

Proximal tibia resection / f / 16yo

♀ 16 yo

1st referral: 05.07.2012

HPI:

- Knee pain since July 2011
- No recovery after physiotherapy and orthopedic arch support
- Third consultation and increasing pain: MRI

PMH:

n.c.

Family history: grandmother breast cancer; grandfather lung cancer; uncle: lung cancer and gastric cancer

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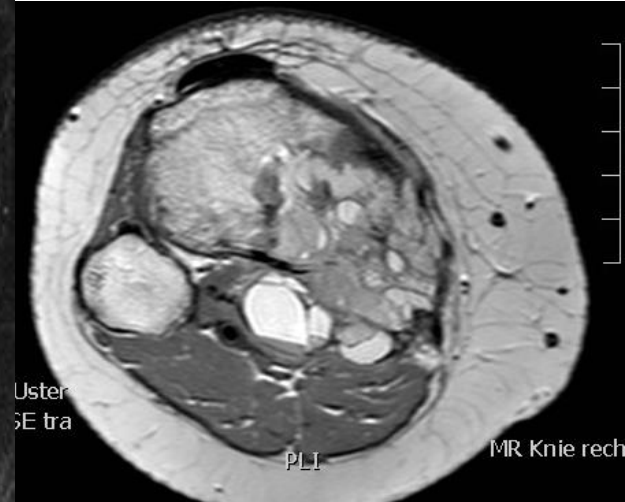
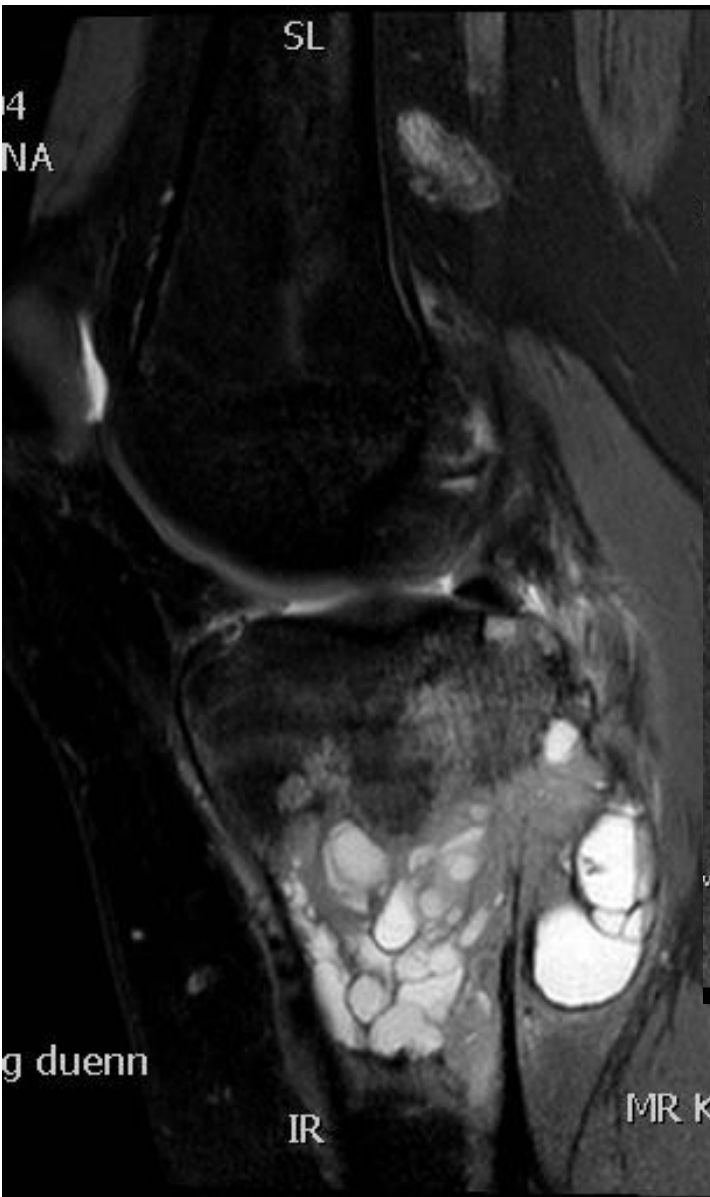
Clinical Exam:

Local swelling, warmth, F/E 140/0/0

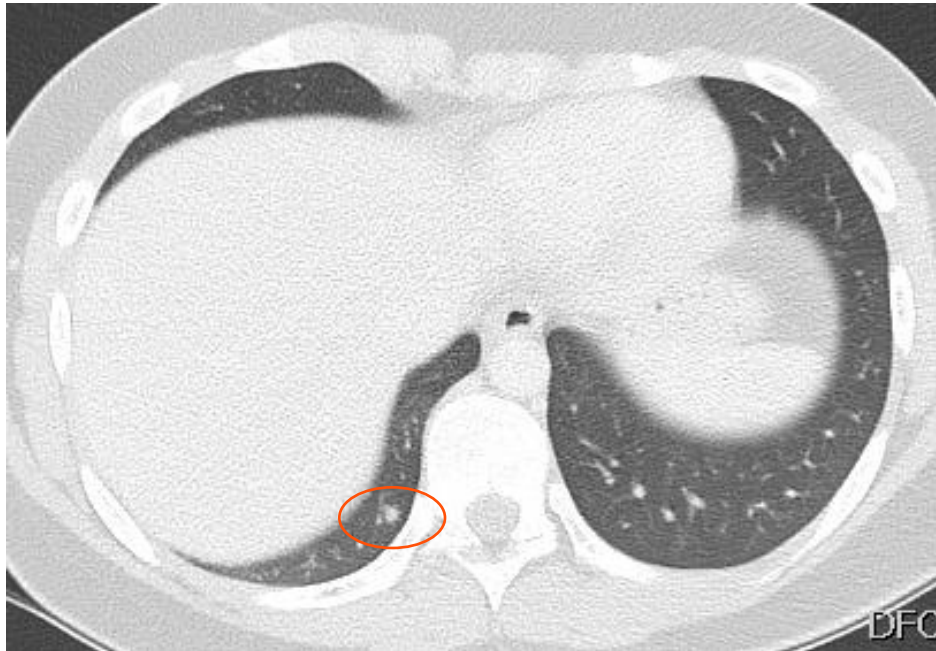
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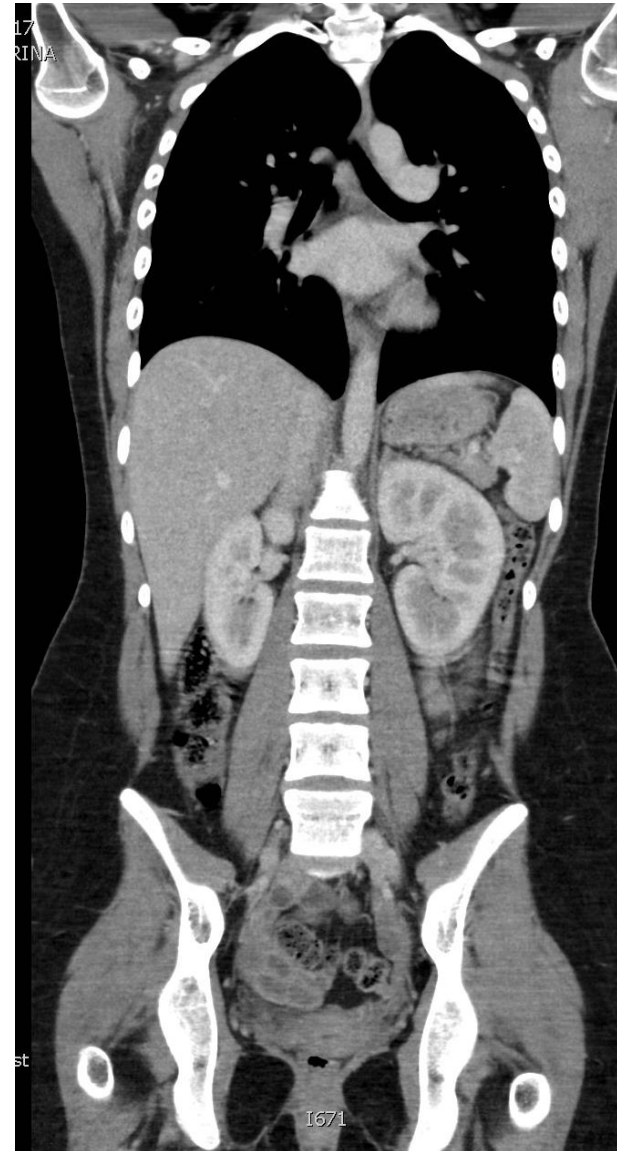
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Proximal tibia resection / f / 16yo



small nodule



Proximal tibia resection / f / 16yo

Jamshidi Biopsy and Hohlbohrer

5. July 2012

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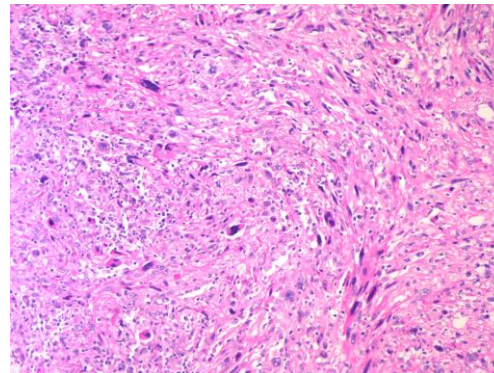
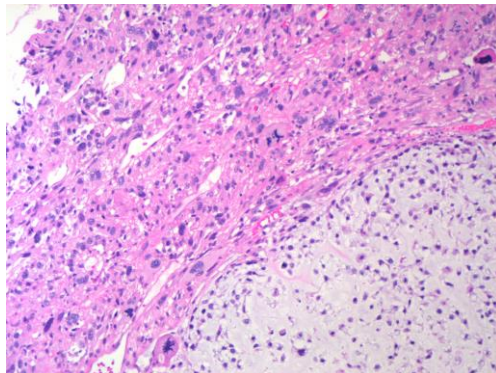
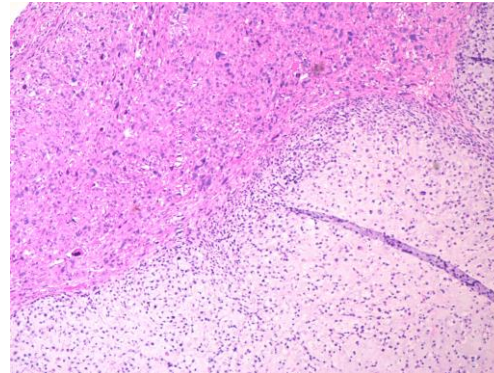
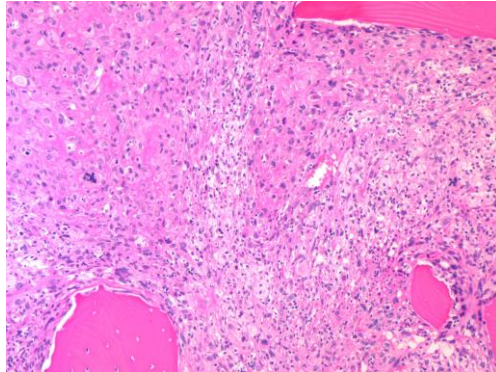
Klinische Angaben

Verdacht auf Osteosarkom proximale Tibia rechts medial. Malignität?

