



UNIVERSITÀ DEGLI STUDI DI TORINO



CHIRURGIA PROTESICA DI SPALLA

Live and relive surgery

7-8 febbraio 2019

Presidente
Prof. Filippo Castoldi

Polo Didattico Azienda Ospedaliero Universitaria S. Luigi Gonzaga
Regione Gonzole 10, Orbassano (TO)



ANATOMIC SHOULDER PROSTHESIS – RECONSTRUCTION

HANS RUDOLF BLOCH FEBRUARY 2019

DISCLOSURE



PERMEDICA ORTHOPEDICS

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VETERINARIO

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RETURN TO SPORTS AND PHYSICAL ACTIVITIES HAS BECOME AN **INCREASINGLY IMPORTANT PART OF PATIENT SATISFACTION** AFTER ORTHOPEDIC SURGICAL PROCEDURES

THESE PATIENTS WILL HAVE **GREATER EXPECTATIONS** FOR ACTIVITY AND FUNCTIONAL OUTCOME FROM THEIR SHOULDER REPLACEMENT, WHICH ARE LIKELY TO INCREASE STRESS AND WEAR ON THE PROSTHETIC COMPONENTS.



REALITY....



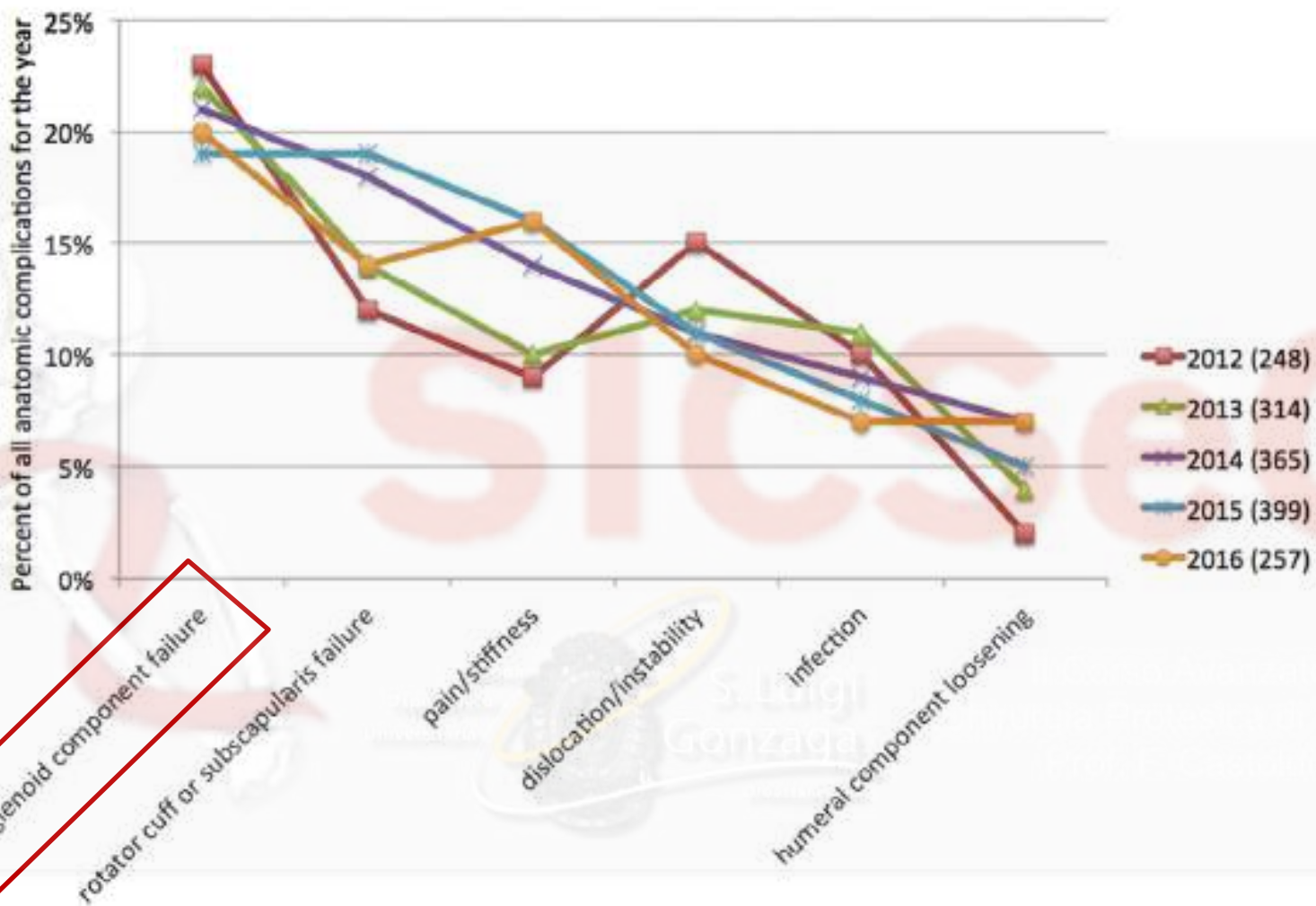
Table III Primary failure modes among the 1673 anatomic shoulder arthroplasties in order of percentage of all anatomic failure modes sorted by frequency

