricks



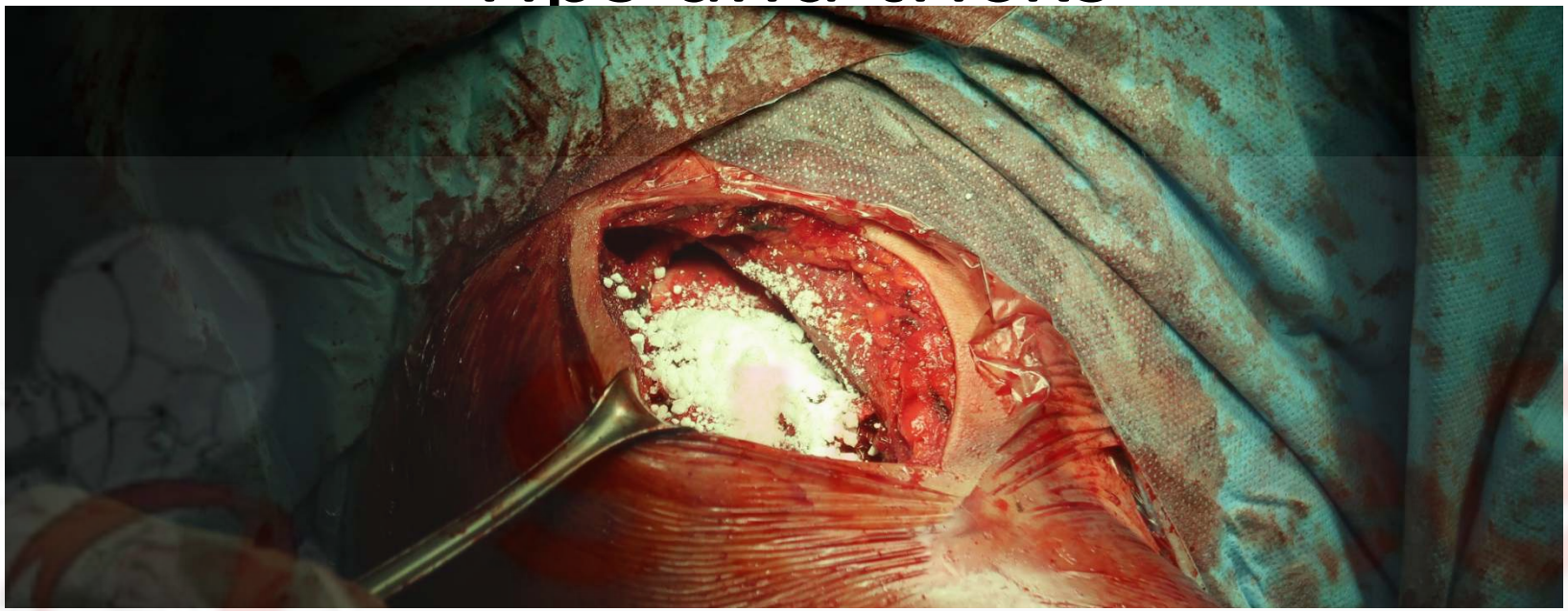
Tips and tricks



Tips and tricks



Tips and tricks



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The cost effectiveness of vancomycin for preventing infections after shoulder arthroplasty: a break-even analysis

M. Daniel Hatch, MD, Stephen D. Daniels, BS, Kimberly M. Glerum, BA, Laurence D. Higgins, MD, MBA*

Department of Orthopaedic Surgery, Brigham and Women's Hospital, Boston, MA, USA

Fracture
Stems?

Cement?

Anatomic Stems?

THANK YOU