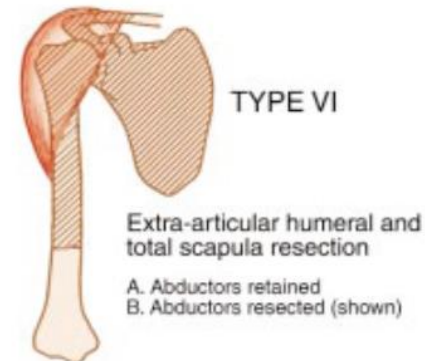
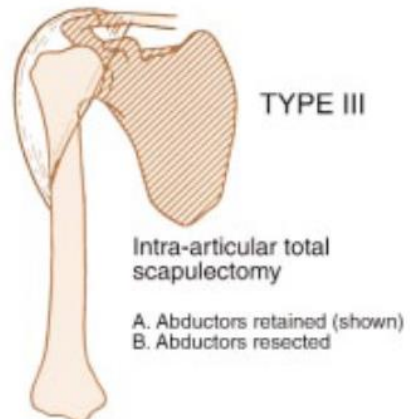
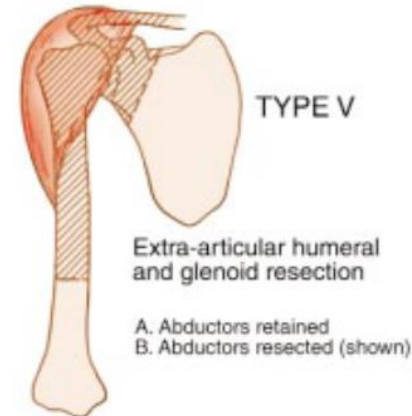
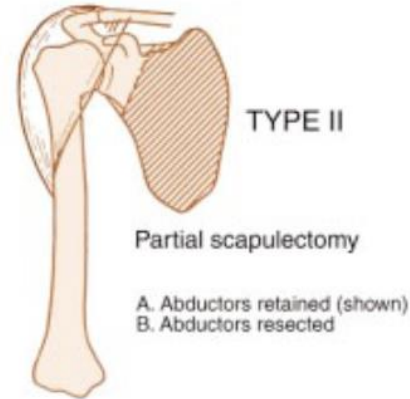
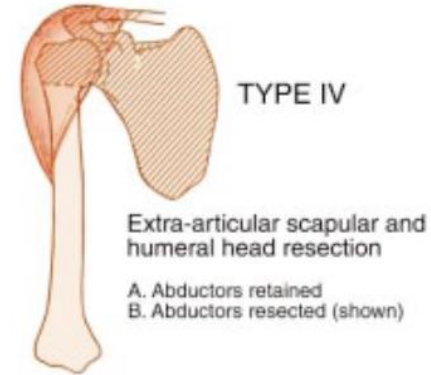
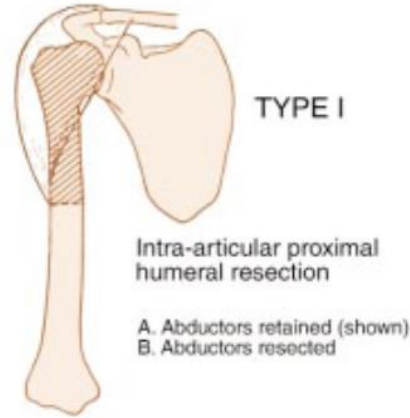


humerus; proximal; transarticular; prosthesis

35

Proximal humerus resection



humerus; proximal; transarticular; prosthesis

30 yo female

teacher

1st referral

04/14

**c/o stress independent pain in the right
shoulder since 06/2013**

humerus; proximal; transarticular; prosthesis

Clinical appearance

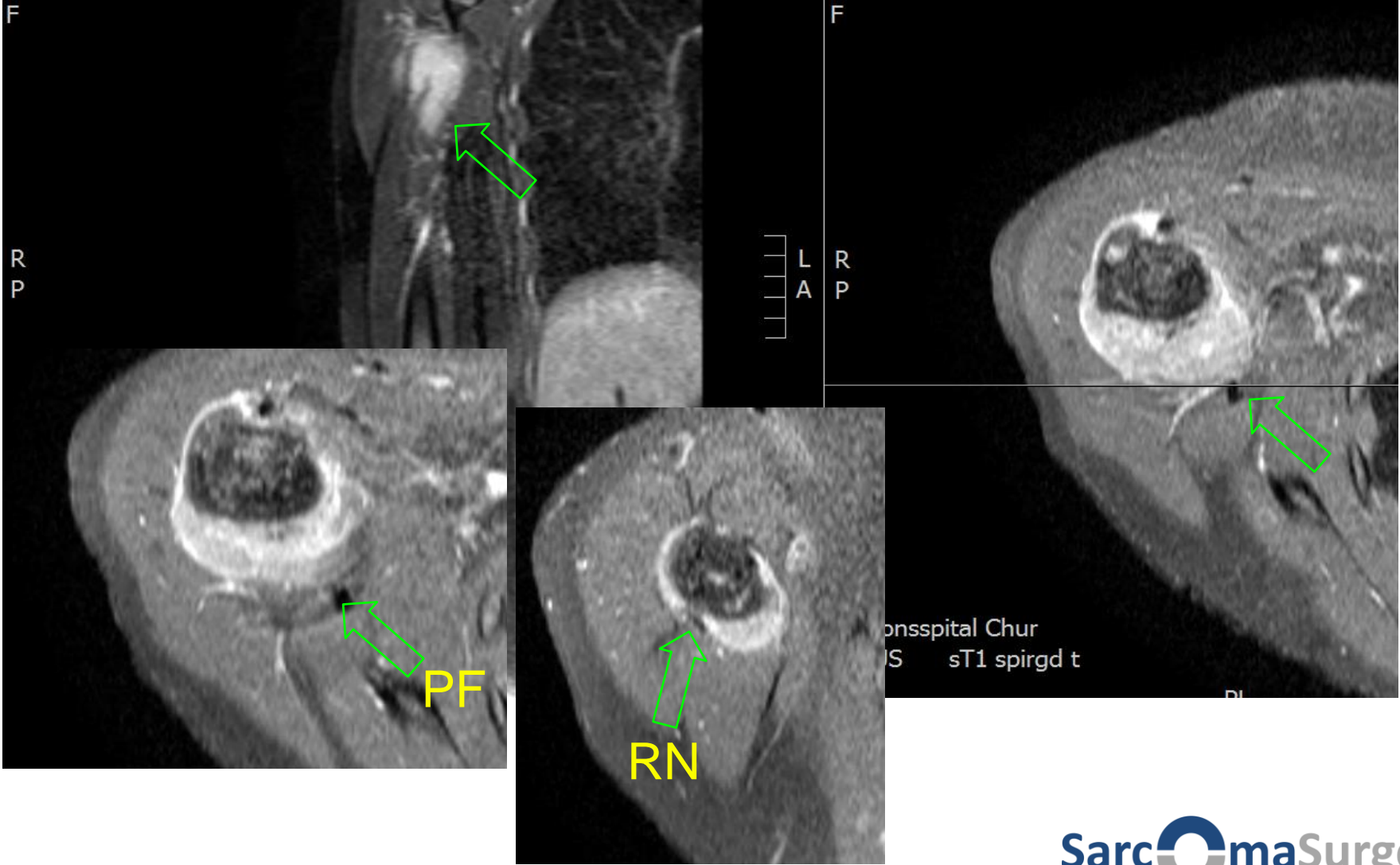
Firm and painfull mass on the proximal aspect of the right shoulder

humerus; proximal; transarticular; prosthesis RX 02 April 2014

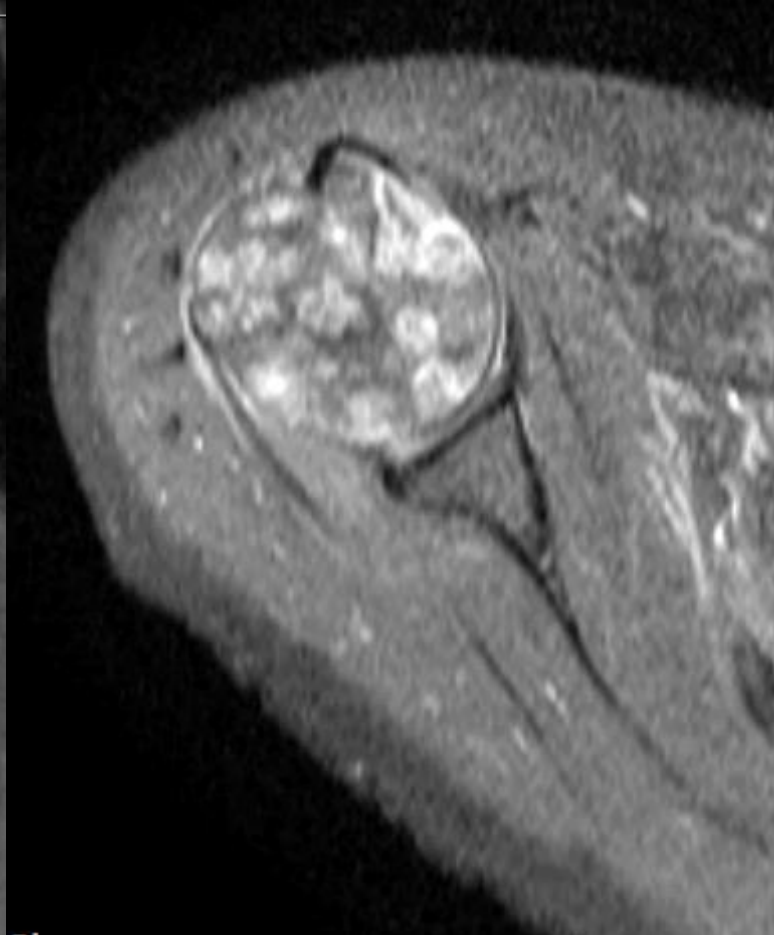
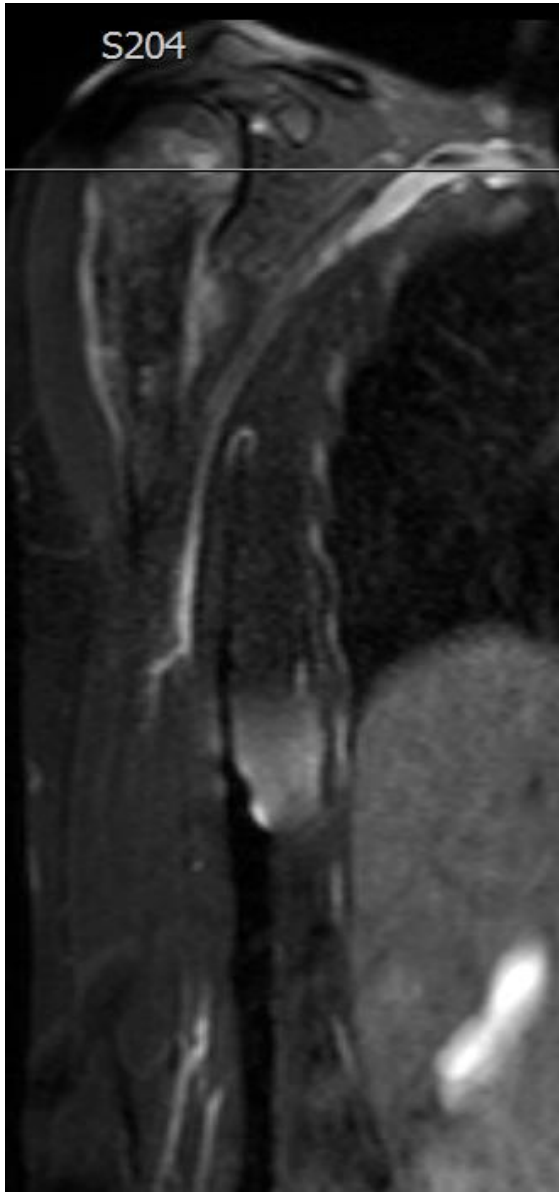


humerus; proximal; transarticular; prosthesis

MRI 02 April 2014



humerus; proximal; transarticular; prosthesis MRI 02 April 2014



humerus; proximal; transarticular; prosthesis

RX 03 April 2014



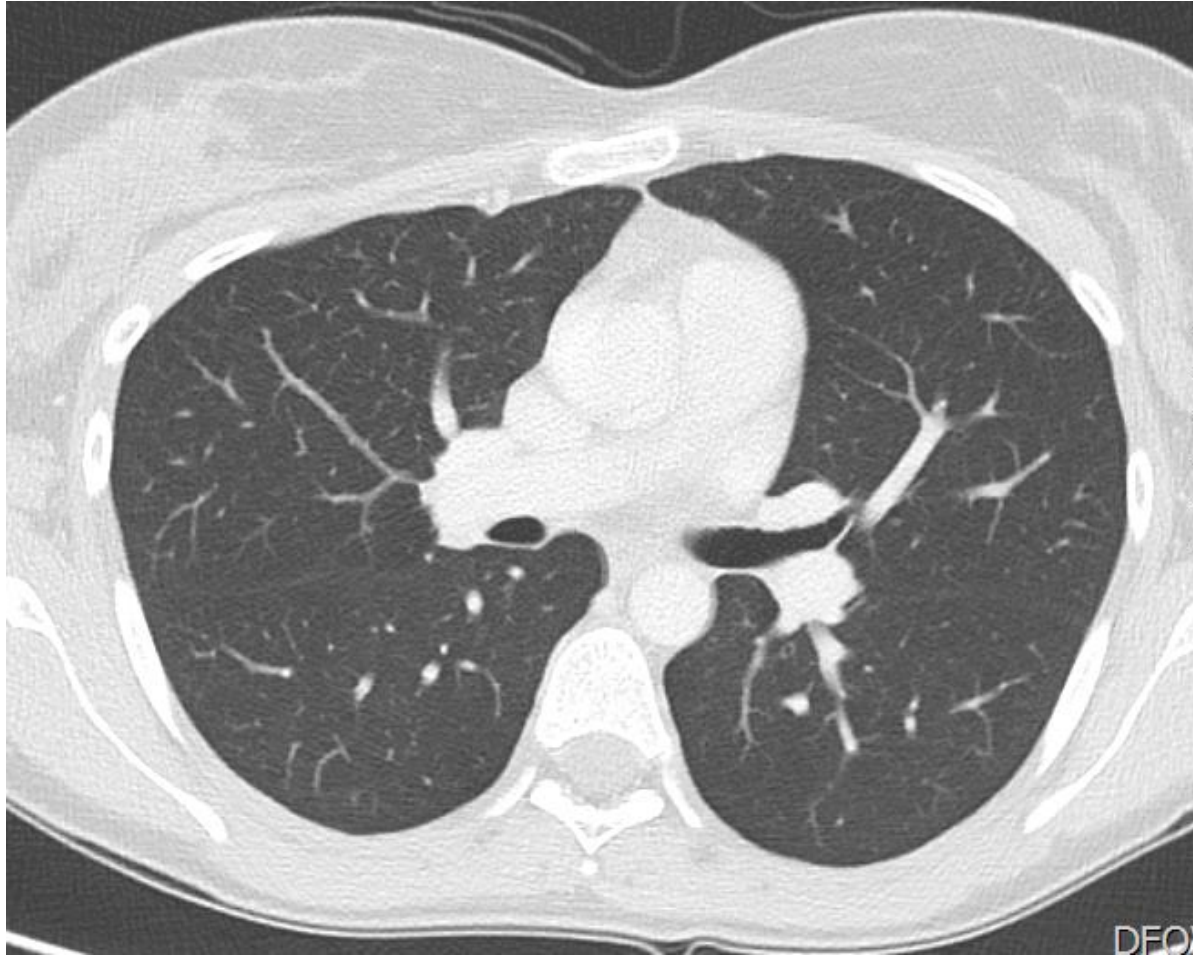
humerus; proximal; transarticular; prosthesis RX 03 April 2014



