Sarkome bei Kindern und Jugendlichen

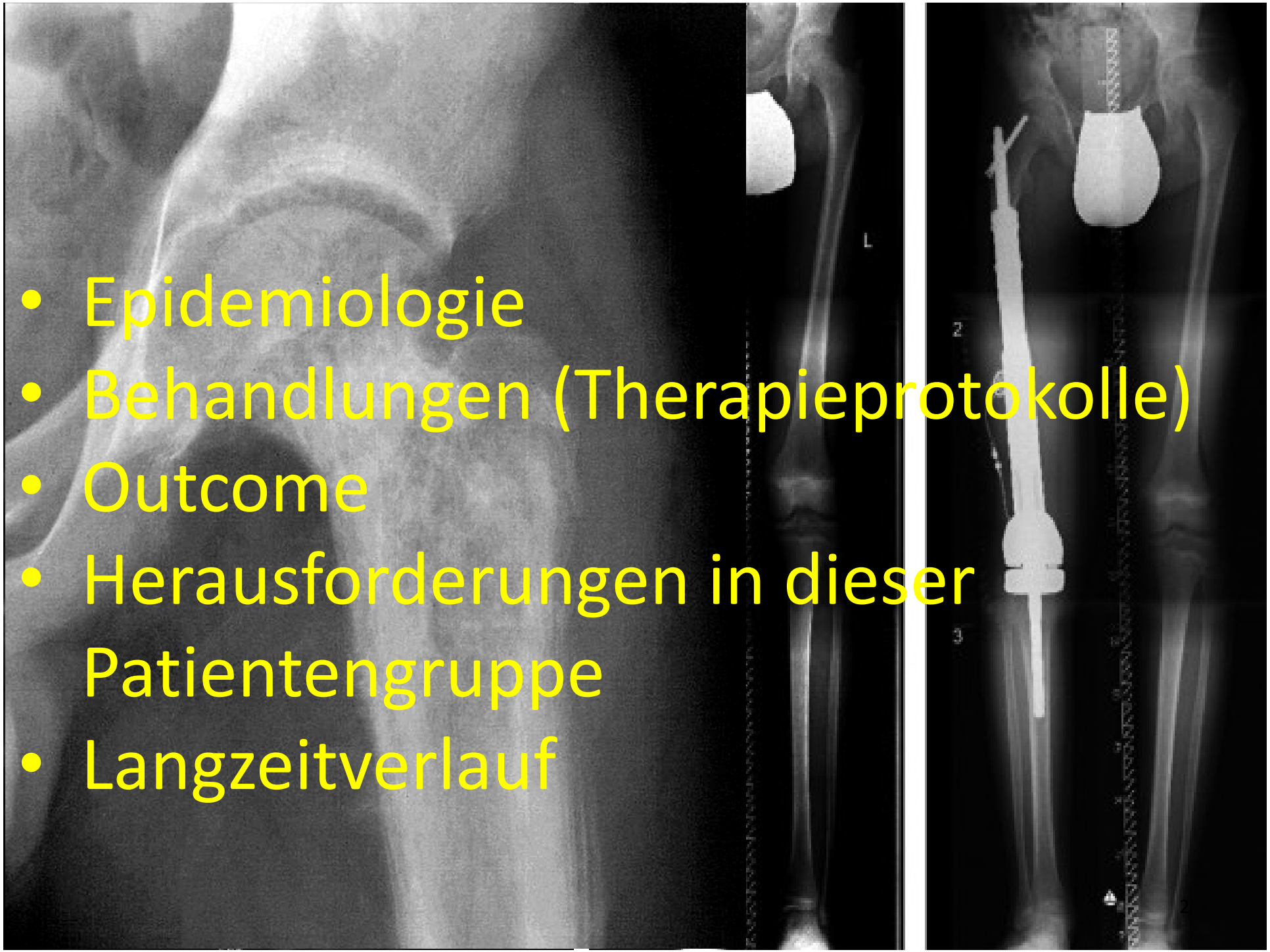
Sicht des pädiatrischen Onkologen

KINDERKLINIKEN Bern

University Children's Hospital

INSELSPITAL

UNIVERSITÄTSSPITAL BERN
HOPITAL UNIVERSITAIRE DE BERNE
BERN UNIVERSITY HOSPITAL



- Epidemiologie
- Behandlungen (Therapieprotokolle)
- Outcome
- Herausforderungen in dieser Patientengruppe
- Langzeitverlauf

SEER Inzidenzraten 2011-2014

Cancer Type	Age: 0 – 14 years	Age: 0 – 19 years
all malignancies	150.6/10^6 (100%)	166.4/10^6 (100%)
all malign. bone tumors	6.6 (4.4%)	8.9 (5.3%)
Osteosarcoma	4.0 (2.7%)	5.2 (3.1%)
Chondrosarcoma	--	0.4 (0.2%)
Ewing and related S.	2.1 (1.4%)	2.6 (1.6%)
other malign. bone tu.	0.3 (0.2%)	0.5 (0.3%)
all STS	10.7 (7.1%)	12.0 (7.2%)
Rhabdomyosarcoma	5.2 (3.5%)	4.8 (2.9%)
Fibrosarcoma and rel.S.	1.3 (0.9%)	1.5 (0.9%)
other specified STS	3.4 (2.3%)	4.7 (2.8%)
Unspecified STS	0.9 (0.6%)	1.0 (1.0%)

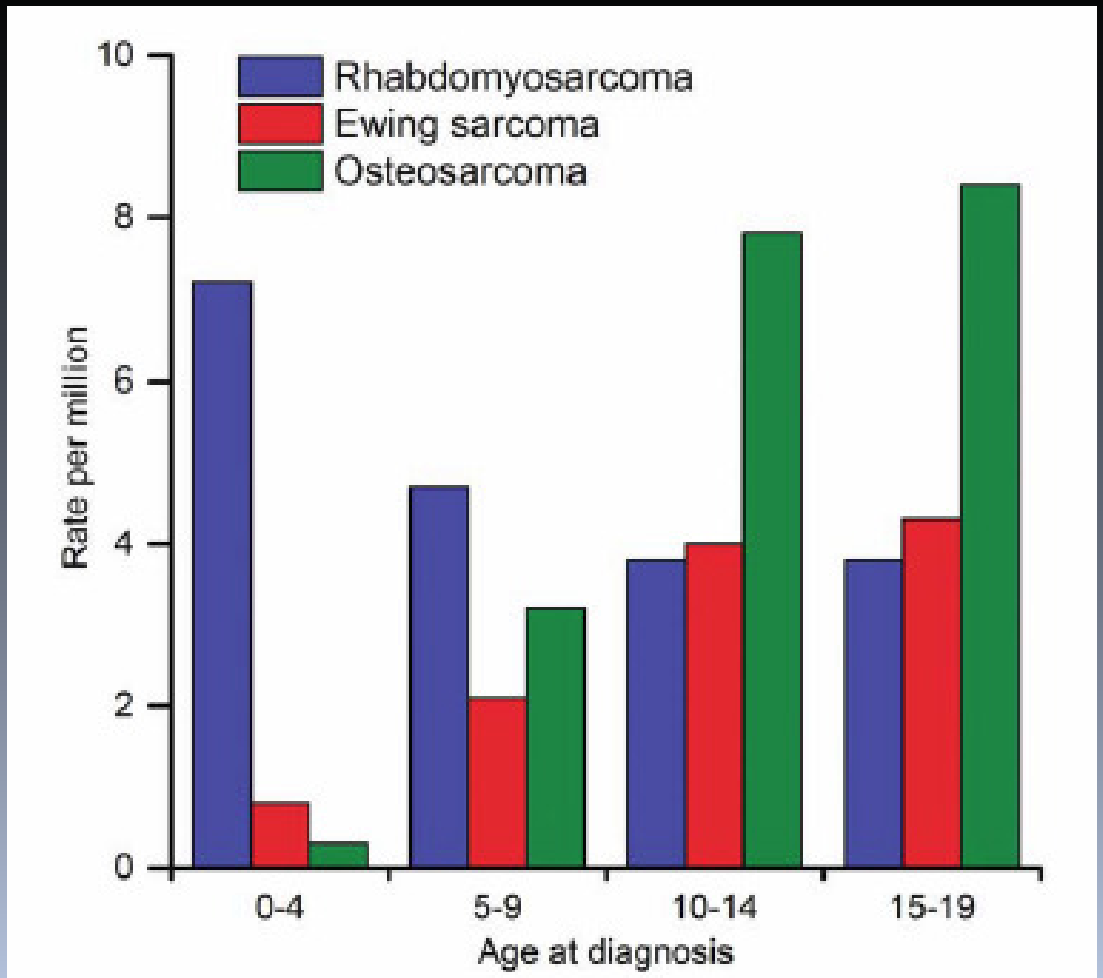


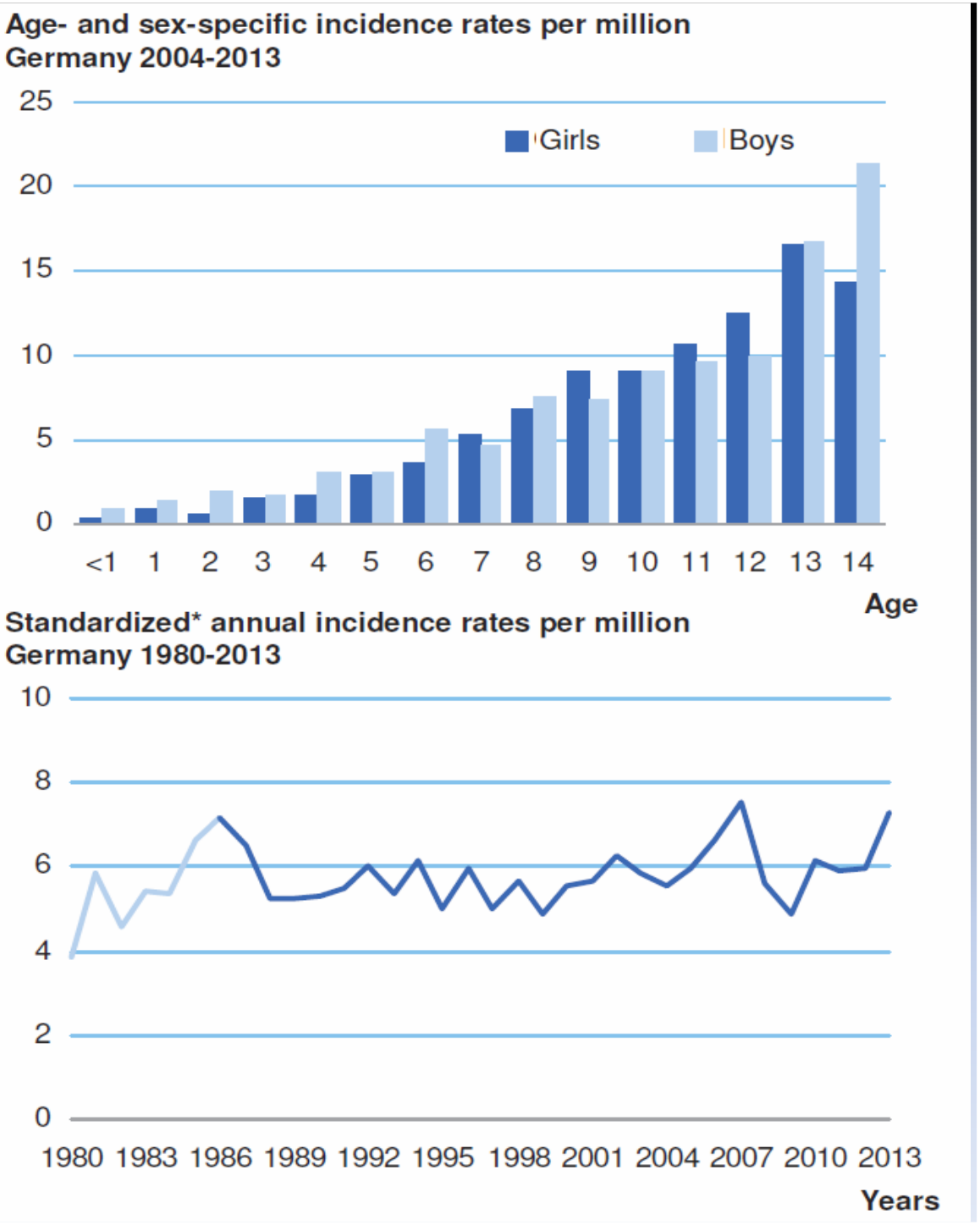
FIGURE 8. Age-Specific Incidence Rates for Bone and Soft Tissue Sarcomas, United States, 2006 to 2010.
Source: North American Association of Central Cancer Registries. Data are included from all US states and the District of Columbia except Arkansas, Minnesota, Nevada, Ohio, and Virginia.

