SUPPORTIVE CARE

ESMO preceptorship on Advanced non resectable hepatocellular carcinoma, biliary and pancreatic cancer

Karin Jordan

Friday, 6 December 2019

DISCLOSURES

Karin Jordan

Personal financial interests, honoraria for speaker, consultancy or advisory role, royalties, direct research funding: MSD, Merck, Amgen, Hexal, Riemser, Helsinn, Tesaro, Kreussler, Voluntis, Pfizer, Pomme-med, Pharma Mar, Prime Oncology, OnkoUpdate, Annals of Oncology, UpToDate

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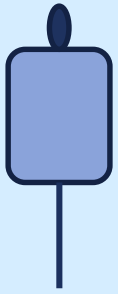

Chemo-therapy

Radio-therapy

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BENEFIT

Overall Survival

Progression-free Survival

RISK

Muscular Disorders
Thrombocytopenia
Constipation
Infection
Fertility
Malnutrition
Anemia
Lymphedema
Sexual Dysfunction
Anorexia
Lung toxicity
Osteoporosis
Ototoxicity
Immune-related Toxicity
Paravasation
Pain
Fatigue
Nausea
Allergic Reaction
Venous Thromboembolism
Rash
Alopecia
Vomiting
Cardiotoxicity
Central nervous Toxicity
Neurotoxicity
Xerostomia
Psychological problems
Skin toxicity
Diarrhoea
Mucositis
Hot flashes
Vascular disorders
Tumorlysis
Renal Toxicity
Osseous Complications
Psychatric disorders
Neutropenia
Taste alteration

ESMO GOOD SCIENCE BETTER MEDICINE BEST PRACTICE

Annals of Oncology 00: 1–8, 2017
doi:10.1093/annonc/mdx757

SPECIAL ARTICLE

European Society for Medical Oncology (ESMO) position paper on supportive and palliative care

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Focus on all different aspects on supportive and palliative care
„Patient Centred Care“

Key Patient-centred care interventions - Assessment, Monitoring and Management

Table 1. Key patient-centred care interventions (examples)

Assessment	Monitoring and intervention: regular changes in patients' health status preferably assessed with PROMs or other validated assessment tools	Management of cancer-related symptoms and other needs	Management of anticancer treatment-related toxicities and complications, including prevention

Strictly to be avoided

e.g. with PRO

- Monitoring of adverse events
- Coping mechanisms

→

- Management of PNP, CINV, Pain, …
- Coping with life limiting expectancies

PRO: Patient reported outcome
PNP: Polyneuropathy
CINV: Chemotherapy induced nausea and vomiting

FOLFIRINOX IN ADVANCED PANCREATIC CANCER

Incidence of adverse events (all grades (%) / grade 3-4 (%))

	Boone 2013 J Surg Oncol	Conroy 2005 J Clin Oncol	Conroy 2011 N Engl J Med	Faris 2013 Oncologist	Hosein 2012 BMC Cancer	Marthey 2014 Ann Surg Oncol	Moorcraft 2014 Clin Col. Canc.	Peddi 2012 JOP
Number of patients	21	46	171	22	18	77	49	61
Abdominal pain	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A./ 8,2
Alopecia	N.A.	N.A.	N.A.	N.A.	67 / 0	12 / 0	N.A.	N.A.
Anemia	N.A.	N.A./ 18	N.A./7,8	100 / 0	72 / 11	34 / 1	57 / 4	N.A.
Anorexia	N.A.	N.A.	N.A.	N.A.	22 / 0	N.A.	N.A.	N.A.
Diarrhea	0 / 5	N.A./ 17	N.A./12,7	N.A.	33 / 11	40 / 6	37 / 4	N.A./ 3,3
Elevated ALT/AST	N.A.	64 / 9	N.A./7,3	N.A.	N.A.	N.A.	N.A.	N.A.
Febrile Neutropenia	N.A.	N.A.	N.A./5,4	N.A.	0 / 17	N.A.	0 / 14	N.A./ 4,9
Fatigue	5 / 0	N.A./ 22	N.A./23,6	N.A.	78 / 11	29 / 6	56 / 18	N.A./ 4,9
Hand-foot-Syndrome	N.A.	N.A.	N.A.	N.A.	N.A.	1 / 0	N.A.	N.A.
Hospitalisation	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	34,4
Leucopenia	14 /10	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Mucositis	N.A.	N.A.	N.A.	N.A.	11 / 0	5 / 0	18 / 4	N.A.
Nausea	10 / 0	N.A./ 20	N.A.	N.A.	50 / 0	N.A.	28 / 1	N.A.
Neutropenia	5 / 15	N.A./ 52	N.A./45,7	9 / 18	33 / 22	23 / 11	26 / 29	N.A./ 19,7
Neuropathy	0 / 5	N.A./ 15	N.A./9,0	N.A.	33 / 0	47 / 4	51 / 4	N.A.
Thromboemb. Events	0 / 5	N.A.	N.A./6,6	5	N.A.	N.A.	2 / 12	N.A.
Thrombocytopenia	10 / 10	N.A./ 6	N.A./ 9,1	77 / 5	44 / 17	24 / 0	39 / 10	N.A./ 3,3
Vomiting	10 / 0	N.A./ 17	N.A./14,5	N.A.	N.A.	43 / 9	10 / 4	N.A.
Weight loss	5 / 5	N.A.	N.A.	N.A.	11 / 0	N.A.	N.A.	N.A.