Mode of failure	No. (%) (n = 1673)
Glenoid component failure	341 (20.4)
Rotator cuff/subscapularis failure	237 (15.4)
Pain/stiffness	215 (12.9)
Dislocation/instability	197 (11.8)
Infection	151 (9.0)
Humeral component loosening	85 (5.1)
Problem with modular head	68 (4.1)
Humeral component malposition	47 (2.8)
Problem with humeral preparation	42 (2.5)
Packaging/availability problem	40 (2.4)
Problem with humeral insertion	40 (2.4)
Problem with glenoid insertion	34 (2.0)
Failed PROMOS inclination set*	28 (1.7)
Humeral fracture on insertion	21 (1.3)
Problem with glenoid preparation	20 (1.2)
Disassembly of polyethylene from glenoid metal back	19 (1.1)
Humeral fracture	17 (1.0)
Difficulty removing humeral component	11 (0.7)
Glenoid fracture	11 (0.7)
Hematoma	6 (0.4)
Fracture of prosthesis	5 (0.3)
Tuberosity non union/fracture	5 (0.3)
Metal allergy	3 (0.2)
Acromial/spine fracture	2 (0.1)
Miscellaneous	8 (0.5)

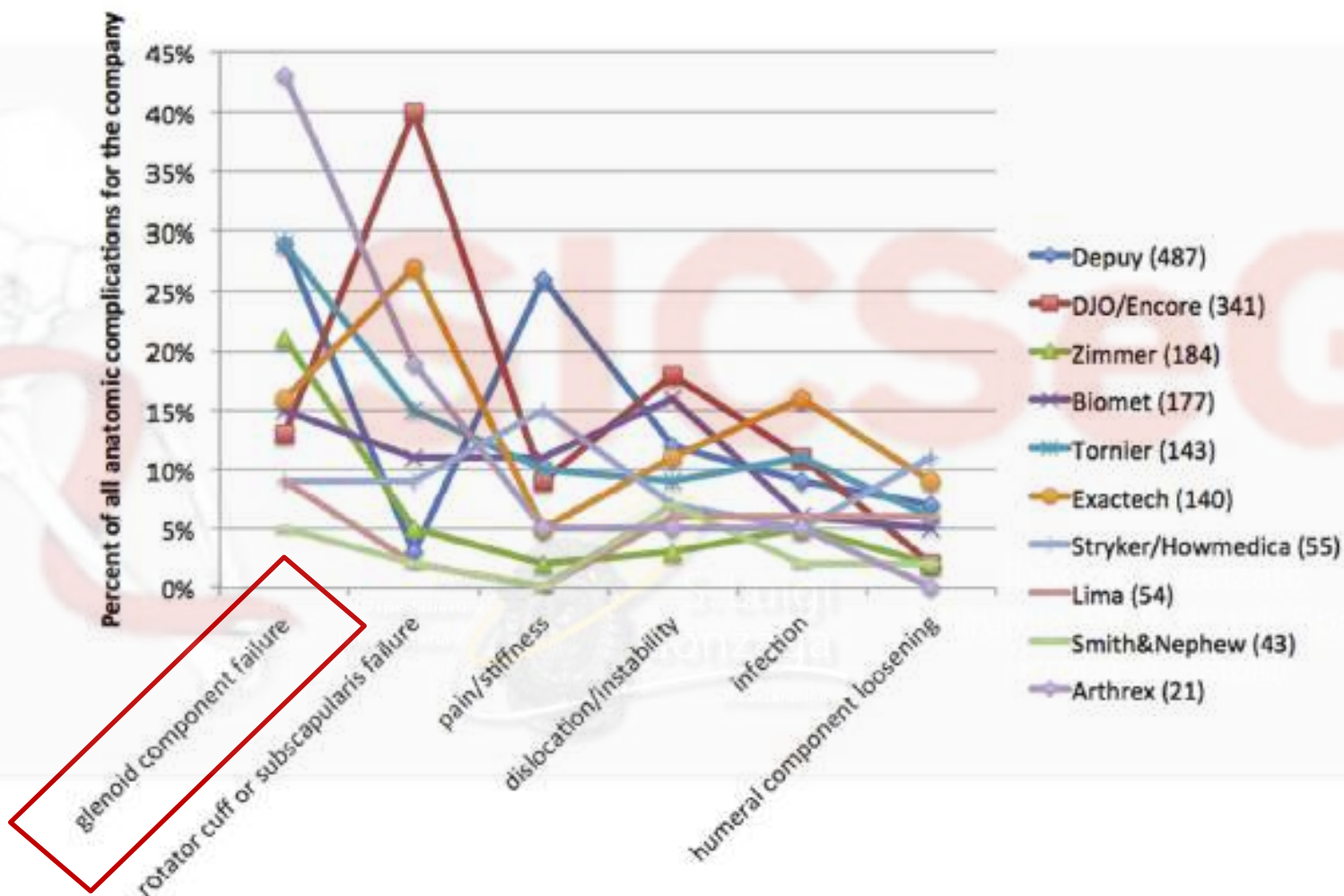
*Smith & Nephew Inc., Memphis, TN, USA.