67

Angaben zur Probe

Proximale Tibia rechts medial



Proximal tibia resection / f / 16yo

Diagnose

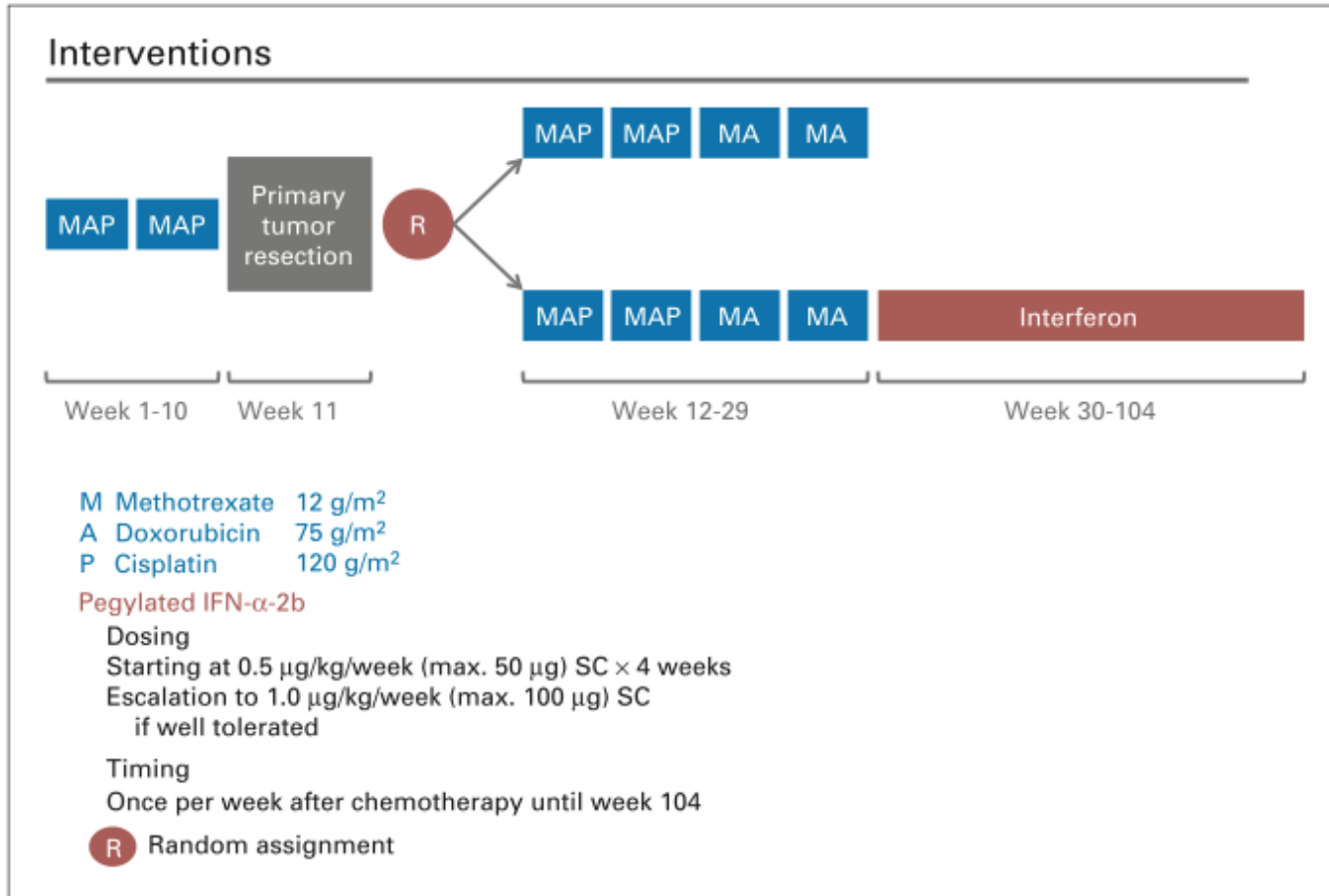
Anteile eines in der vorliegenden Probe überwiegend chondroblastischen, high grade, Osteosarkoms (proximale Tibia rechts medial).

Mikroskopischer Befund

Zahlreiche Biopsiefragmente, welche überwiegend aus solidem, sehr pleomorphem, spindelzelligem Tumorgewebe bestehen. Die Zellen sind zum Teil grotesk gross mit bizarr geformten, hyperchromen Kernen mit sehr unregelmässigem Chromatin und prominenten Nukleolen. Sehr viele, meist eindeutig atypische Mitosefiguren. Stellenweise xanthomatöse entzündliche Begleitreaktion. Die pleomorph-spindelige Tumorareale zeigen einen scharfen Übergang in Anteile mit läppchenförmig gewuchertem, chondromatösem Gewebe mit grundsätzlich niedriger Zelldichte aber deutlicher Pleomorphie und mitotischer Aktivität. Kleinherdig in den spindel- und pleomorphzelligen Abschnitten Ausbildung von nicht mineralisiertem Osteoid. Im miterfassten Knochengewebe Infiltration der Markräume. Höchstens kleinherdige Nekrosen (<5% der Schnittfläche der Probe) .

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EURAMOS

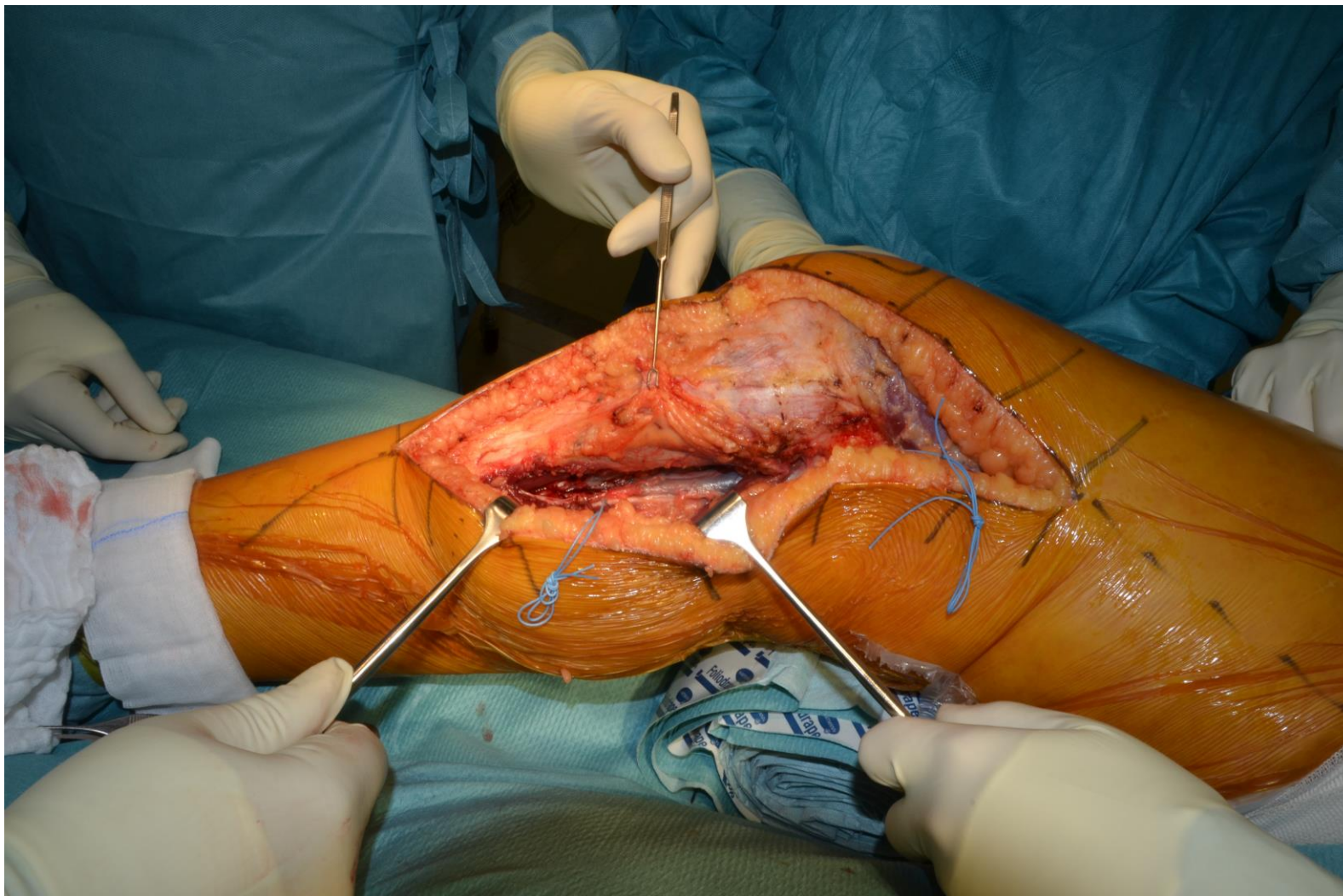


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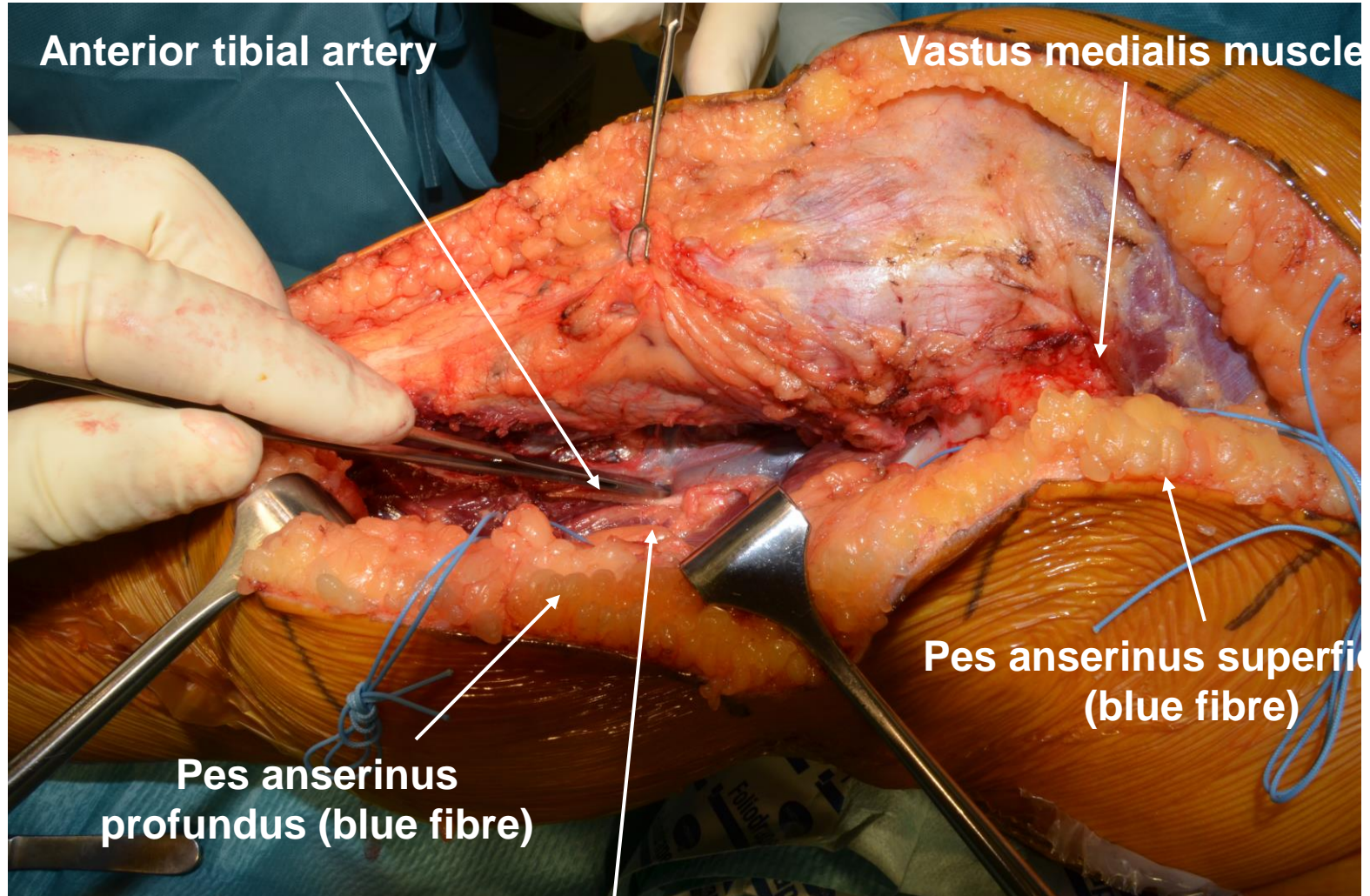
July 5, 2012