SINGAPORE 2019 ESMO ASIA

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- Gastrointestinal Cancers
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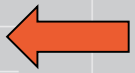

Neuroendocrine Cancers

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Establishing the highest standards of clinical practice is a collective effort of the whole oncology community. The ESMO Clinical Practice Guidelines, prepared and reviewed by leading experts, help you provide patients with the best care options.

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https://www.esmo.org/Guidelines/Supportive-and-Palliative-Care

ESMO Clinical Practice Guidelines
Supportive and Palliative Care 2017 / 2018

Management of **Cancer Pain** in Adult Patients: ESMO Clinical Practice Guidelines	M. Fallon, 2018
Diagnosis, Assessment and Management of **Constipation** in Advanced Cancer: ESMO Clinical Practice Guidelines	P.J. Larkin, 2018
Diarrhoea in Adult Cancer Patients: ESMO Clinical Practice Guidelines	P. Bossi, 2018
Management of **Anaemia** and Iron Deficiency in Patients With Cancer: ESMO Clinical Practice Guidelines	M. Aapro, 2018
Management of **Infusion Reactions** to Systemic Anticancer Therapy: ESMO Clinical Practice Guidelines	S. Roselló, 2017
Management of **Toxicities from Immunotherapy**: ESMO Clinical Practice Guidelines	J. Haanen, 2017
MASCC and ESMO Consensus Guidelines for the Prevention of **Chemotherapy and Radiotherapy-Induced Nausea and Vomiting:** ESMO Clinical Practice Guidelines	F. Roila, 2016
Management of **Febrile Neutropenia**: ESMO Clinical Practice Guidelines	J. Klastersky, 2016

ANTIEMESIS

Supportive Care in Pancreatic and HPB malignancies

ANTIEMETIC AGENTS

Class	Drug examples	Mode of action	Predominant efficacy	
			Acute	Delayed
5-HT_3 rec.- antagonists	Ondansetron, Tropisetron, Granisetron, Palonosetron (“PA”)	5-HT_3 receptor	++ ++ ++ ++	+/- +/- +/- +
NK_1 rec.-antagonists	Aprepitant, Fosaprepitant, Netupitant (“NE”), Rolapitant	NK_1 receptor	+	++
Steroids	Dexamethasone	Multiple	+	+
Benzamides	Metoclopramide	DA D_2 /$5HT_3$ receptor	(+)	(+)
Benzodiazepines	GABA-chloride channel complex	GABA-chloride channel complex	(+)	(+)
Classical Neuroleptics	Haloperidol	Mainly D_2 receptor	(+)	(+)
Atypical neuroleptics	Olanzapine	Multiple receptors*	+	+
Cannabinoids	Dronabinol, nabilone	CB1-Receptor Agonism, (CB2-Receptor)	(+)	(+)
Antihistamines	Diphenhydramine, hydroxyzine	Muscarinic/ cholinergic receptor	-	-
Ginger	Ginger	At least: 5-HT_3 receptor	(+)	(+)

*(D1, D2, D3, D4), serotonergic (5-HT2A, 5-HT2C, 5-HT3, 5-HT6), adrenergic (á1), histaminergic, (H1), and muscarinic (m1, m2, m3, m4)

EMETOGENIC RISK OF I.V. AGENTS

High (> 90 %)	Cisplatin, Streptozocin, Carmustin, Dacarbazin, Antrazyclin/Cyclophosphamid based regimen, Cyclophosphamid ≥ 1500 mg/m^2, Mechlorethamin
Moderate (30-90 %)	Alemtuzumab, Arsentrioxide, Azacitidin, Bendamustin, Carboplatin, Clofarabin, Cyclophosphamid < 1500 mg/m^2, Cytarabin > 1000 mg/m^2, Daunorubicin, Doxorubicin, Epirubicin, Idarubicin, Ifosfamid, Interferon α, Irirnotecan, Oxaliplatin, Romidepsin, Temozolomid, Thiotepa, Trabectidin
Low (10-30 %)	Aflibercept, Asparaginsäure, Belinostat, Blinatumomab, Bortezomib, Brentuximab, Cabazitaxel, Cetuximab, Cytarabin < 1000 mg/m^2, Dactinomycin, Docetaxel, Doxorubicin (liposomalpegyliert), Eribulin, Etopsid, 5-Fluorouracil, Gemcitabin, Ipilimumab, Methotrexat, Mitomycin, Nab-Paclitaxel, Paclitaxel, Panitumumab, Pemetrexed, Pertuzumab, Topotecan
Minimal (< 10 %)	Bevacizumab, Bleomycin, Buserelin, Busulfan, 2- Chlordeoxyadenosin, Cladribin, Fludarabin, Fulvestrant, Goserelin, Leuprorelin, Nivolumab, Pembrolizumab, Rituximab, Trastuzumab, Vinblastin, Vincristin, Vinorelbin

Roila F. et al. Ann Oncol. 2016,27:v119-v133.
Jordan K. et al. Support Care Cancer 2017

STATE OF THE ART

MASCC/ESMO & ASCO Guidelines („the easy way“)

	Antiemetics Acute Nausea and Vomiting	Antiemetics Delayed Nausea and Vomiting
High (> 90 %)	5-HT_3 + DEX + NK_1 + (OLA)*	DEX +**APR + (OLA)*
Moderate (30-90 %)	5-HT_3 + DEX + NK_1	No or** APR
	5-HT_3 + DEX	No routine prophylaxis
Low (10-30 %)	5-HT_3 or DEX or DOP	No routine prophylaxis
Minimal (< 10 %)	No routine prophylaxis	No routine prophylaxis

5-HT_3: Serotonin$_3$ -Receptorantagonist, DEX: Dexamethasone, NK_1: Neurokinin$_1$-Receptorantagonist, DOP: Dopaminreceptorantagonist, OLA: Olanzapin

*In patients treated with highly emetogenic chemotherapy olanzapine may be considered with a 5-HT_3-RA plus dexamethasone, plus an NK_1-RA (MASCC/ESMO guideline Update 2017). In the ASCO guidelines Olanzapine is recommended in this setting.