CA Cancer J Clin 2014;64:83-103. VC 2014 American Cancer Society.

Maligne Knochentumore <15 jährig

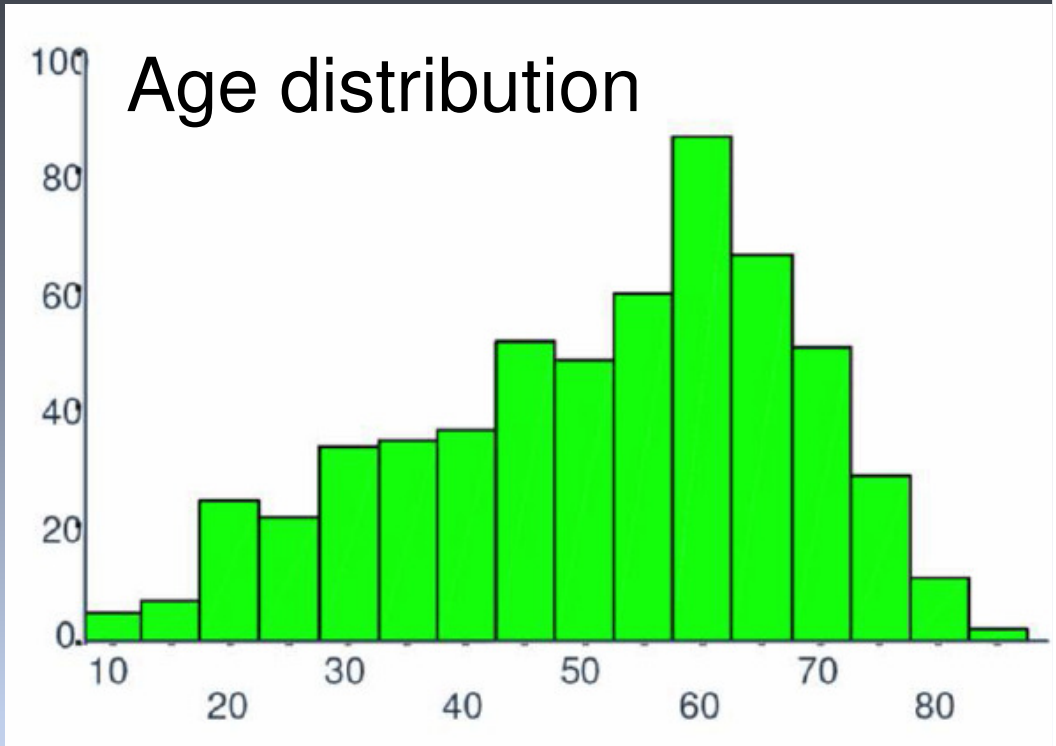
- ✓ Osteosarkome
- ✓ Chondrosarkome
- ✓ Ewing Tumore und verwandte Knochensarkome
- ✓ Andere spezifizierte maligne Knochentumore
- ✓ Unspezifizierte maligne Knochentumore

Deutsches Kinderkrebsregister, JB 2013/14



Weichteilsarkom (STS)

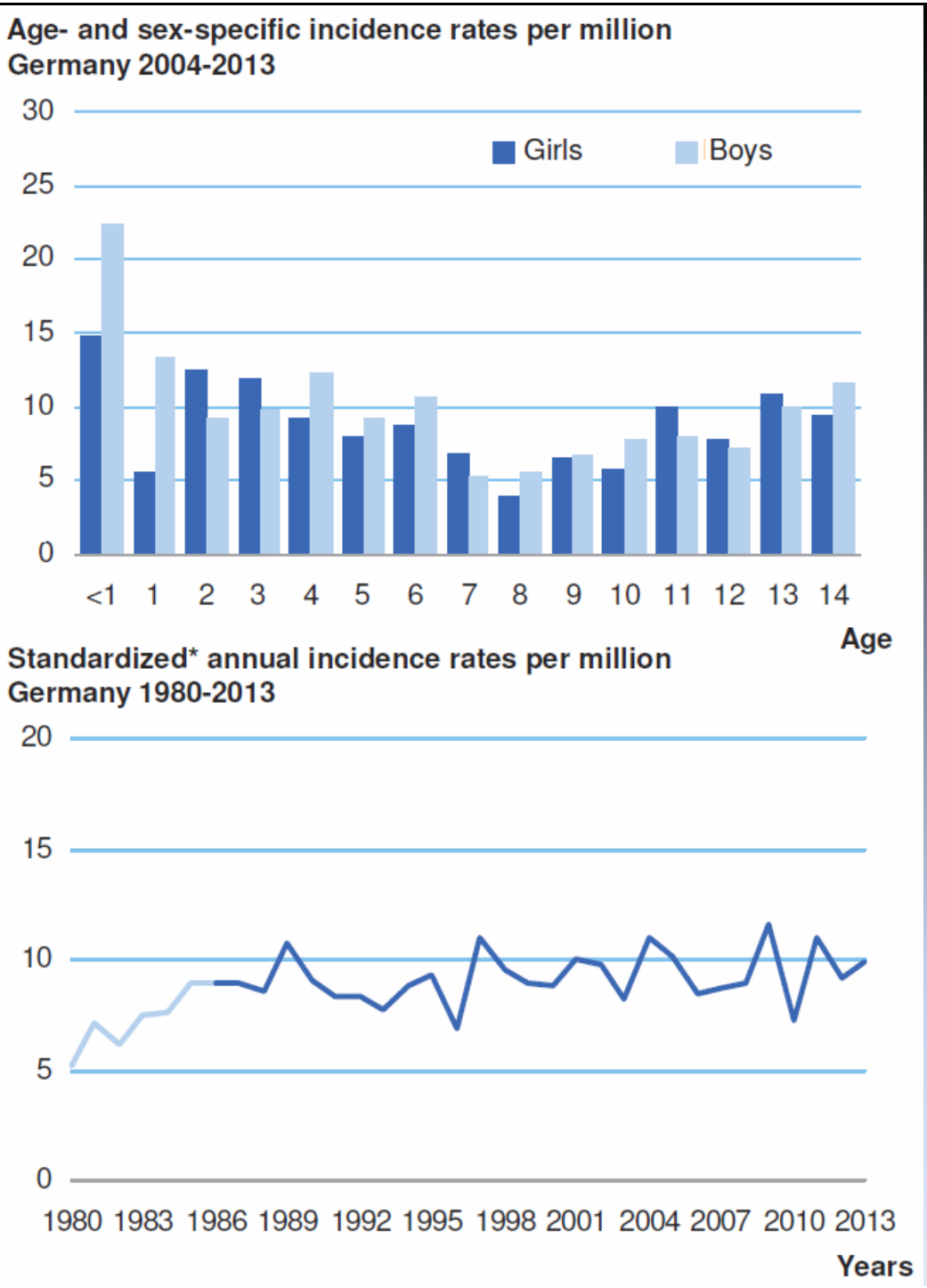
- ✓ STS ≈ 1% aller Malignitäten
- ✓ Bei Patienten <15 jährig: 0.5-1/100'000
- ✓ 30% >60 jährig
- ✓ >50 histologische Subtypen
- ✓ Kinder- und Jugendliche: chromosomale Translocationen, Fusionsgene
- ✓ Ältere Patienten: hochkomplexe aberrante Genome