Table IV Primary failure modes among the 2390 reverse shoulder arthroplasties in order of percentage of all reverse failure modes, sorted by frequency

Mode of Failure	No. (%)
Dislocation/instability	764 (32.0)
Infection	338 (15.8)
Glenosphere—baseplate dissociation	292 (12.2)
Failed/loosened baseplate	248 (10.4)
Humeral component dissociation/tray fracture	132 (5.5)
Difficulty inserting baseplate	114 (4.8)
Difficulty inserting glenosphere	100 (4.2)
Humeral component loosening	66 (2.8)
Difficulty seating liner in metal humeral cup	62 (2.6)
Pain/stiffness	61 (2.6)
Liner loosening/fracture/wear	50 (2.1)
Glenoid fracture	33 (1.4)
Humeral fracture	33 (1.4)
Acromial/spine fracture	17 (0.7)
Humeral fracture on insertion	14 (0.6)
Packaging/availability problem	14 (0.6)
Rotator cuff/subscapularis failure	13 (0.5)
Problem with humeral insertion	10 (0.4)
Difficulty seating humeral metal cup on stem	8 (0.3)
Problem with humeral preparation	6 (0.3)
Humeral component malposition	3 (0.1)
Death	3 (0.1)
Fracture of prosthesis	2 (0.1)
Tuberosity non union/fracture	2 (0.1)
Miscellaneous	13 (0.5)



FDA reports of shoulder arthroplasty complications



GLENOID COMPONENT FAILURES STILL REPRESENT THE MOST COMMON COMPLICATION IN TSA

Complication	Total	No.	Incidence (%)	% of all complications	Revisions	Revision rate (%)
Erosion of unresurfaced glenoid	1353	279	20.6	17.6	84	30.1
Glenoid loosening	2657	379	14.3	24	108	28.5
Humeral loosening		239	6	15.1	41	2
Instability		184	4.6	11.6		
Secondary rotator-cuff tear		110	2.7	6.9		
Intraoperative humeral fracture		75	1.9	4.7		
Neurologic lesion		73	1.8	4.6		
Mechanical glenoid complication other than loosening	2657	38	1.4	2.4		
Infection		46	1.1	2.9		
Secondary subscapularis rupture		45	1.1	2.8	33	73
Postoperative humeral fracture		36	0.9	2.2		
CRPS, stiffness		35	0.9	2.2		
Biceps pathology		14	0.3	0.9		
Hematoma		14	0.3	0.9		
Thromboembolic complication		9	0.2	0.6		
Intraoperative glenoid fracture	2657	8	0.3	0.5		
Deltoid dysfunction		5	0.1	0.3		
Humeral complication other than loosening		2	0.05	0.1		
Acromial fracture		2	0.05	0.1		
"General" complication		2	0.05	0.1		