**If APR 125 mg for acute, otherwise no NK_1-RA is necessary on day 2 and 3.

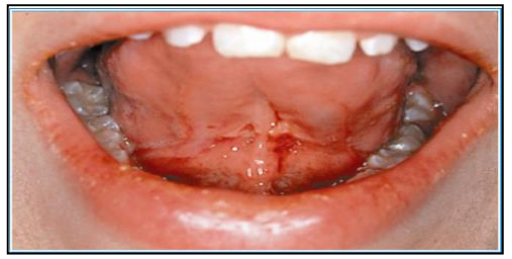
Hesketh, PJ, J Clin Oncol, 2017; 35:3240-3261
Roila, F., et al. (2016). Ann Oncol suppl 5 v119-v133.

MUCOSITIS

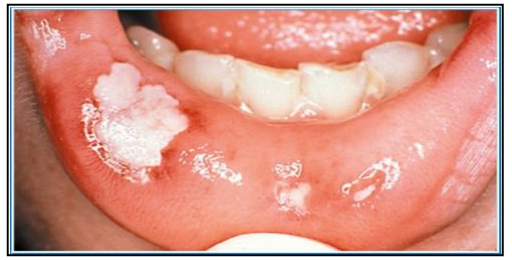
Supportive Care in Pancreatic and HPB malignancies

STAGING AND RISK ASSESSMENT

National Cancer Institute Common Terminology Criteria for Adverse events Version 4.03	
Grade 1	Asymptomatic or mild symptoms; intervention not indicated
Grade 2	Moderate pain; not interfering with oral intake; modified diet indicated
Grade 3	Severe pain; interfering with oral intake
Grade 4	Life-threatening consequences; urgent intervention indicated
Grade 5	Death



Grade 1



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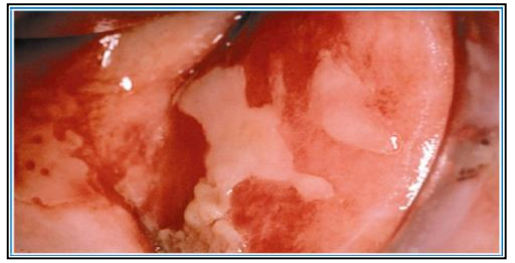
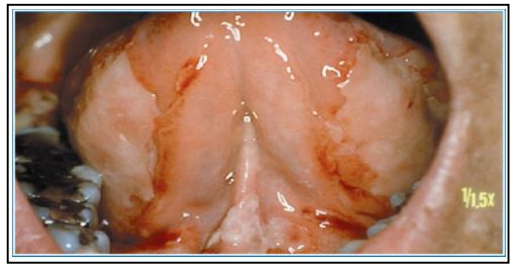


Grade 3



Grade 4

MOUTHWASH

What is recommended?

Prophylactical measure:

- Bolus 5-Fluorouracil Chempotherapy: 30 min of **oral cryotherapy (II).**

- Mouthwash with plain water or 0.9 % NaCl[1]

[1]Leitlinienprogramm Onkologie: Supportive Therapie bei onkologischen PatientInnen – Langversion 1.0, 2016. AWMF Registernummer: 032/054OL

[2]Peterson et al. Ann Oncol (2015); 26:v139-151

PAINFUL MUCOSITIS What is new?

- Mouthwash with Morphin 0.2 % (0, 2b) or Doxepin 0.5 % (0, 4) is recommended[1,2,3]

Evidence for Doxepin mouthwash:

- RCT, crossover, n = 155, primary endpoint: pain reduction[2] and RCT, n=257[3]
- Doxepin versus placebo[2]; Doxepin vs. Diphenhydramine-lidocaine-antacide mouthwash[3]
- **Result: Clinically relevant pain reduction by doxepin mouthwash, but slightly more adverse events[2,3]**

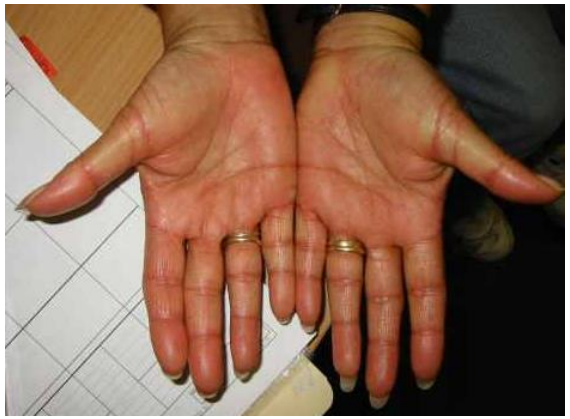
[1]Leitlinienprogramm Onkologie: Supportive Therapie bei onkologischen PatientInnen – Langversion 1.0, 2016. AWMF Registernummer: 032/054OL
[2]Leenstra, J. L., et al. (2014) J Clin Oncol 32(15): 1571-1577, [3]Sio T (2019) JAMA 321:1482-90.