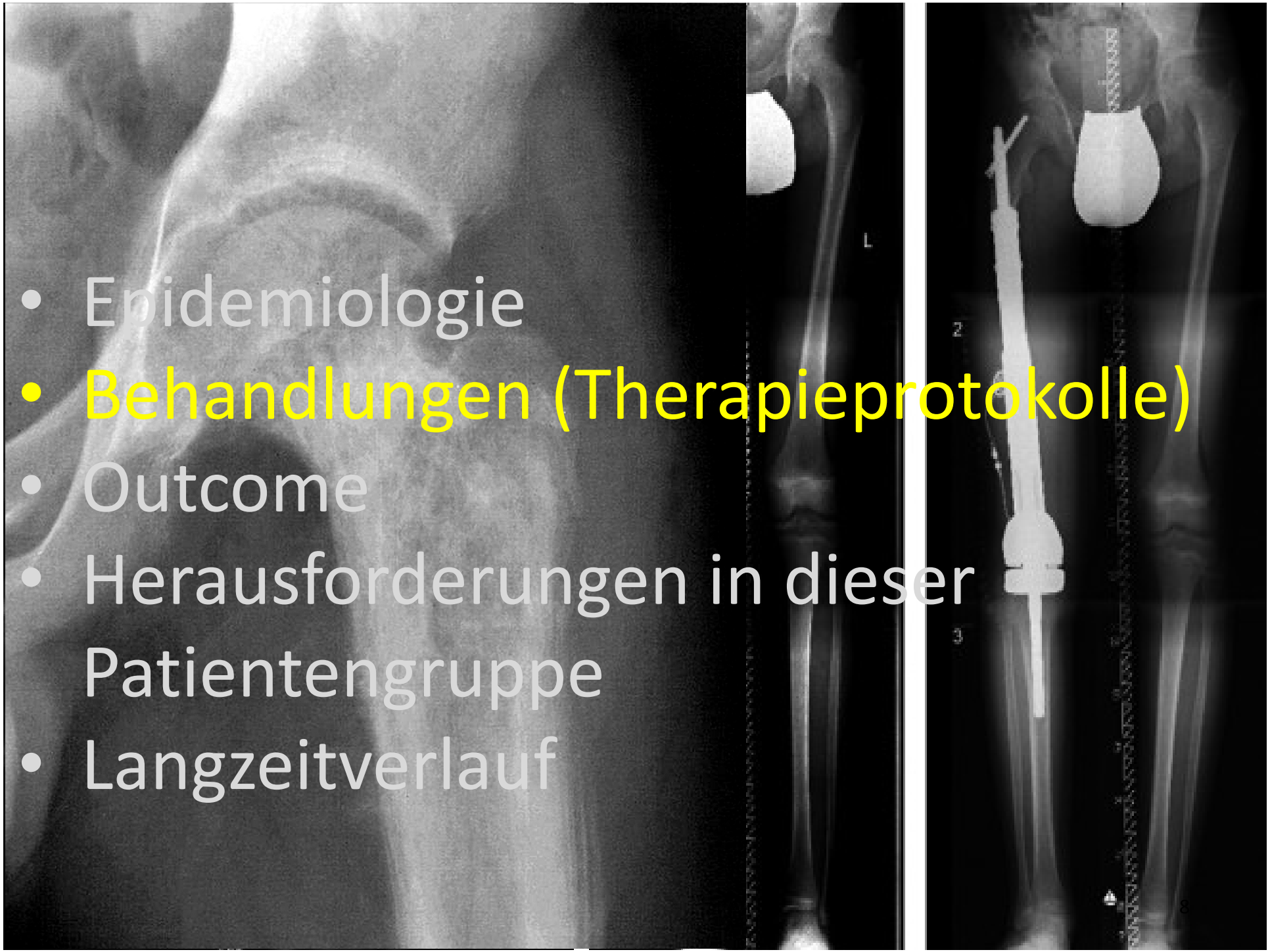


Weichteil und andere extraossäre Sarkome < 15 jährig

- ✓ Rhabdomyosarkome
- ✓ Fibrosarkome, peripherer Nervenscheidentumore und andere fibröse Neoplasien
- ✓ Kaposi Sarkome
- ✓ Andere spezifizierte maligne Weichteilsarkome
- ✓ Unspezifizierte maligne Weichteilsarkome

Deutsches Kinderkrebsregister, JB 2013/14





- Epidemiologie
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Alter: 0 bis < 40 Jahre
2260 Patienten eingeschlossen
>50% randomisiert

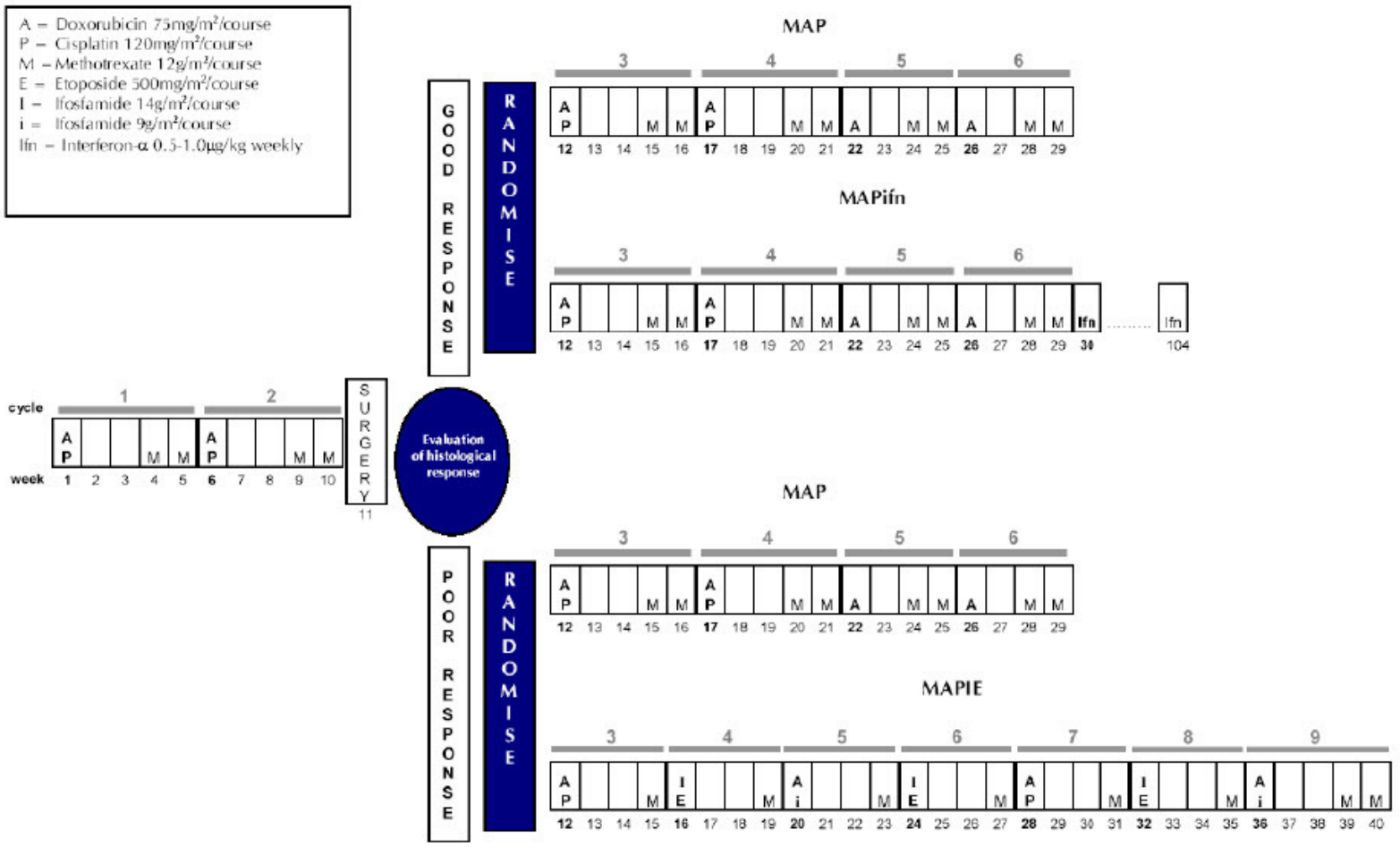
EURAMOS 1

ISRCTN67613327
EudraCT no. 2004-000242-20

A randomized trial of the European and American Osteosarcoma Study Group to optimize treatment strategies for resectable osteosarcoma based on histological response to pre-operative chemotherapy

Clinical trial protocol
Version: 1.2
Date: 30 March 2007

EURAMOS 1 Protocol, Version 1.1, 30 June, 2006



Note: Surgery for metastases should take place between weeks 11-20. See section 9.2.2.5

9.1.7.3. Scheduled treatment dates

EURAMOS 1

In collaboration with EBMT

EWING 2008

EudraCT number: 2008-003658-13
Trial Code: EWING2008

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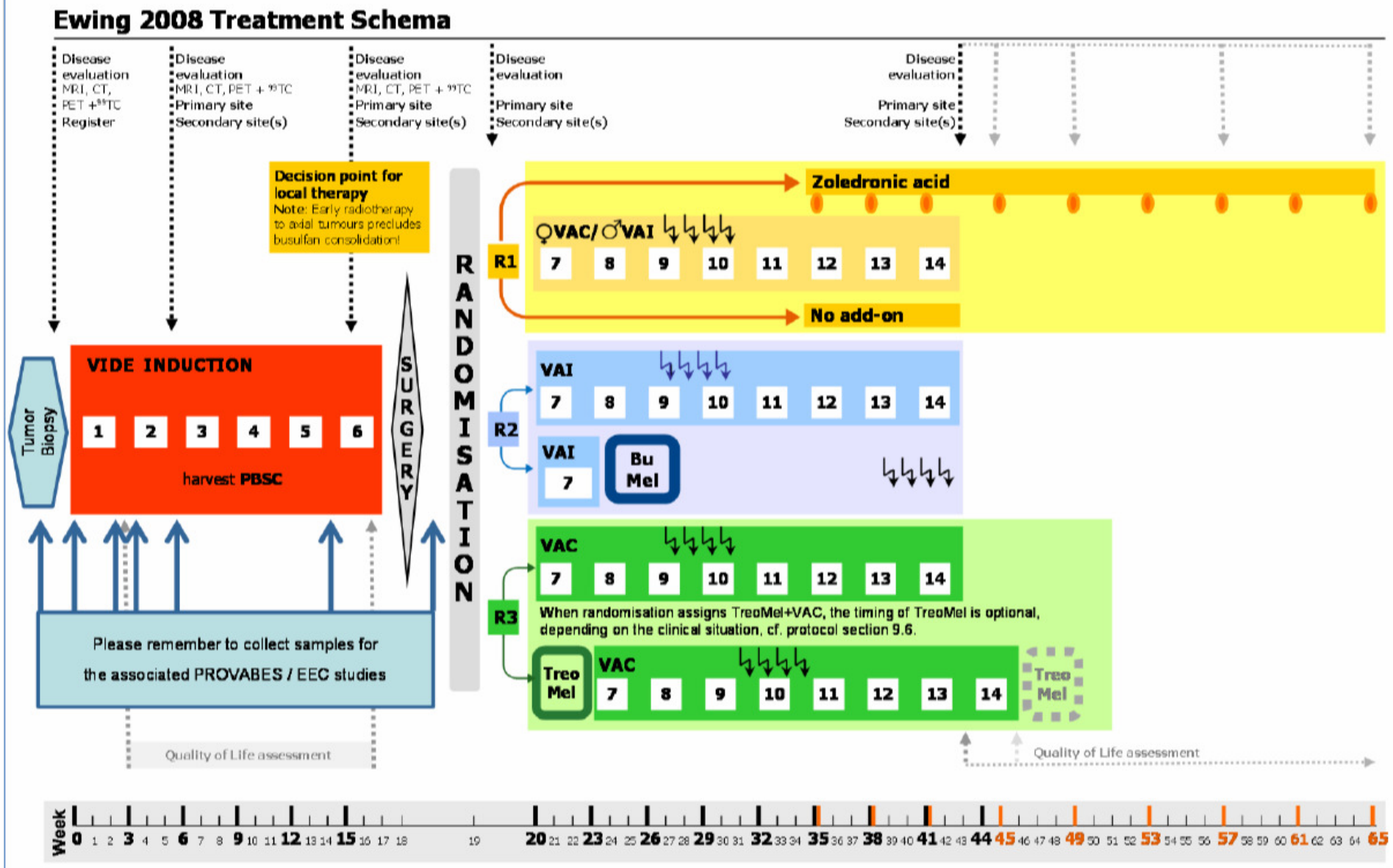
Uta.Dirksen@ukmuenster.de

Planned period of study: 2009-2018

Version: 1.9

Date of version: 1 Oct 2014

Alter: >4 bis <50 Jahre
Ziel: n = 1383 Patienten


Ewing 2008 Treatment Schema
Disease evaluation MRI, CT, PET +99TC Register
Disease evaluation MRI, CT, PET + 99TC Primary site Secondary site(s)
Disease evaluation MRI, CT, PET + 99TC Primary site Secondary site(s)
Disease evaluation Primary site Secondary site(s)
Disease evaluation Primary site Secondary site(s)
Decision point for local therapy
Note: Early radiotherapy to axial tumours precludes busulfan consolidation!
Tumor Biopsy
VIDE INDUKTION
1 2 3 4 5 6
harvest PBSC
SURGERY
RANDOMISATION
R1
♀VAC/♂VAI
7 8 9 10 11 12 13 14
Zoledronic acid
No add-on
R2
VAI
7 8 9 10 11 12 13 14
VAI
7
Bu Mel
R3
VAC
7 8 9 10 11 12 13 14
When randomisation assigns TreoMel+VAC, the timing of TreoMel is optional, depending on the clinical situation, cf. protocol section 9.6.
Treo Mel
VAC
7 8 9 10 11 12 13 14
Treo Mel
Please remember to collect samples for the associated PROVABES / EEC studies
Quality of Life assessment
Quality of Life assessment
Week
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65

Cooperative Weichteilsarkom
Studiengruppe CWS der GPOH

CWS-2007-HR

A randomised phase-III trial of the Cooperative Weichteilsarkom Studiengruppe for localised high-risk Rhabdomyosarcoma and localised Rhabdomyosarcoma-like Soft Tissue Sarcoma in children, adolescents, and young adults

funded by the Deutsche Kinderkrebsstiftung (German Childhood Cancer Foundation)

Sponsor: Universitätsklinikum Tübingen
conducted under the auspices of the
German Society for Paediatric Haematology and Oncology (GPOH)
Version 1.2 from 20.02.2015

Clinical Trial Number (EudraCT): 2007-001478-10
Prüfplancode des Sponsors: Z3

Deutsche Kinderkrebsstiftung

Gesellschaft für Pädiatrische Onkologie und Hämatologie GPOH

Deutsche Krebsgesellschaft e.V.

