

RiSK

RADIOTHERAPY – Documentation form

-

Primary therapy: Relapse therapy:

Name, Surname:

DOB: ____ . ____ . ____ Sex: male female

Address:

Diagnosis:

Therapy protocol:

Department of Pediatric Oncology:

.....

Department of Radiotherapy:

.....

Tumor location:

Target of Radiotherapy:

(For details see list on page 5)

Functional impairment within the treatment area before radiotherapy: no

yes:

.....

Functional impairment outside the treatment area before radiotherapy: no

yes:

.....

Height before start of radiotherapy (cm): _____ Height if seated before radiotherapy (cm)
 (in case of radiation of spinal axis): _____

Weight before start of radiotherapy (kg): _____

Documentation forms should be sent back to the following address:

RiSK study trial center, Department of Radiotherapy, University Hospital of Münster, Albert-Schweitzer-Str.33, D-48129 Münster, Germany; Phone: +49-251-83-47384; Fax: +49-251-83-47355; Email: radtox@uni-muenster.de

Radiation planning (in case of 2 localizations please use a second table)

	Target volume I	Target volume II (e.g. shrinking field, boost)	Target volume III (e.g. shrinking field, boost)
Irradiated organ area:			
	<input type="checkbox"/> single field <input type="checkbox"/> opposing fields <input type="checkbox"/> > 2 fields	<input type="checkbox"/> single field <input type="checkbox"/> opposing fields <input type="checkbox"/> > 2 fields	<input type="checkbox"/> single field <input type="checkbox"/> opposing fields <input type="checkbox"/> > 2 fields
No. of treatment fields:			
Non-coplanar fields?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Coplanar fields?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Isodose plan?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
CT/MRI – based?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
3- D planning?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Dose volume histogram?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Prescription according to ICRU 50 report?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Surrounding isodose:	%	%	%
Dosage on ½ diameter?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Dosage Depth:	cm	cm	cm
Other dosage system:			
Simulation?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Cobalt 60?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Linac- Photons?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Linac-Electrons:	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Energy:	____ MeV	____ MeV	____ MeV
Neutrons?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Protons?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Mixed technique?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Bolus material?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no
Stereotact. irradiation?	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input type="checkbox"/> no

Other irradiation techniques

- Brachytherapy:
 endoluminal interstitial Flab-Technique Seed-Implantation
- Intraoperative Radiotherapy (IORT)
 Electrons Brachytherapy (Flab)
- open radionuclides

- Positioning help (which one?) fixation mask Vacuum cushion plaster cushion
 Sedation/short narcosis Stereotactic fixation ring
 other:.....

Radiation planning (in case of 2 localizations please use a second table)

	Target volume I	Target volume II	Target volume III
Start of treatment:			
End of treatment:			
No. of treatment days:			
Treatment pauses:	<input type="checkbox"/> yes , <input type="checkbox"/> <input type="checkbox"/> days <input type="checkbox"/> no	<input type="checkbox"/> yes , <input type="checkbox"/> <input type="checkbox"/> days <input type="checkbox"/> no	<input type="checkbox"/> yes , <input type="checkbox"/> <input type="checkbox"/> days <input type="checkbox"/> no
Reason:			
Cumulative radiation dose in target volume (Gy):			
Single fraction dose (Gy):			
Fractionation schedule::	x Gy /Week	x Gy /Week	x Gy /Week

Notices:.....

Total body irradiation (TBI):

Date of treatment:.....

Single dose (Gy) :		Lung dose:	
Fractionation schedule: x..... Gy /Tag	Liver dose:	
TBI total dose		Kidney dose:	
Dose / time:			

Has radiotherapy been performed earlier?

no

yes

if yes, target volume:.....

Dose:.....Gy

Year of irradiation:.....

Surgery in irradiated volume: yes no unknown
 performed before radiotherapy: yes no
 planned after radiotherapy: yes no

Kind of Surgery:.....

Chemotherapy before radiotherapy : yes no unknown

Substances.....

.....

Chemotherapy simultaneously to radiotherapy : yes no unknown

Substances.....

.....

Chemotherapy after radiotherapy : yes no unknown

Substances.....

.....

Therapy associated acute toxicity EORTC / RTOG Grade 3 or 4 during radiotherapy:

a).....

b).....

c).....