Complication	Total	No.	Incidence (%)	% of all complications	Revisions	Revision rate (%)
Erosion of unresurfaced glenoid	1353	279	20.6	17.6	84	30.1
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GONZALES, BOILEAU, JSES 2011

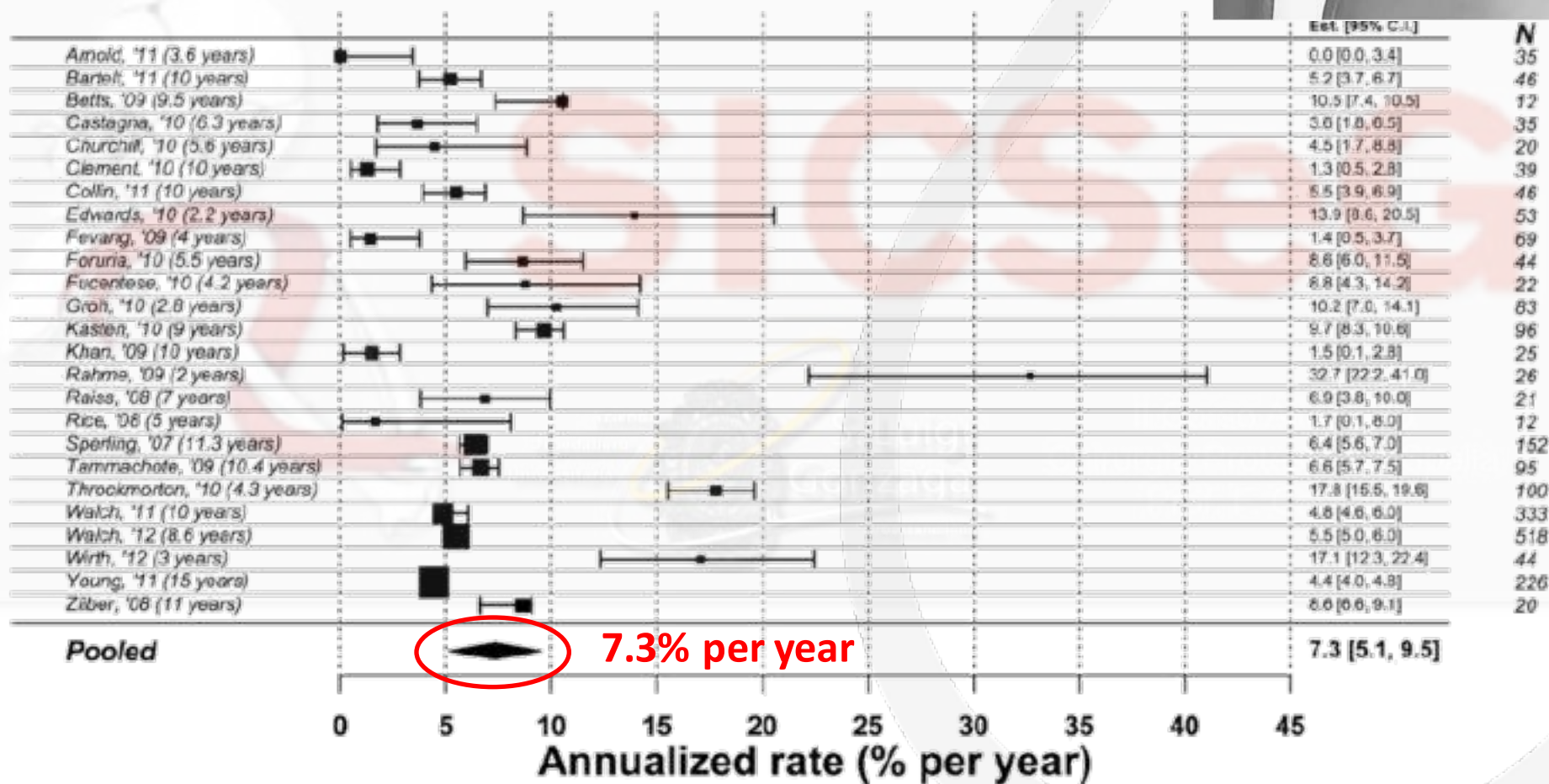
Failure of the Glenoid Component in Anatomic Total Shoulder Arthroplasty