UKT

Alter:
> 6 Monate
und
< 21 Jahre

Cooperative Weichteilsarkom Study Group CWS der GPOH

in cooperation with the
European paediatric Soft Tissue Sarcoma Study Group
EpSSG

CWS-guidance

for risk adapted treatment of
soft tissue sarcoma and soft tissue tumours
in children, adolescents, and young adults

Version 1.6. from 12.12.2012

GESELLSCHAFT FÜR PÄDIATRISCHE ONKOLOGIE UND HÄMATOLOGIE GPOH

EpSSG

DEUTSCHE KREBSGESELLSCHAFT E.V.

Chair persons

Prof. Dr. med. Ewa Koscielniak

Prof. Dr. med. Thomas Klingebiel

Cooperative Soft Tissue Sarcoma Study Group CWS

Cooperative Weichteilsarkom Studiengruppe CWS der GPOH

CWS-Register

SoTiSaR

A Registry for soft tissue sarcoma
and other soft tissue tumours
in children, adolescents, and young adults

Version 1.4 from 1.07.2009

Deutsche Kinder Krebs Stiftung

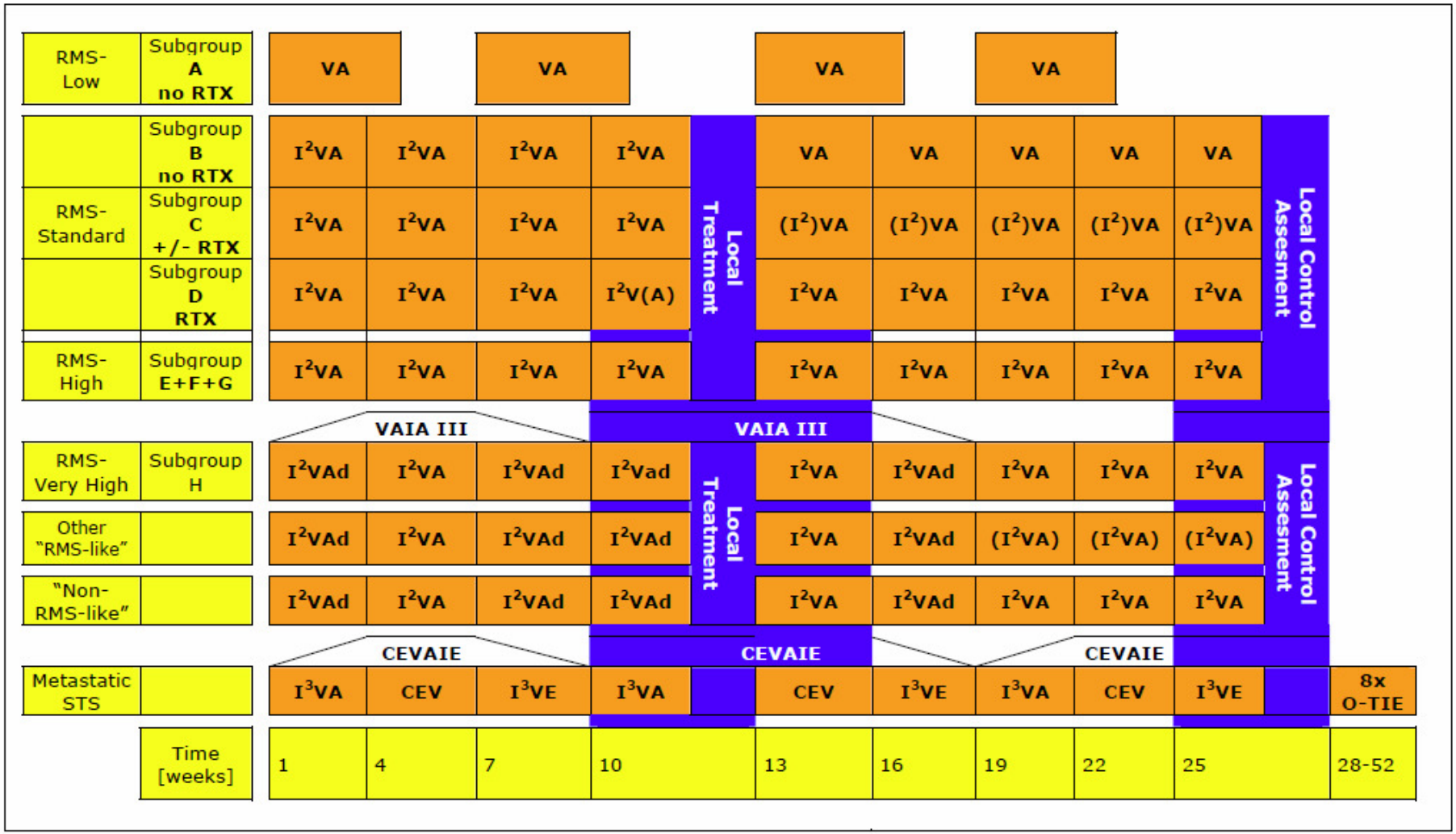
GESELLSCHAFT FÜR PÄDIATRISCHE ONKOLOGIE UND HÄMATOLOGIE GPOH

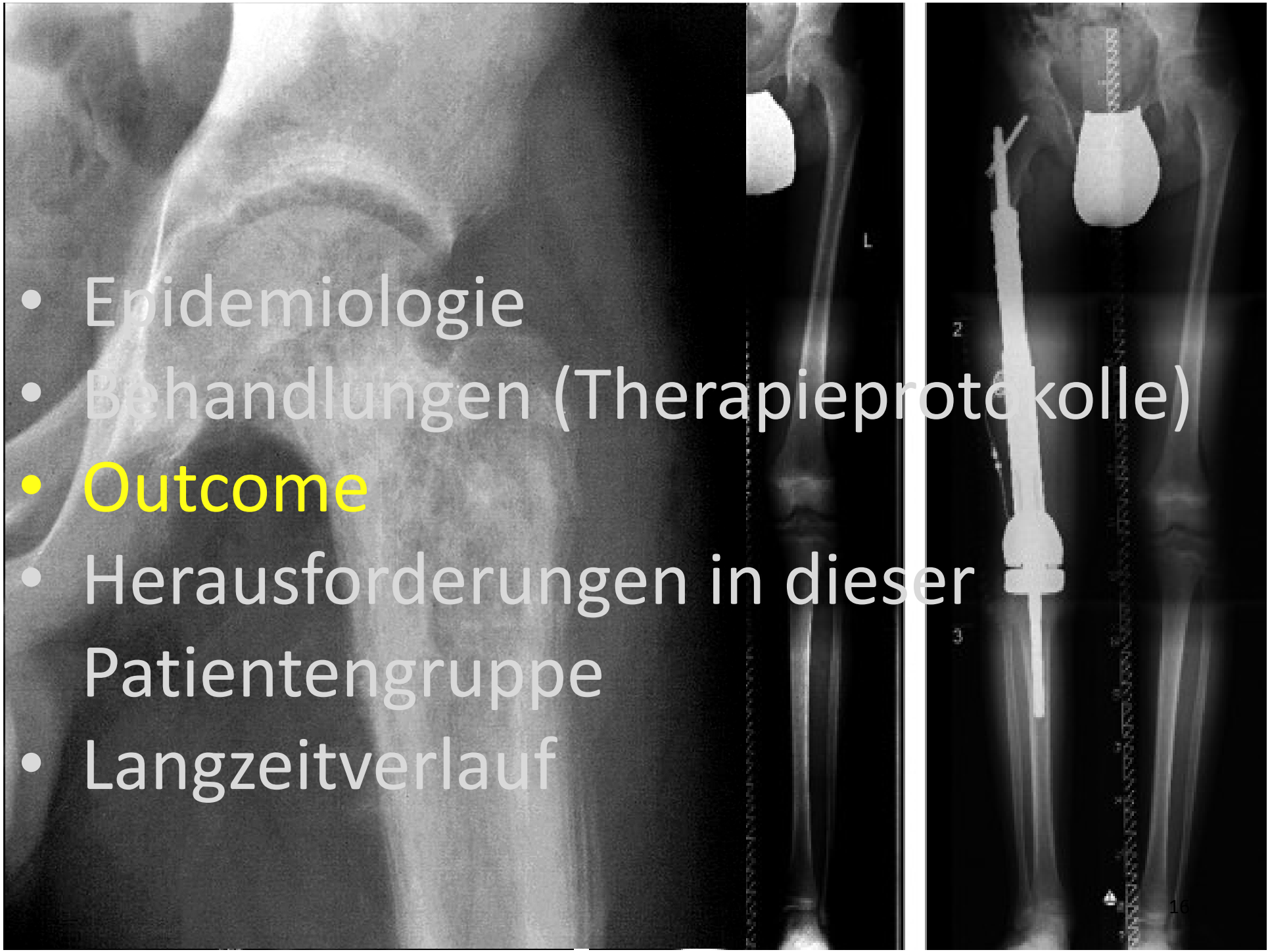
Chair persons

Prof. Dr. med. Ewa Koscielniak

Prof. Dr. med. Thomas Klingebiel

Therapy Overview CWS-Guidance at a glance





- Epidemiologie
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- Langzeitverlauf

Osteosarkom

Ewing Sarkom

Rhabdomyosarkom

J Clin Oncol 28:2625-2634 (2010)