.....
Date

.....
Name of Physician

.....
Signature / stamp

List of treatment volumes

1	Skin			Abdomen
2	Total body		42	abdomen
3	Half body		43	liver
	CNS		44	liver hilus
81	craniospinal axis		45	splen, splen hilus
4	whole brain		46	stomach
5	cerebrum		47	paraaortal lymph nodes
6	cerebellum		48	pankreas
7	brainstem		49	kidney
8	hypophysis		50	adrenal gland
9	pinealis		51	iliacal lymph nodes
10	suprasellar region		52	inguinal lymph nodes
11	bones of skull		53	small pelvis
12	ethmoidal sinus		54	pelvic wall
13	orbita		55	rectum
14	retrobulbic region		56	pre-sacrum region
	Head/Neck		57	anal
15	cheek		58	bladder
16	Waldeyer's ring in the throat		59	prostate
17	tonsilla		60	testicles
18	thyreoid gland		61	uterus
19	epipharyngeal region		62	parametrium
20	mesopharyngeal region		63	ovary
21	hypophayngeal region		64	vagina
22	maxilla		65	vulva
23	mandibula			Spinal cord + spine
24	sinus maxillaris		66	myelon
25	tongue		67	cervical spine
26	mouth soil		68	thoracic spine
27	larynx		69	lumbal spine
28	submental lymph nodes		70	sacrum
29	cervical lymph nodes		71	paravertebral region
30	supra-/infraclavicular LN			Extremities
	Thorax		72	shoulder / Neck
31	mediastinum		73	upper arm
32	hilomediastinal		74	forearm
33	hilus		75	hand
34	esophagus		76	hip
35	heart		77	upper leg
36	whole lung		78	lower leg
37	central lung		79	foot
38	peripher lung			
39	chest wall		80	other:
40	mamma			
41	axilla			

RiSK

RADIOTHERAPY – DOCUMENTATION FORM

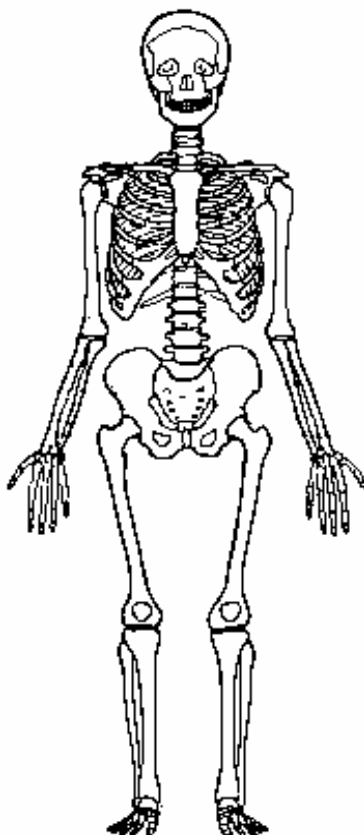
- Organ dose levels -

Guidelines for documentation

- **On the following pages only radiation doses of organs / areas in the radiation field should be given. Radiation dose exposures outside the radiation fields should be given only for ovaries / testicles and the thyroid gland.**
- **For thyroid gland and testicles dose measurements (e.g. by thermoluminescence dosimetry) are planned.** If possible, several measurements points should be spread over the organ. In case of one single measurement point this point should be placed at a representative point in the middle of the organ.
- **For lung, heart, liver and kidneys the organ dose levels have to be taken from dose-volume-histograms of the treatment plan.**
- **D-max: maximal punctual dose in the organ**
D-min: minimal punctual dose in the organ
- **I. Part: Documentation of doses at bones, soft tissues and joints**
II. Part: Documentation of organs, listed from cranial to caudal.

I. Part**Bone marrow**

Please mark the field contour



(Please mark the field contour)

Spine and spinal cord

Dose documentation and toxicity follow-up for vertebrae and spinal cord for doses > 10 Gy

Irradiated vertebrae: from.....to.....

D-max in irradiated vertebrae:Gy

D-min in irradiated vertebrae:.....Gy

Dose gradient below 20Gy in the vertebrae? yes no**Irradiated segments of spinal cord:** from.....to.....

D-max in irradiated segments:Gy

D-min in irradiated segments:.....Gy

BONES AND SOFT TISSUE

Dose documentation and toxicity follow up if irradiated with ≥ 10 Gy

	D-max (Gy)	Whole bone in target volume?
Bones of skull		_____
Ribs right side		_____
Ribs left side		_____
Pelvis right		
Pelvis left		
Sacrum		

	D-max (Gy)	Whole bone in PTV?		Proximal epiphysis interstice in field?			Distal epiphysis interstice in field?		
		yes	no	yes	partial	no	yes	partial	no
Humerus right									
Radius right									
Ulna right									
Hand right				_____	_____	_____	_____	_____	_____
Femur right									
Tibia right									
Fibula right									
Foot right				_____	_____	_____	_____	_____	_____
Humerus left									
Radius left									
Ulna left									
Hand left				_____	_____	_____	_____	_____	_____
Femur left									
Tibia left									
Fibula left									
Foot left				_____	_____	_____	_____	_____	_____

Complete circumference of the extremity in field: yes (without lymphatic space) no

JOINTS

Dose documentation and toxicity follow-up if irradiated with ≥ 20 Gy

Joints in radiation field: no yes

	Right (Gy)	Left (Gy)
Shoulder		
Elbow		
Hand (radio-carpal)		
Hip		
Knee		
Ankle joint		

II. Part (Organ dose levels)

CNS

Dose documentation and toxicity follow up if in target volume

Whole brain irradiation (CNS prophylaxis / CNS- manifestation in case of ALL / AML)

Planned dose:.....Gy

Dosimetry thyroid gland: measured total dose:...../...../...../...../.....Gy

(or dose evaluation from treatment plan), alternative: distance between field border and thyroid gland:cm

(no further documentation necessary!!)