A Systematic Review of the English-Language Literature Between 2006 and 2012

Atanacio Papadimitrakidis, MD, Mostafa Nasr, MD, and Frederick A. Matsen III, MD



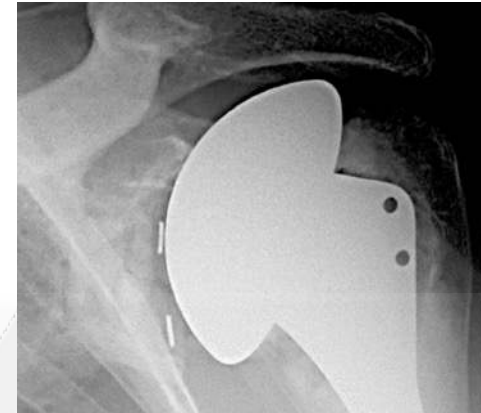
Asymptomatic radiolucent lines



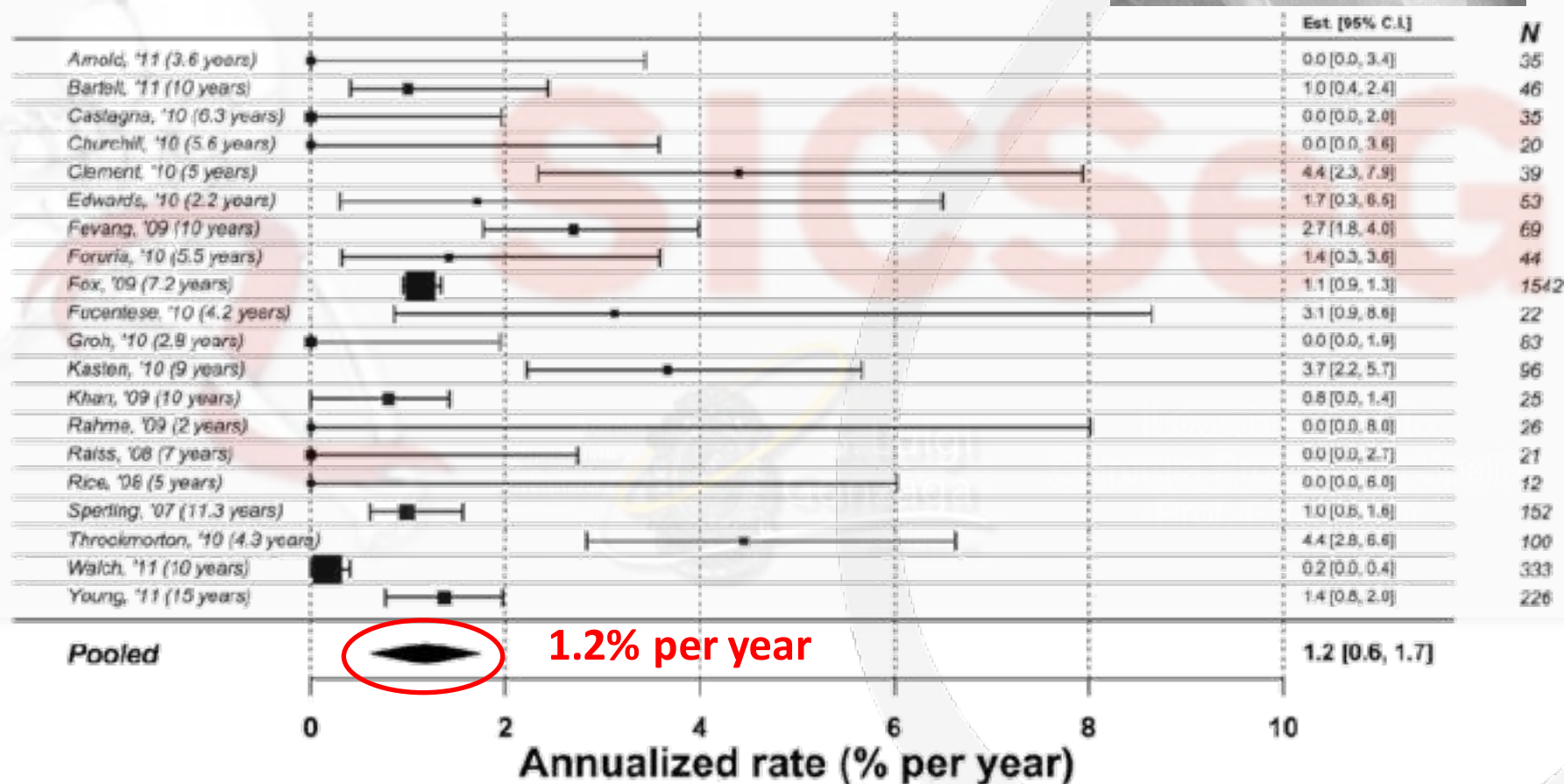
Failure of the Glenoid Component in Anatomic Total Shoulder Arthroplasty