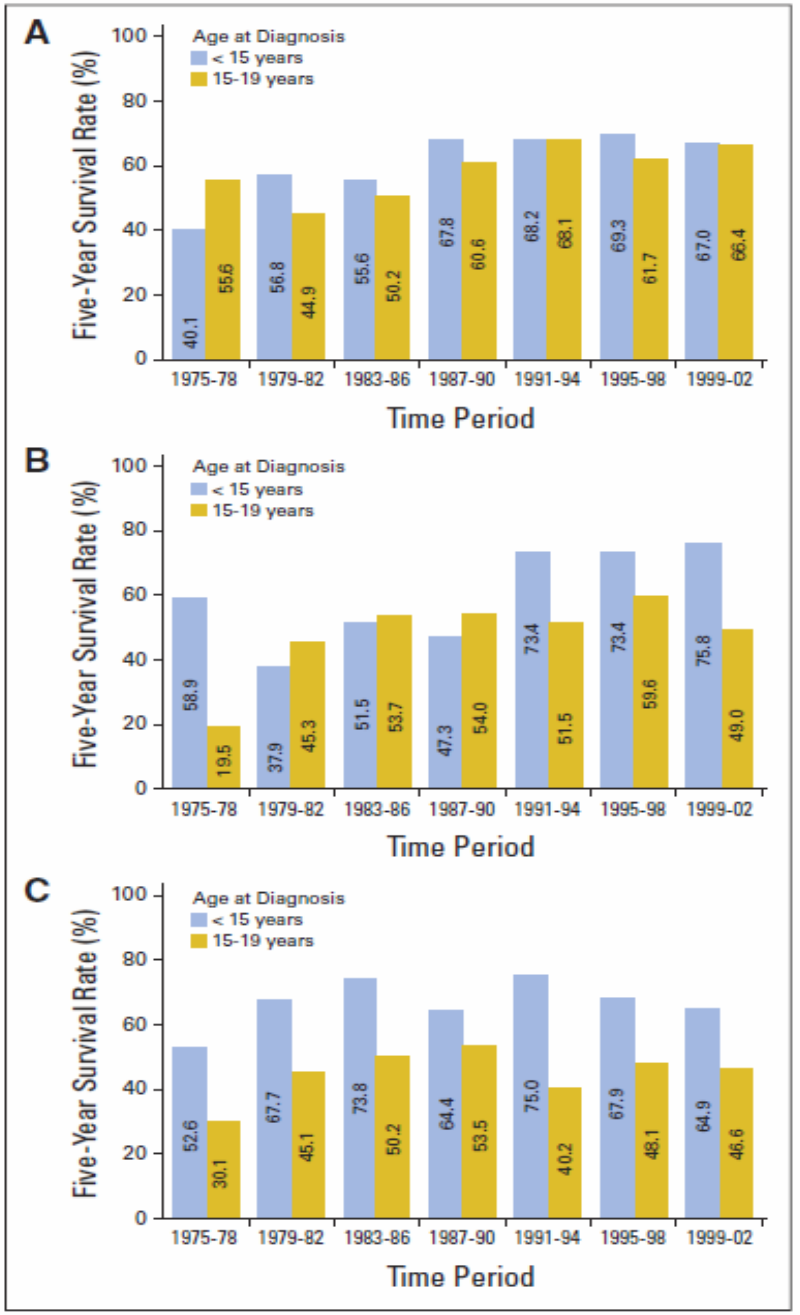
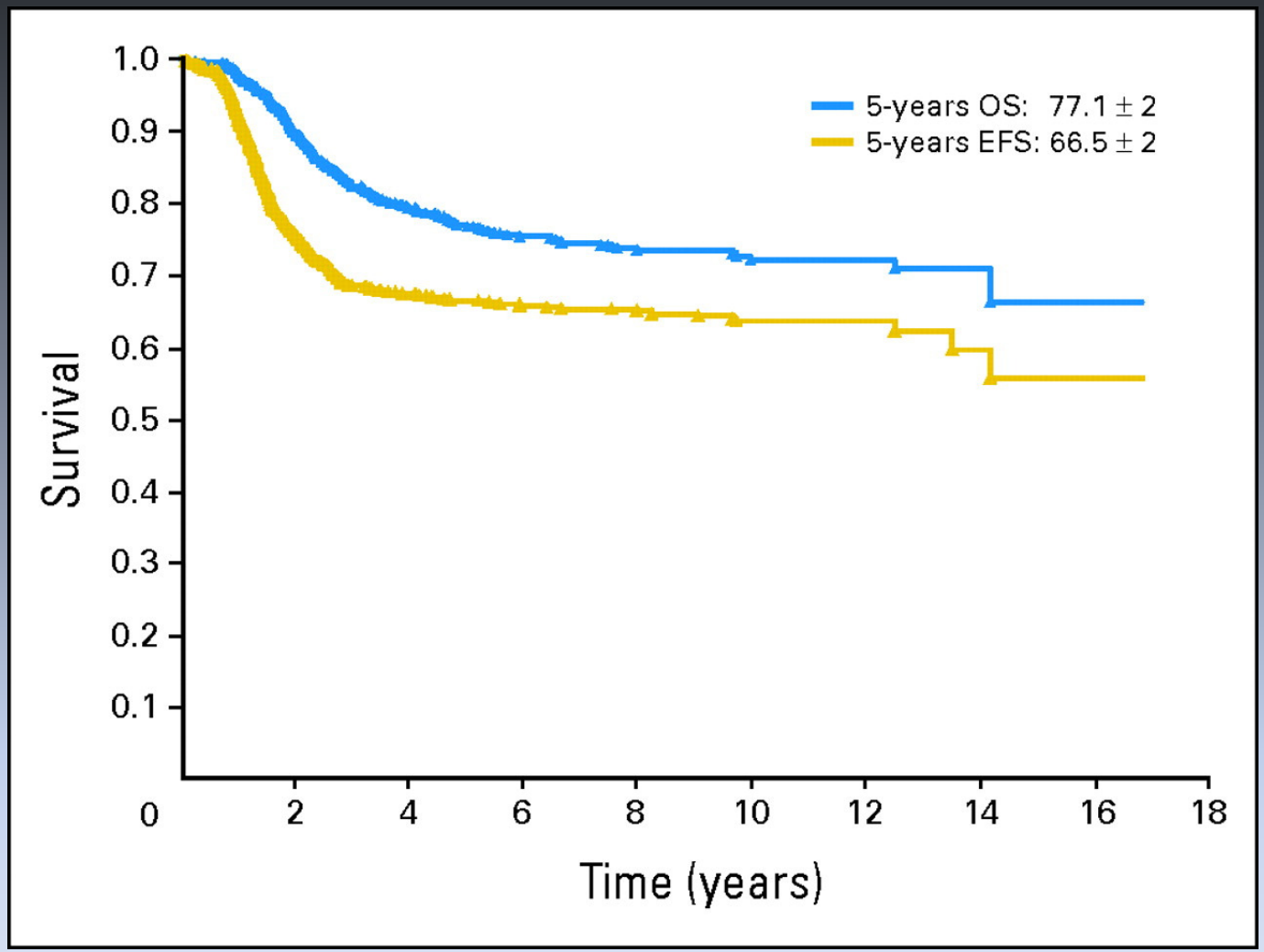


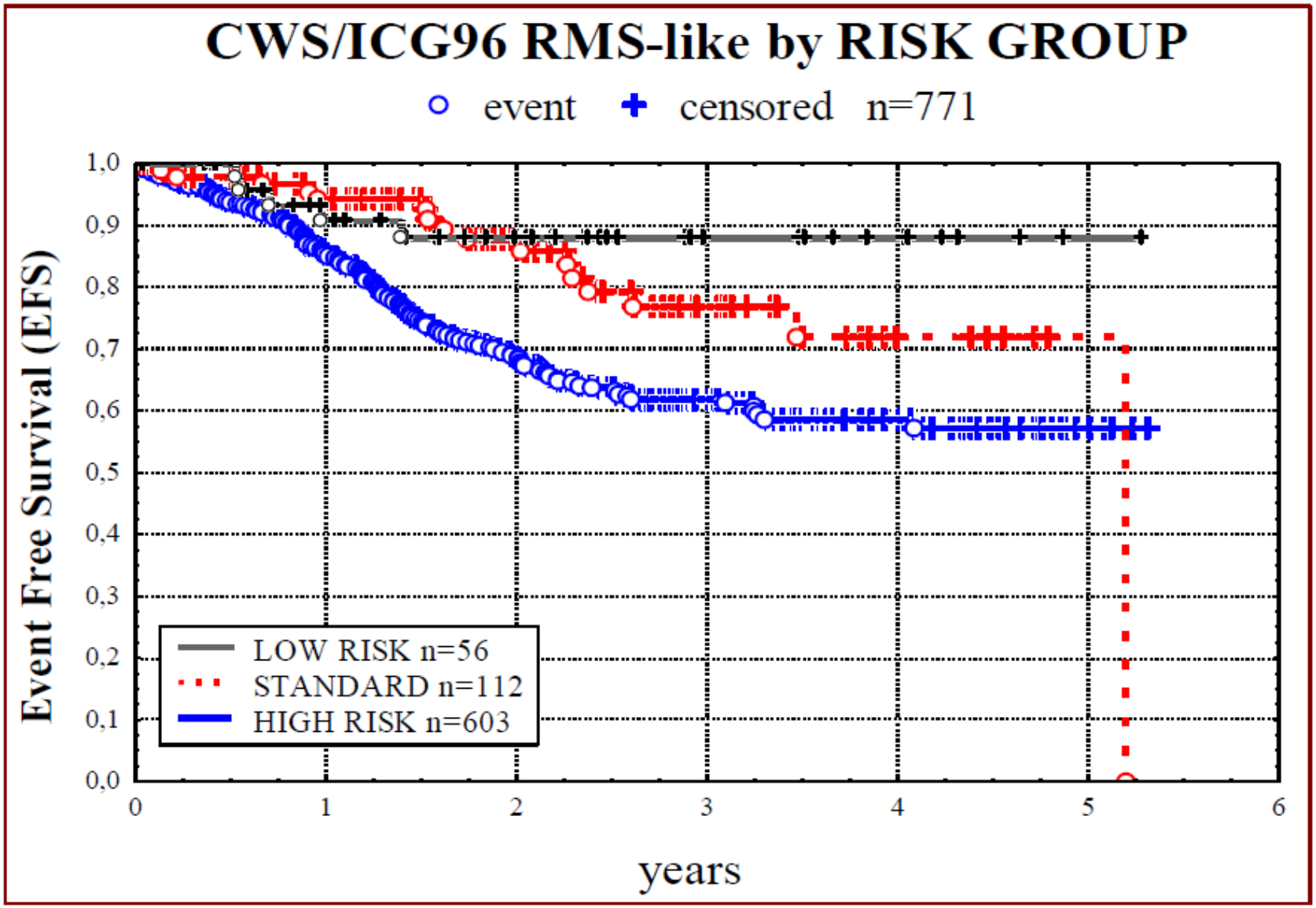
Fig 7. Five-year survival rates for (A) osteosarcoma, (B) Ewing sarcoma, and (C) rhabdomyosarcoma among children by age group and time period of diagnosis from 1975 through 2002, with follow-up of vital status through 2006, according to data from Surveillance, Epidemiology, and End Results 9 (SEER 9) registries.