Whole brain irradiation planned dose:..... Gy

cranio-spinal axis radiation planned dose:..... Gy

Boost spinal: no yes: cumulative dose:.....Gy

Myelon segment:.....

Boost cerebral: no yes: cumulative dose.....Gy

region:.....

Radiation of parts of the brain:

< 20 Gy → no documentation necessary

> 20 Gy

	D-max (Gy)	D-min (Gy)
Hypophysis		
Optic chiasm		
Brainstem		

Spinal cord: see Part I

ORBITA

Dose documentation and toxicity follow-up for any dose given

	D-max (Gy)	Whole organ in PTV?			D-max (Gy)	Whole organ in PTV?	
		yes	no			yes	no
Eye right				Eye left			
Lens right				Lens left			
Tear gland right				Tear gland left			
Optic nerve right				Optic nerve left			

EYE

Dose documentation and toxicity follow-up for any given dose

	D-max (Gy)		D-max (Gy)
Middle ear ri.		Middle ear l.	
Inner ear ri.		Inner ear left	

Parallel chemotherapy with Cisplatin:

yes no

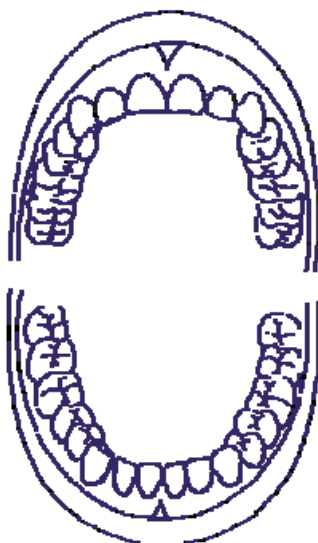
SALIVARY GLANDS

Dose documentation and toxicity follow-up if irradiated with ≥ 20 Gy

	D-max (Gy)	Complete in field?	
Gl. parotis ri.		<input type="checkbox"/> yes	<input type="checkbox"/> no
Gl. submandibularis ri.		<input type="checkbox"/> yes	<input type="checkbox"/> no
Gl. parotis le.		<input type="checkbox"/> yes	<input type="checkbox"/> no
Gl. submandibularis le.		<input type="checkbox"/> yes	<input type="checkbox"/> no

TEETH / JAW

Dose documentation and toxicity follow-up for any given dose.



Please mark the irradiated region!

Jaw joint left in treatment field? no yes, dose:.....Gy

Jaw joint right in treatment field? no yes, dose:.....Gy

THYROID GLAND

Dose documentation and toxicity follow-up for any given dose.

Dosimetric evaluation of scattered dose, e.g. in case of brain or mediastinal irradiation; alternative: distance of organ from field border.

Thyroid gland in target volume D-max:.....Gy

Whole organ in target volume: No Yes

Thyroid gland not in target volume

(in case of head/neck or mediastinal irradiation / cranio-spinal axis irradiation)

(several measurement points)

Dosimetry: yes → measured total dose:...../...../...../...../.....Gy

(or dose evaluation from treatment plan)

no → Distance to field border:.....cm

Larynx**Dose documentation and toxicity follow-up in case of irradiation ≥ 20 Gy.**

D-max:Gy

Part of irradiated organ volume ≥ 20 Gy: $< 1/3$ $1/3 - 2/3$ $> 2/3$ complete**BREAST****Dose documentation and toxicity follow-up for any given dose.**

	D-max (Gy)	Whole breast in PTV	
		Yes	No
Breast right			
Breast left			

Symmetric Irradiation of both breast: yes no**ESOPHAGUS****Dose documentation and toxicity follow-up in case of partial irradiation ≥ 40 Gy.**Part of esophagus with dose ≥ 40 Gy

from..... to (Documentation of localization according to vertebrae)

D-max in irradiated segment: Gy

PANCREAS**Dose documentation and toxicity follow-up in case of partial irradiation ≥ 20 Gy**

D-max:.....Gy

Part of irradiated organ volume ≥ 20 Gy: $< 1/3$
 $1/3 - 2/3$
 $> 2/3$
 complete**URINARY BLADDER****Dose documentation and toxicity follow-up if in target volume.**D-max:.....Gy; Urinary bladder complete in PTV: no yes

DOSE-VOLUME-HISTOGRAM (DVH)
HEART

Dose documentation and toxicity follow-up if irradiated with ≥ 15 Gy. Evaluation also in case of infra-diaphragmal irradiation.