humerus; proximal; transarticular; prosthesis CT guided biopsy 04 April 2014

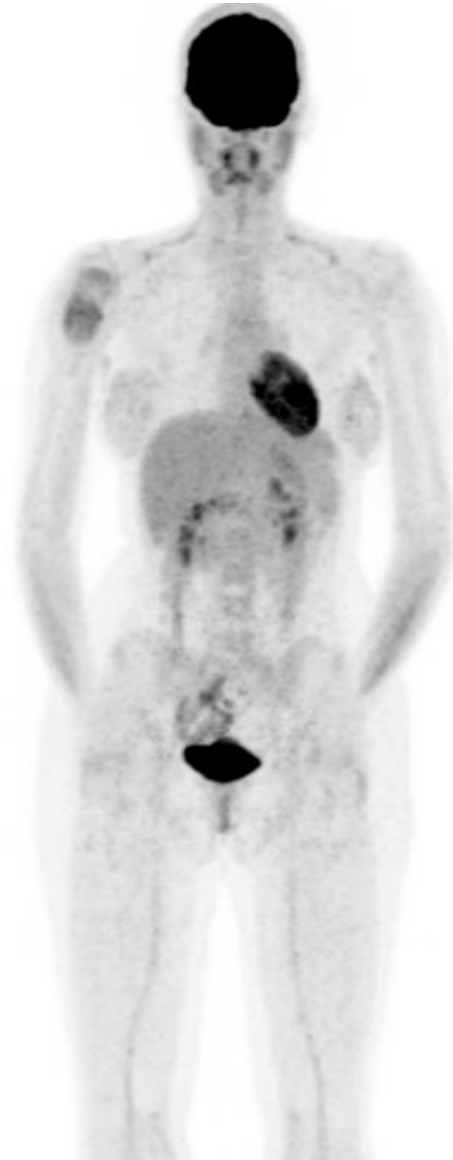


humerus; proximal; transarticular; prosthesis staging chest CT 04 April 2014



no suspect lesions

humerus; proximal; transarticular; prosthesis FDG-PET April 17th, 2014



humerus; proximal; transarticular; prosthesis path results 04 April 2014

Klinische Angaben

Tumor prox. Humerus rechts. Ewing? Osteosarkom? Histol. Diagnose? Dignität?