1578 Patienten < 21 jährig mit lokalisiertem RMS (CWS-81, CWS-86, CWS-91, CWS-96)

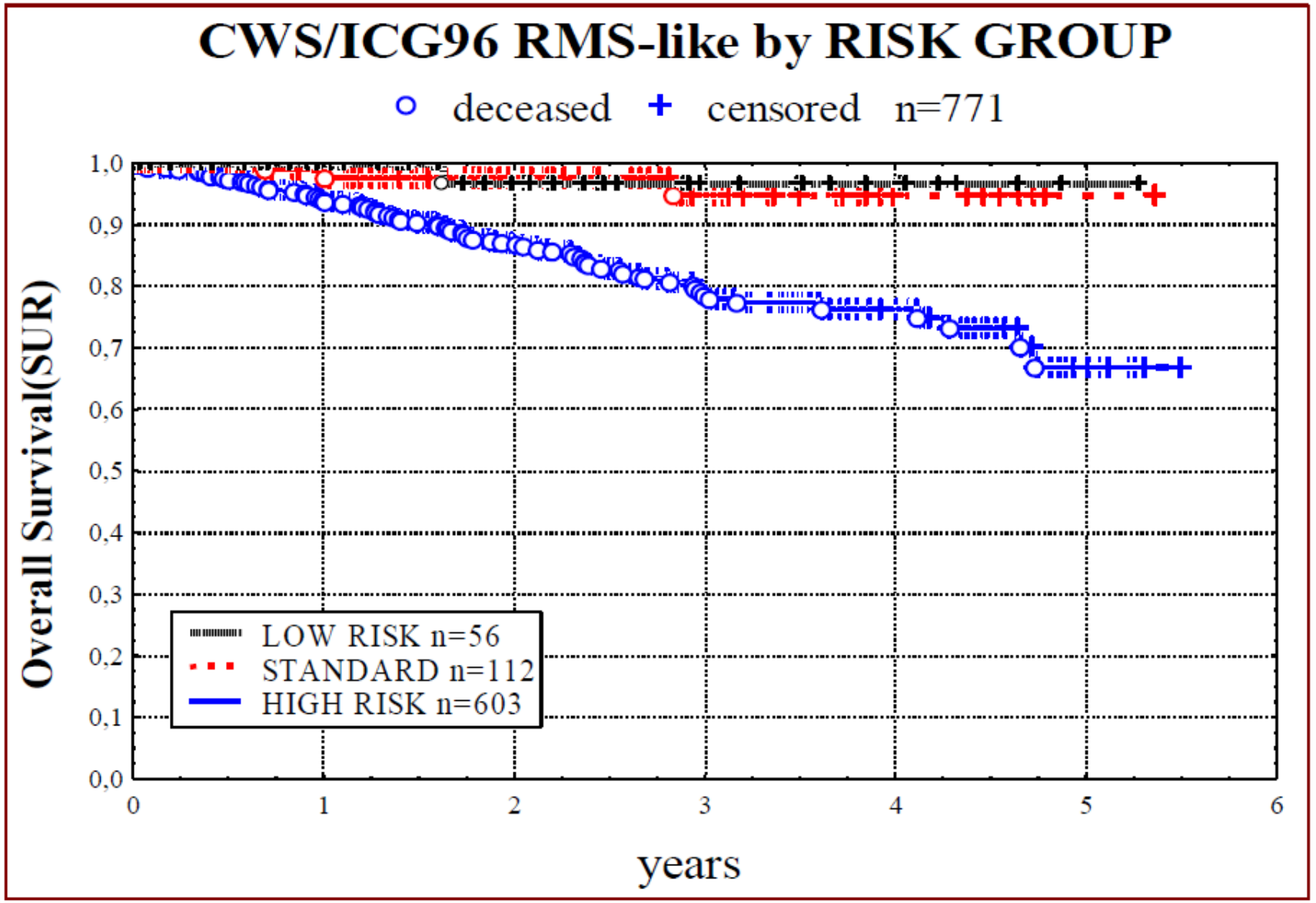


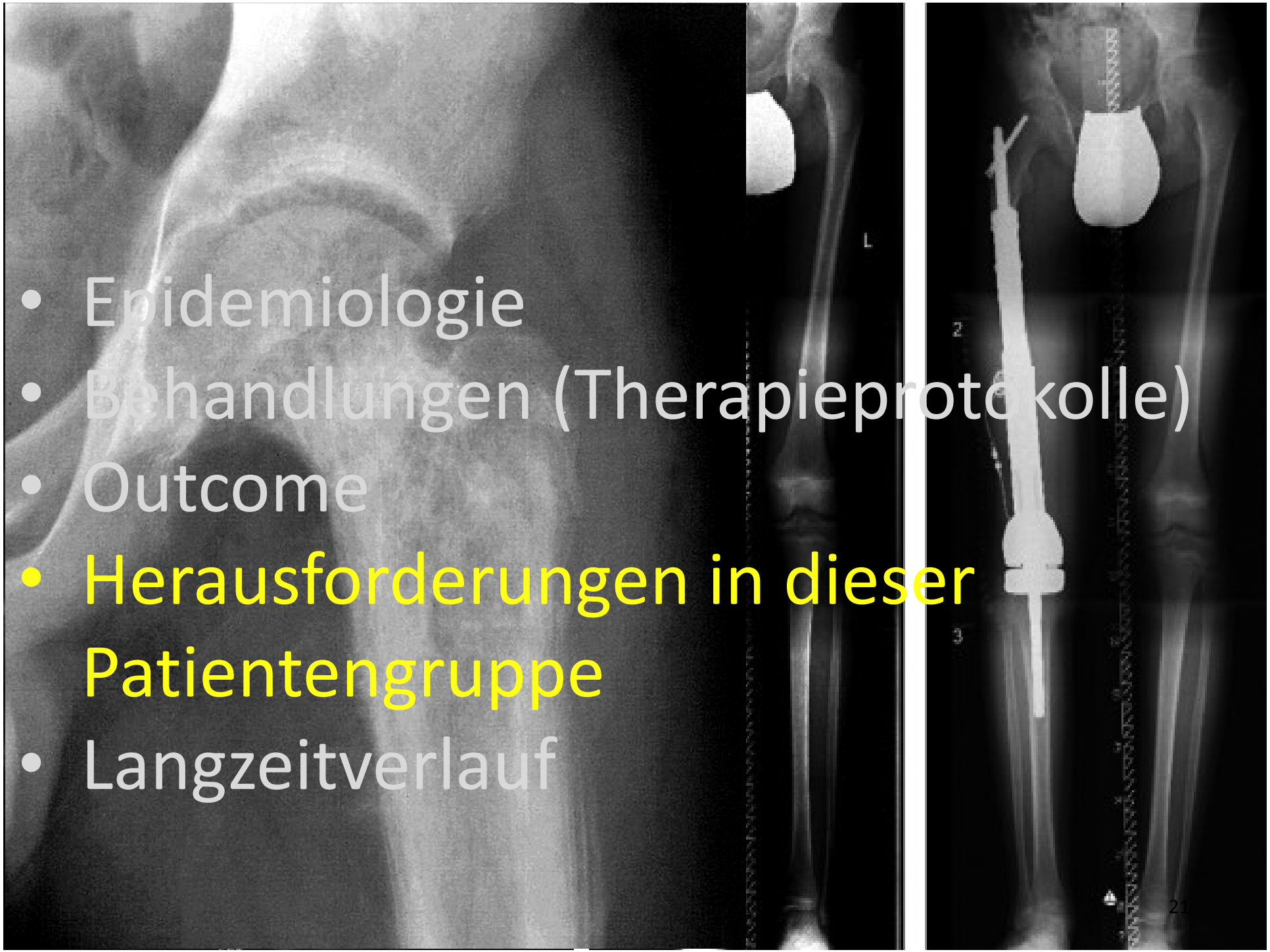
Tobias M. Dantonello et al. JCO 2008;26:406-413

Resultate der CWS/RMS-96 und MMT-95 Studien



Resultate der CWS/RMS-96 und MMT-95 Studien





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Clinical Oncology in Adolescents and Young Adults

Archive: Volume 5, 2015

REVIEW

Mental health status of adolescent cancer survivors

Mertens AC, Gilleland Marchak J

Clinical Oncology in Adolescents and Young Adults 2015, 5:87-95

Published Date: **18 September 2015**

REVIEW

Treating melanoma in adolescents and young adults: challenges and solutions

Sreeraman Kumar R, Messina JL, Sondak VK, Reed DR

Clinical Oncology in Adolescents and Young Adults 2015, 5:75-86

Published Date: **15 September 2015**

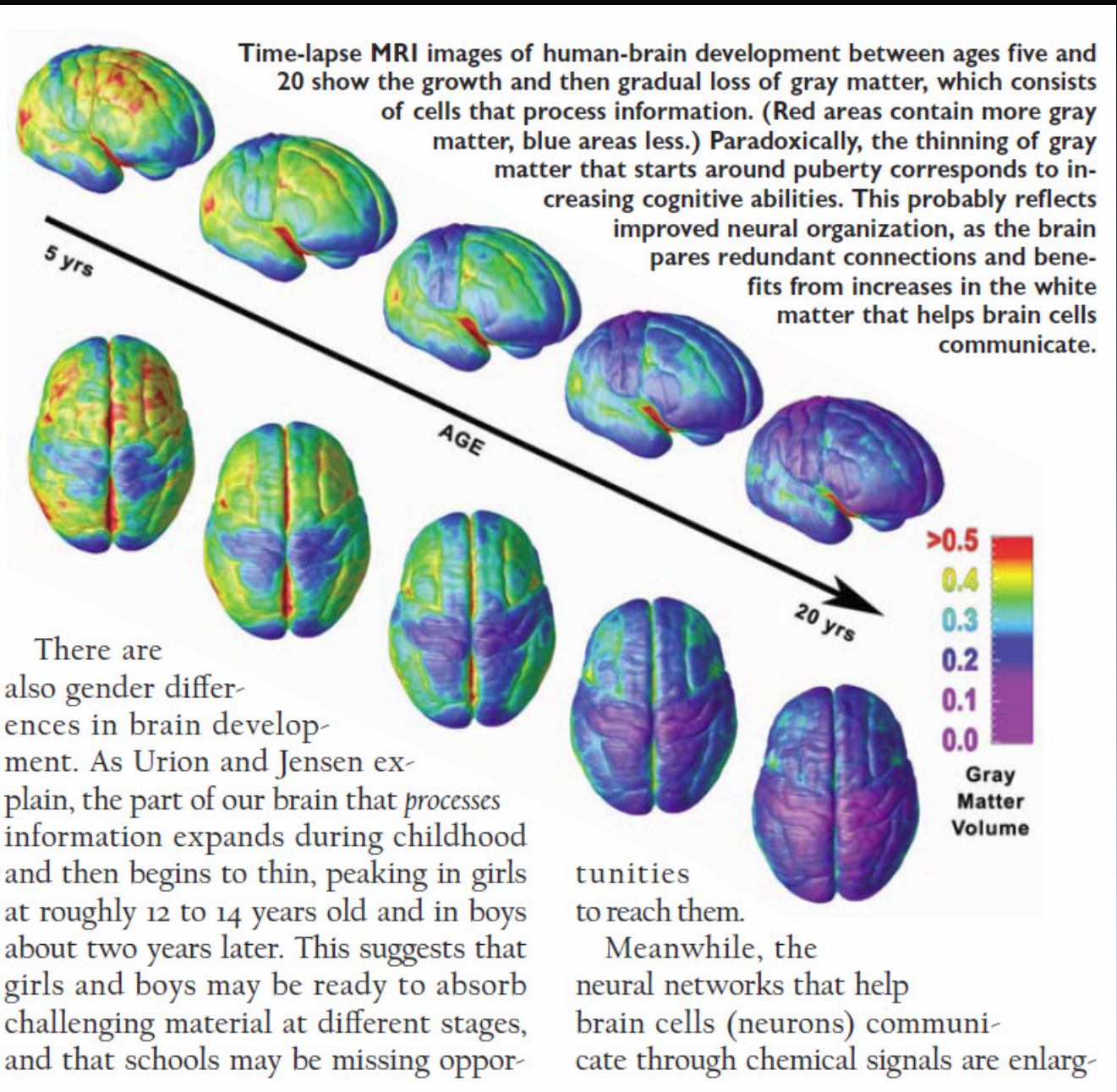
REVIEW VIDEO

New strategies to ensure good patient–physician communication when treating adolescents and young adults with cancer: the proposed model of the Milan Youth Project