LUNG

Dose documentation and toxicity follow-up in case of whole lung irradiation ≥ 10 Gy or partial lung irradiation ≥ 18 Gy. Dose volume histogram!

LIVER

Dose documentation and toxicity follow-up in case of irradiation $\geq 1/3$ of the liver and/or partial liver irradiation ≥ 20 Gy. Dose volume histogram!

Kidneys

Dose documentation and toxicity follow-up if $\geq 1/2$ of one kidney is irradiated and/or a partial kidney dose ≥ 12 Gy has been reached. Dose volume histogram!

Alternative:
DVH as a
copy
or
fill out the
table.

Dose	Heart	Lung left	Lung right	Whole lung	Liver	Kidney left	Kidney right
> 5 Gy	%	%	%	%	%	%	%
>10 Gy	%	%	%	%	%	%	%
>15 Gy	%	%	%	%	%	%	%
>20 Gy	%	%	%	%	%	%	%
>30 Gy	%	%	%	%	%	%	%
>40 Gy	%	%	%	%	%	%	%
>50 Gy	%	%	%	%	%	%	%
>60 Gy	%	%	%	%	%	%	%

Pre-existing functional impairment of heart, lungs, liver or kidneys:

no yes:

.....
.....

BOWEL

Dose documentation and toxicity follow-up in case of partial abdomen irradiation ≥ 10 Gy.

Small intestine: D-max:.....Gy

Colon: D-max:.....Gy

Part of irradiated volume ≥ 20 Gy:

Part of irradiated volume ≥ 20 Gy:

- < 1/3
- 1/3 – 2/3
- > 2/3
- complete

- < 1/3
- 1/3 – 2/3
- > 2/3
- complete

..

VAGINA / UTERUS

Dose documentation and toxicity follow-up if in PTV.

	Dose in PTV
Vagina	
Cervix	
Uterus	

Part of Vagina in treated volume:

Partial irradiation complete

OVARIES

Dose documentation and toxicity follow-up for any given dose.

Ovary right: in radiation field, dose: →Gy
 scattered dose: →Gy (Dose evaluation from treatment plan)

Ovary left: in radiation field, dose: →Gy
 scattered dose: →Gy (Dose evaluation from treatment plan)

Ovary transposition: no yes → **moved to:**

.....

TESTICLES

Dose documentation and toxicity follow-up for any dose given to the abdomen. Dosimetric evaluation of scattered dose in case of irradiation of pelvis or upper leg.

Irradiation with testicle capsule? yes

no

Testicle right:

Testicle left:

in radiation field →Gy

in radiation field →Gy

Scattered dose: Dosimetry

Scattered dose: Dosimetry

yes → total dose

yes → total dose:

...../...../...../...../.....Gy

...../...../...../.....Gy

no → distance from field border (cm):.....

no → distance from field border:
(cm):.....

.....
Date:

.....
Name of Radiotherapist
(print letters)