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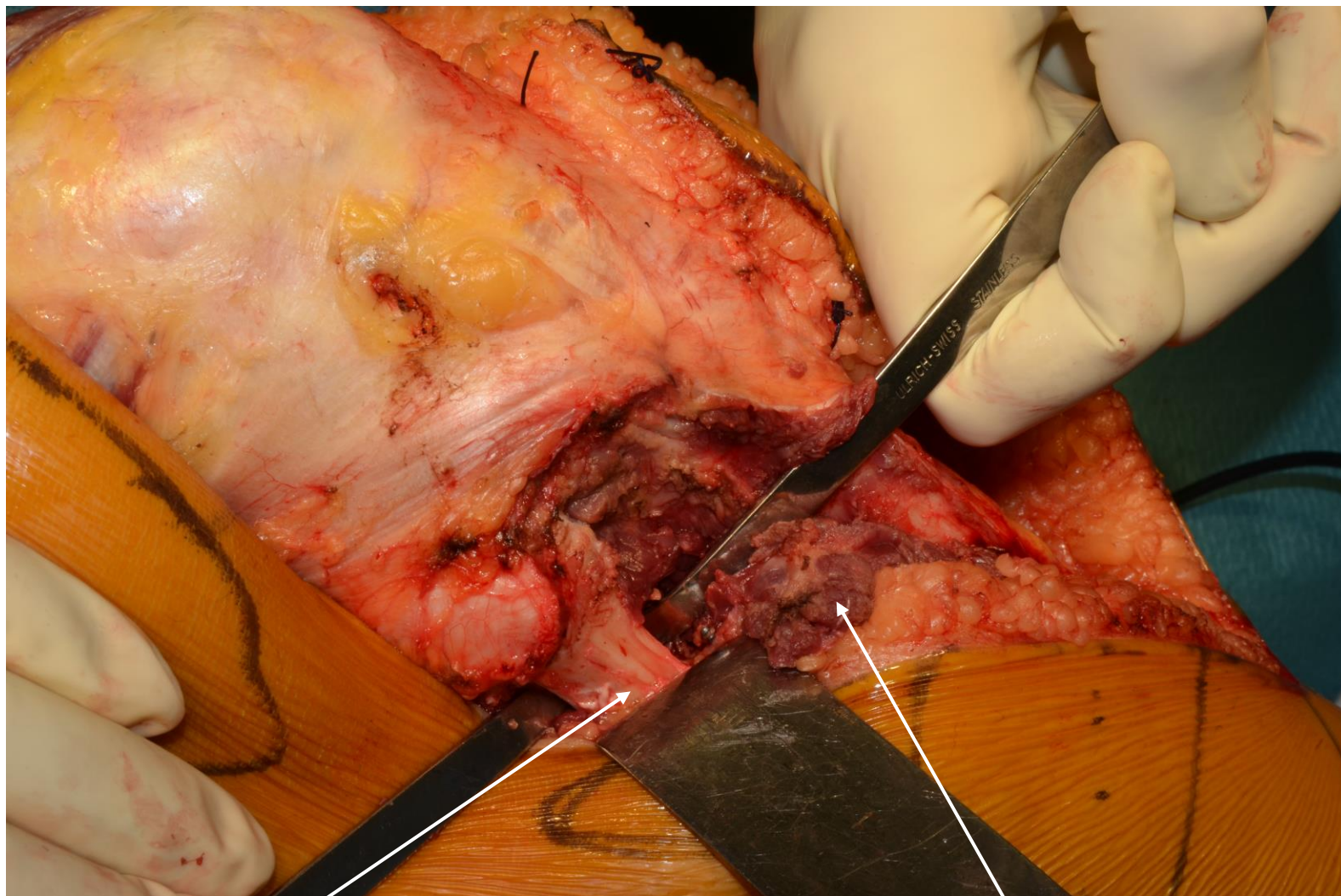


October 05, 2012

Proximal tibia resection / f / 16yo



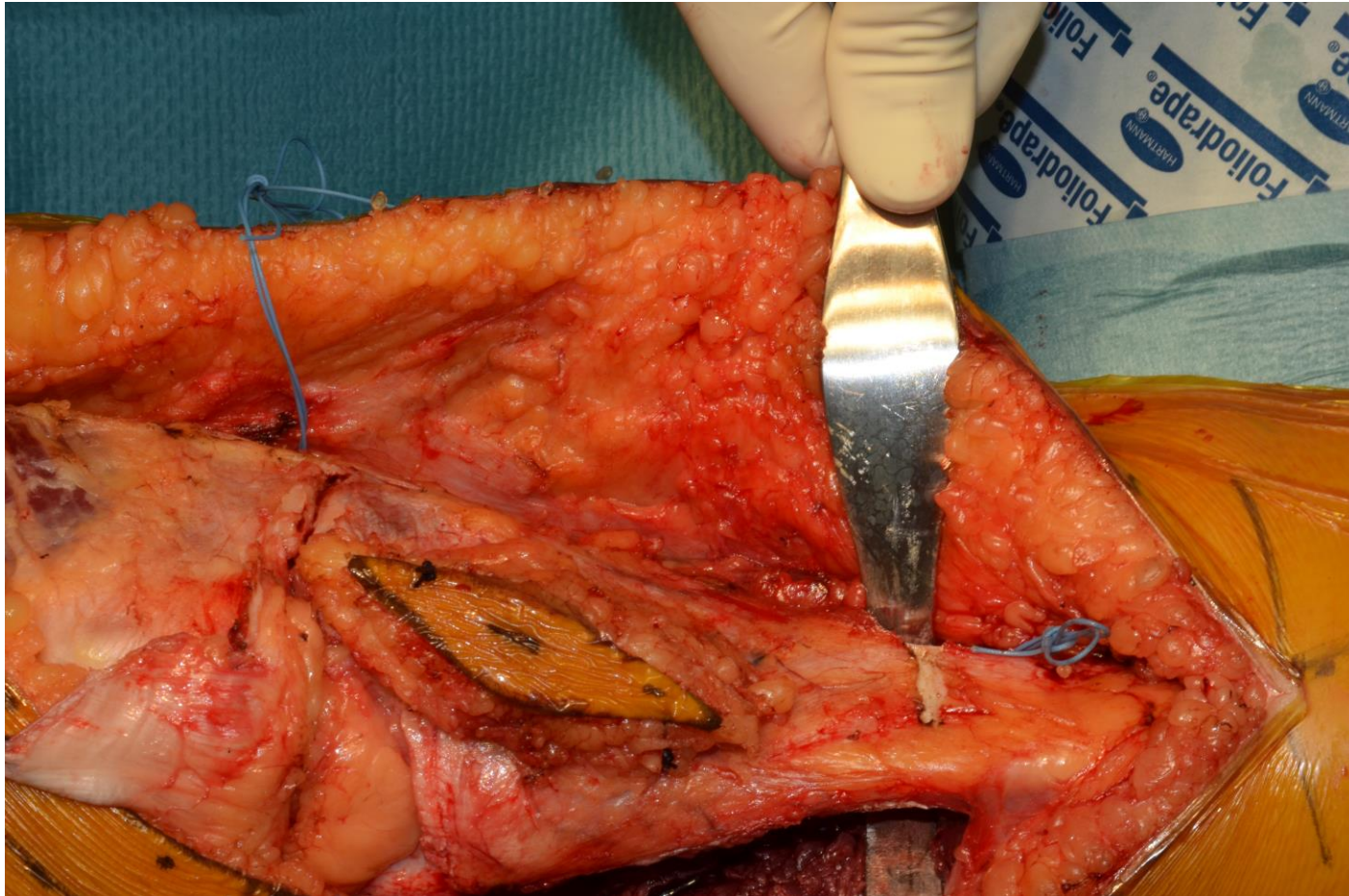
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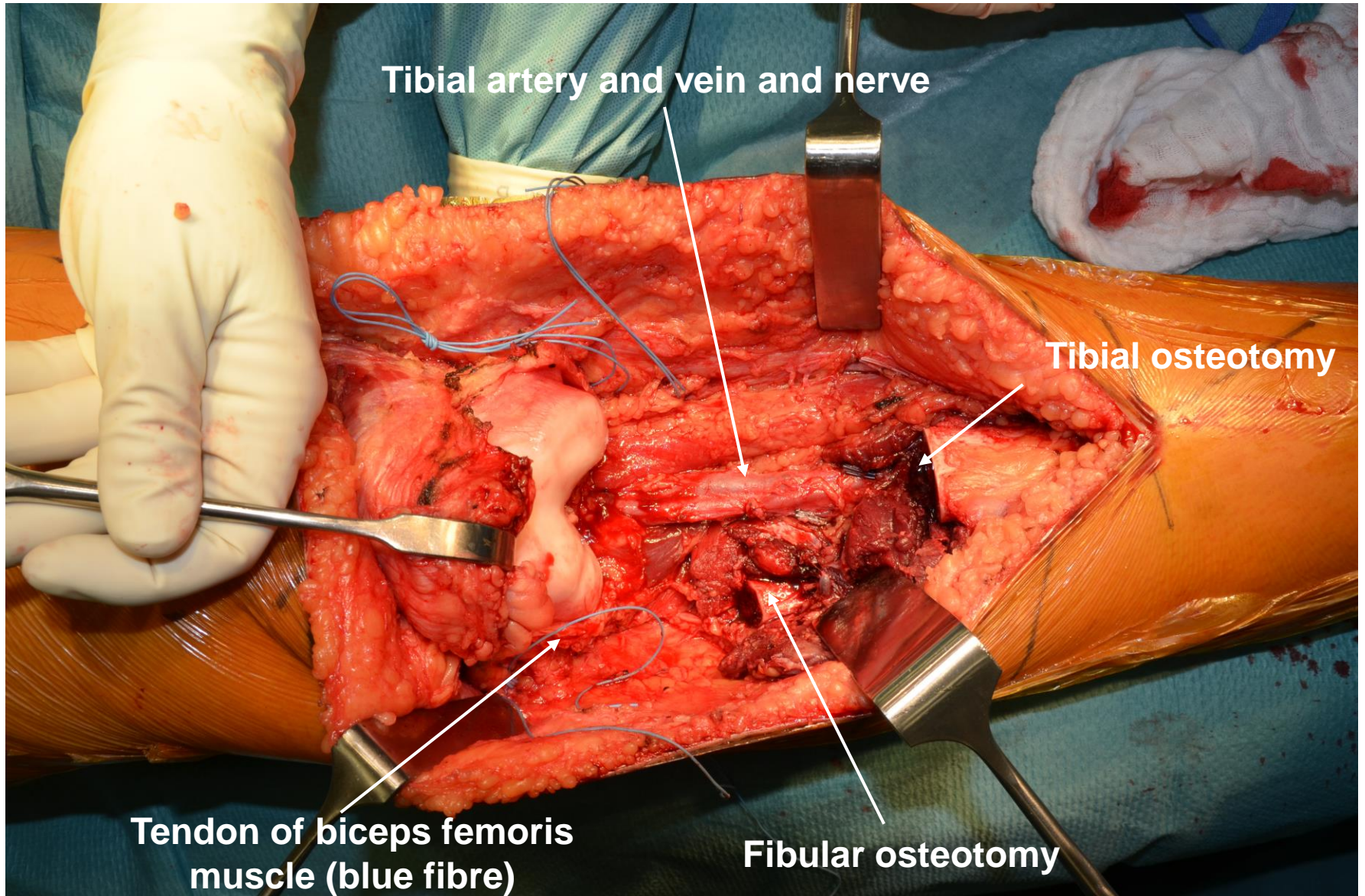
**Fibula/mobilized
peroneal nerve**