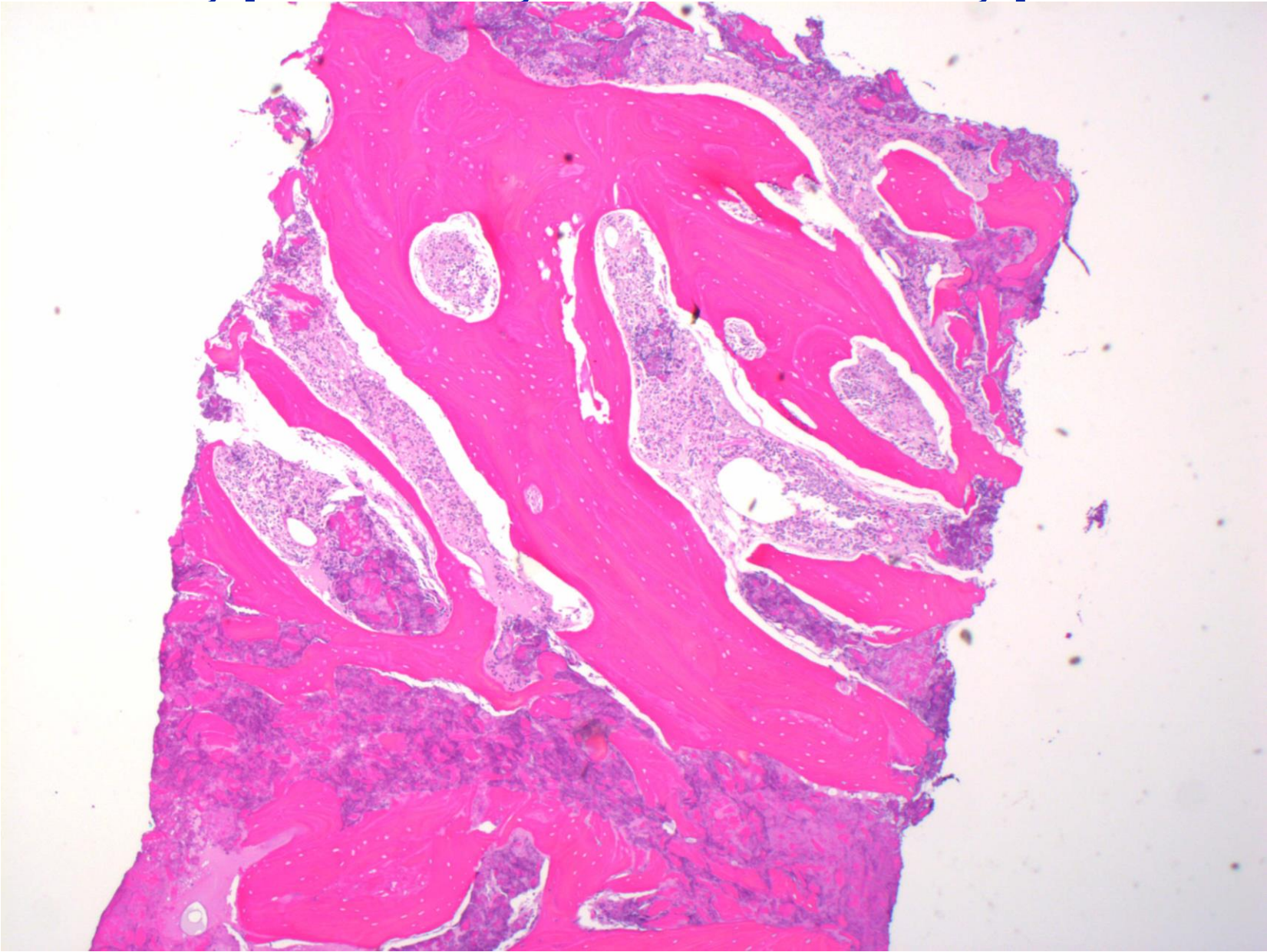
Angaben zur Probe

Proximaler Humerus rechts

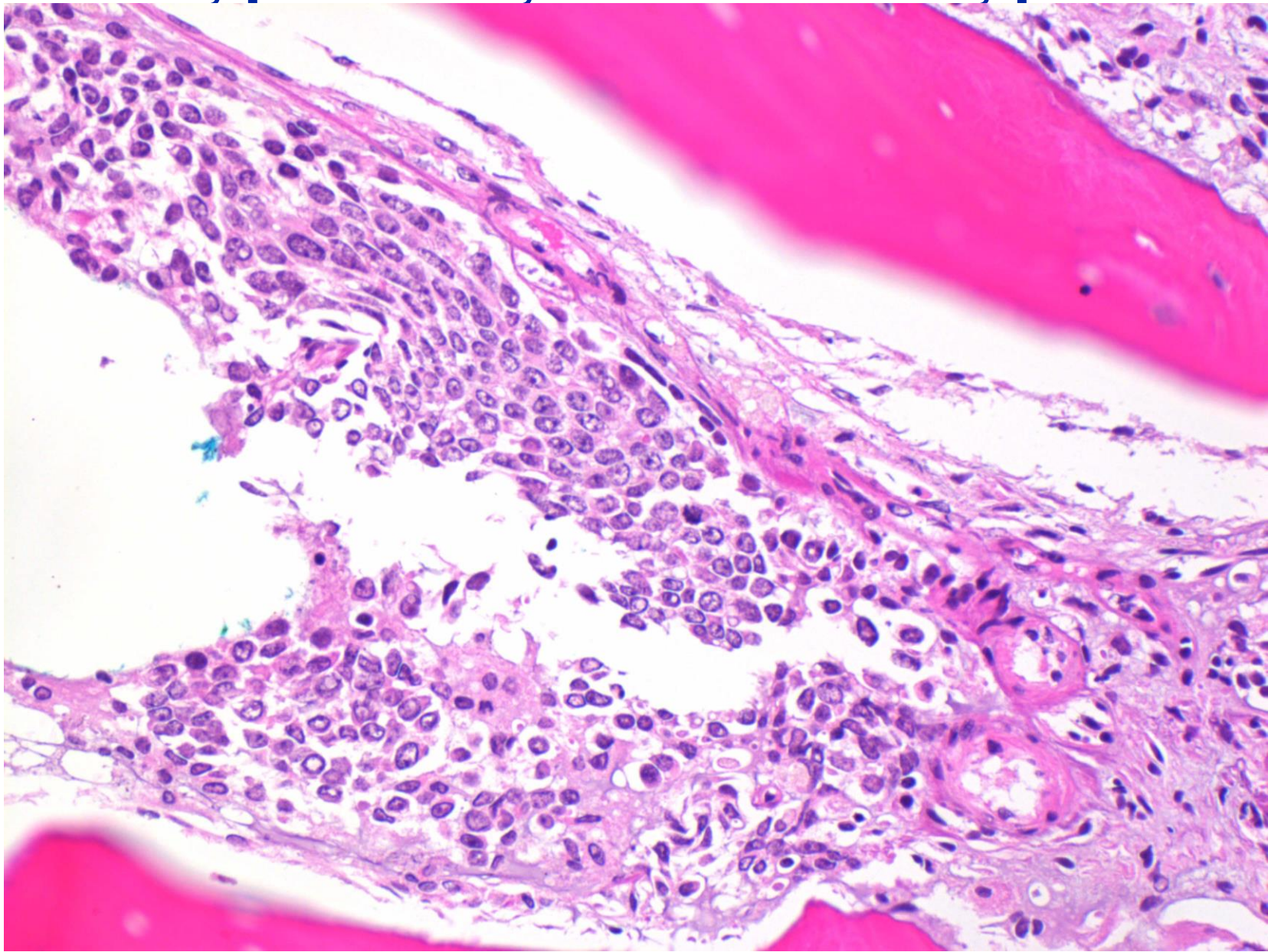
Makroskopischer Befund

Beiger, knöcherner Zylinder, 1,8 cm und Fragment. BRASI/liru

humerus; proximal; transarticular; prosthesis

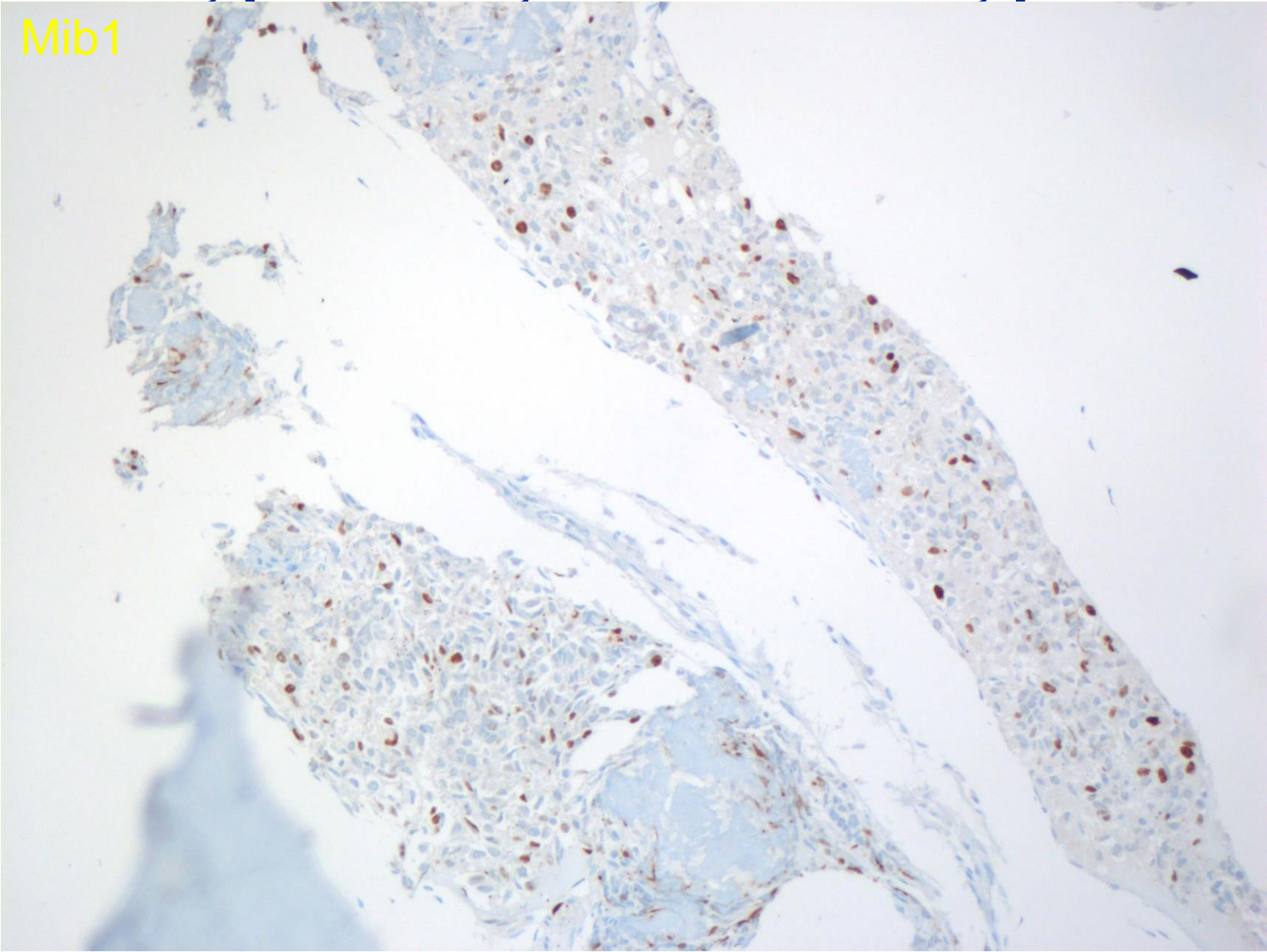


humerus; proximal; transarticular; prosthesis



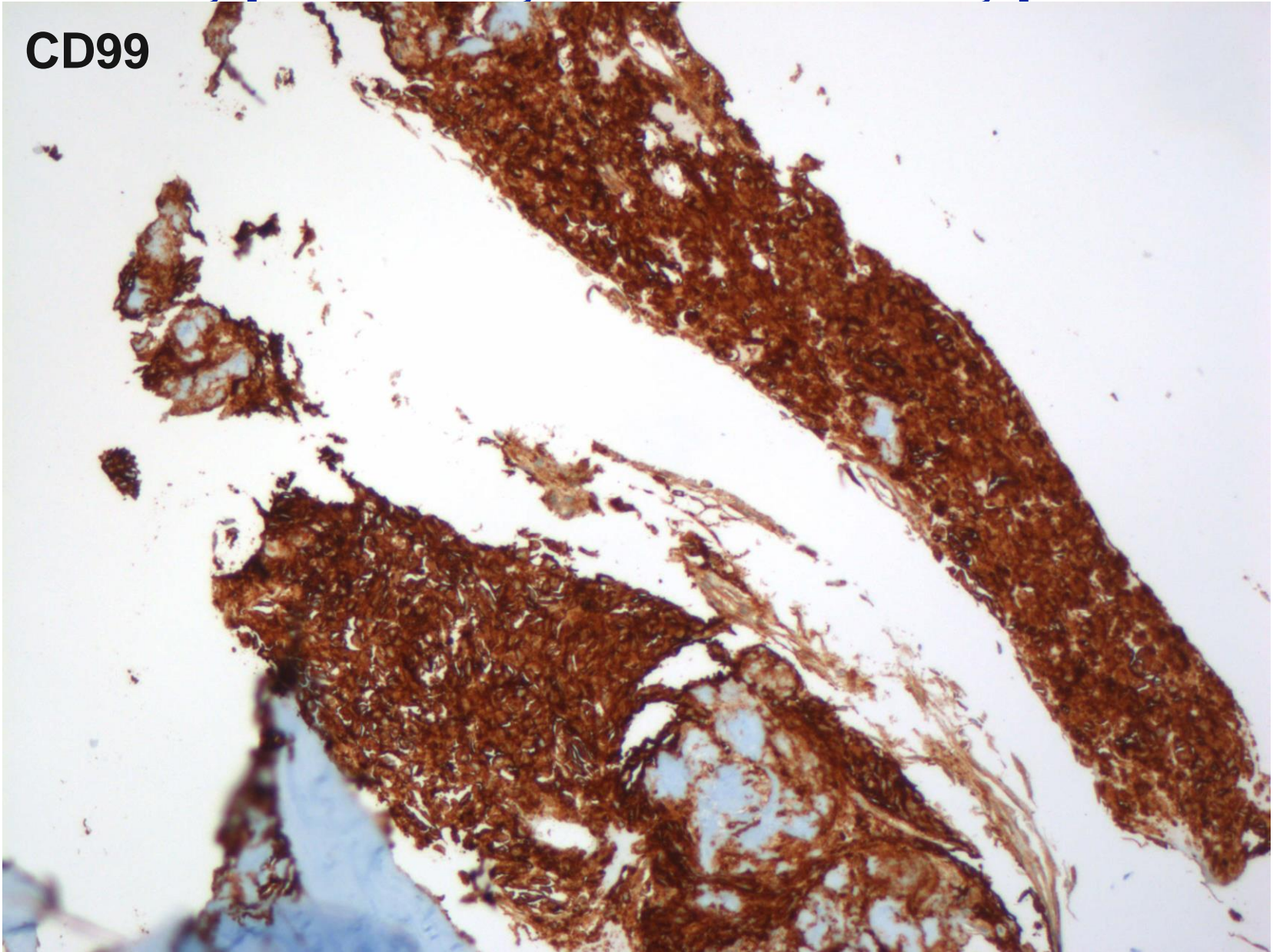
humerus; proximal; transarticular; prosthesis

Mib1



humerus; proximal; transarticular; prosthesis

CD99



humerus; proximal; transarticular; prosthesis path report 04 April 2014

Provisorischer Bericht

Diagnose

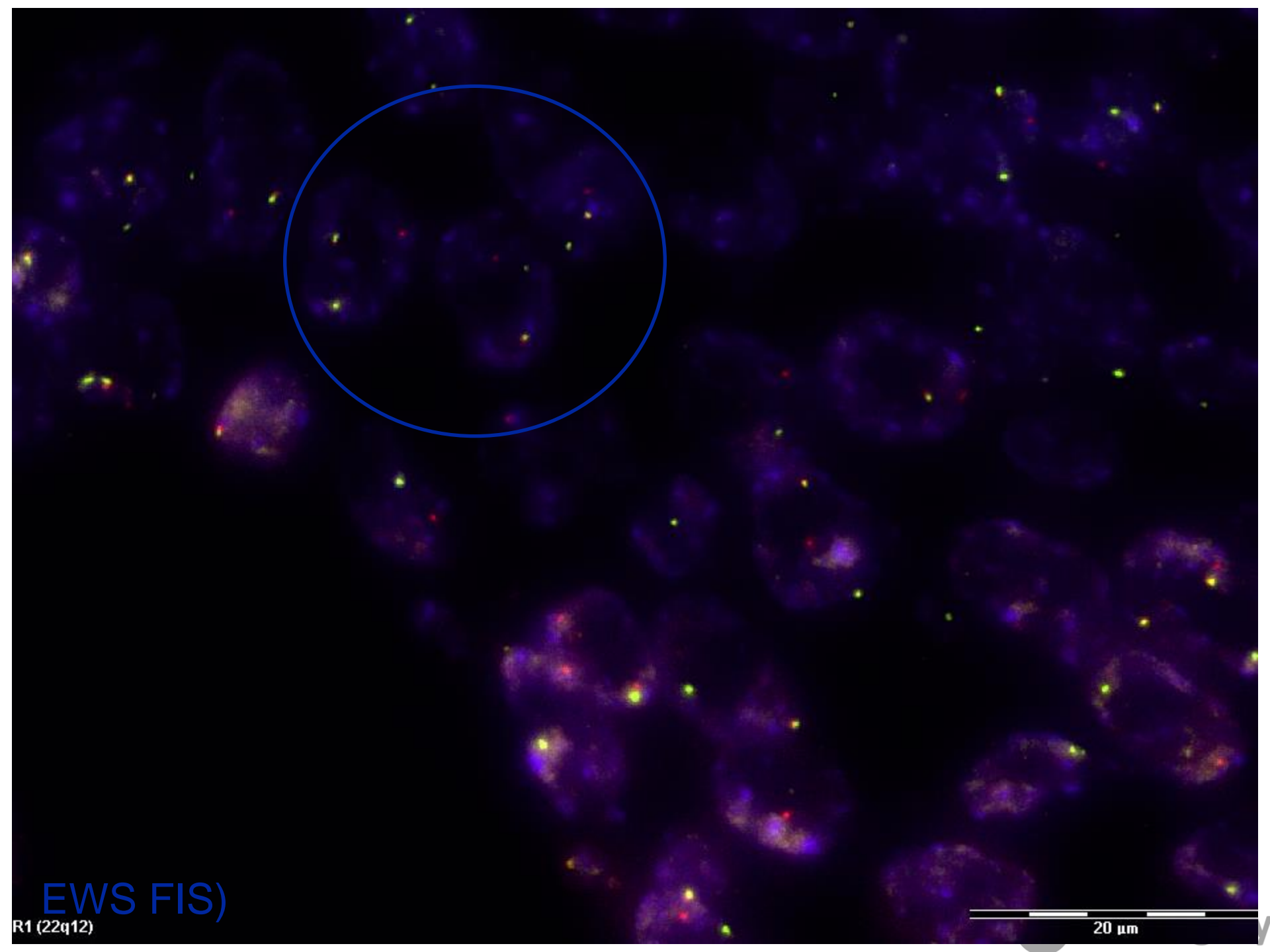
Sklerisiertes, kortiko-spongiöses Knochengewebe (proximaler Humerus rechts) mit Infiltraten einer gering differenzierten, CD99-positiven Neoplasie (vgl. Kommentar).

Spezialuntersuchungen

Immunhistochemie: Infiltrate positiv für CD 99, Einzelzellen positiv für Panzytokeratin B. Negativität für CD45 und CD20. Proliferation MIB1: ca. 10-20%.

Kommentar

Die starke Positivität für CD99 lässt in erster Linie differentialdiagnostisch an die Diagnose eines Tumors aus dem Formenkreis der Ewing-Sarkome denken. **Entsprechende molekular-genetische Untersuchungen wurden veranlasst. Weitere Berichte mit der definitiven Beurteilung folgen.**



EWS FIS)

R1 (22q12)



humerus; proximal; transarticular; prosthesis

Sarcoma Boad: April 10, 2014

Therapeutic decisions:

Chemotherapy:

Yes, a chemotherapy is recommended.

Radiotherapy:

no.

Surgery:

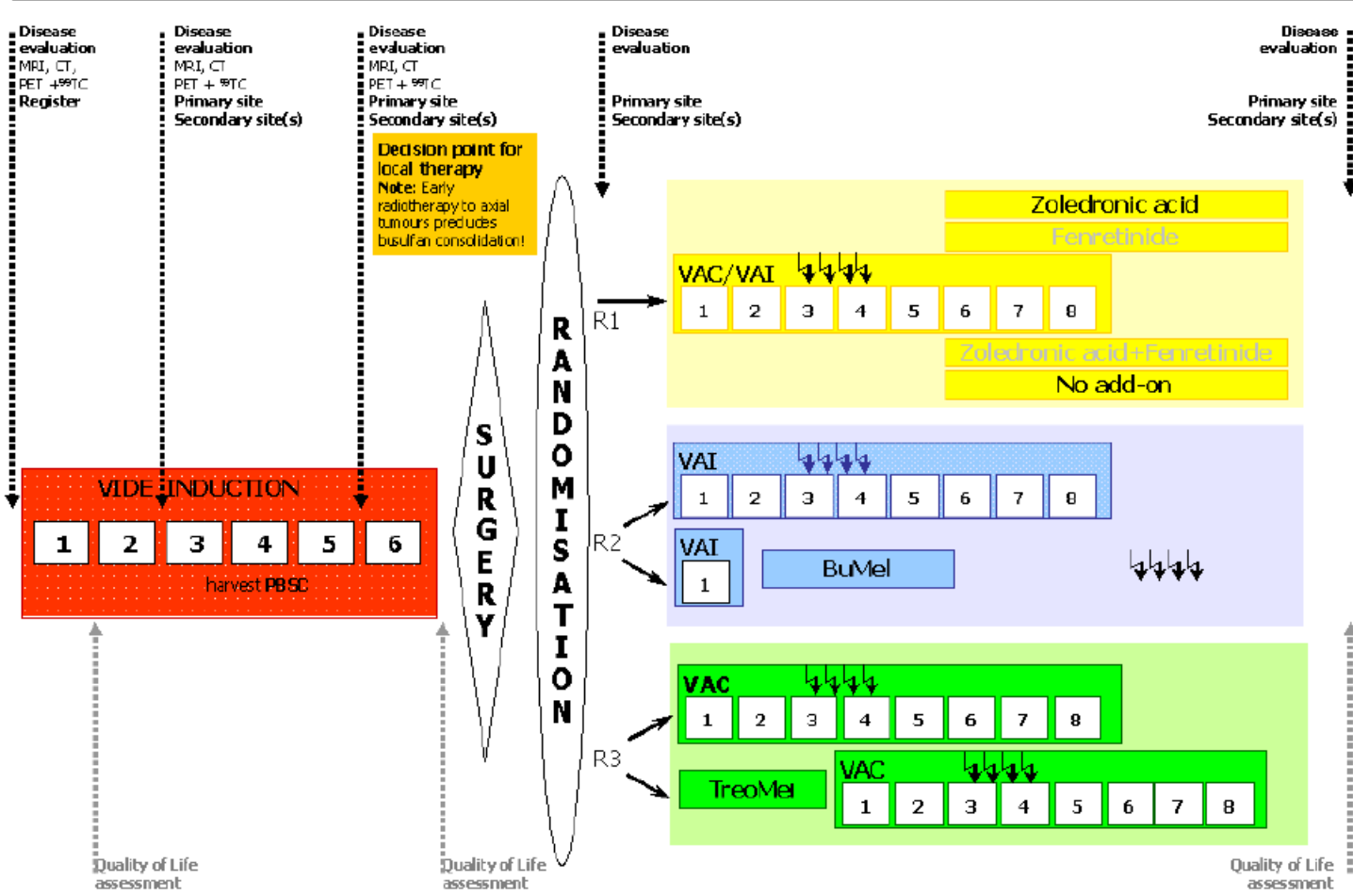
Yes, after the completion of the neoadjuvant chemotherapy, a surgical treatment is planned.

humerus; proximal; transarticular; prosthesis

NEOADJUVANT CHEMOTHERAPY

- **6 cycles VIDE-scheme**
 - **May to August 19th, 2014**
 - **Vincristin, 1,4 mg/m² (2 mg total) d1 Etoposid 150 mg/m² (280 mg total) d1-d3**
 - **Doxorubicin 20 mg/m² (40 mg total) d1-d3**
 - **Ifosfamid mit 3000 mg/m² (5600 mg total) d1-d3**

humerus; proximal; transarticular; prosthesis



humerus; proximal; transarticular; prosthesis

Tumor-Diagnose:

Ewing-Sarkom des proximalen rechten Humerus

Molekularbiologisch Nachweis einer typischen EWSR1 Gen-Mutation, ED März

-St. n. CT gesteuerter Biopsie am 08.04.14; Uniklinik Balgrist (USZ B2014.19035)

-St. n. neoadjuvanter Chemotherapie erster Zyklus nach VIDE-Schema:

-Vincristin, 1,4 mg/m² (2 mg absolut) d1

-Etoposid 150 mg/m² (280 mg absolut) d1-d3

-Doxorubicin 20 mg/m² (40 mg absolut) d1-d3

-Ifosfamid mit 3000 mg/m² (5600 mg absolut) d1-d3

-Mai bis August 2014 2. – 6. Zyklus Chemotherapie nach VIDE-Schema in obiger Dosierung, zuletzt am 19.08.2014

Besprechung

Fragestellung

Die Patientin ist am Ende ihres 6. Zyklus der Chemotherapie, Frage des Weiteren chirurgischen Prozederes?

Therapeutische Entscheidungen:

Chemotherapie: Die Patientin hat bereits eine Chemotherapie erhalten und ist am Ende ihres 6. Zyklus.

Radiotherapie: Nein. Hyprosar: Nein.

Chirurgie: Ja, geplant ist eine Resektion des Tumors proximaler Humerus rechts und eine Rekonstruktion mittels inverser Schulterprothese.