Magni MC, Veneroni L, Clerici CA, Proserpio T, Sironi G, Casanova M, Chiaravalli S, Massimino M, Ferrari A

Clinical Oncology in Adolescents and Young Adults 2015, 5:63-73

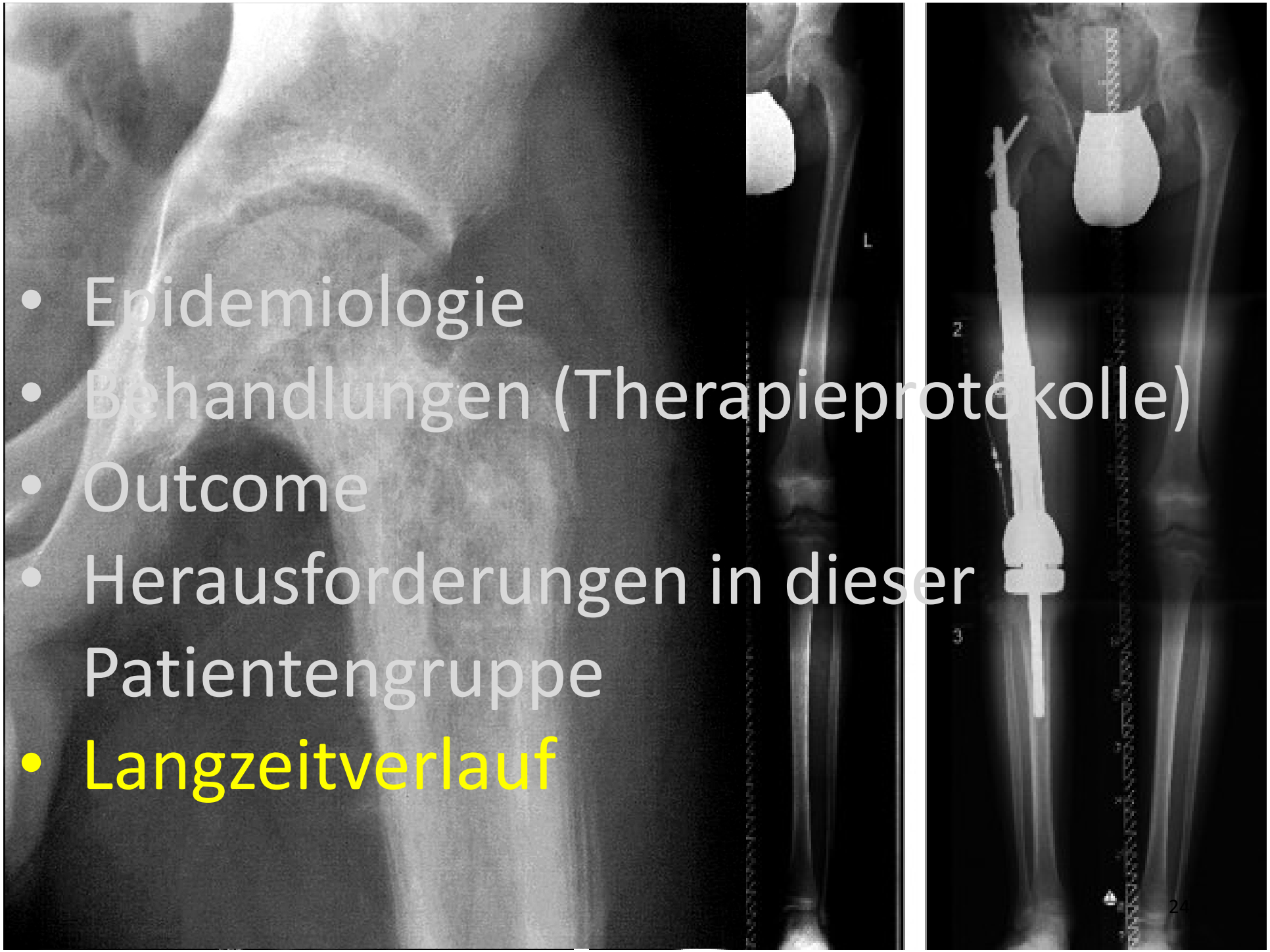
Published Date: **24 August 2015**



Time-lapse MRI images of human-brain development between ages five and 20 show the growth and then gradual loss of gray matter, which consists of cells that process information. (Red areas contain more gray matter, blue areas less.) Paradoxically, the thinning of gray matter that starts around puberty corresponds to increasing cognitive abilities. This probably reflects improved neural organization, as the brain pares redundant connections and benefits from increases in the white matter that helps brain cells communicate.

There are also gender differences in brain development. As Urion and Jensen explain, the part of our brain that *processes* information expands during childhood and then begins to thin, peaking in girls at roughly 12 to 14 years old and in boys about two years later. This suggests that girls and boys may be ready to absorb challenging material at different stages, and that schools may be missing opportunities to reach them.

Meanwhile, the neural networks that help brain cells (neurons) communicate through chemical signals are enlarg-



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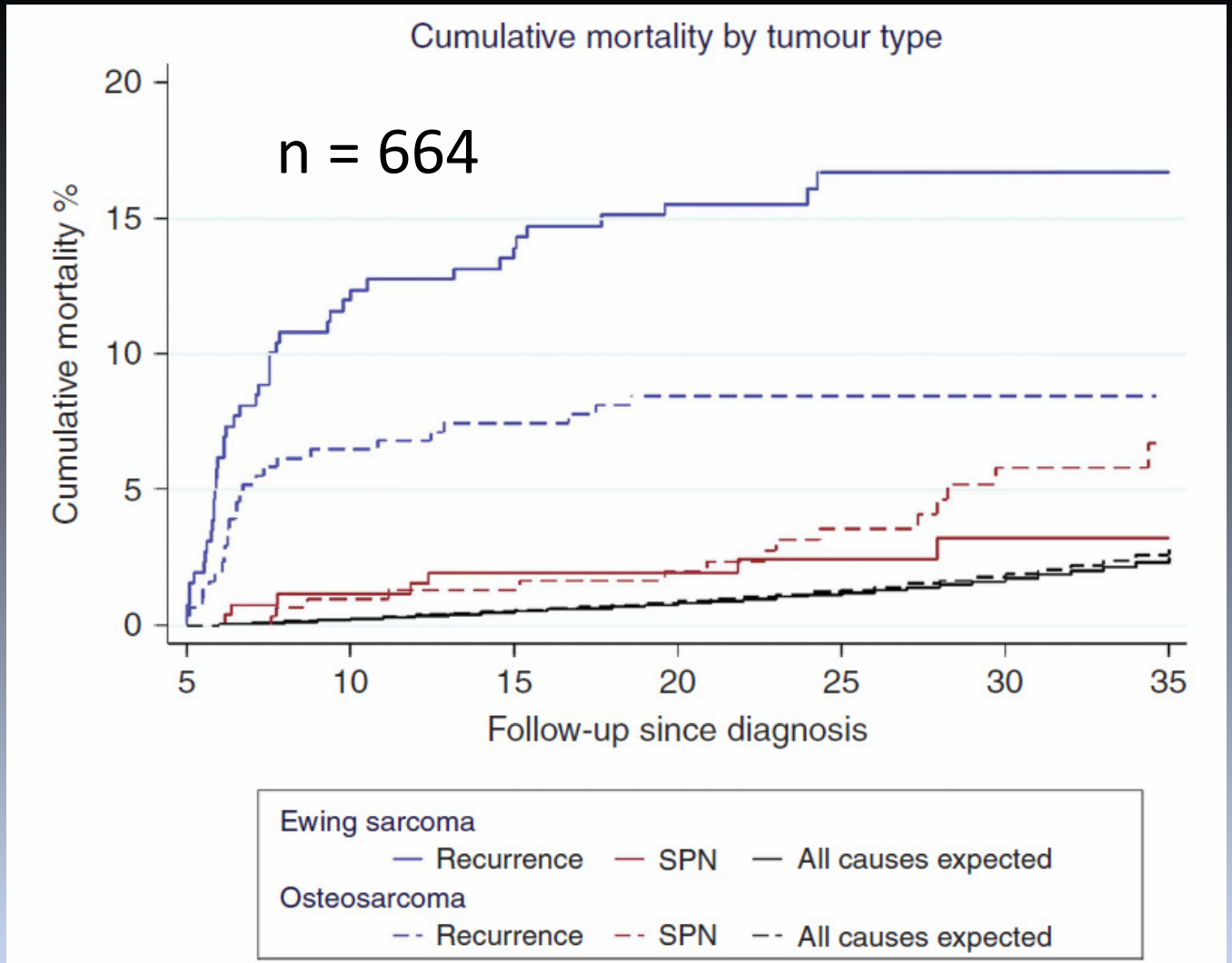
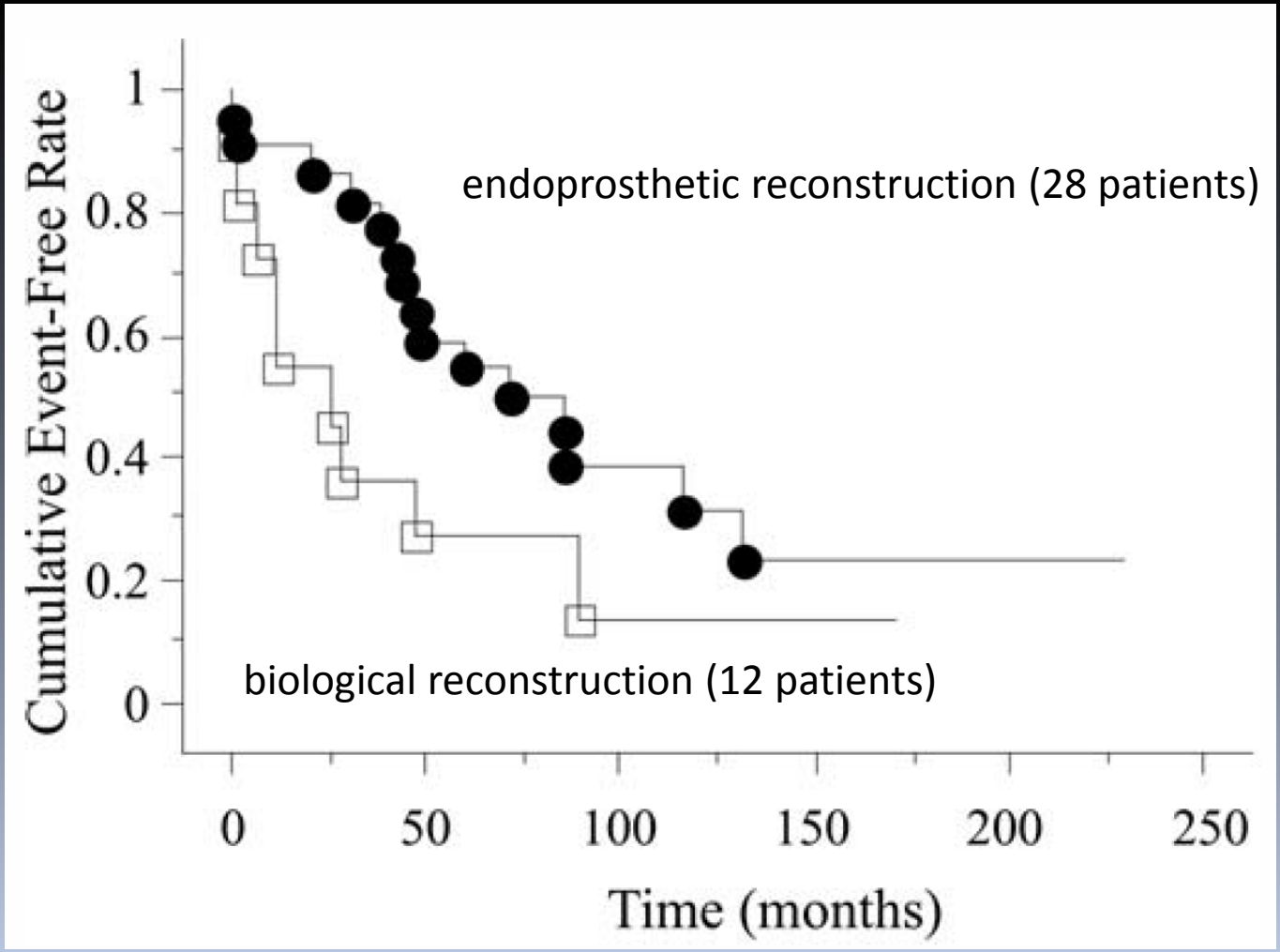