Extensor muscles

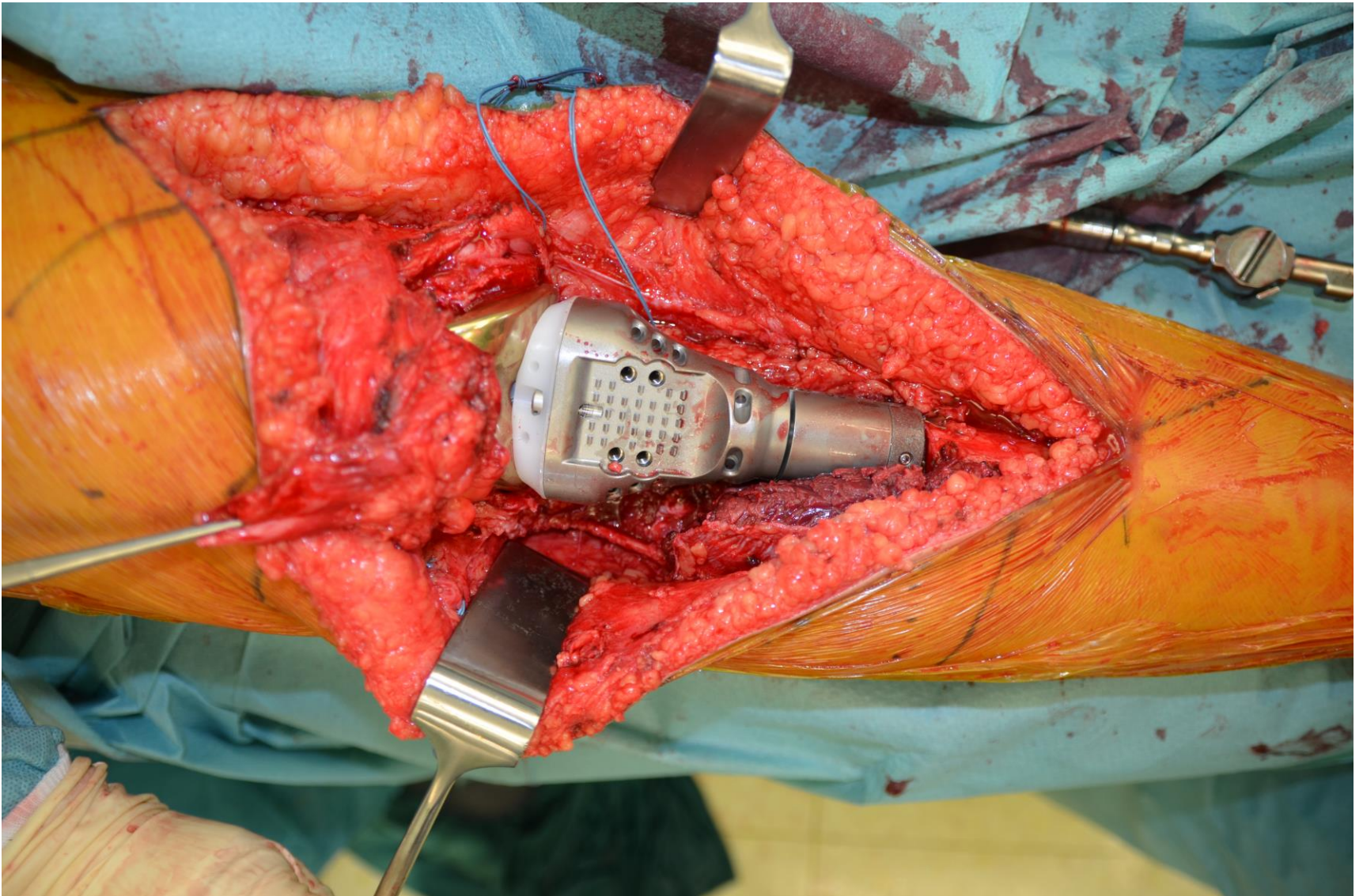
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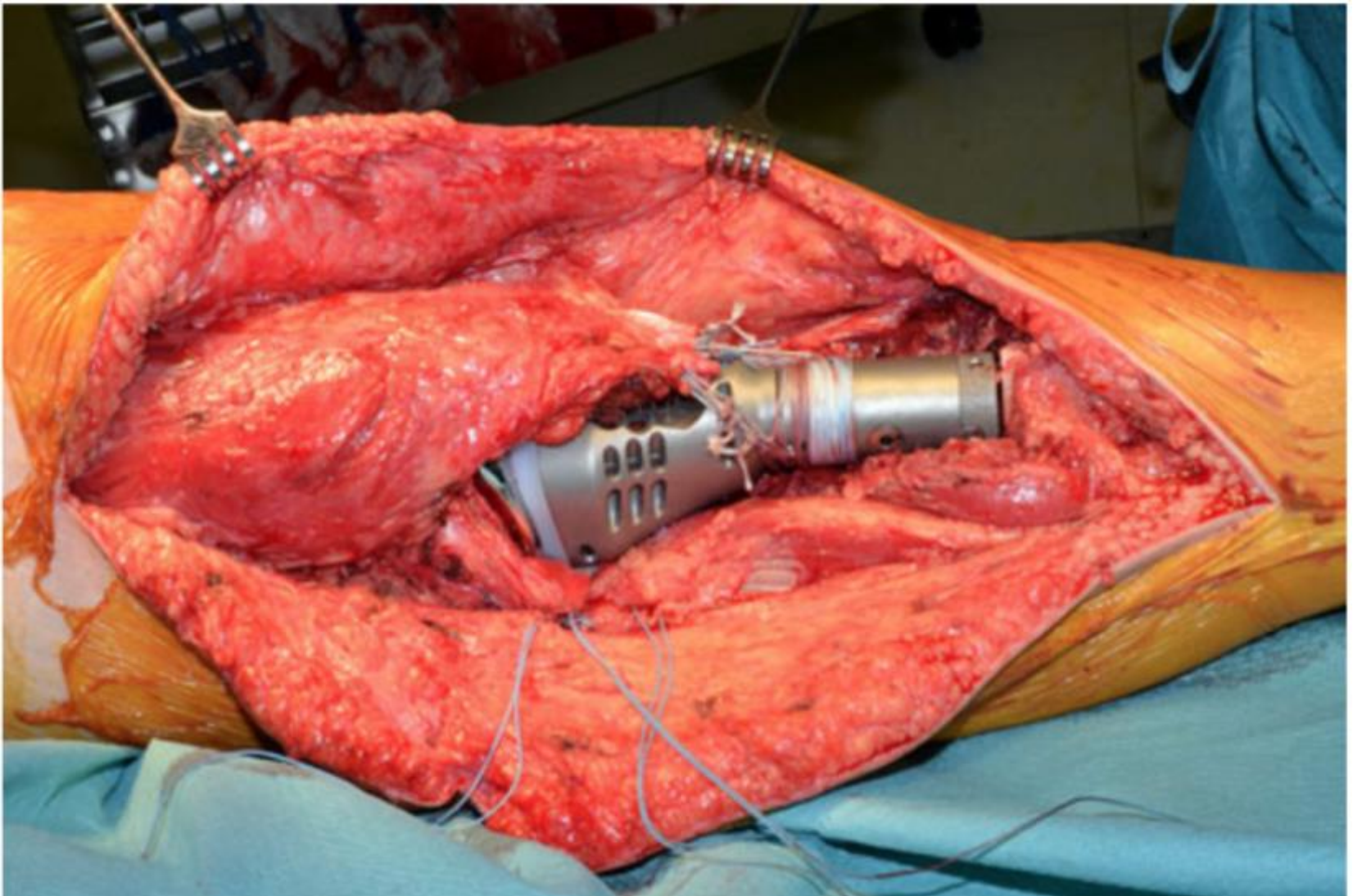
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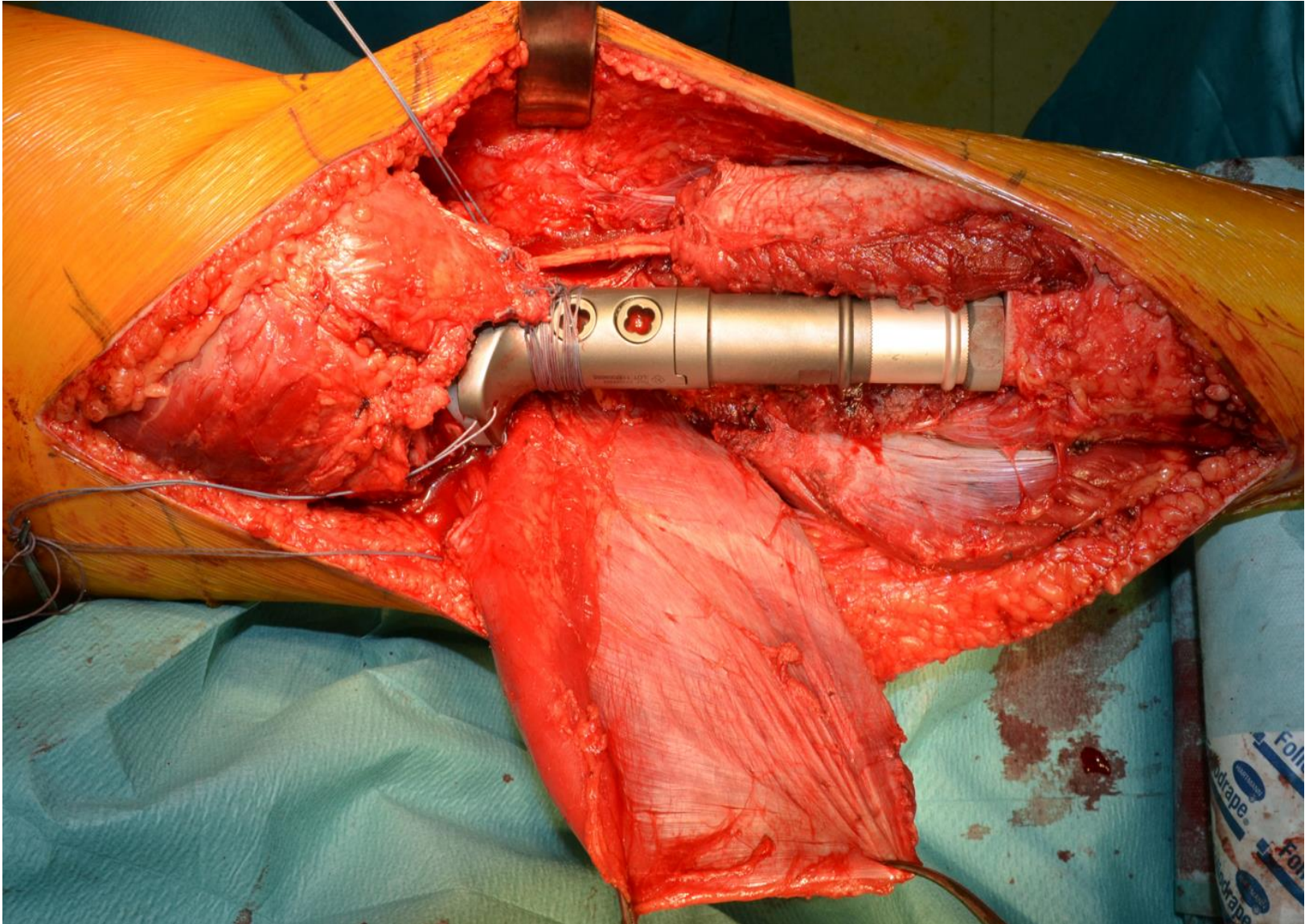
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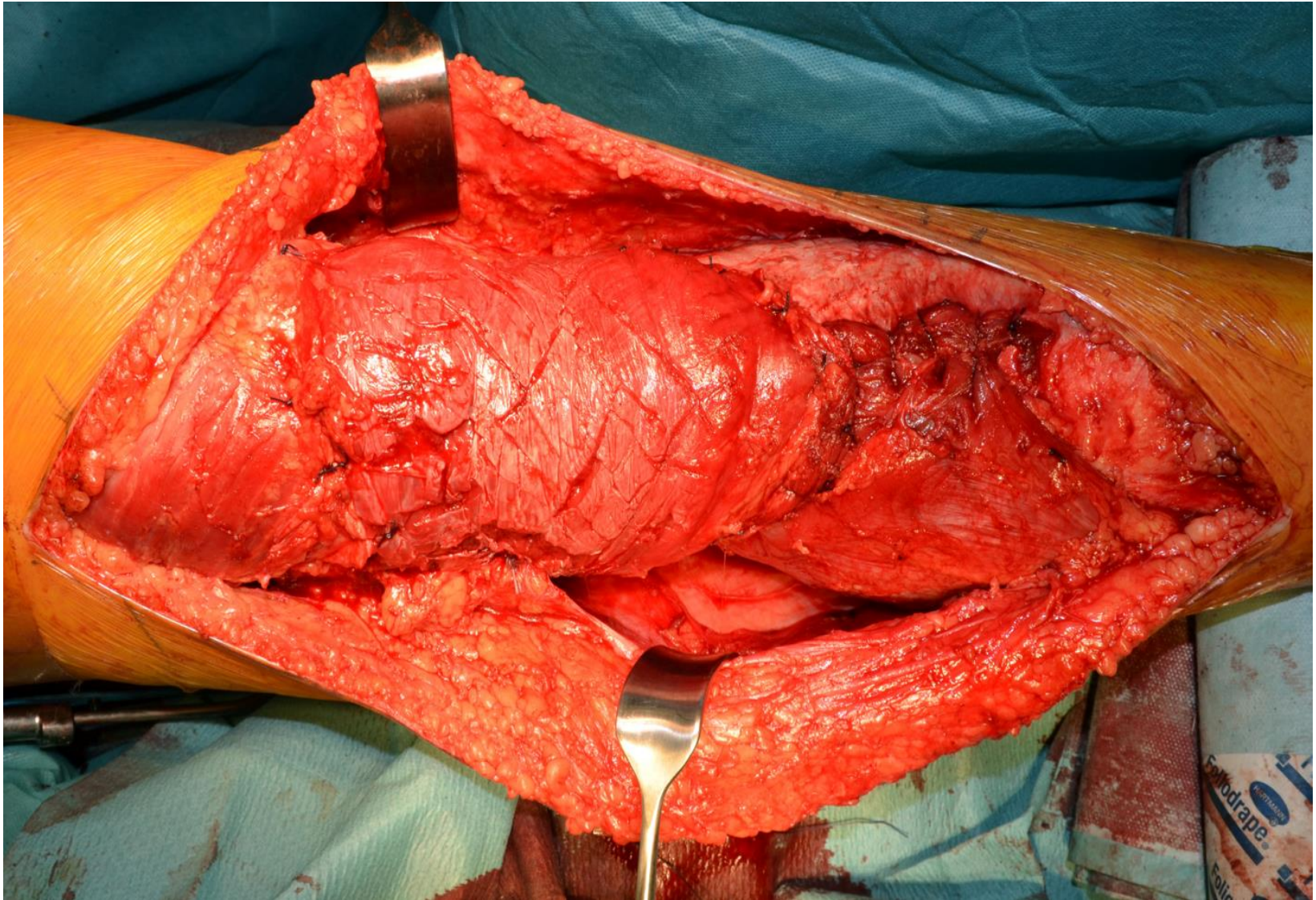
Proximal tibia resection / f / 16yo