Organisatorisches: Die Patientin wird von der Uniklinik Balgrist zur Besprechung der Operation und für eine erneute Kontrastmittel-MRI-Untersuchung des Oberarmes rechts sowie Röntgen-Oberarm rechts in 2 Ebenen und CT Thorax in die Sprechstunde am 3. September 2014 aufgeboten.

humerus; proximal; transarticular; prosthesis X-RAY PRE/POST CHEMOTHERAPY

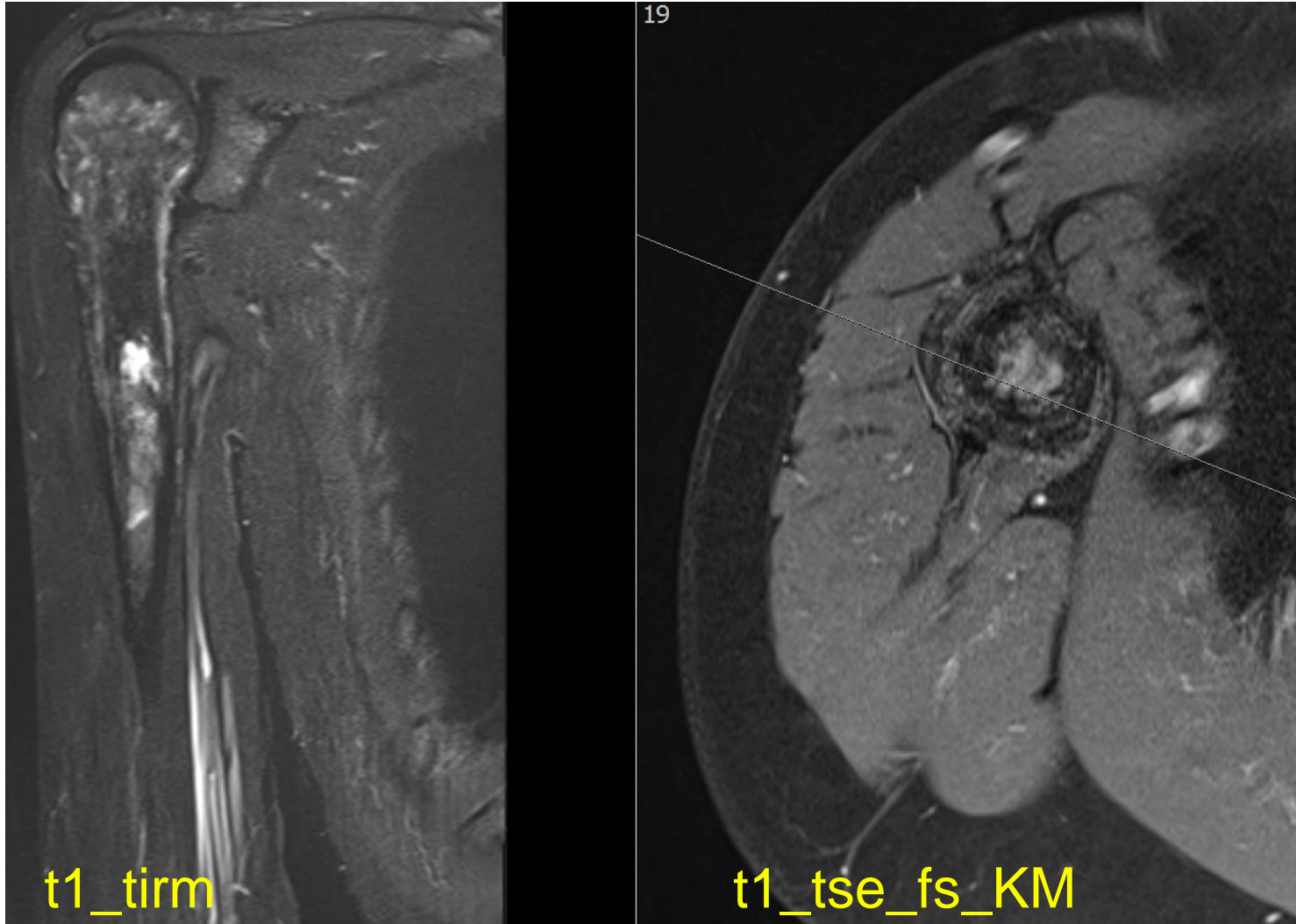
April 3rd, 2014



September 1st, 2014

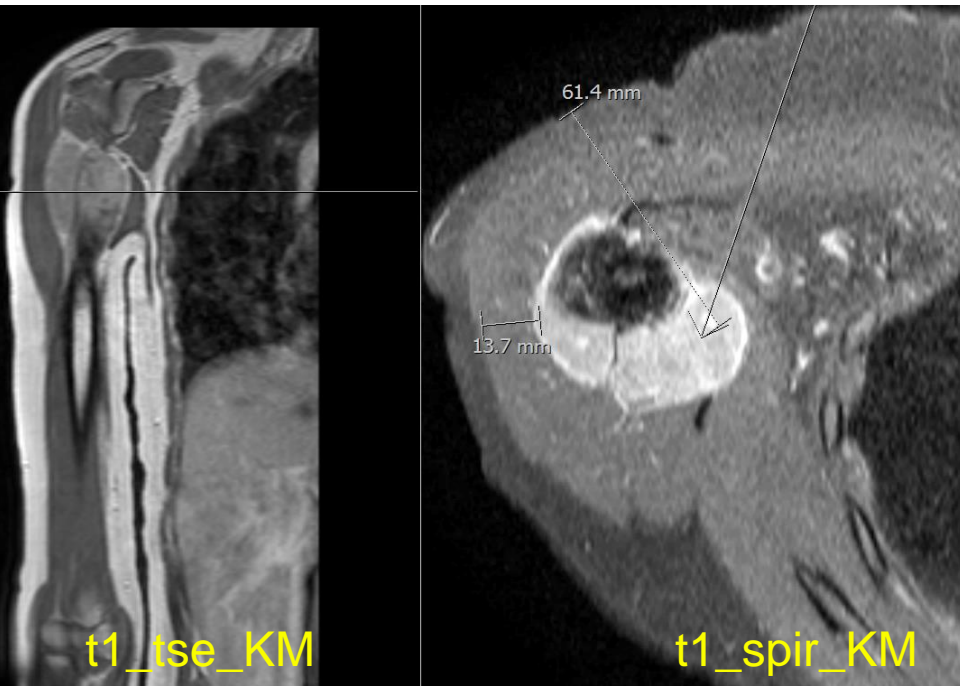


humerus; proximal; transarticular; prosthesis MRI September 1st, 2014

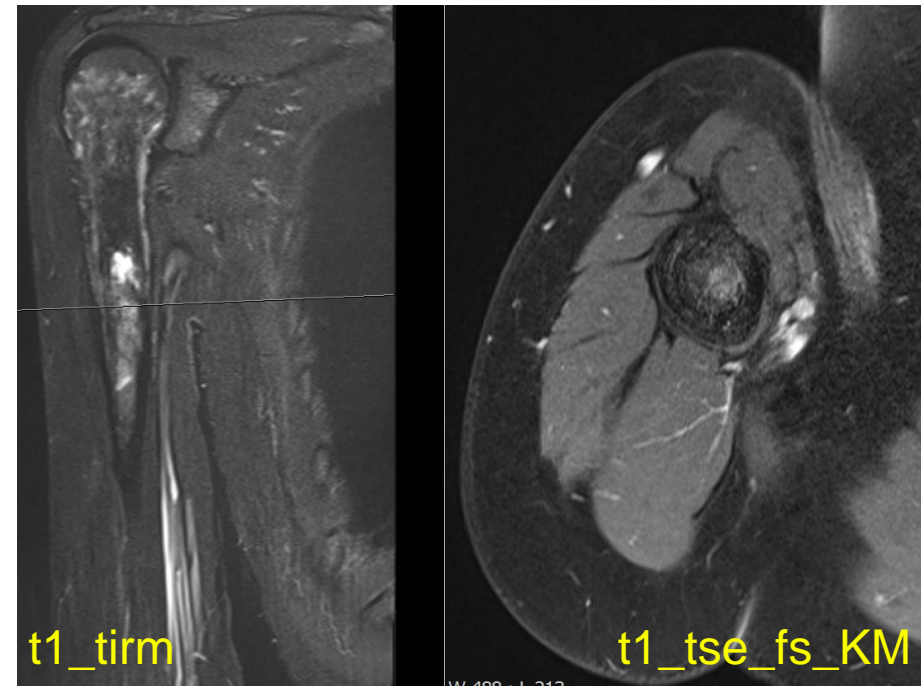


humerus; proximal; transarticular; prosthesis MRI PRE-/POST CHEMOTHERAPY

MRI April 2nd, 2014

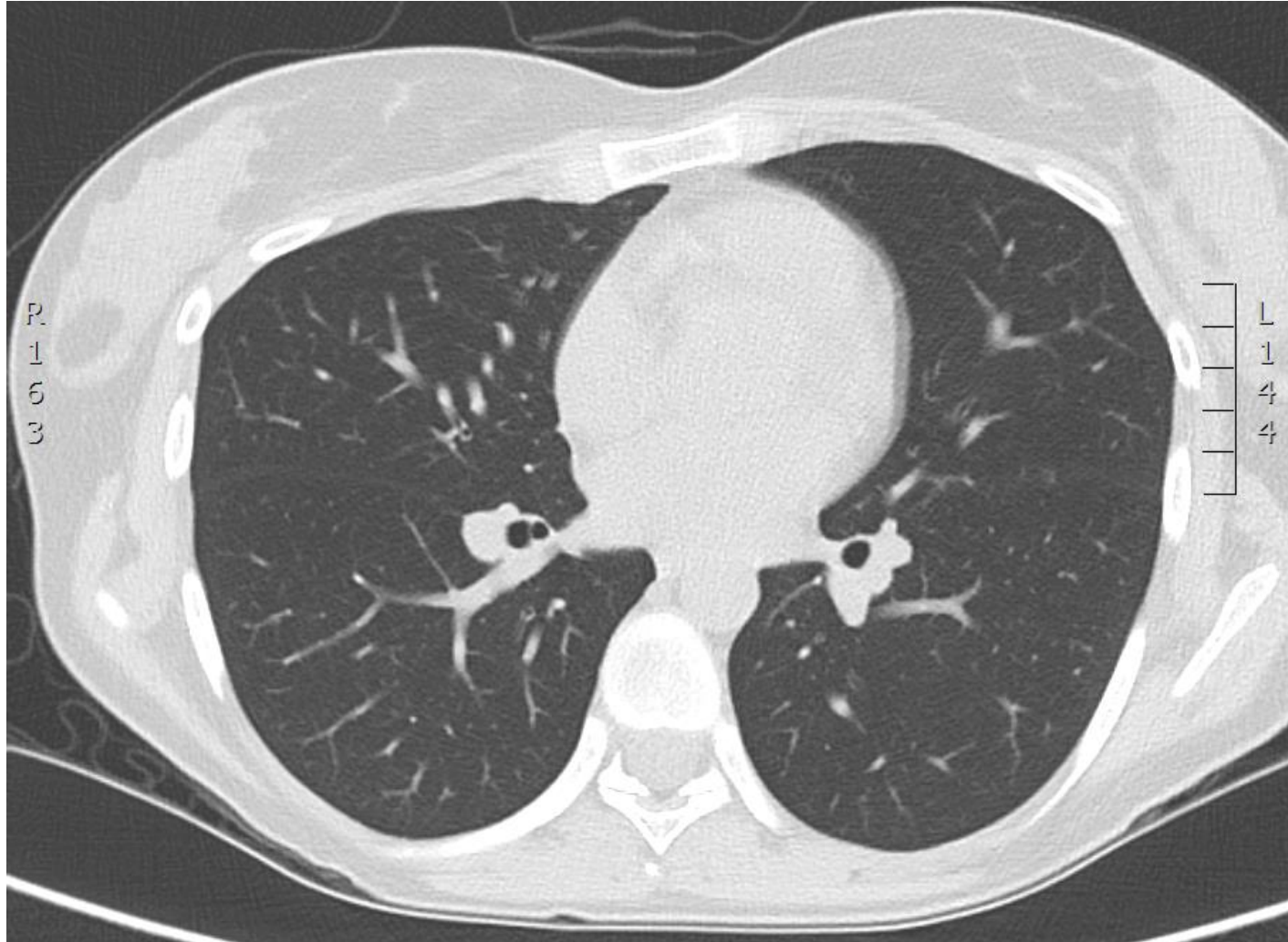


MRI September 1st, 2014