SKIN TOXICITIES

Supportive Care in Pancreatic and HPB malignancies

HAND-FOOT-SYNDROME

Prophylaxis



MUST

Treatment of hyperkeratoses / fungal infections (A, LoE 5)

Pressure relief (comfortable shoes, avoidance of friction, and heat) **(A, LoE 5)**

SHOULD

Intensive skin care of hands and feet (Urea hand and foot cream/ ointment, for example Eucerin® 10 %) **(B, LoE 1b)**

CAN

Cooling hand and foot during infusion with Docetaxel **(0, LoE 2b)**

HAND-FOOT-SYNDROME

Treatment

- *Pressure relief (comfortable shoes, avoidance of friction, and heat) (A, LoE 5)*
- *Intensive skin care of hands and feet (Urea hand and foot cream/ ointment, for example Eucerin® 10 %) (B, LoE 1b)*
- *Cooling hand and foot during infusion with Docetaxel (0, LoE 2b)*

+ HFS ≥ grade 3:

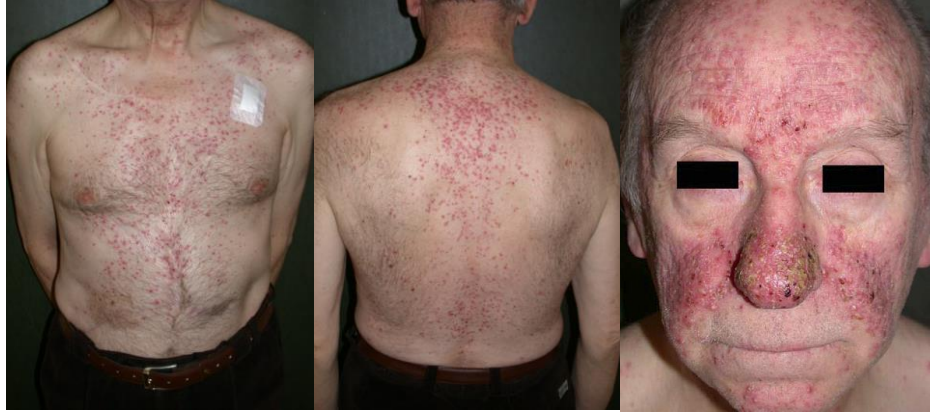
MUST: Dose reduction/ enlargement of therapy intervals adapted to substance (A, LoE 5)

SHOULD: Topical Steroids (B, LoE 5)

CAN: Hydrocolloid dressing plantar (0, LoE 2b)

RASH

Prophylaxis



MUST

Basic therapy under EGFR inhibition (A, LoE 5)
(avoiding mechanical ,chemical noxes, UV-protection, ph-neutral skin-care, urea-containing cream)

SHOULD

Prophylactic administration of tetracyclines* to reduce the severity of acneiform exanthema (B- LoE 1b)

* Minocylince 2x50 mg/day or Doxycycline 2 x 100 mg / day
The most often used schema in studies were 8 weeks

CAN/ CANNOT

No recommendation for or against the use of topical steroids (0, LoE <2)

RASH Therapy

Depending on the severity of the acneiform exanthema

CTCAE grade 1:

SHOULD Basic therapy including oral antibiotics

Topical treatment with antibiotic-containing cream 2x/d (e.g. metronidazole, nadifloxacin), **(B, LoE 5)**

CTCAE grade 2:

SHOULD Therapy as for CTCAE grade 1, Topical steroids class 2-3 (prednicarbate), **(B, LoE 5)**

CTCAE grade 3/4:

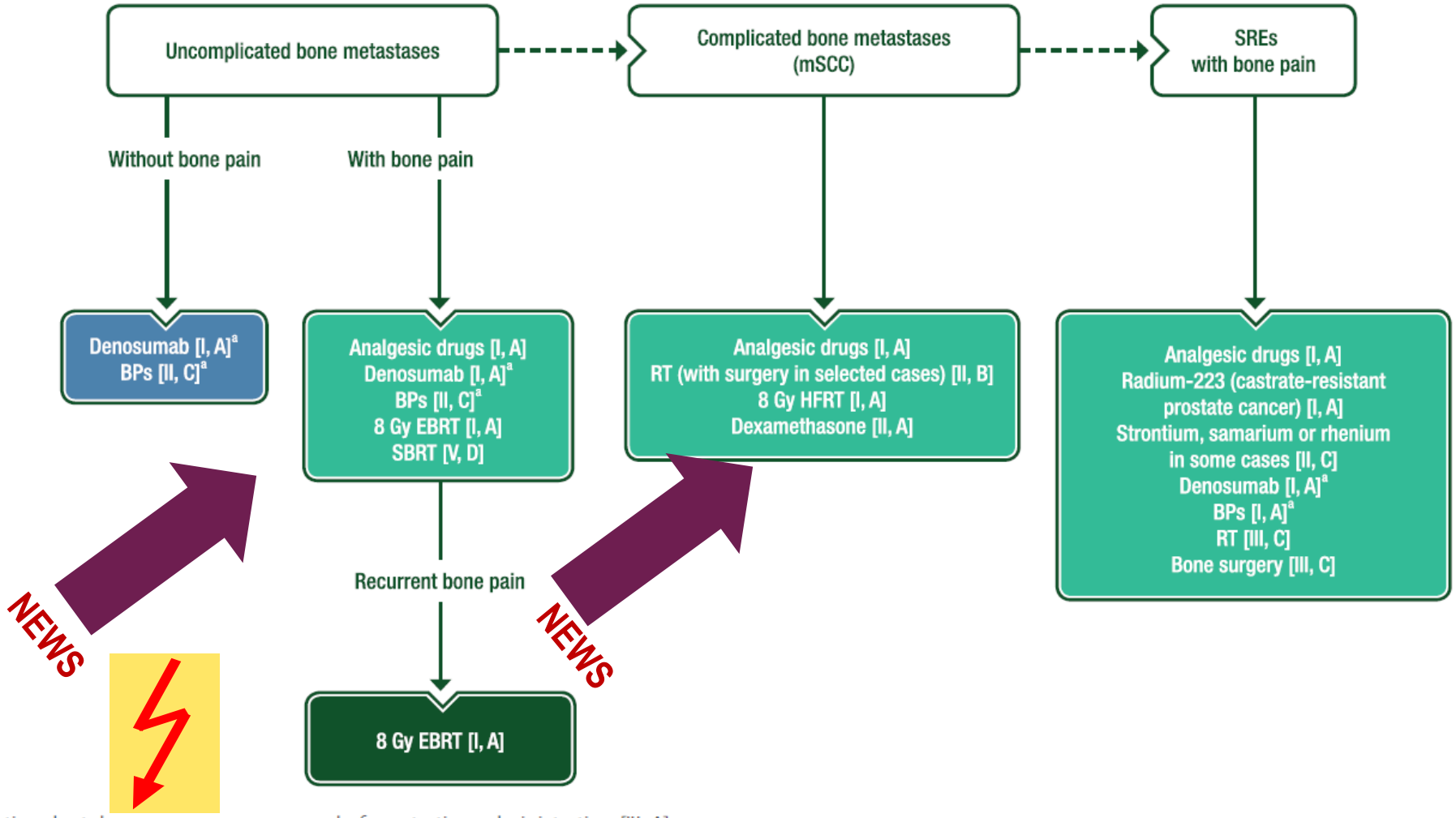
SHOULD Therapy as for CTCAE grade 2, Systemic glucocorticoids, Systemic antibiotic therapy

Possibly isotretinoin (CAVE: never in combination with systemic antibiotics, danger of brain edema!) **(B, LoE 5)**

BONE COMPLICATIONS

Supportive Care in Pancreatic and HPB malignancies

TREATMENT OF BONE PAIN DUE TO METASTASIS



[a]Preventive dental measures are necessary before starting administration [III, A].
BP, biphosphonate; EBRT, external beam radiotherapy; HFRT, hypofractionated radiotherapy; mSCC, metastatic spinal cord compression; RT, radiotherapy; SBRT, stereotactic body radiotherapy; SRE, skeletal-related event.

Fallon M. et al. Management of cancer pain in adult patients. ESMO Clinical practice guidelines. Ann Oncol 2018

"NEWS" – STATE OF THE ART

SRE: skeletal related event

Bisphosphonates – Dosing Interval - SRE

Every 4 weeks or every 12 weeks (after 1 year of 4 weeks intervall)? **option.**[2]

→ **Every 12 weeks is not inferior**[1]

Radiation for Spinal Cord Compression

SCORAD III, > 40 centers, n = 688, 20 Gy in 5 fractions versus 8 Gy once

→ **Regarding the short lifetime of patients the single dose radiation seems to be the preffered**

[1]Hortobagyi GN. et al., JAMA Oncol. 2017, Amadori, Aglietta et al. 2013, Ibrahim, Mazzarello et al. 2015
[2]Hoskin, P. et al., J Clin Oncol. 2017; 35(15_suppl): LBA100004

NEUROTOXICITY

Supportive Care in Pancreatic and HPB malignancies

PERIPHERAL NEUROPATHY

State of the Art

Prophylaxis

- Drugs: ☹
- Exercise therapy: yes, can help
- Cryo- or Compression-therapy: Study 36[1], 42[2] Patients: Yes. Study > 100[3] Patients: No

Therapy (consider: only plus symptoms can be treated):

- Drugs: **Duloxetin** (30 mg/d, week 1, followed by 60 mg/d (120 mg possible); less evidence: Gabapentin/Pregabalin, TriA: e.g. Amitryptilin
- Local: Baclofen/Amitryptilin/Ketamin (BAK), menthol cream (1 %), capsaicin 8 %

- Exercise therapy: sensomotoric training, increasing evidence

Cavaletti and Marmiroli 2018,
Leitlinienprogramm Onkologie: Supportive Therapie bei onkologischen PatientInner Langversion 1.0, 2016. AWMF Registernummer: 032/054OL

[1]Hanai A, J Natl Cancer Inst. 2018;110:141.
[2]Tsuyuki S, Breast Cancer Res Treat., 2016, 160(1):61-67
[3]Annals of Oncology 2020

SPINAL CORD COMPRESSION – STATE OF THE ART –

„Updated Evidence Based Review“

- **Incidence:** 2.5 % - 5 % of tumor patients with non-curative intent
- **Dexamethasone:** 10 mg i.v. as an initial bolus, then 4-6 mg i.v. every 6 hours, over 2 weeks
- **Pain:** Opiate
  Gabapentin: 100-400 mg 3x daily (daily dose 600-1200 mg)
  Pregabalin: 7.5 mg 2x daily
  Amitryptylin or Nortryptylin: 10-25 mg each at night
- **Bone pain:** Bisphosphonates (maximum effect after 4 weeks)
- **Surgery / Radiotherapy / Both:** 
  Interdisciplinary decision, factors: spine stability, neurological deficit, prognosis

ESMO

Lawton, A. J., et al. (2019). J Clin Oncol 37(1): 61-71.