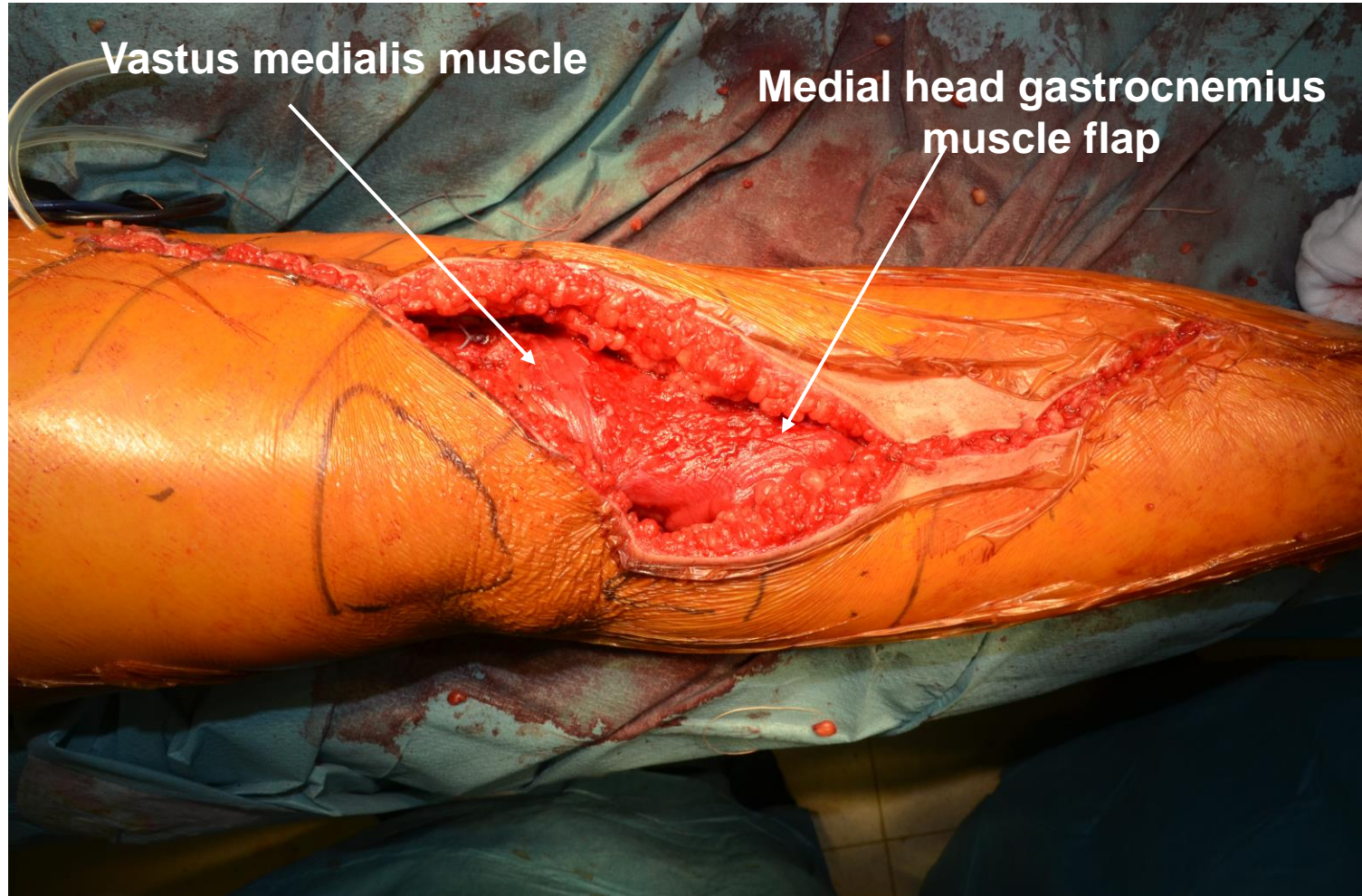
Proximal tibia resection / f / 16yo



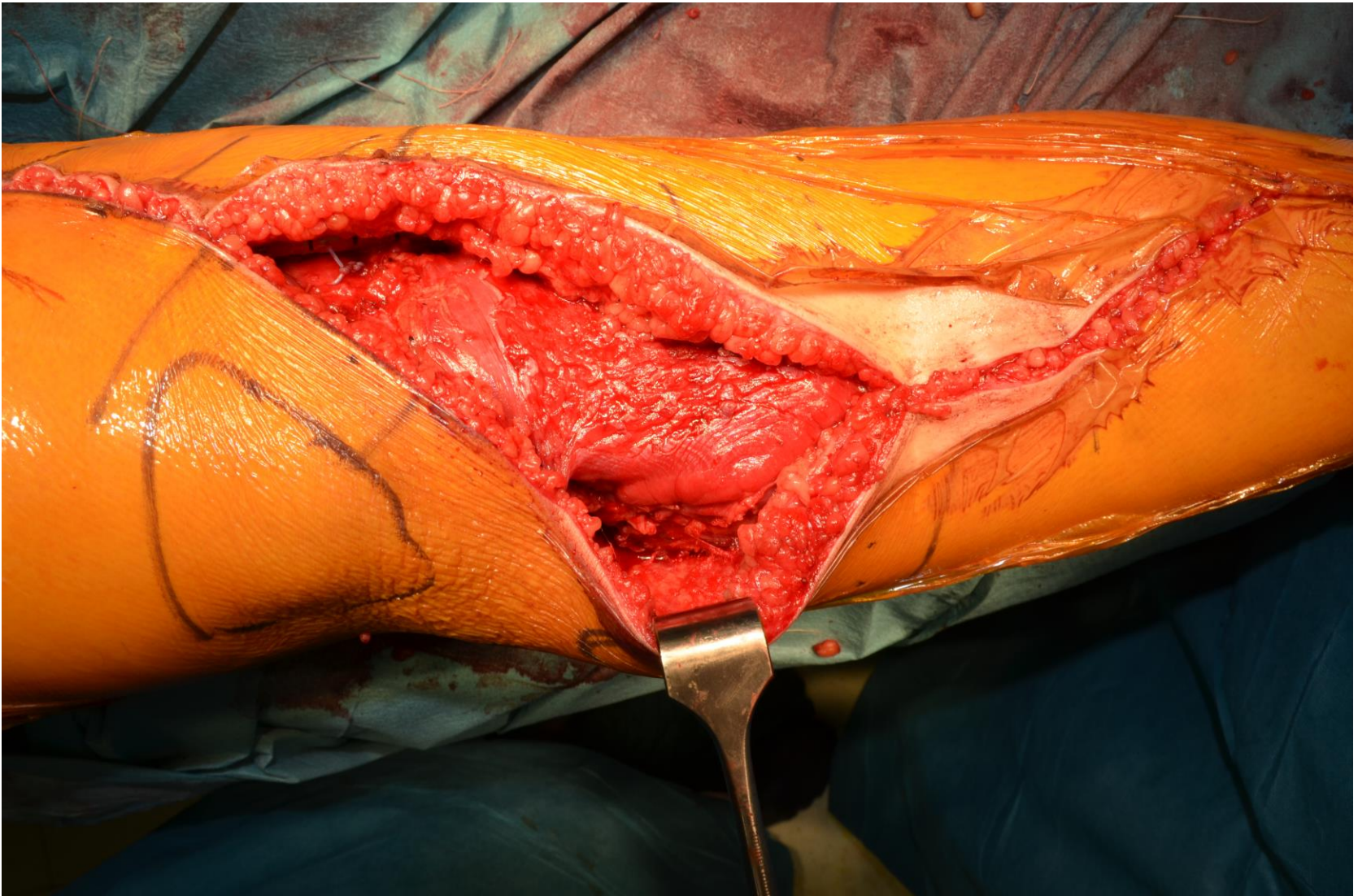
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Proximal tibia resection / f / 16yo