A Systematic Review of the English-Language Literature Between 2006 and 2012

Antonios Papadimitrakidis, MD, MSc, Blase Neradilek, MS, and Frederick A. Matsen III, MD

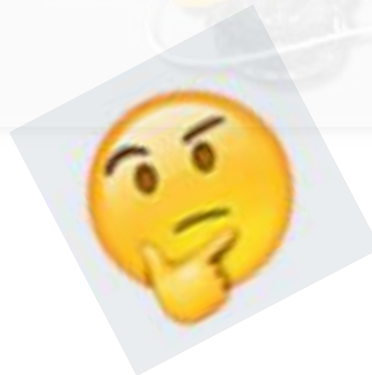


Symptomatic loosening

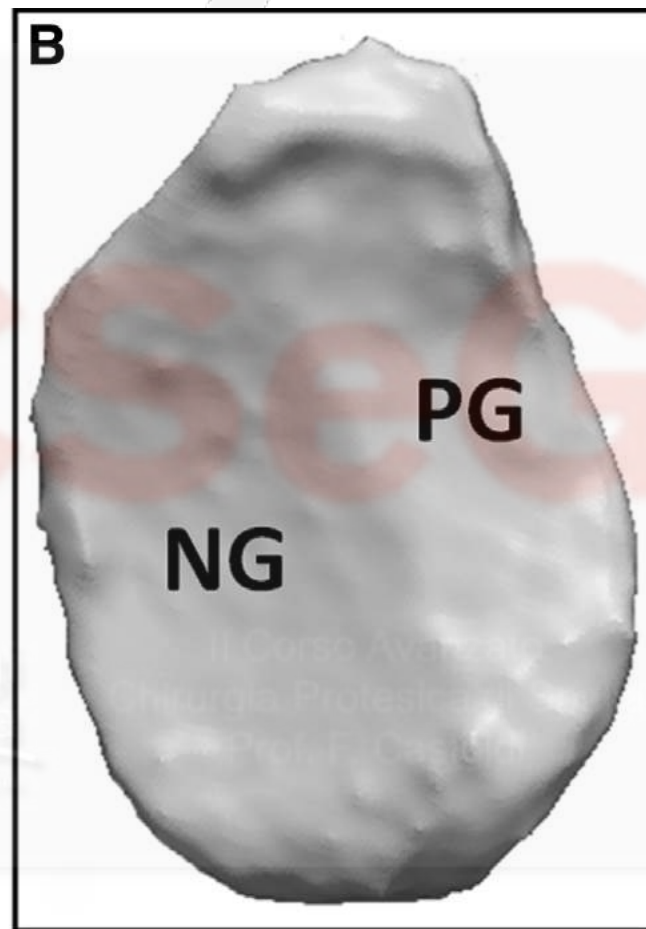