Figure 1. Cumulative mortality of recurrence and second primary neoplasms among childhood bone sarcoma survivors within the British Childhood Cancer Survivor Study (BCCSS) by tumour type.

Filder MM et al. BJC (2015) 112, 1857–1865



(1) 11 jährig oder jünger bei Diagnose
(2) Primärer maligner Tumor in der Metaphyse und/oder der Epiphyse des distalen Femurs
(3) Hatten eine beinerhaltende Operation

Futani H et al JBJS.ORG 88-A; 595-603 (2006)

SF-36 health status (n = 664)

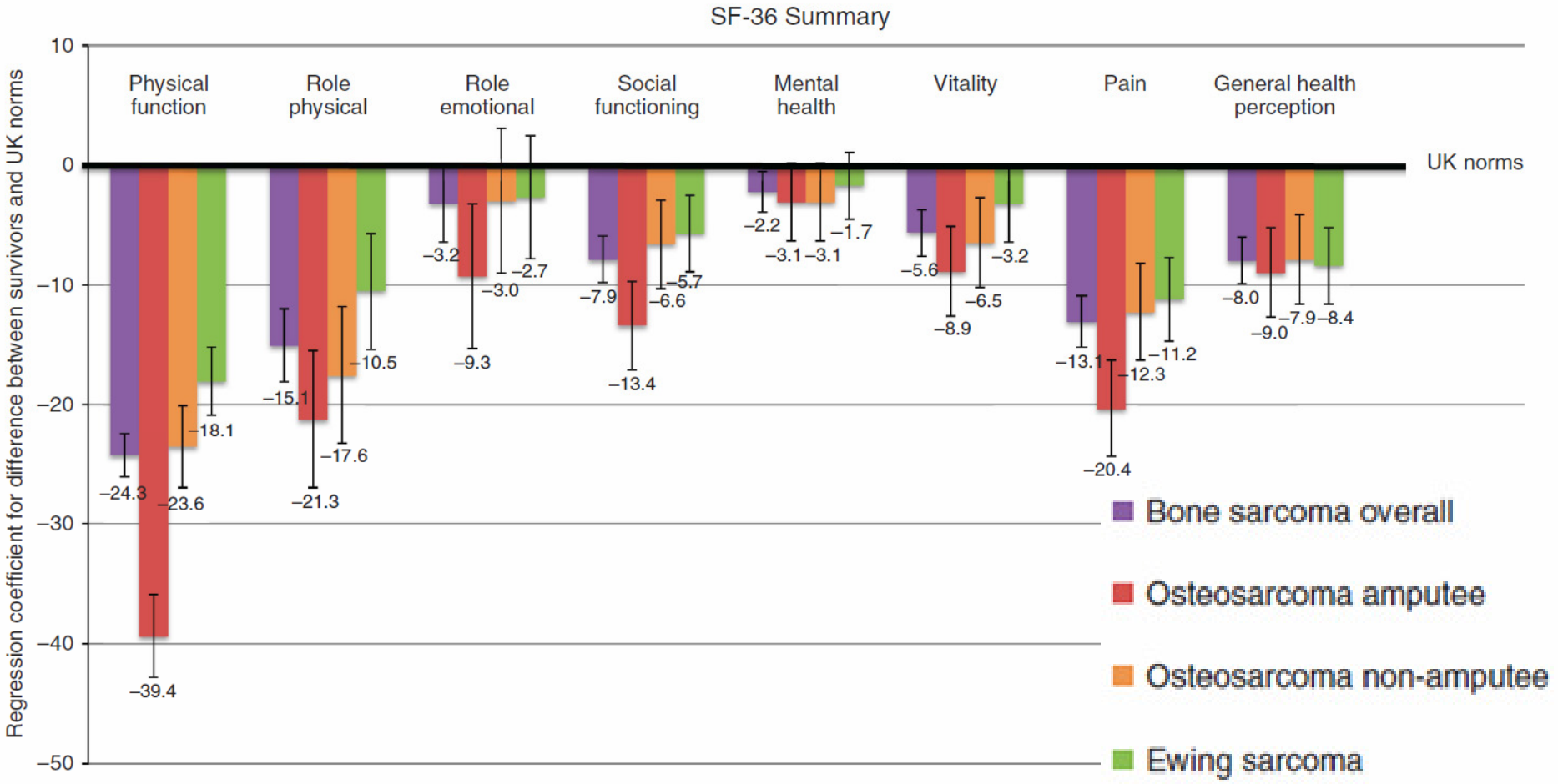
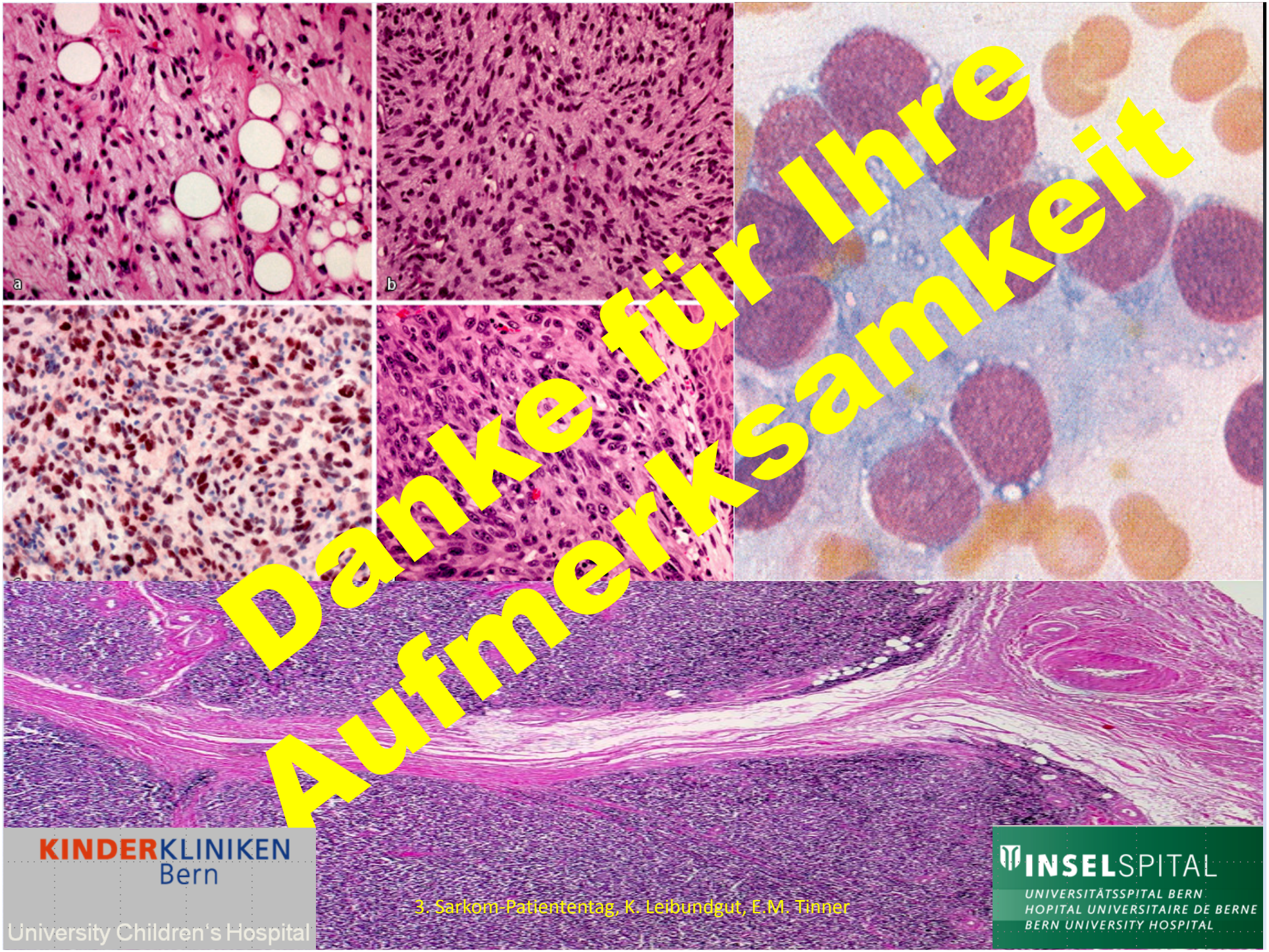


Figure 2. Sex and age adjusted regression coefficients and corresponding 95% confidence intervals for differences in SF-36 health status scales between bone sarcoma, osteosarcoma amputees, osteosarcoma non-amputees, and Ewing sarcoma survivors *vs* UK norms.

Fidler MM et al. BJC (2015) 112, 1857–1865


Danke für Ihre Aufmerksamkeit
KINDERKLINIKEN Bern
University Children's Hospital
3. Sarkom-Patiententag, K. Leibundgut, E.M. Tinner
INSELSPITAL
UNIVERSITÄTSSPITAL BERN
HOPITAL UNIVERSITAIRE DE BERNE
BERN UNIVERSITY HOSPITAL