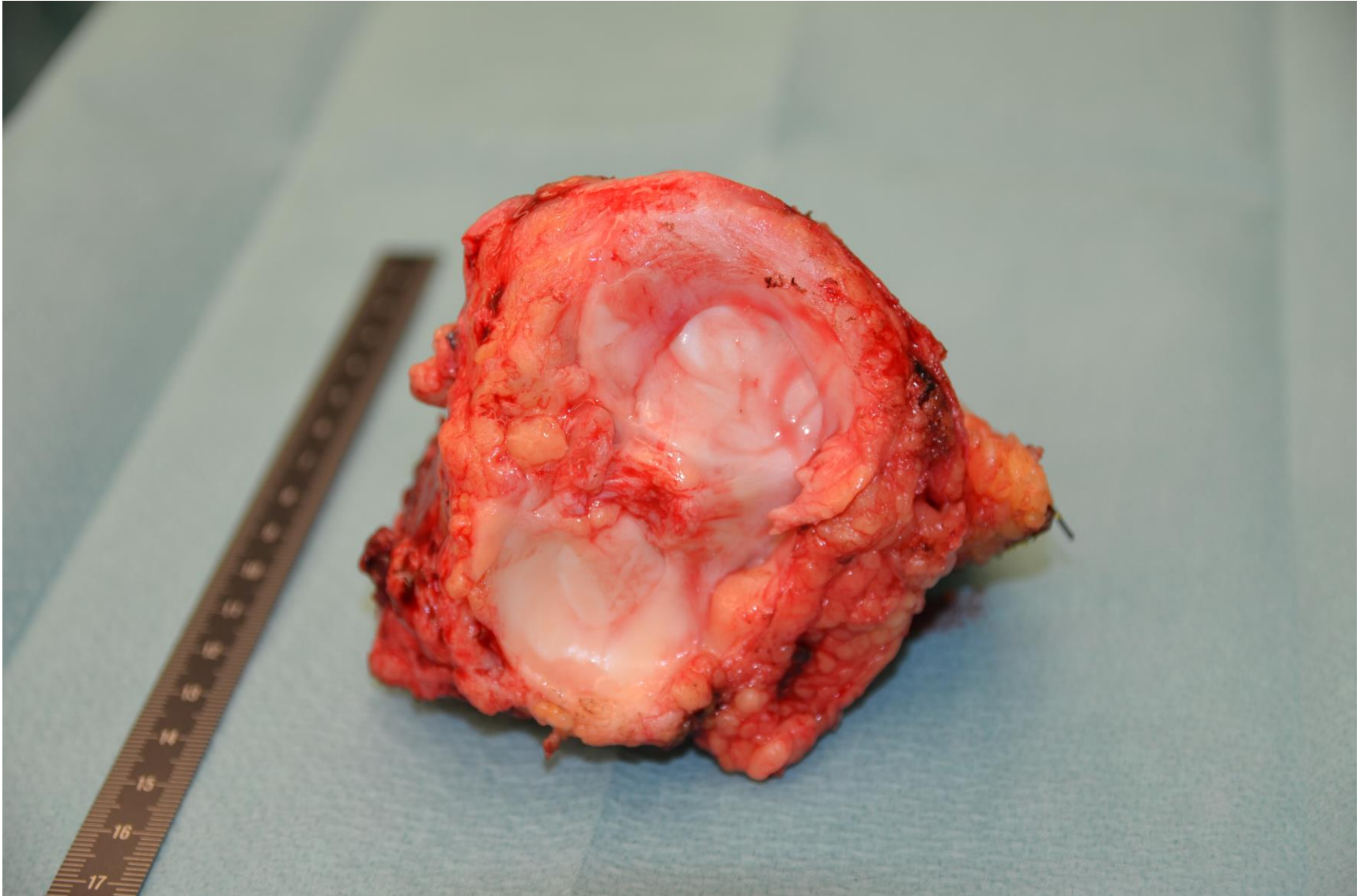
Proximal tibia resection / f / 16yo



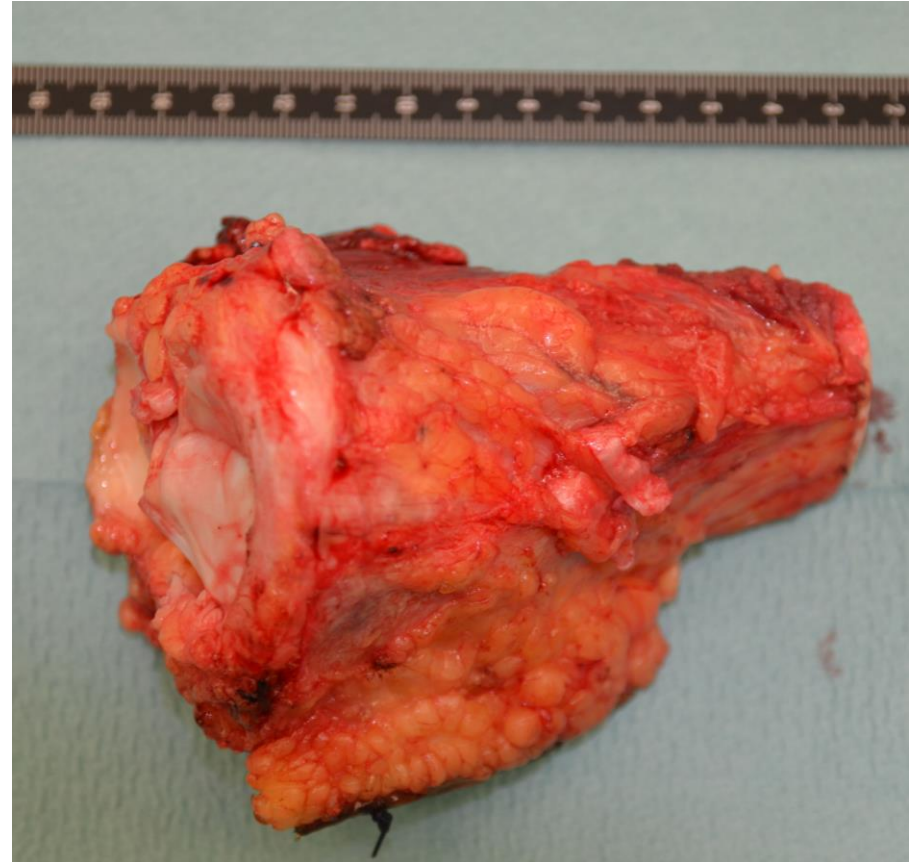
Proximal tibia resection / f / 16yo



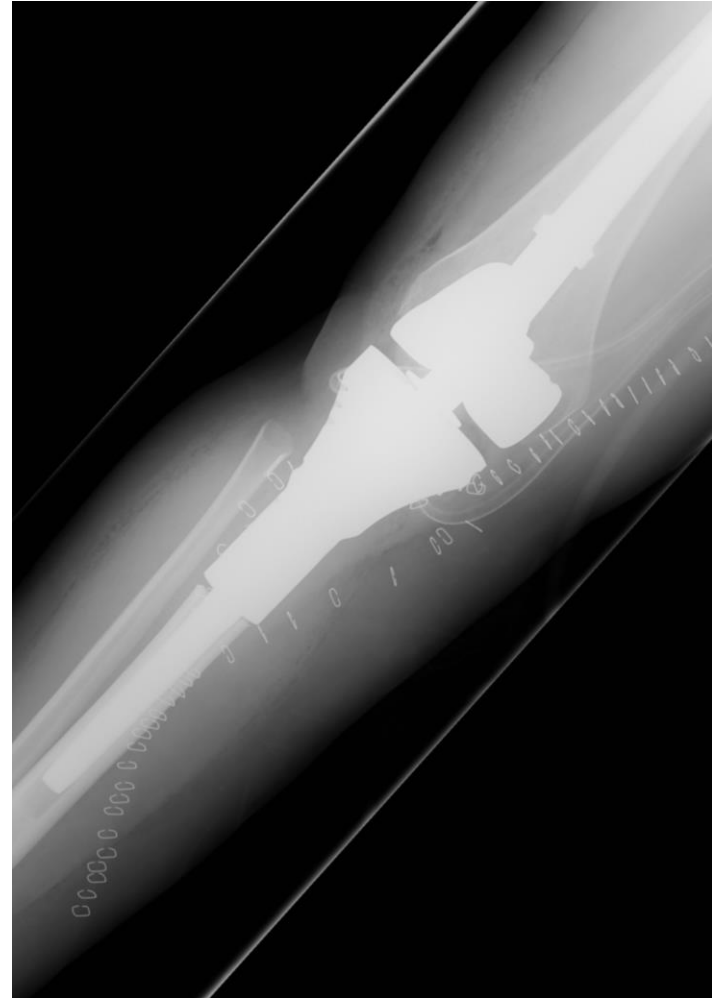
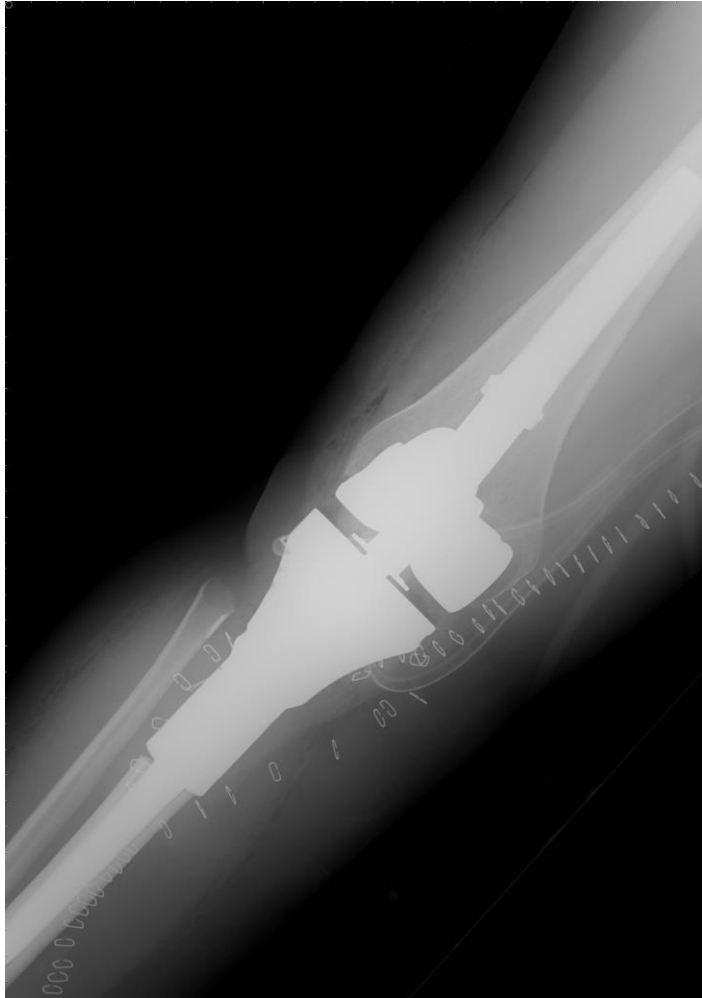
Proximal tibia resection / f / 16yo