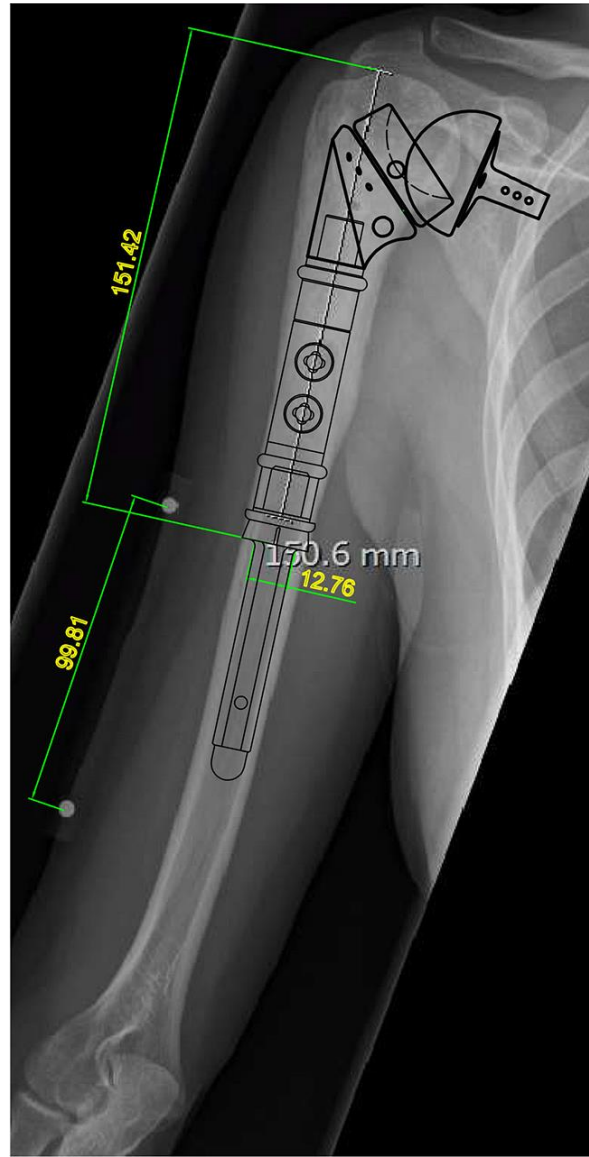
Significant reduction in size

humerus; proximal; transarticular; prosthesis CT September 1st, 2014

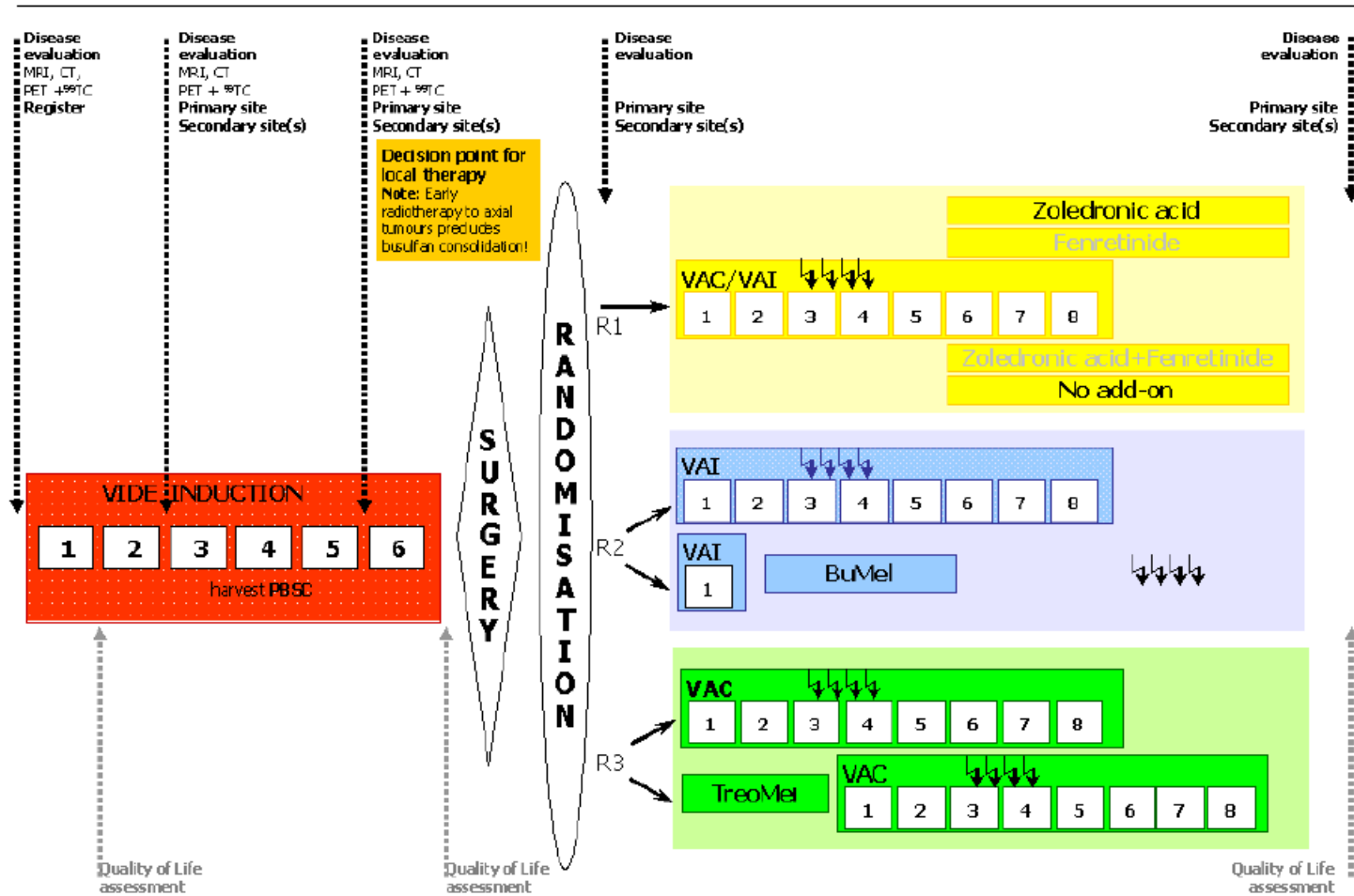


no metastasis suspect lesions SarcomaSurgery

humerus; proximal transarticular; prosthesis SURGERY- PLAN September 08th, 2014



humerus; proximal transarticular; prosthesis

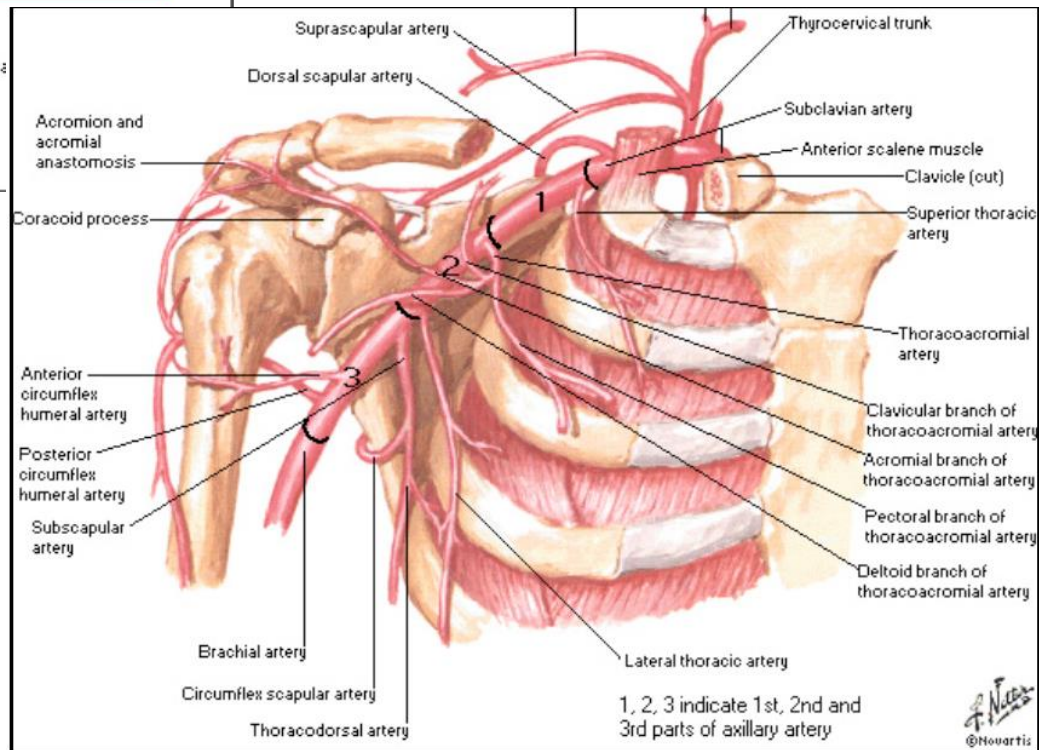
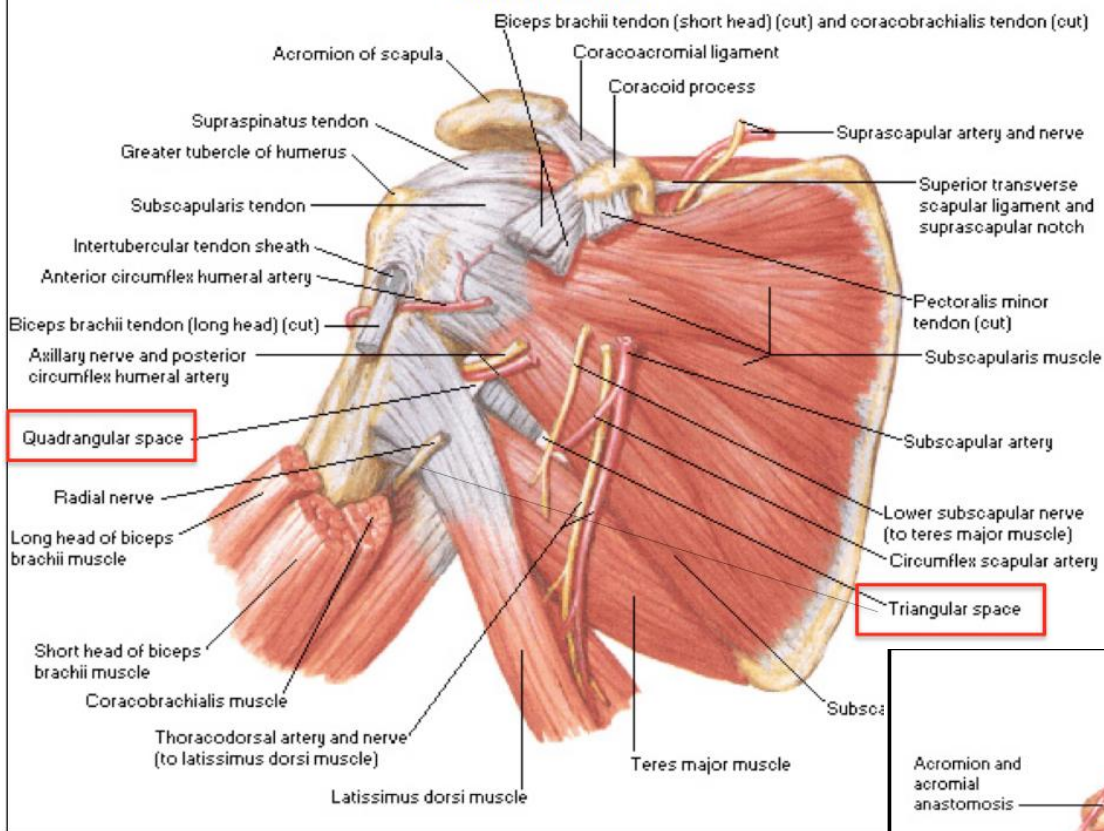


humerus; proximal transarticular; prosthesis SURGERY September 09th, 2014



Articular; prosthesis

Anterior View



humerus; proximal transarticular; prosthesis

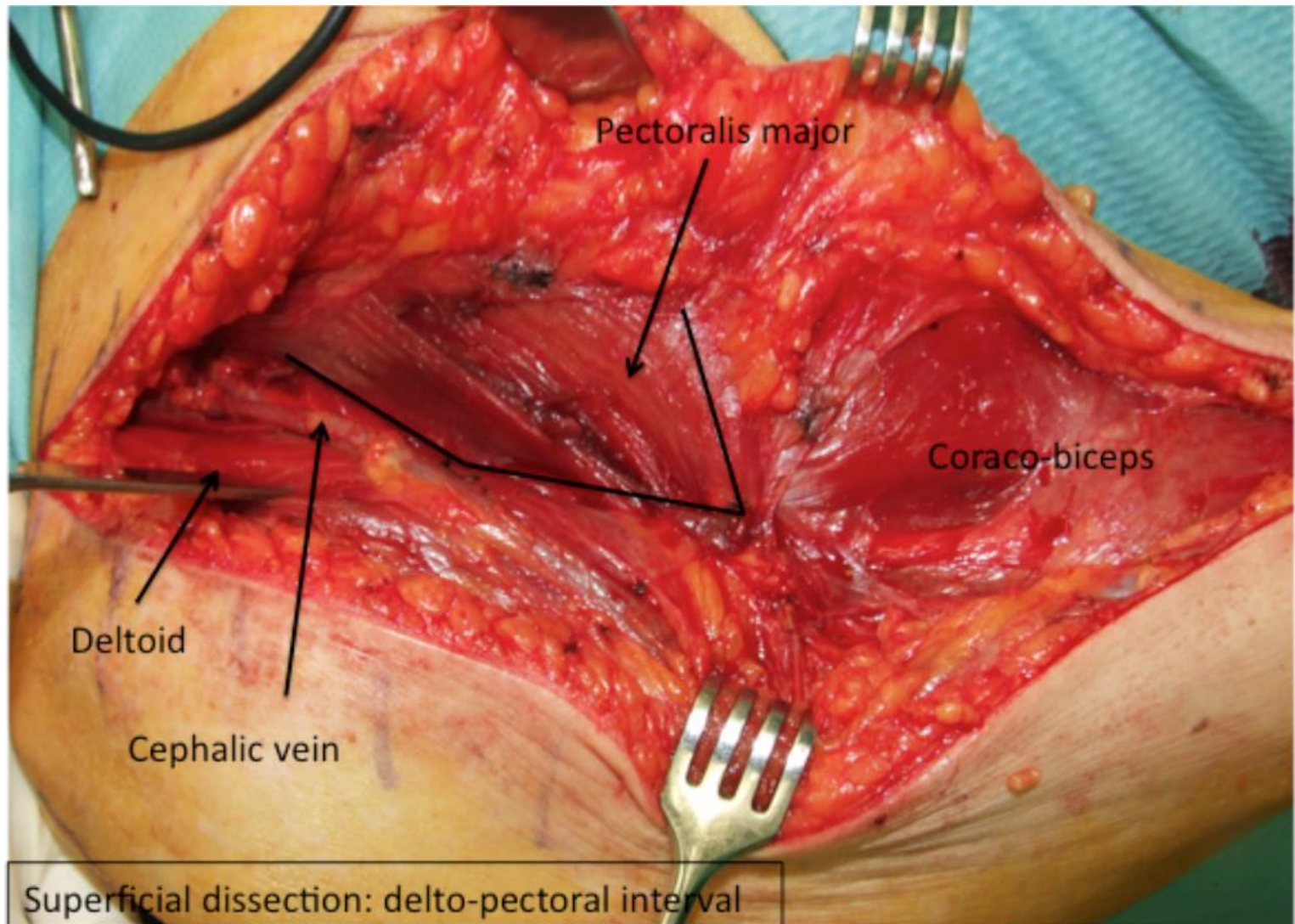


Figure 3: Superficial dissection in deltopectoral groove. Pectoralis major exposure.