.....
Signature / Stamp of institution

<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> No. Date		Max. acute side effects after radiotherapy in childhood (adapted from RTOG/EORTC)			Pat.name, DOB:	
General status, Karnofsky-Index	0 normal KI: 100%	1 Mild reduced activity, KI: 70–80%	2 Reduced activity and power, KI: 50–60%	3 Severe reduced activity and power, KI: 30–40%	4 Vital threatened, KI: < 30%	
Bone marrow Leucocytes (N/ μ l) Neutrophils (N/ μ l) Thrombocytes ($\cdot 10^3$ / μ l) Hemoglobin (g/dl)	0 ≥ 4.000 ≥ 2.000 ≥ 100 normal	1 3.000 - < 4.000 < 2.000 - 1.500 75 - < 100 10,0 - < N	2 2.000 - < 3.000 < 1.500 - 1.000 50 - < 75 8,0 - < 10,0	3 1.0 - < 2.000 < 1.000 - 500 10,0 - < 50 6,5 - < 8,0	4 < 1.000 <500 / Sepsis < 10,0 < 6,5	
Skin / Subcutis	0 normal	1 Follicular, faint or dull erythema/epilation/dry desquamation/decreased sweating	2 Tender or bright erythema, patchy moist desquamation/moderate edema; (local therapy necessary)	3 Confluent, moist desquamation other than skin folds, pitting edema (intensive therapy necessary)	4 Ulceration, hemorrhage or necrosis, (operative therapy necessary)	
Mucous membrane	0 normal	1 Injection/may experience mild pain not requiring analgesic.	2 Patchy mucositis that may produce an inflammatory sero- sanguinous discharge/may experience moderate pain requiring analgesia	3 Confluent fibrinous mucositis/may include severe pain requiring narcotic	4 Ulceration, hemorrhage or necrosis	
Salivary glands	0 normal	1 Mild mouth dryness/ slightly thickened saliva/may have slightly altered taste	2 Moderate to complete dryness/thick, sticky saliva / markedly altered taste.	3 Complete dryness	4 Acute salivary gland necrosis	
Pharynx/ Esophagus	0 normal	1 Mild dysphagia or odynophagia/may require topical anesthetic or non- narcotic analgesics/may require soft diet	2 Moderate dysphagia or odynophagia/may require narcotic analgesics/may require puree or liquid diet	3 Severe dysphagia or odynophagia with dehydration or weight loss >15% from pre- treatment baseline, requiring N- G feeding tube, i.v. fluids or hyperalimentation	4 Complete obstruction, ulceration, perforation, fistula	
Larynx	0 normal	1 Mild or intermittent hoarseness/cough not requiring antitussive / erythema of mucosa	2 Persistent hoarseness but able to vocalize, sore throat, patchy fibrinous exudates or mild arytenoids edema not requiring narcotic/cough requiring antitussive	3 Whispered speech, throat pain requiring narcotic / confluent fibrinous exudates, marked arytenoids edema	4 Marked dyspnea, stridor or hemoptysis with tracheostomy or intubation necessary	
Lung	0 no change	1 Mild symptoms of dry cough or dyspnea on exertion	2 Persistent cough requiring narcotic, antitussive agents / dyspnea with minimal effort but not at rest	3 Severe cough unresponsive to narcotic antitussive agent or dyspnea at rest / clinical or radiological evidence of acute pneumonitis/intermittent oxygen or steroids may be required	4 Severe respiratory insufficiency / continuous oxygen or assisted ventilation	
Heart	0 Normal	1 Asymptomatic but objective evidence of ECG changes or pericardial abnormalities without evidence of other heart disease	2 Symptomatic with ECG changes and radiological findings of congestive heart failure or pericardial disease/no specific treatment required	3 Congestive heart failure, angina pectoris, pericardial disease responding to therapy	4 Congestive heart failure, angina pectoris, pericardial disease, arrhythmia not responsive to non-surgical measures	
Arrhythmia	0 none	1 Asymptomatic, no therapy	2 recurrent / persistent, no therapy	3 Therapy required	4 Hypotension, ventricular Arrhythmia, defibrillation	
Cardiac function	0 normal	1 Asymptomat. EF \downarrow (at rest) > = 10 % but < 20 % of baseline value	2 Asymptomat., but EF \downarrow (at rest) under upper limit for EF (work) or EF \downarrow > = 20 % of baseline value	3 Mild CHF, compensated by therapy	4 severe / refractive CHF or need for intubation	
Echocardio: LV- SF %	0 > = 30	1 > = 24 - < 30	2 > = 20 - < 24	3 > 15 - < 20	4 < = 15	
Upper G.I.	0 normal	1 Anorexia with \leq 5% weight loss from pre- treatment baseline / nausea not requiring antiemetics / abdominal discomfort not requiring parasympatholytic drugs or analgesics	2 Anorexia with \leq 15% weight loss from pre-treatment baseline / nausea &/or vomiting requiring antiemetics/ abdominal pain requiring analgesics	3 Anorexia with >15% wt loss from pre-treatment baseline or requiring N-G tube or parenteral support. Nausea or vomiting requiring tube or parenteral support / abdominal pain, severe despite medication / hematemesis or melena / abdominal distention (flat plate radiograph demonstrates distended bowel loops)	4 Ileus, subacute or acute obstruction, perforation, GI bleeding requiring transfusion, abdominal pain requiring tube decompression or bowel diversion	