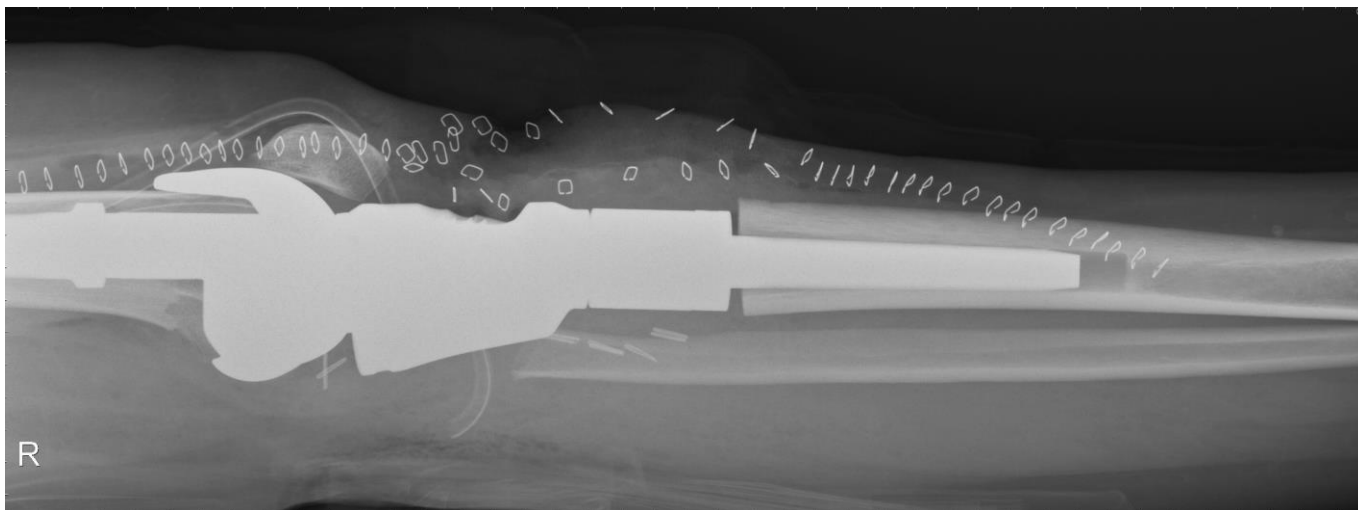
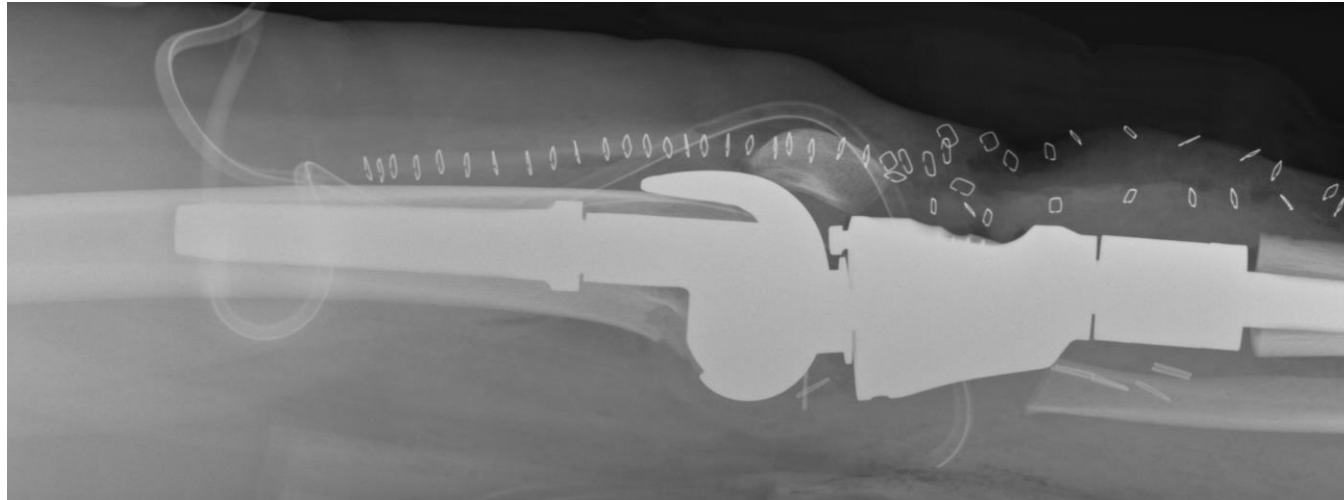
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Proximal tibia resection / f / 16yo



Proximal tibia resection / f / 16yo



Proximal tibia resection / f / 16yo

Entnahme: . . .

Eingang: 05.10.2012

Klinische Angaben

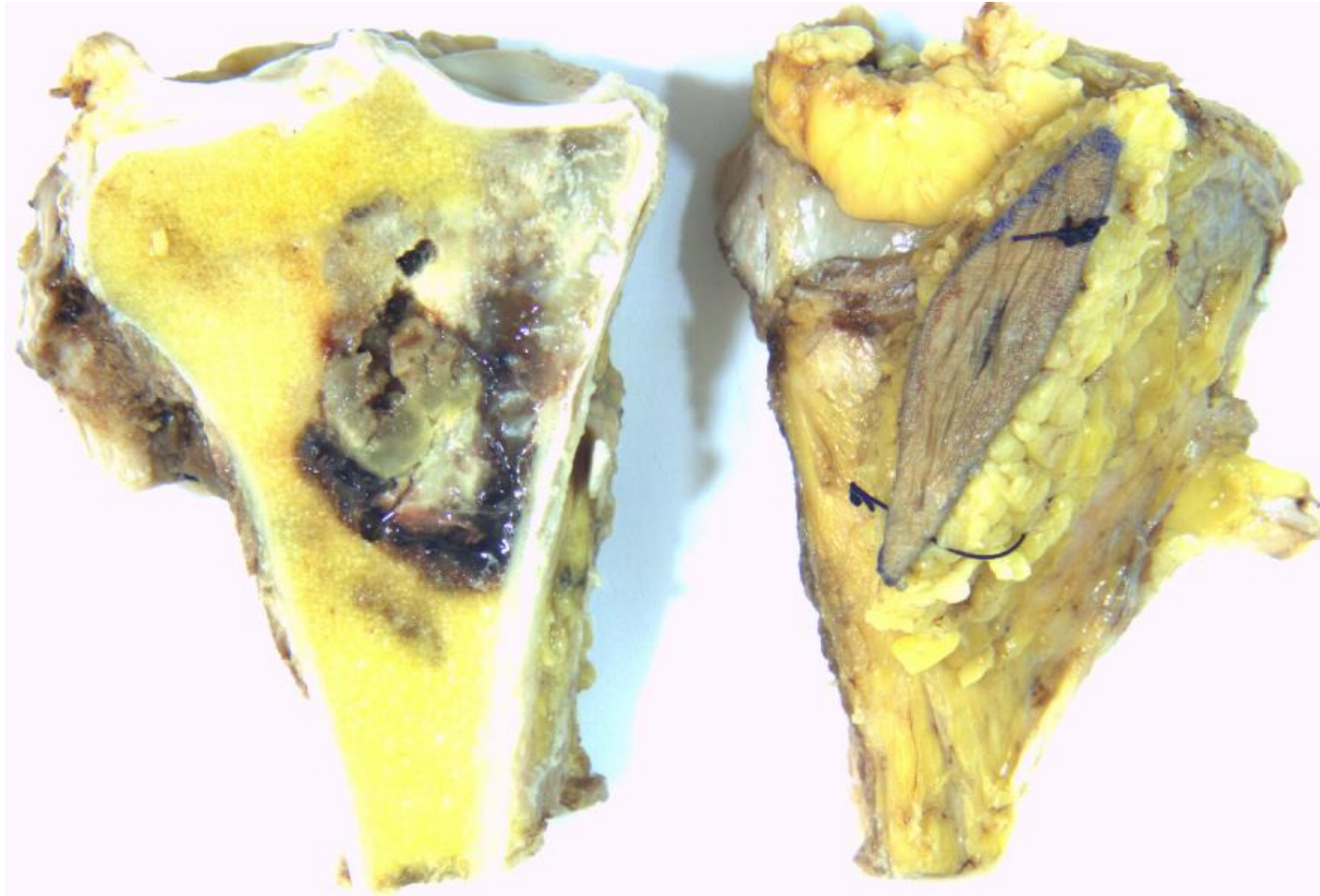
Neoadjuvant behandeltes Osteosarkom proxjm