humerus; proximal transarticular; prosthesis

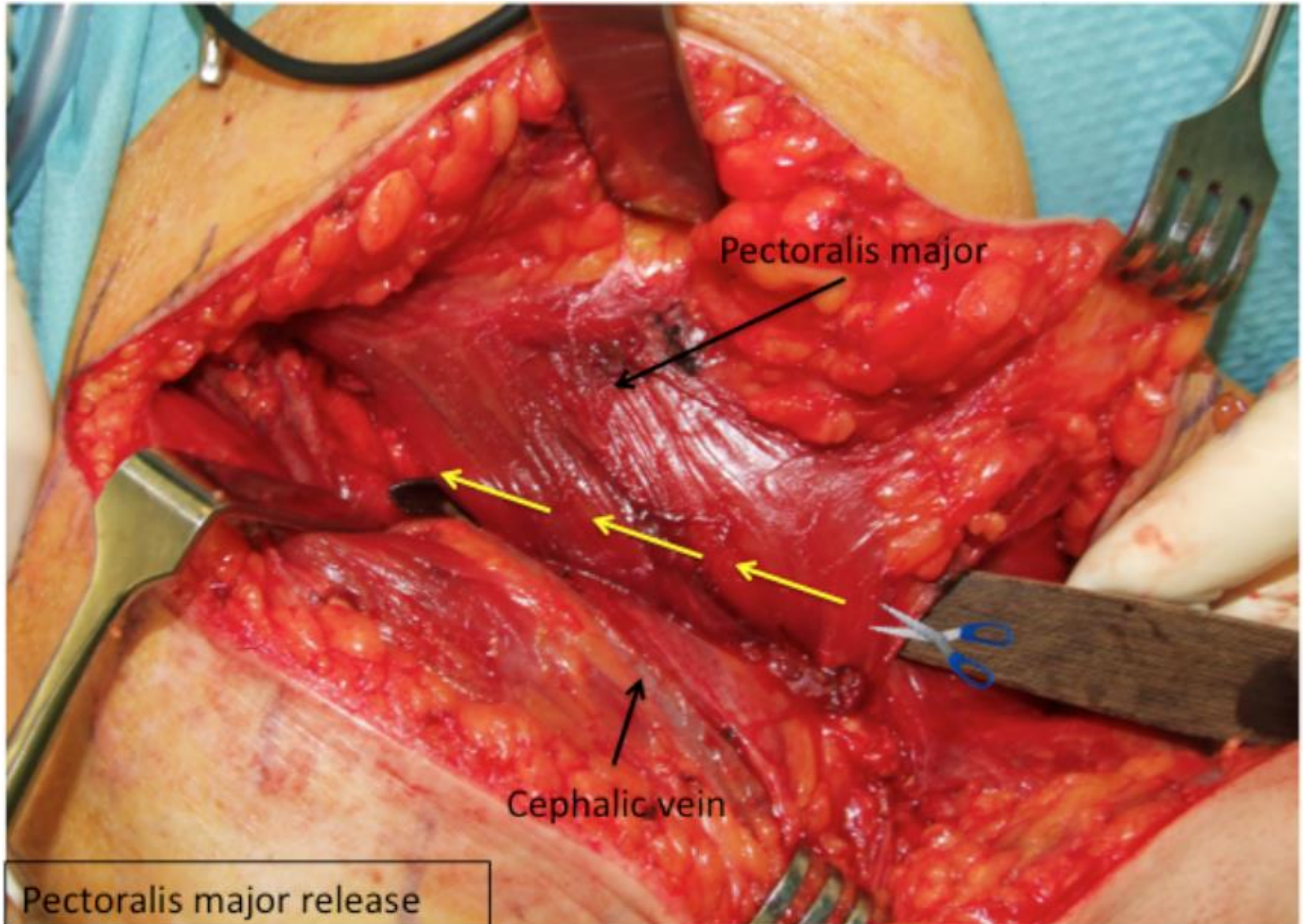


Figure 4: Safe pectoralis major release

humerus; proximal transarticular; prosthesis

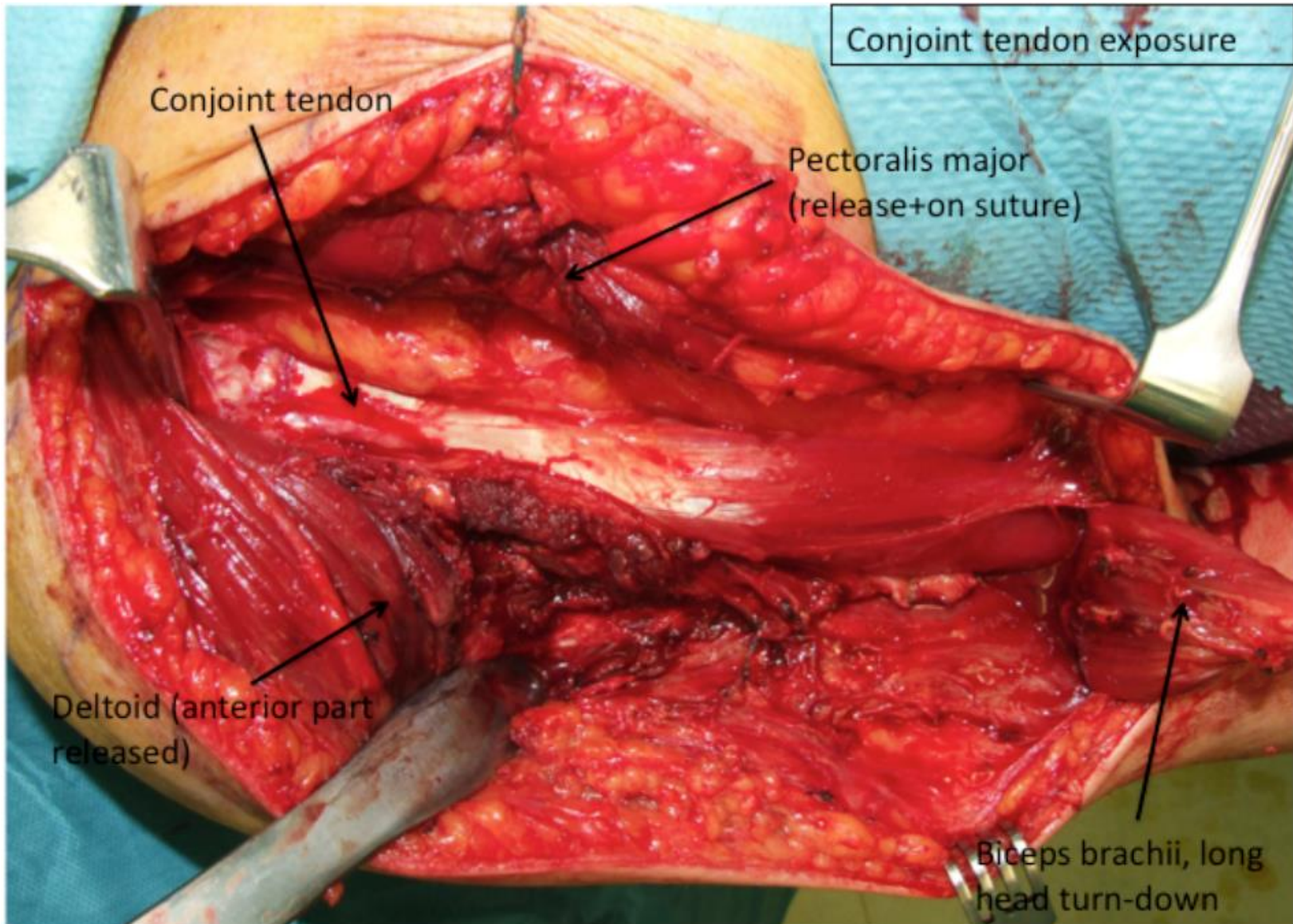


Figure 5: Biceps turn-down. Choracobrachialis exposure. Vessels, median and ulnar nerves are medially retracted

humerus; proximal transarticular; prosthesis

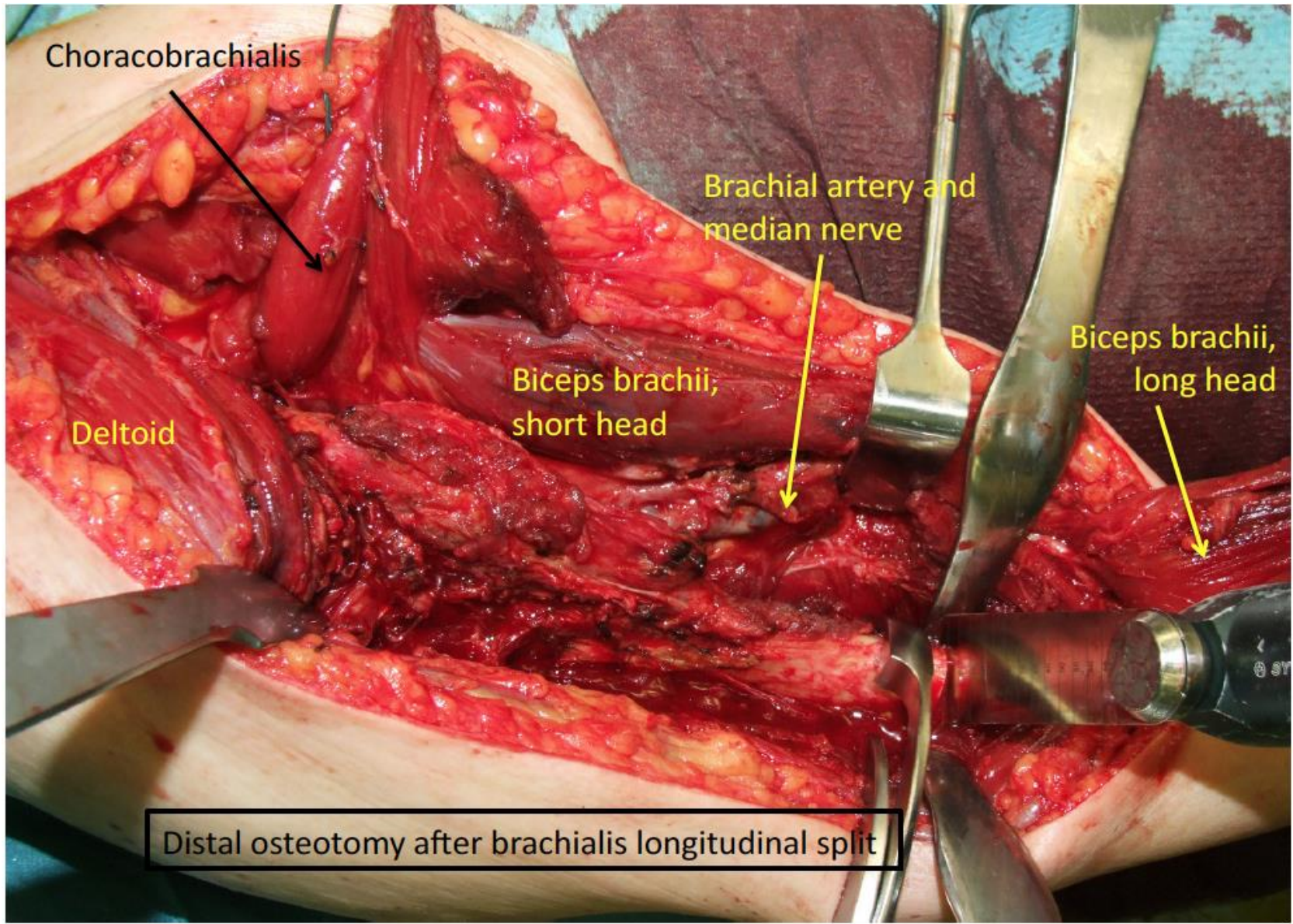


Figure 6: Osteotomy. Two blunt retractors should be use to protect tissues and nerves.

Radial Nerve in Arm and Nerves of Posterior Shoulder

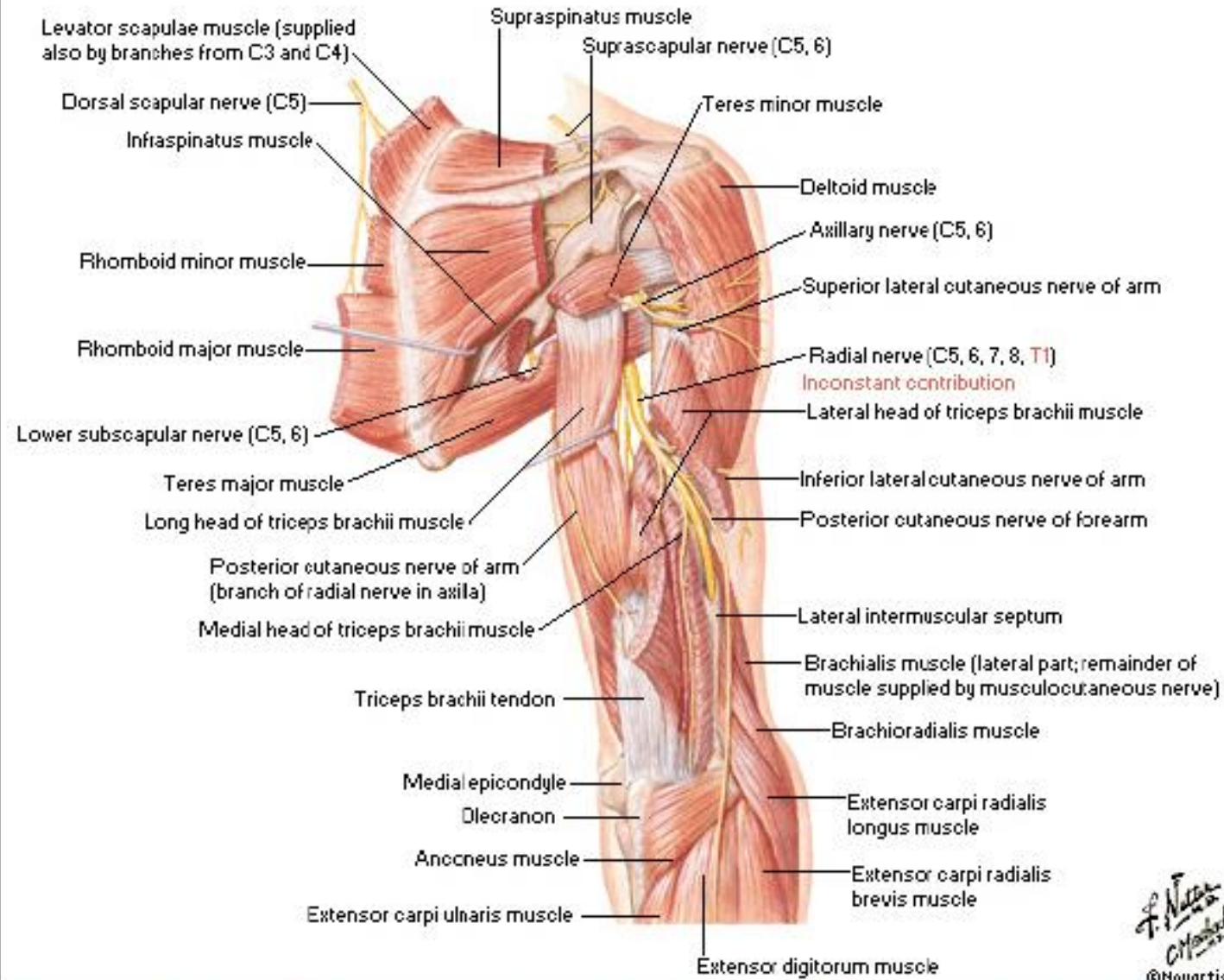


Figure 7: Radial nerve in relation to triceps. Deltoid insertion is close to triceps lateral head origin

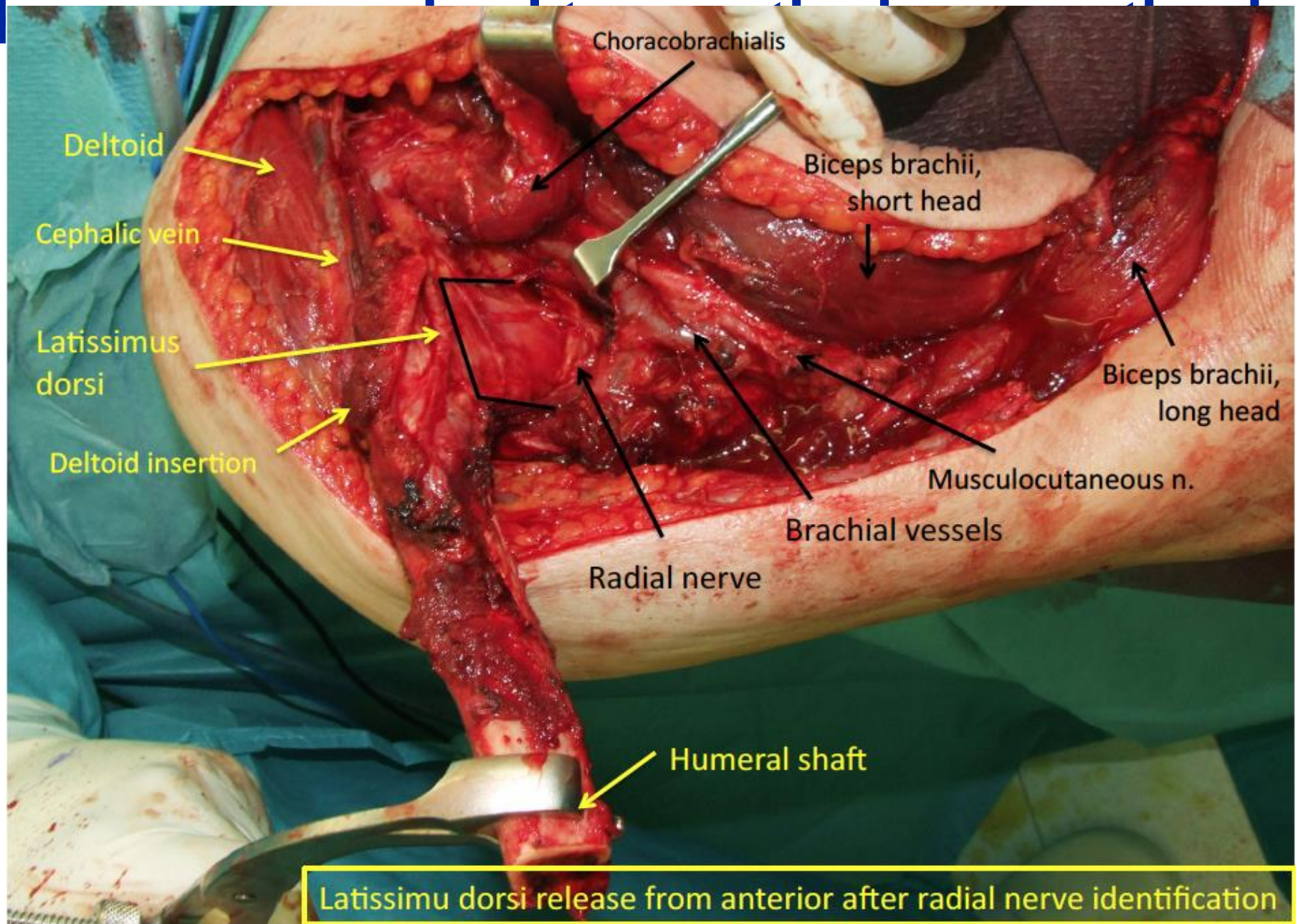


Figure 8: Anterior radial nerve isolation before latissimu dorsi release.