PAIN

Supportive Care in Pancreatic and HPB malignancies

Annals of Oncology 29 (Supplement 4): iv149–iv174, 2018
doi:10.1093/annonc/mdy152

CLINICAL PRACTICE GUIDELINES

Management of cancer pain in adult patients: ESMO Clinical Practice Guidelines†

M. Fallon[1], R. Giusti[2], F. Aielli[3], P. Hoskin[4], R. Rolke[5], M. Sharma[6] & C. I. Ripamonti[7], on behalf of the ESMO Guidelines Committee*

26 pages

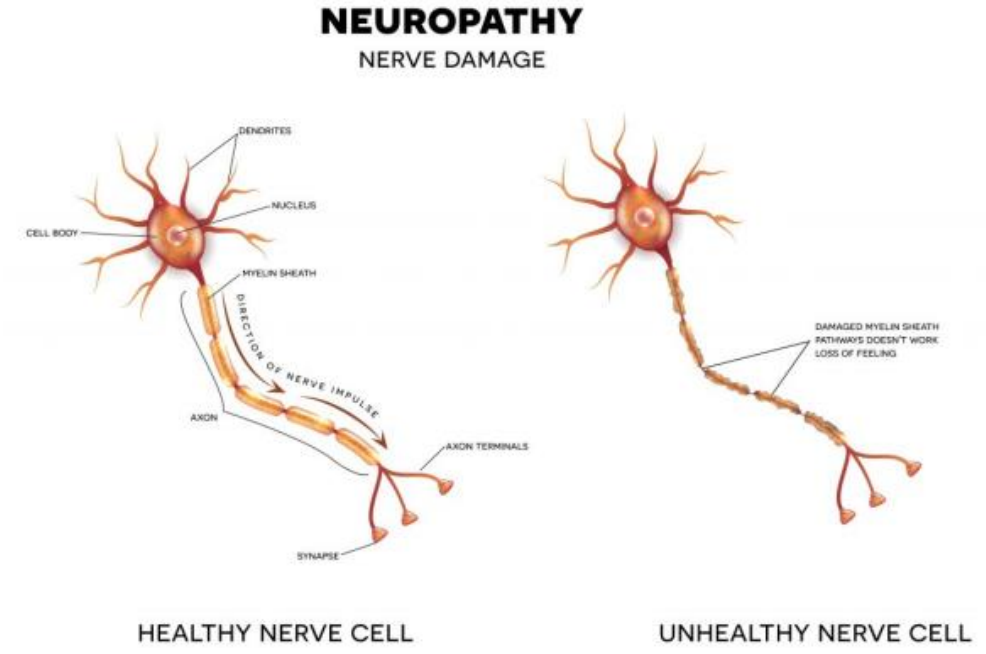
ASSESSMENT OF PAIN TO IMPROVE CHOICE OF THERAPY

Nociceptive (ongoing tissue damage)

- Somatic (e.g. bone pain)
- Visceral (e.g. gut or hepatic pain)

Neuropathic

- Damage or dysfunction in the nervous system (e.g. brachial plexopathy or spinal cord compression)



Fallon M. et al. Management of cancer pain in adult patients. ESMO Clinical practice guidelines. Ann Oncol 2018

PRACTICAL APPROACH: PAIN ASSESSMENT TOOL

1. „What has been your worst pain in the last 24 h on a scale 0-10“
2. Monitor if the pain is < 3
3. More detailed assessment if the pain is > 3
4. Appropriate analgesic and monitor analgesic side effects