Angaben zur Probe

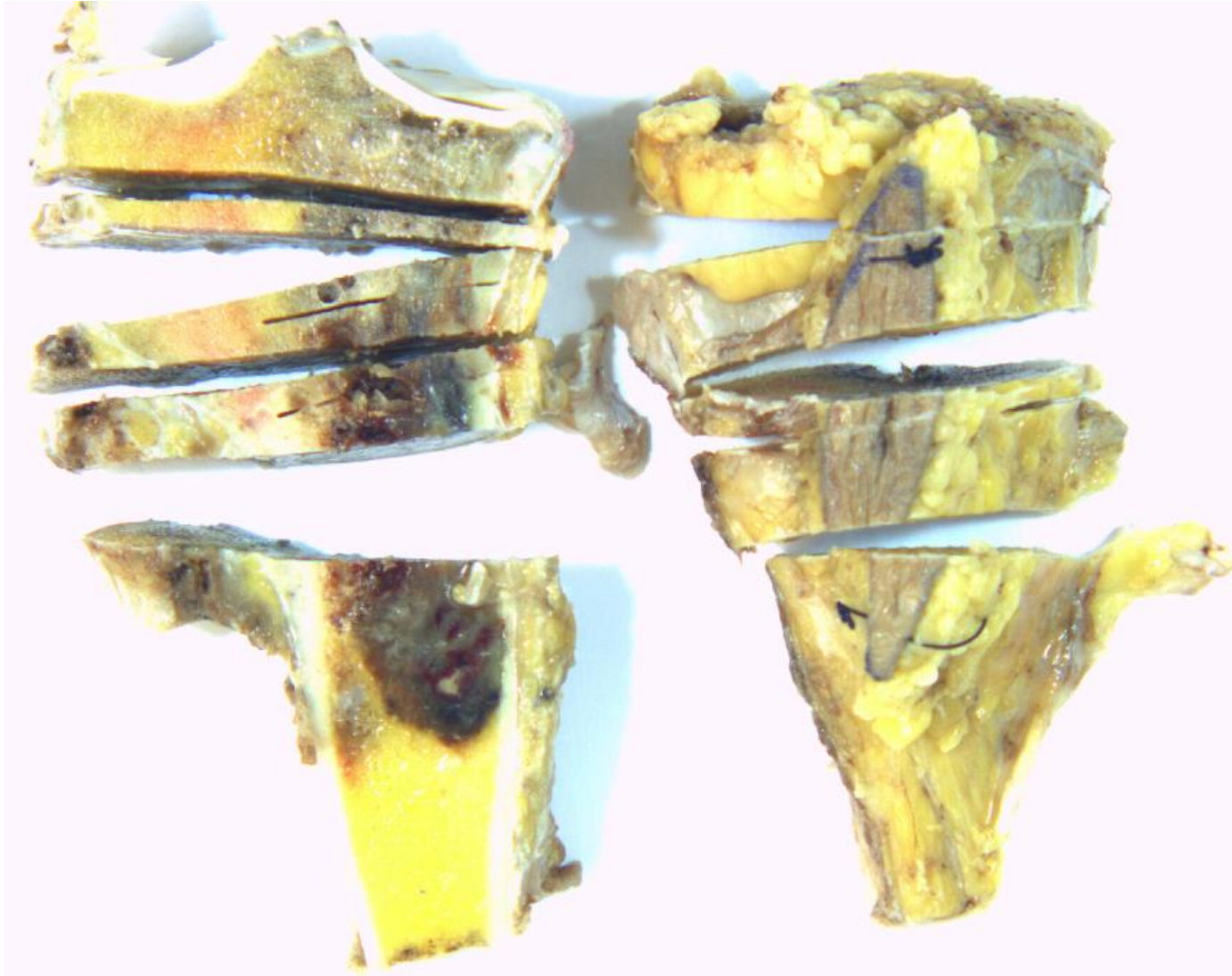
Proximale Tibia rechts Osteosarkom



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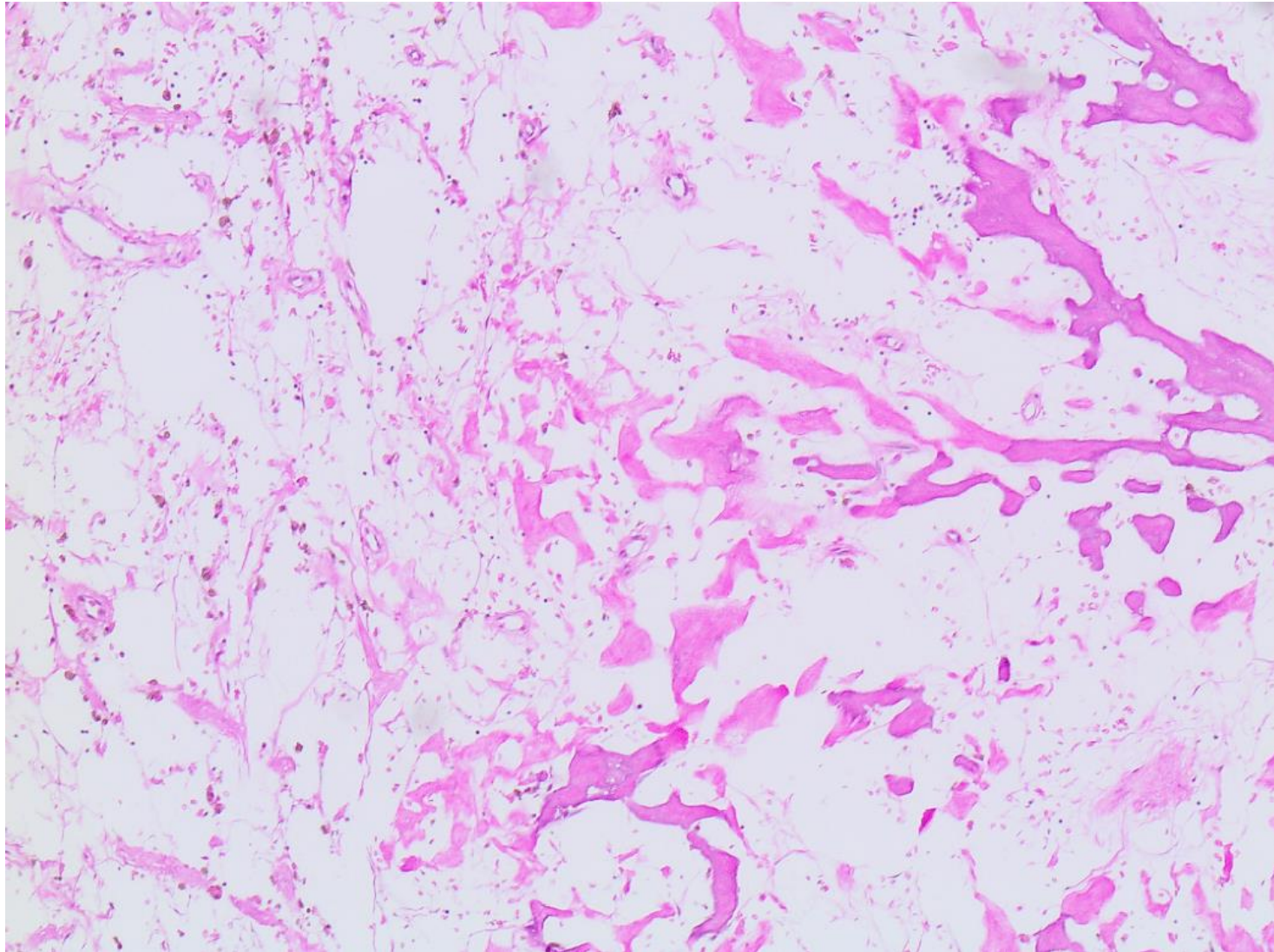
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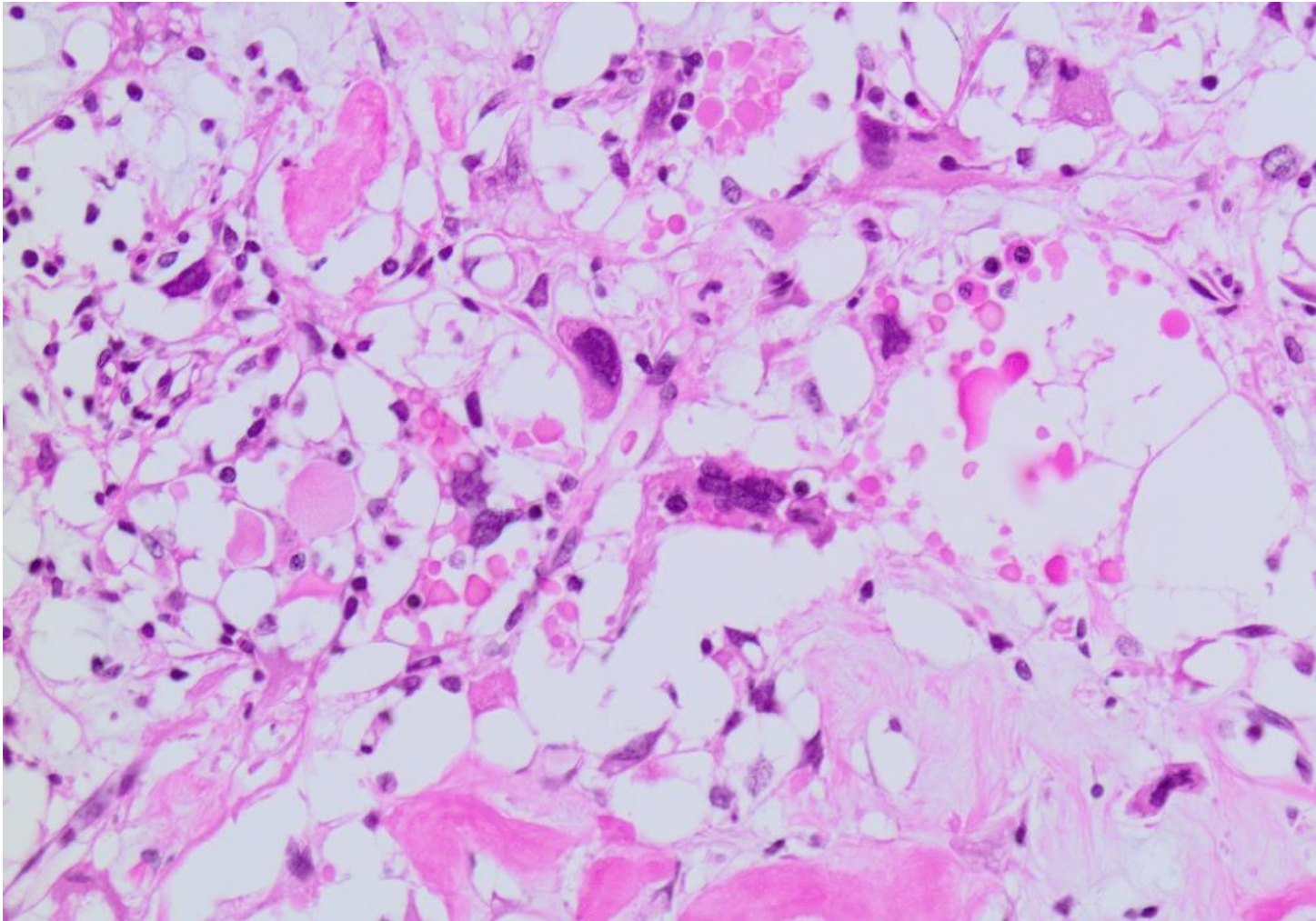
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Proximal tibia resection / f / 16yo



Proximal tibia resection / f / 16yo

Vorläufige Beurteilung (drei Schnittpräparate entkalken noch!)

Entnahme: ...
Eingang: 05.10.2012
Ausgang: ... hbri

Diagnose

Proximales Tibiaresektat mit Fibulaanteil rechts (bei St.n. neoadjuvanter Chemotherapie): Überwiegend avitale Tumormasse des vordiagnostizierten chondroblastischen Osteosarkoms high grade mit einem max. Durchmesser von 6,5 cm. Etwa 5% vitale Tumorbezirke (Tumorregressionsgrad III nach Salzer-Kuntschik). Infiltration des dorsalen Weichgewebes ohne Nachweis von vitalen Tumorzellen im extraossären Anteil. Keine Infiltration der Gelenkfläche. Kein Nachweis einer Gefässinvasion. Tumorfreie Hautspindel. Abstand zum ossären Resektatrand 4 cm. Mindestabstände zu den Weichteilresektaträndern allseits mindestens 1 cm.

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- **Start of adjuvant chemotherapy in KiSpi**
- **CT of the lung is planned**
- **Follow-up's every 3 months**

Proximal tibia resection / f / 16yo



October 22, 2012

Extensor Function After Medial Gastrocnemius Flap Reconstruction of the Proximal Tibia

Thorsten Jentzsch MD, Matthias Erschbamer MD, PhD,
Franziska Seeli, Bruno Fuchs MD, PhD

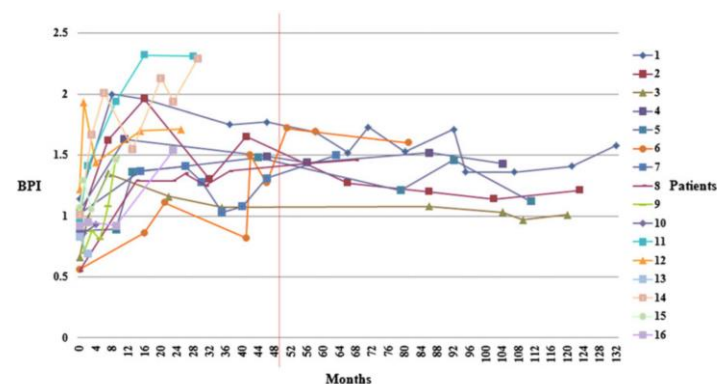
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Abstract

Background Reconstruction of the extensor mechanism after resection of the proximal tibia is challenging, and several methods are available. A medial gastrocnemius flap commonly is used, although it may be associated with an extensor lag. This problem also is encountered, although perhaps to a lesser extent, with other techniques for reconstruction of the extensor apparatus. It is not known how such lag develops with time and how it correlates with functional outcome.

Questions/purposes We therefore (1) assessed patellar height with time, (2) correlated patellar height with function using the Musculoskeletal Tumor Society (MSTS) score, and (3) correlated patellar height with range of motion (ROM) after medial gastrocnemius flap reconstruction.

Methods Sixteen patients underwent tumor endoprosthesis implantation and extensor apparatus reconstruction between 1997 and 2009 using a medial gastrocnemius flap after sarcoma resection of the proximal tibia. These patients



represented 100% of the population for whom we performed extensor mechanism reconstructions during that time. The minimum followup was 2 years (mean, 5 years; range, 2–11 years). Fourteen patients were alive at the time of this study. We used the Blackburne-Peel Index to follow patellar height radiographically with time. Functional outcomes were assessed retrospectively using the MSTS, and ROM was evaluated through active extensor lag and flexion.

Results Eleven patients had patella alta develop, whereby the maximal patellar height was reached after a mean of 2 years and then stabilized. More normal patellar height was associated with better functional scores, a smaller extensor lag, but less flexion; the mean extensor lag (and flexion) of patients with patella alta was 17° (and 94°) compared with only 4° (and 77°) without.

Conclusions In our patients patella alta evolved during the first 2 postoperative years. Patella alta is associated with extensor lag, greater flexion, and worse MSTS scores. Surgical fixation of the patellar tendon more distally to its anatomic position or strict postoperative bracing may be advisable.