humerus;

thesis

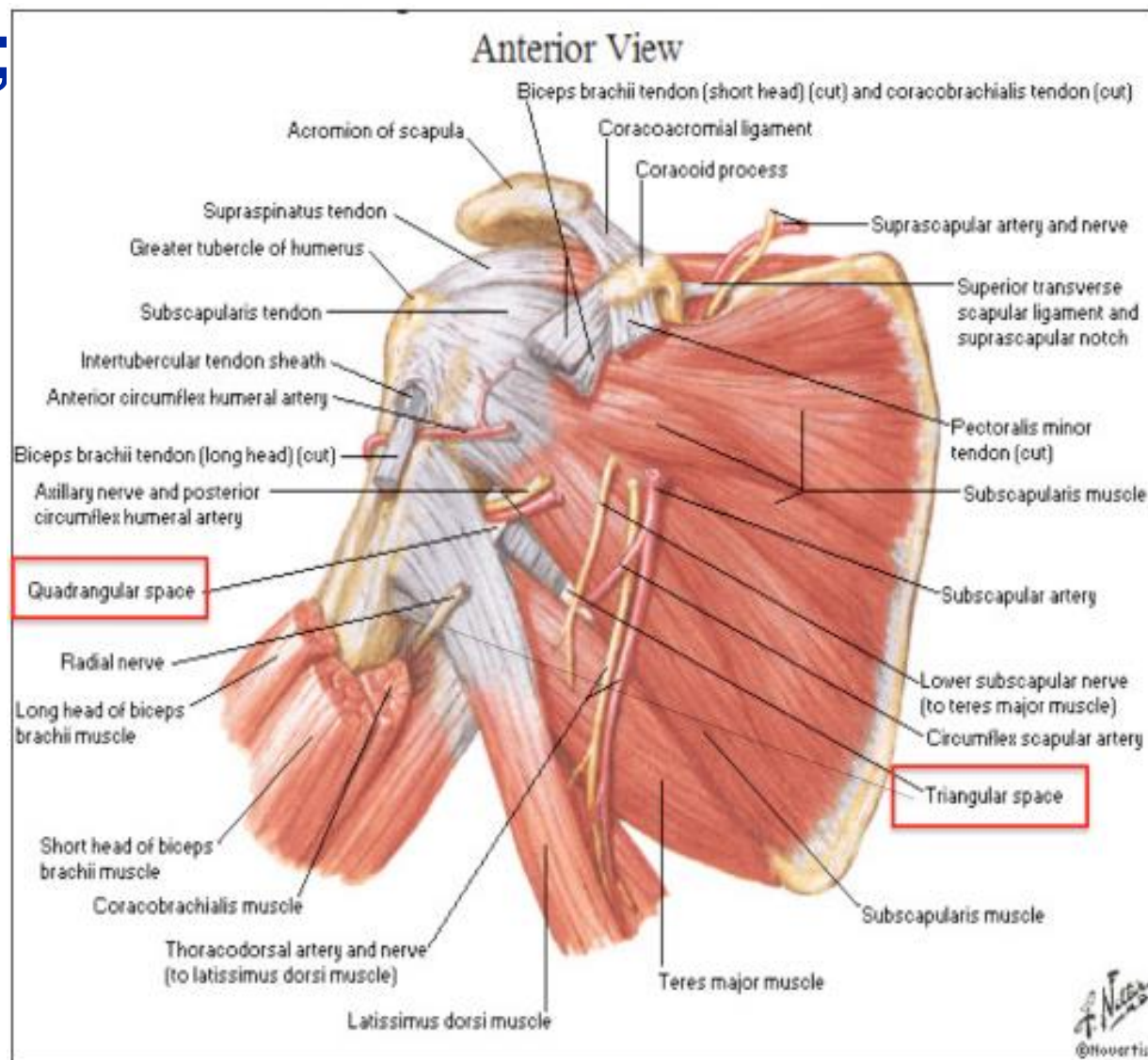
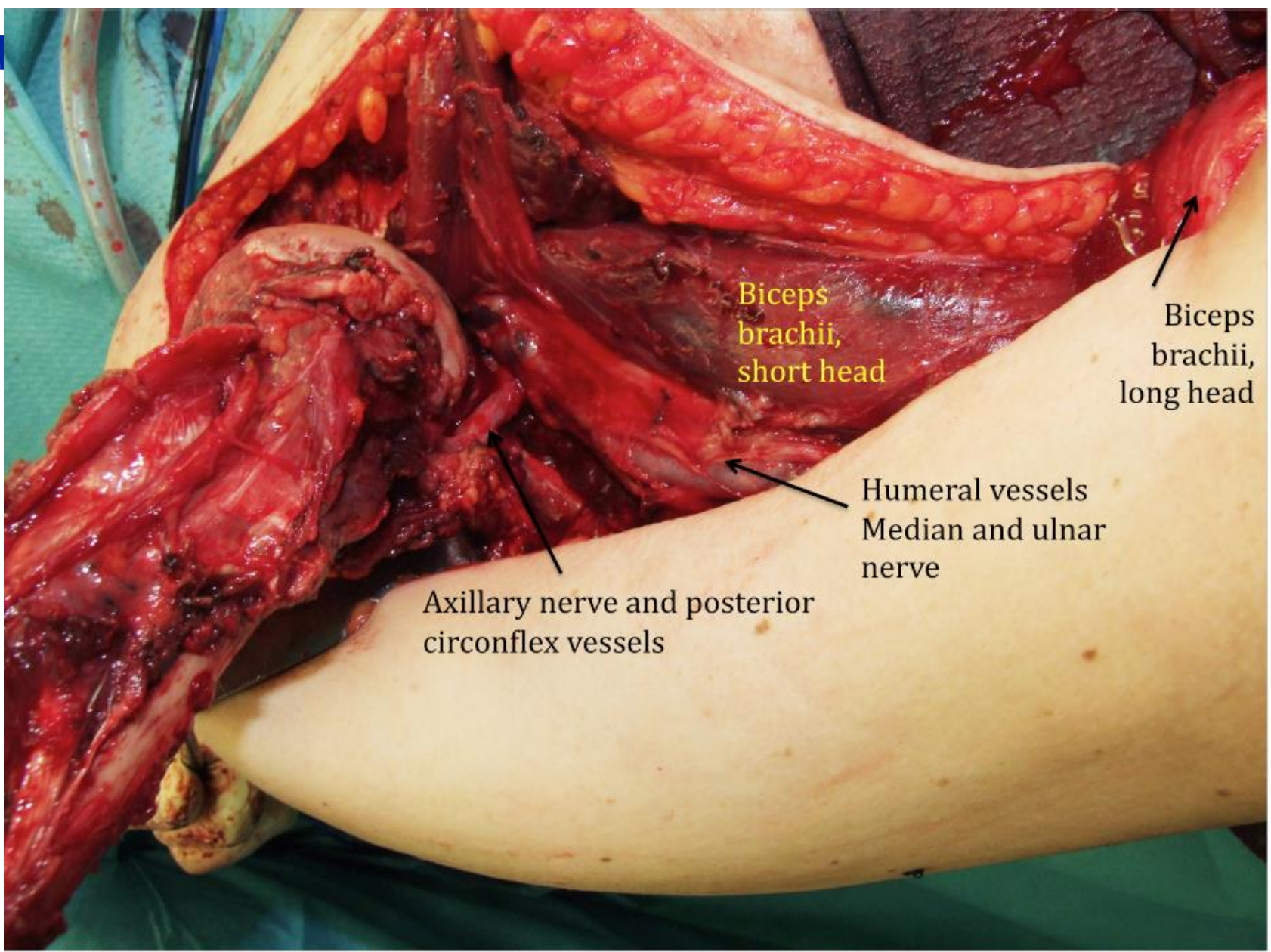


Figure 9: Radial nerve below latissimus and axillary nerve above latissimus dorsi and at inferior border of subscapularis



Biceps brachii, short head

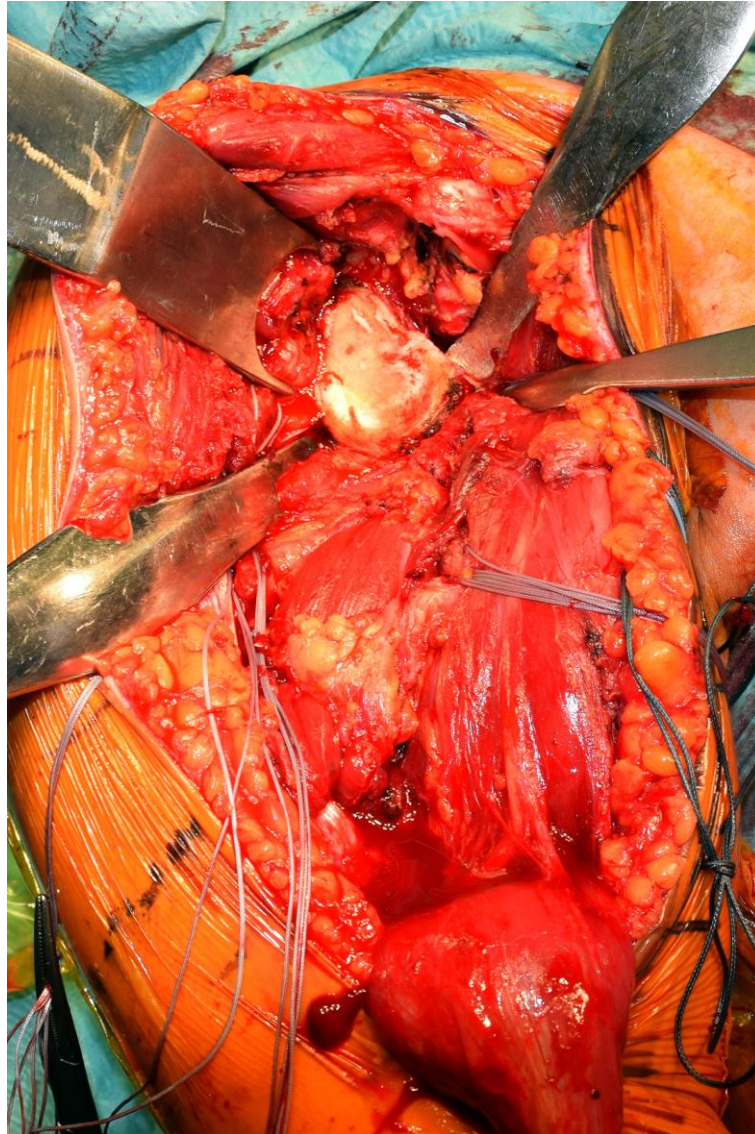
Biceps brachii, long head

Humeral vessels
Median and ulnar nerve

Axillary nerve and posterior circumflex vessels

Figure 11: Axillary nerve and posterior circumflex vessels are sacrificed here because of tumor extension

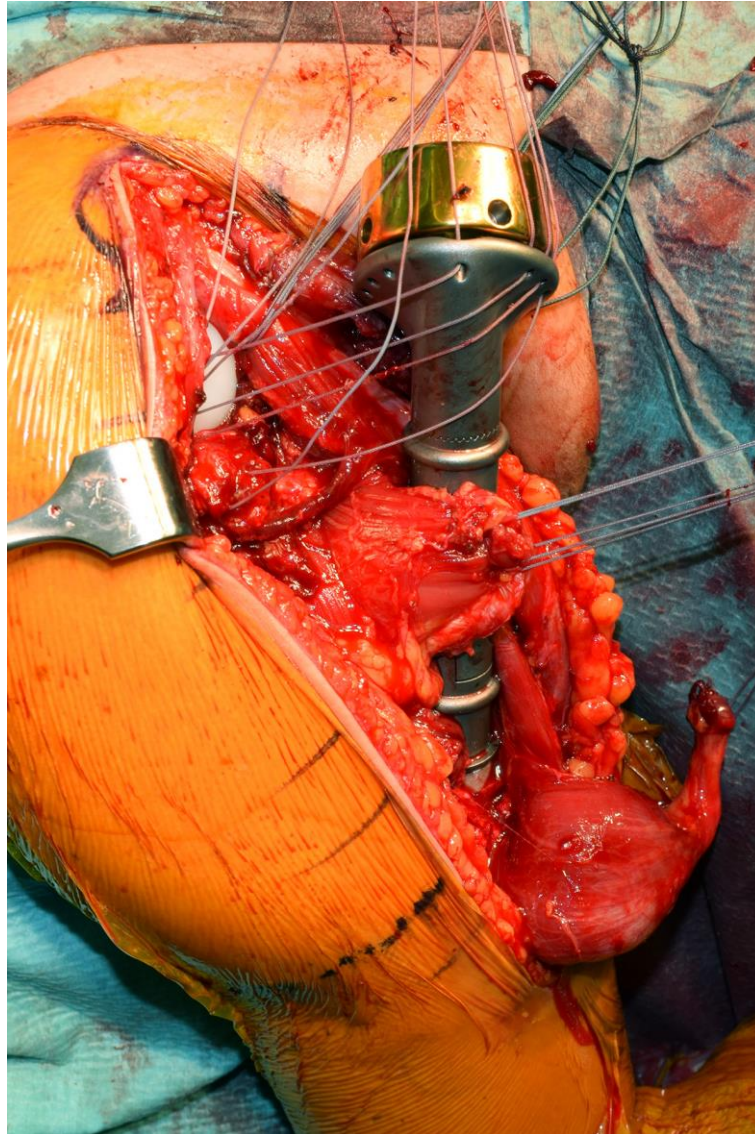
humerus; proximal transarticular; prosthesis SURGERY September 09th, 2014



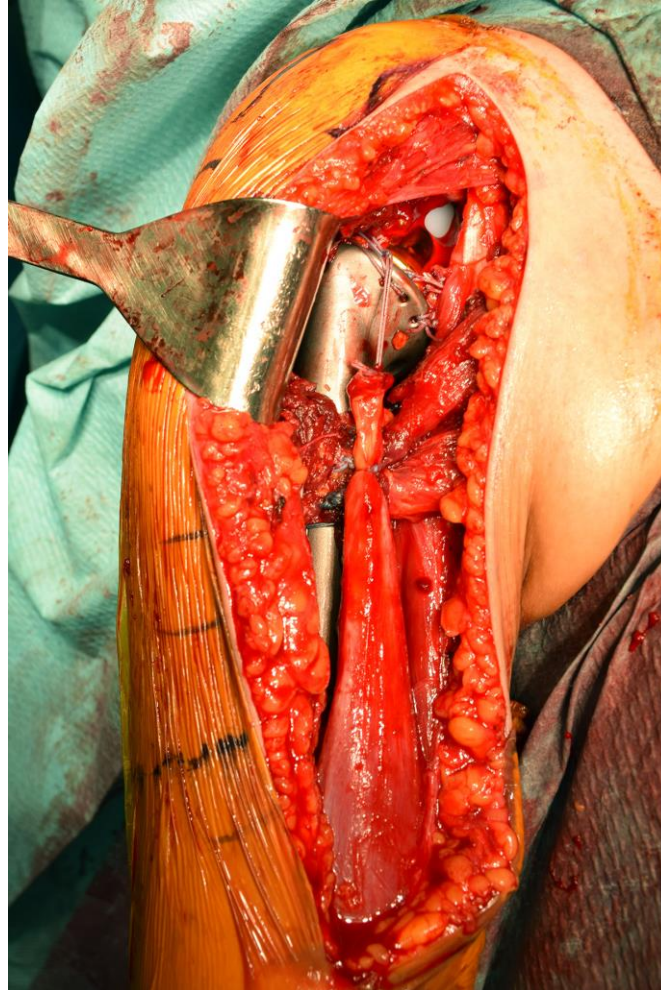
humerus; proximal transarticular; prosthesis SURGERY September 09th, 2014



humerus; proximal transarticular; prosthesis SURGERY September 09th, 2014



humerus; proximal transarticular; prosthesis Surgery: September 09th, 2014



humerus; proximal transarticular; prosthesis X-RAY POSTOP September 09th, 2014



W 4095 : L 2047



W 4095 : L 2047

humerus; proximal transarticular; prosthesis

LABOR



	Abnahme Datum	09.09.14	10.09.14	12.09.14	14.09.14	15.09.14	17.09.14
	Wochentag Zeit	Di 16:28	Mi 09:45	Fr 08:00	So 06:00	Mo 10:00	Mi 09:00
	Eingangs Datum	09.09.14	10.09.14	12.09.14	14.09.14	15.09.14	17.09.14
	Wochentag Zeit	Di 16:45	Mi 10:44	Fr 13:22	So 09:11	Mo 10:58	Mi 09:46
Blutgruppe							
Rhesusfaktor							
ABD-Kontrolle						0 negativ	
Rhesus Phänotyp							
Kell-Antigen							
direkter Coombs polyspe.						positiv	
direkter Coombs monosp.						positiv	
Antikörpersuchtest						negativ	
Antikörper Identifizier...						intern pos	
Hämatogramm							
Hämoglobin	g/l	120 - 154	klein * 76	klein * 66	klein * 63	klein * 59	klein ** 98
Hämatokrit	l/l	0.355 - 0.450	** 0,229	** 0,198	** 0,187	** 0,182	** 0,289
Erythrozyten	10E12/l	3.90 - 5.15	** 2,32	** 2,01	** 1,91	** 1,88	** 3,04
MCV	fl	80.0 - 99.0	99	99	98	97	95
MCH	pg	27.0 - 33.5	32,8	32,8	33,0	31,4	32,2
MCHC	g/l	315.0 - 365.0	332	333	337	324	339
RDW	fl	39 - 51	** 59	** 64	** 61	** 59	** 59
Thrombozyten	10E9/l	150 - 370	163	** 145	** 139	** 131	168
Leukozyten	10E9/l	3.90 - 10.20	** 13,42	5,94	7,35	** 2,62	** 2,98