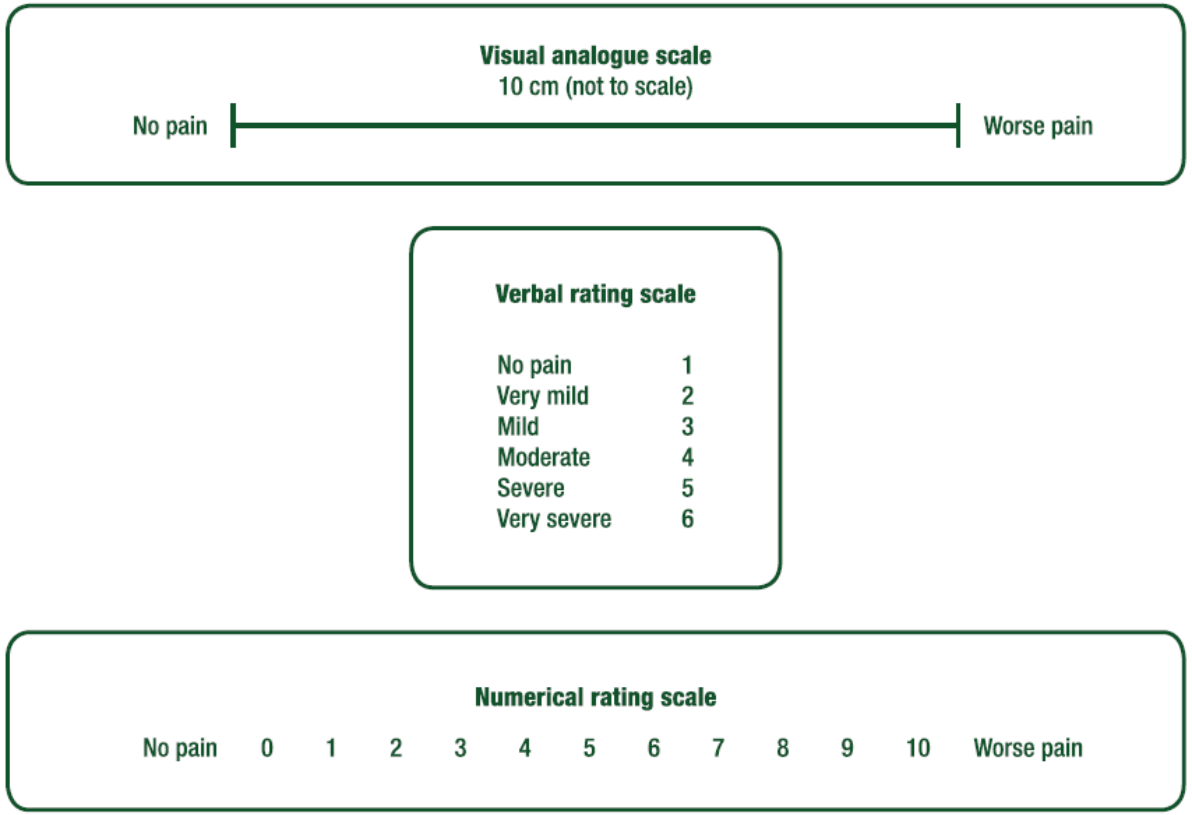
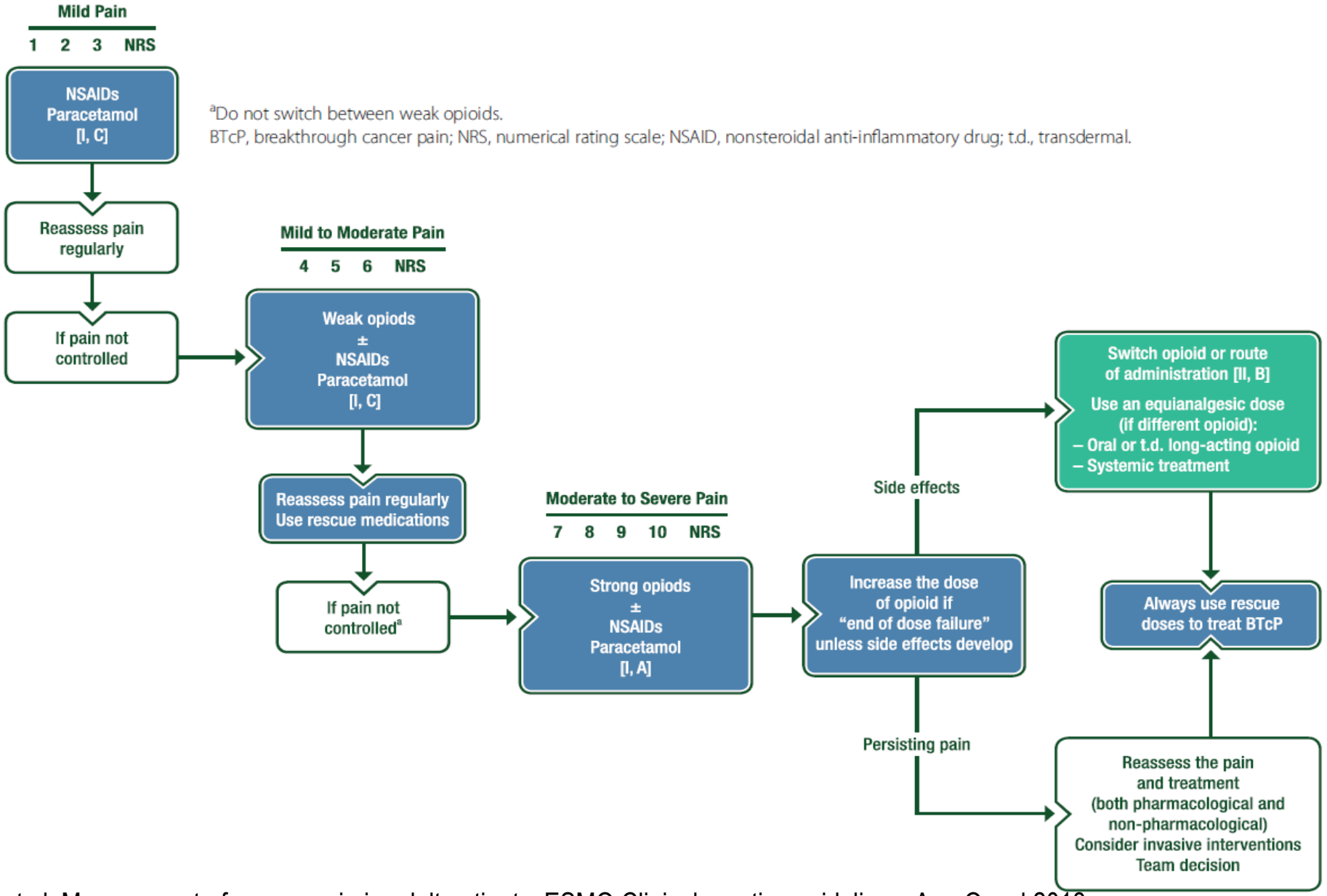


Figure 1. Validated and most frequently used pain assessment tools.