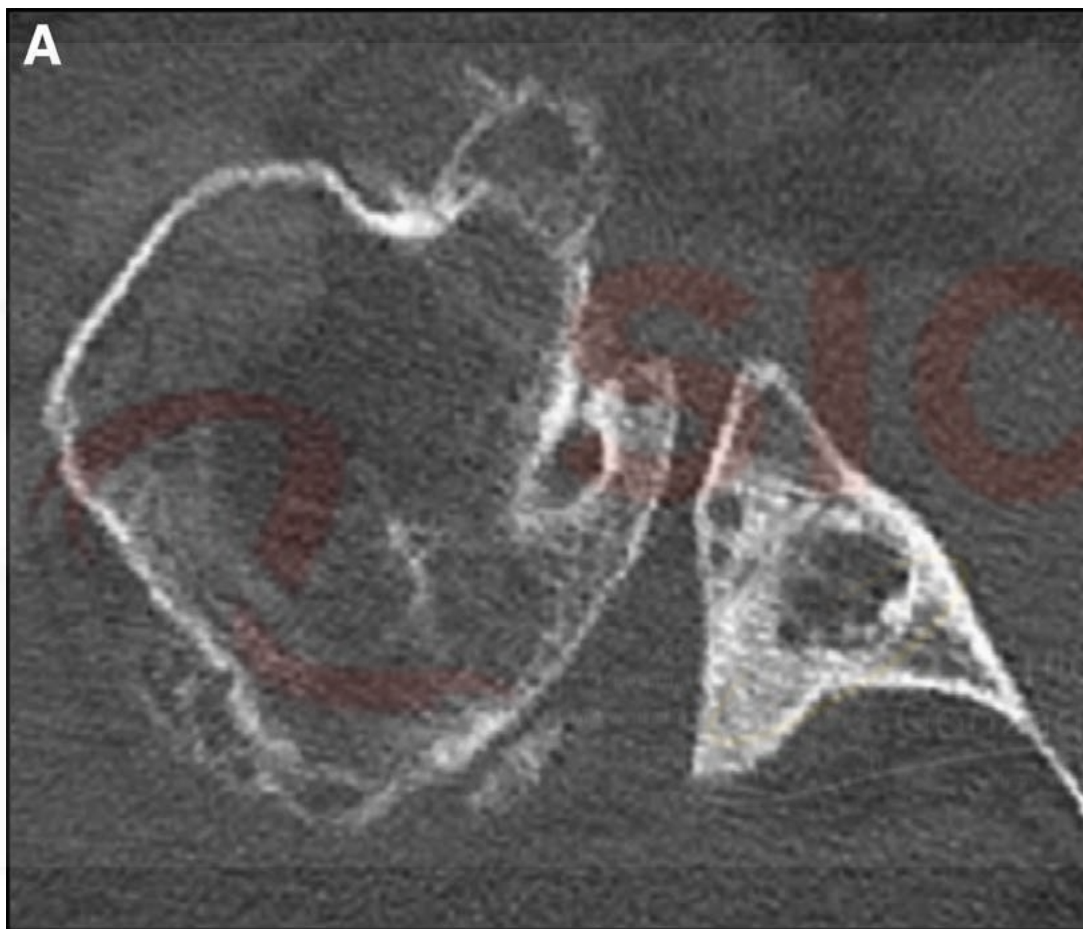


MAIN CONCERN IN TSA :

- GLENOID LOOSENING (GLENOID FAILURES UNTIL 20% AT MEDIUM FOLLOW-UP)
 - ECCENTRIC LOADING
 - POLYETHYLENE DISEASE
 - OVERSTUFFING
 - MALPOSITION OF THE IMPLANT
- GLENOID COMPONENT FIXATION IN BONY DEFECTS