Lower G.I. including pelvis	0 normal	1 Increased frequency or change in quality of bowel habits not requiring medication/rectal discomfort not requiring analgesics.	2 Diarrhea requiring parasympatholytic drugs /mucous discharge not necessitating sanitary pads/rectal or abdominal pain requiring analgesics.	3 Diarrhea requiring parenteral support/severe mucous or blood discharge necessitating sanitary pads/abdominal distention (flat plate radiograph demonstrates distended bowel loops)	4 Acute or subacute obstruction, fistula or perforation; GI bleeding requiring transfusion; abdominal pain or tenesmus requiring tube decompression or bowel diversion
Liver	0 normal	1 Mild lassitude; nausea, dyspepsia, slightly abnormal liver function,	2 Moderate symptoms; some abnormal liver function tests; serum albumin normal	3 Disabling hepatic insufficiency; liver function tests grossly abnormal; low albumin; edema or ascites	4 Necrosis / Hepatic coma or encephalopathy
Bilirubin	0 age norm (N)	1 > N – 1,5 x N	2 > 1,5 – 3,0 x N	3 > 3,0 – 10,0 x N	4 > 10,0 x N
S-GOT / S-GPT	0 age norm (N)	1 > N – 2,5 x N	2 > 2,5 – 5,0 x N	3 > 5,0 – 20,0 x N	4 > 20,0 x N
Genitourinary (and kidneys)	0 normal	1 Frequency of urination or nocturia twice pre-treatment habit / dysuria, urgency not requiring medication	2 Frequency of urination or nocturia that is less frequent than every hour. Dysuria, urgency, bladder spasm requiring local anesthetic	3 Frequency with urgency and nocturia hourly or more frequently/dysuria, pelvic pain or bladder spasm requiring regular, frequent narcotic/gross hematuria with/without clot passage	4 Hematuria requiring transfusion/acute bladder obstruction not secondary to clot passage, ulceration, or necrosis.
Creatinin (mg%)	0 age norm	1 > N – 1,5 x N	2 > 1,5 – 3,0 x N	3 > 3,0 – 6,0 x N	4 > 6,0 x N
Creatinin-Clearence	> 90	60 – 89	40 – 59	20 – 39	< 19
Proteinuria (g/i)	none	< 3	3 – 10,0	> 10,0	Nephrotic Syndrome
Hematuria	none	microscopic	macroscopic without clot passage	macroscopic with clot passage	Transfusion necessary
Urethra and bladder	0 normal	1 mild mucosa atrophy, small area of teleangiectasiae, microscopic hematuria, mild strengthened urinary urge	2 moderate altered urinary urge (>6 times / day), generalized teleangiectasiae, sometimes macrohematuria,	3 severe altered urinary urge, (>1/hour), dysuria, often hematuria	4 necrosis, perforation, fistula, severe bladder contracture
Bones	0 normal	1 no symptoms, no growth retardation, mild reduced bone density	2 Moderate pain or tension; moderate growth impairment, irregular bone sclerosis	3 severe pain or tension, complete growth inhibition, thick bone sclerosis	4 necrosis, osteoradionecrosis, spontaneous fracture
Joints	0 normal	1 mild joint stiffness, no symptoms or mild function impairment	2 Moderate joint stiffness, intermediate joint pain, moderate function impairment	3 severe joint stiffness, severe joint pain, severe function impairment	4 necrosis, complete ankylosis, complete function impairment
CNS (brain)	0 normal	1 complete functional status with mild neurological impairment; no specific therapy necessary	2 moderate neurological impairment; supportive care and medication (incl. steroids or anticonvulsives) necessary	3 severe neurological impairment, high-dose steroids necessary, need for hospitalization	4 life-threatening neurological impairment, >3 seizures per week despite of medication
Peripheral nerves incl. spinal cord	0 normal	1 mild L'Hermitte's syndrome, paraesthesiae	2 marked L'Hermitte's syndrome with paraesthesiae and muscle weakness	3 objective segmental neurological function loss, with paresis or paraesthesiae	4 mono-, para- or quadraplegia
Eyes	0 no change	1 Mild conjunctivitis with or without scleral injection/increased tearing	2 Moderate conjunctivitis with or without keratitis requiring steroids &/or antibiotics/dry eye requiring artificial tears/iritis with photophobia	3 Severe keratitis with corneal ulceration/objective decrease in visual acuity or in visual fields/ acute glaucoma/ panophthalmitis	4 Loss of vision (unilateral or bilateral)
Ears	0 no change or baseline	1 Mild external otitis with erythema, pruritis, secondary to dry desquamation not requiring medication. Audiogram unchanged from baseline.	2 Moderate external otitis requiring topical medication / serous otitis medius / hypoacusis on testing only	3 Severe external otitis with discharge or moist desquamation / symptomatic hypoacusis/tinnitus, not drug related	4 Deafness

Adapted from: Cox JD, Stetz J, Pajak TF. Toxicity criteria of the Radiation Therapy Oncology Group (RTOG) and the European Organization for Research and Treatment of Cancer (EORTC). Int J Radiat Oncol Biol Phys 1995;31:1341-1346.

.....