2 ECs

humerus; proximal transarticular; prosthesis

Pathology: September 09th, 2014



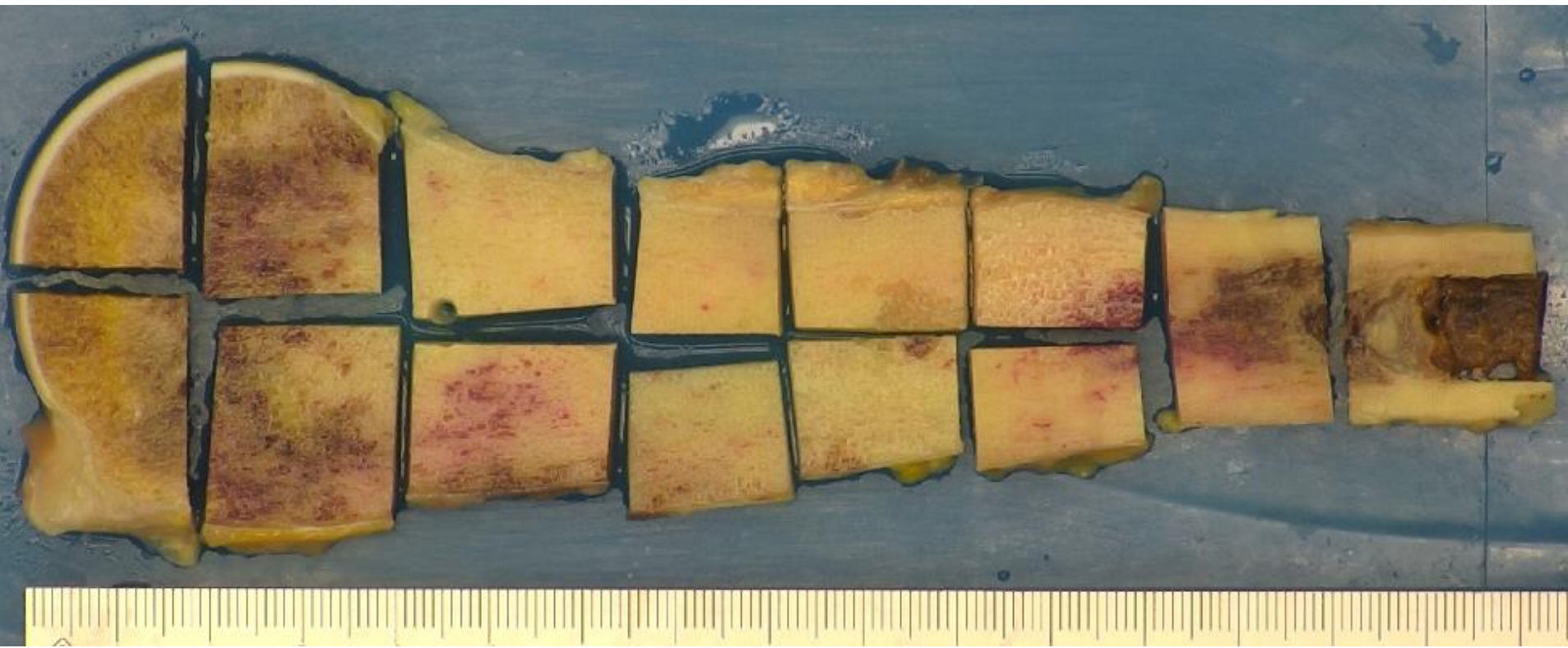
humerus; proximal transarticular; prosthesis

Pathology: September 09th, 2014

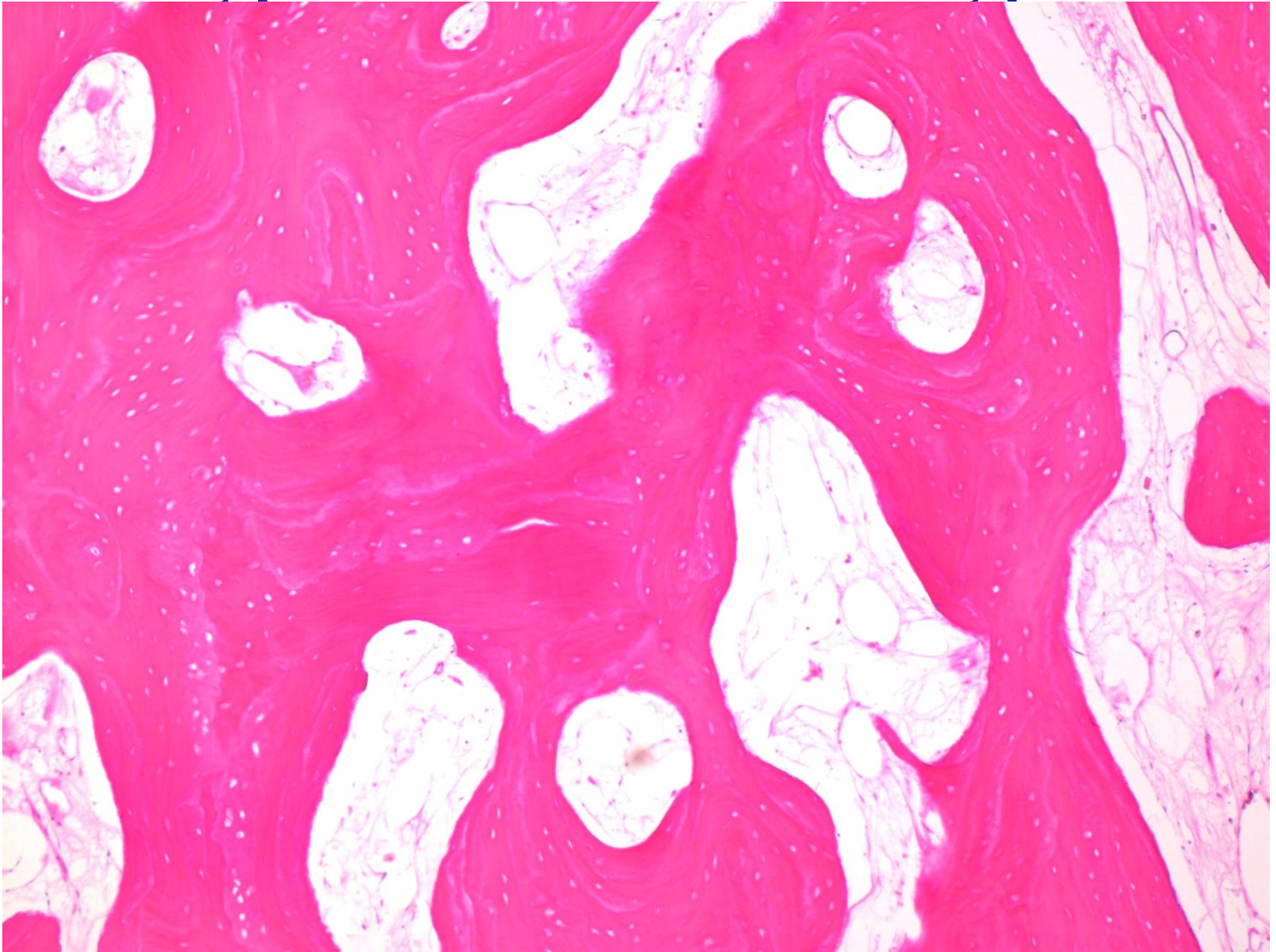
Entnahme: . . .
Eingang: 08.04.2014

Proben-Nr.:
USZ-Patienten-Nr.

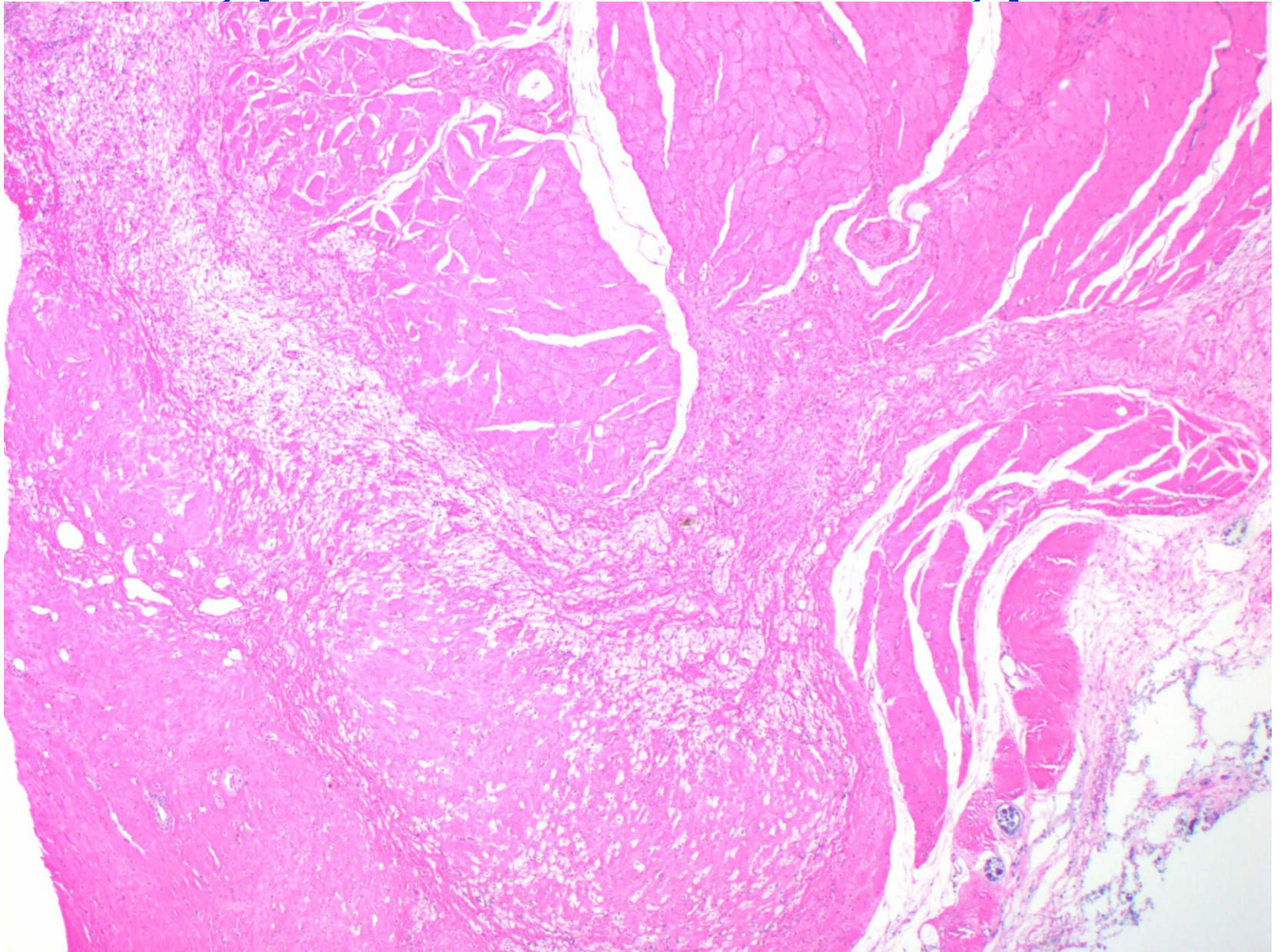
M 2014.580



humerus; proximal transarticular; prosthesis



humerus; proximal transarticular; prosthesis



humerus; proximal transarticular; prosthesis

Fragestellung:

Weiteres Procedere?

Therapeutische Entscheidungen:

Systemische Therapie:

Adjuvante Chemotherapie kann begonnen werden. Die Patientin wünscht eine Woche Pause zwischen Spital Aufenthalt und Beginn der Therapie. Dies ist aus onkologischer Sicht vertretbar.

Radiotherapie:

Nein

Hyprosar: Nein

Chirurgie:

Bereits erfolgt am 09.09.2014

Organisatorisches:

Patientin wird von der Orthopädie Uniklinik Balgrist an die Onkologie USZ zur adjuvanten Chemotherapie erneut zugewiesen.

humerus; proximal transarticular; prosthesis



October 03, 2017

humerus; proximal transarticular; prosthesis

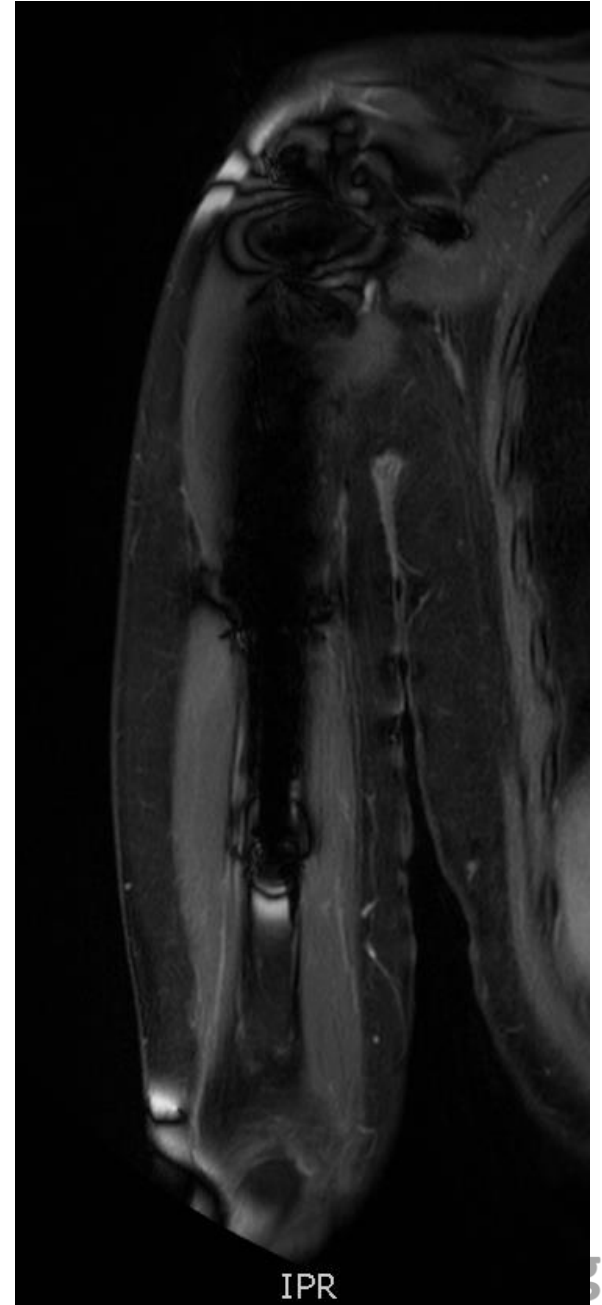


April 11, 2017



Surgery

humerus; proximal transarticular; prosthesis



October 03, 2017

IPR

gery