NOYES MP, JSES 2015



B2 / B3

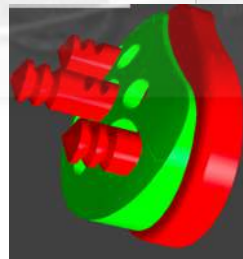
ASYMMETRIC POSTERIOR GLENOID WEAR AND POSTERIOR HUMERAL HEAD SUBLUXATION

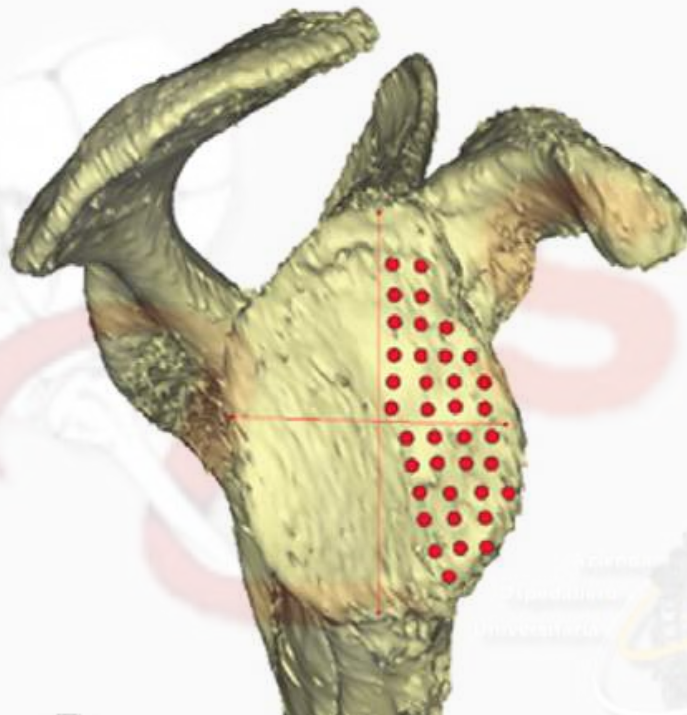
SIGNIFICANTLY GREATER PREMORBID GLENOID RETROVERSION (CONTRIBUTING FACTOR TO POSTERIOR EROSION?)

POORER CLINICAL OUTCOME AFTER TSA (?)

SURGICAL TECHNIQUES :

- 1. CORRECTIVE REAMING
- 2. AUGMENTED GLENOID COMPONENTS
- 3. BONE GRAFTING OF THE (POST.-INF) DEFECT





NO CLEAR EVIDENCE OF THE
SUPERIORITY OF ONE DESIGN OVER
ANOTHER AND UNKNOWN LONG-
TERM SURVIVAL RATES

Dr. Carlo Aranzano
Chirurgia-Protetiva di Spalla
Prof. F. Castoldi

Ghoraishian M, JSES 2018

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University of Applied Sciences
University of Applied Sciences
Prof. Dr. G. G. G. G.

SICSaG

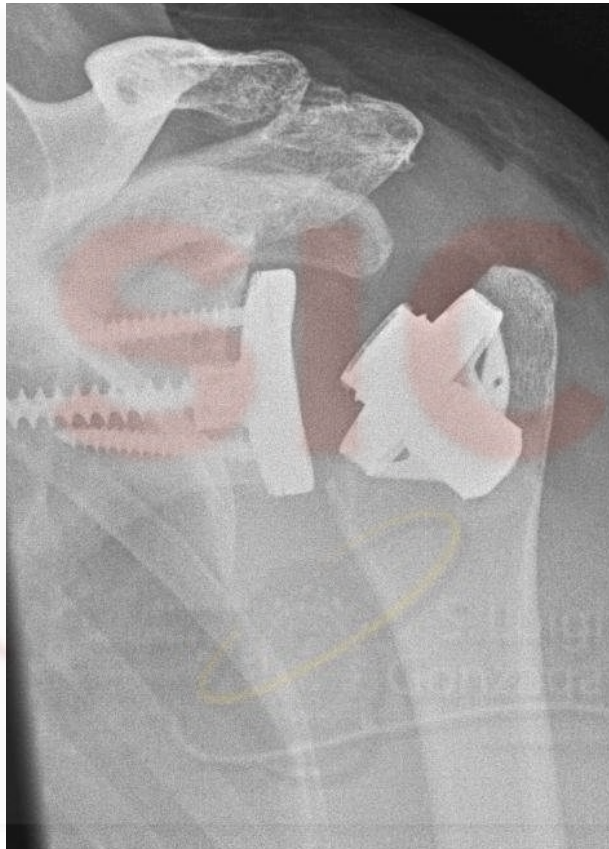
ARTROPLASTICA

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SeG

Dr. Carlo Anzani
Chairman Professor of Surgery
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TAKE HOME MESSAGE

mir21

MODULAN ORGANELDER SYSTEM





by Sarah K. 2015
Collection of Sarah K.
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QUESTIONS ?

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