Name of Physician

Signature / Stamp of Department

<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> No. Date		Late side effects after radiotherapy in childhood (RTOG/EORTC)			Pat.name, DOB	
Status	Complete remission	Progression	Secondary malignancy	Death	Date of death:	
General status, Karnofsky-Index	0 normal KI: 100%	1 Mild reduced activity, KI: 70–80%	2 Reduced activity and power, KI: 50–60%	3 Severe reduced activity and power, KI: 30–40%	4 Life threatened, KI: < 30%	
Hb (g/dl)	0 age norm	1 10,0 - < N	2 8 - < 10,0	3 6,5 - < 8,0	4 < 6,5	
Leukocytes (N/μl)	0 ≥ 4.000	1 3.000 - < 4.000	2 2.000 - < 3.000	3 1.000 - < 2.000	4 < 1.000	
Thrombocytes (1000/μl)	0 ≥ 100	1 75 - < 100	2 50 - < 75	3 10 - < 50	4 < 10	
Skin	0 normal	1 Slight atrophy, pigmentation change, some hair loss	2 Patch atrophy, moderate teleangiectasia (≤ 50%), total hair loss	3 Marked atrophy, gross teleangiectasia (> 50%)	4 ulceration, necrosis, (surgical intervention necessary)	
Subcutaneous tissue	0 normal	1 mild asymptomatic fibrosis, without contractures, slight reduced subcutaneous fat	2 moderate asymptomatic fibrosis with ≤ 10% linear contracture, moderate reduced subcutaneous fat	3 severe (symptomatic) fibrosis with > 10% linear contractures, severe reduced subcutaneous fat	4 ulceration, necrosis, (surgical intervention necessary)	
Mucous membrane	0 normal	1 Slight atrophy or dryness	2 moderate atrophy and teleangiectasia, reduced production of mucous	3 Marked atrophy and teleangiectasia, loss of mucous production	4 ulceration, necrosis, (surgical intervention necessary)	
Salivary glands	0 normal	1 Slight dryness, good response on stimulation (normal food possible)	2 moderate dryness of mouth, poor response on stimulation (much fluid, pulpy food)	3 complete dryness of mouth, no response on stimulation (no solid food, fluid food)	4 Fibrosis (complete atrophy) (parenteral nutrition, PEG)	
Pharynx/ Esophagus	0 normal	1 mild fibrosis, slight dysphagia regarding solid food, no pain at swallow (normal nutrition)	2 moderate fibrosis, no normal nutrition, pulpy food, perhaps dilatation necessary	3 severe fibrosis (or dysphagia), only fluids possible, dilatation necessary, pain at swallow	4 necrosis, perforation, fistula (surgical intervention necessary or PEG/parenteral nutrition)	
Larynx	0 normal	1 (mild) hoarseness (or cough), mild laryngeal edema	2 moderate hoarseness or cough, moderate laryngeal edema, chondritis (symptomatic therapy)	3 severe hoarseness, severe laryngeal edema, massive chondritis, intensive local therapy, analgesics	4 necrosis, (massive dyspnoea and stridor, ulceration, intubation or tracheotomy)	
Lung	0 normal pO ₂ : > 85; pCO ₂ < 40	1 no or mild symptoms (dry cough); few radiological signs (mild exercise-induced shortness of breath) pO ₂ :71-85; pCO ₂ : 41-50	2 moderate symptomatic lung fibrosis or pneumonitis (massive cough); ,mild fever; radiological signs; (moderate exercise-induced shortness of breath) pO ₂ :61-70; pCO ₂ : 51-60	3 Severe symptomatic lung fibrosis or pneumonitis, massive radiological signs; (severe shortness of breath) pO ₂ :51-60; pCO ₂ : 61-70 (intensive medication)	4 Massive respiratory insufficiency; permanent O ₂ -application and controlled ventilation pO ₂ < 50; pCO ₂ > 70 (intensive care necessary)	
Heart						
Arrhythmia	0 none	1 Asymptomatic, no therapy	2 recurrent / persistent, no therapy	3 Therapy required	4 Hypotension, ventricular Arrhythmia, defibrillation	
Cardiac function	0 normal	1 Asymptomat. EF ↓ (at rest) > = 10 % but < 20 % of baseline value	2 Asymptomat., but EF ↓ (at rest) under upper limit for EF (work) or EF ↓ > = 20 % of baseline value	3 Mild CHF, compensated by therapy	4 severe / refractive CHF or need for intubation	
Echocardio: LV-SF %	0 > = 30	1 > = 24 - < 30	2 > = 20 - < 24	3 > 15 - < 20	4 < = 15	
Upper G.I.	0 normal	1 Mild anorexia (≤ 5% weight loss); nausea; (once vomiting); mild abdominal pain;: no specific therapy	2 moderate anorexia (≤ 15% weight loss); nausea or vomiting (2-5x), antiemetics necessary; moderate abdominal pain: mild parasympatholytics or analgesics necessary	3 Massive anorexia (> 15% weight loss); nausea and vomiting (6-10x); NG-/PEG-probe or parenteral nutrition necessary; severe abdominal pain despite medication; hematemesis, melena; massive meteorism (X-Ray: extended bowel loops)	4 necrosis; perforation, fistula; complete obstruction (ileus); GI-bleeding; PEG or parenteral nutrition, transfusions, surgery necessary	
Lower G.I: Bowel and colon	0 normal	1 Mildly reduced stool consistence, mild spasms; stool ≤ 5x/day; mild slime or blood loss	2 Markedly reduced stool consistence, spasms; stool > 5x/day; moderate slime and blood loss	3 Massive heightened stool frequency, bowel obstructions needing surgical intervention, ileus or bleeding	4 necrosis; perforation, fistula; (other life-threatening bowel complications)	

Liver	0 normal	1 mild lassitude, nausea, dyspepsia	2 moderate symptoms (tiredness, nausea, dyspepsia)	3 severe liver insufficiency	4 liver necrosis, hepatic coma or encephalopathy; (parenteral nutrition, portocaval shunt necessary)
Bilirubin	0 age norm (N)	1 > N – 1,5 x N	2 > 1,5 – 3,0 x N	3 > 3,0 – 10,0 x N	4 > 10,0 x N
S-GOT / S-GPT	0 age norm (N)	1 > N – 2,5 x N	2 > 2,5 – 5,0 x N	3 > 5,0 – 20,0 x N	4 > 20,0 x N
Creatinin (mg%)	0 age norm	1 > N – 1,5 x N	2 > 1,5 – 3,0 x N	3 > 3,0 – 6,0 x N	4 > 6,0 x N
Creatinin-Clearance	> 90	60 – 89	40 – 59	20 – 39	< 19
Proteinuria (g/i)	none	< 3	3 – 10,0	> 10,0	Nephrotic Syndrome
Hematuria	none	microscopic	macroscopic without clot passage	macroscopic with clot passage	Transfusion necessary
Urethra and bladder	0 normal	1 mild mucosa atrophy, small area of teleangiectasia, microscopic hematuria, mild strengthened urinary urge	2 moderate altered urinary urge (>6 times / day), generalized teleangiectasia, sometimes macrohematuria,	3 severe altered urinary urge, (>1/hour), dysuria, often hematuria	4 necrosis, perforation, fistula, severe bladder contracture
Bones	0 normal	1 no symptoms, no growth retardation, mild reduced bone density	2 Moderate pain or tension; moderate growth impairment, irregular bone sclerosis	3 severe pain or tension, complete growth inhibition, thick bone sclerosis	4 necrosis, osteoradionecrosis, spontaneous fracture
Joints	0 normal	1 mild joint stiffness, no symptoms or mild function impairment	2 Moderate joint stiffness, intermediate joint pain, moderate function impairment	3 severe joint stiffness, severe joint pain, severe function impairment	4 necrosis, complete ankylosis, complete function impairment
Function of irradiated extremity	0 normal	1 mild function impairment, normal daily activities possible.	2 moderate functional impairment at daily activities.	3 Severe functional impairment.	4 Loss of function
Brain, Central nervous system	0 normal	1 Mild headache, mild lethargia (mild neurological impairment)	2 Moderate headache, obvious lethargia (somnolence < 50% / day); moderate neurological impairment	3 Severe headache and severe CNS-impairment, e.g. power loss or dyskinesia (and somnolence > 50%); severe neurological impairment	4 seizures or paralyses, unconsciousness (massive or life-threatening neurological impairment)
Peripheral nerves incl. spinal cord	0 normal	1 mild L'Hermitte's syndrome, paraesthesiae	2 marked L'Hermitte's syndrome with paraesthesiae and muscle weakness	3 objective segmental neurological function loss, with paresis or paraesthesiae	4 mono-, para- or quadraplegia
Eyes	0 normal	1 asymptomatic cataract, mild corneal ulceration or ceratitis (and / or conjunctivitis)	2 Symptomatic cataract; moderate corneal ulceration (ceratitis); moderate retinopathy or glaucoma	3 Severe ceratitis (ulceration), severe retinopathy with retinal detachment; severe glaucoma	4 Massive ophthalmologic impairment; panophthalmitis; (uni-/bilateral visual loss)
Ears	0 normal	1 mild external otitis with atrophy or fibrosis; no therapy; audiogram: hearing loss < 10 dB	2 Moderate external otitis with atrophy or fibrosis; tinnitus; local therapy; moderate hearing loss (10 - 15 dB)	3 Severe external et medial otitis; (continuous tinnitus not due to medication); severe hearing loss (> 15 - 20 dB)	4 Severe osteochondritis, ulceration, necrosis; complete hearing loss on one or both sides (> 20 dB)

Adapted from: Cox JD, Stetz J, Pajak TF. Toxicity criteria of the Radiation Therapy Oncology Group (RTOG) and the European Organization for Research and Treatment of Cancer (EORTC). Int J Radiat Oncol Biol Phys 1995;31:1341-1346.

Comments:.....

Growth/Puberty:

Height in cm: _____ Height if seated in cm: _____

Weight in kg: _____

Scoliosis: no yes

Deformation of bones or soft tissue: no yes, localization:.....

Description:

.....

Puberty development (after irradiation of brain, pelvis or upper part of lower extremity):

Girls :Menarche: no yes Blood values: LH:

FSH:

Tanner stage breast:..... Estradiol:

Tanner stage hair Prolaktin:

Boys: Tanner stage male genitals:..... Blood values: LH:

Tanner stage hair:..... FSH:

Volume testes: Testosterone:

Prolaktin:

Blood values of the thyroid gland (after RT of head/neck/mediastinum):

TSH basal: _____μE / ml

fT4: _____ng / dl

fT3: _____ng/dl

Date:_____

Current medication for thyroid gland:

Name:_____

Dosage:_____

After RT of CNS:

neurocognitive test performed: no yes

pathological result: no yes

.....
Name of Physician

.....
Signature / Stamp of Department.