Fallon M. et al. Management of cancer pain in adult patients. ESMO Clinical practice guidelines. Ann Oncol 2018

ESMO GUIDELINE: TREATMENT OF CANCER PAIN



[a]Do not switch between weak opioids.
BTcP, breakthrough cancer pain; NRS, numerical rating scale; NSAID, nonsteroidal anti-inflammatory drug; t.d., transdermal.

Fallon M. et al. Management of cancer pain in adult patients. ESMO Clinical practice guidelines. Ann Oncol 2018

RELATIVE ANALGESIC RATIOS FOR OPIOD SWITCHING

Table 3. Relative analgesic ratios for opioid switching

Opioids	Analgesic ratio	LoE	GoR	Evaluated studies (*N*)	References
Oral morphine to oral oxycodone	1:1.5	II	B	RCTs (4); PCT (2)	[69–74]
Oral oxycodone to oral hydromorphone	1:4	II	B	RCT (1)	[75]
Oral morphine to t.d. buprenorphine[a]	75:1	IV	C	PCT (1)	[76]
Oral morphine to t.d. fentanyl[b]	100:1	III	B	PCT (4)	[77–80]
Oral morphine to oral methadone	1:5 to 1:12	III	B	PCT (6)	[61, 62, 76, 81–83]
Oral morphine to oral hydromorphone	1:5 to 1:7.5	II	B	RCT (1)	[84]

[a]Example: 60 mg oral morphine to 35 μg/h t.d. buprenorphine (equivalent to 0.8 mg/24 h).
[b]Example: 60 mg oral morphine to 25 μg/h t.d. fentanyl (equivalent to 0.6 mg/24 h).
GoR, grade of recommendation; LoE, level of evidence; PCT, uncontrolled prospective cohort trial; RCT, randomised controlled trial; t.d., transdermal.
Adapted from [68] with permission.

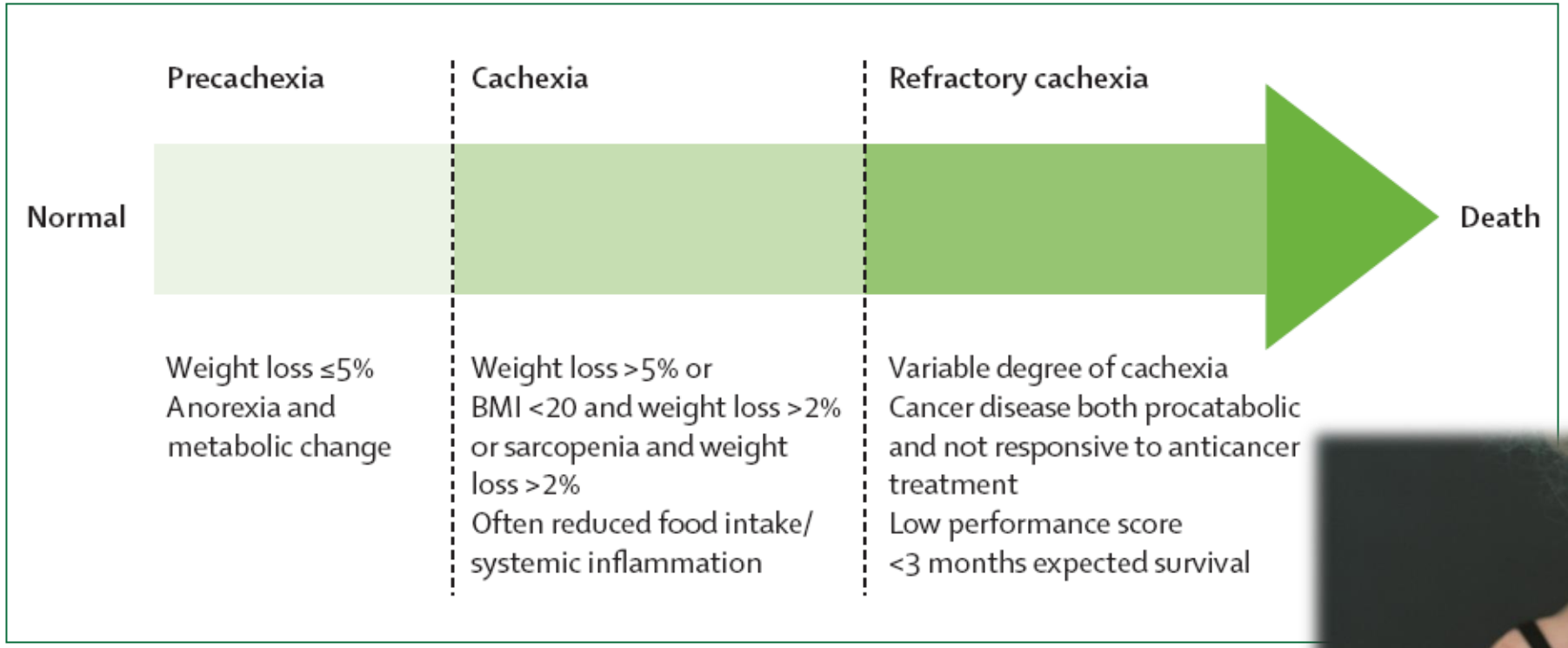
Fallon M. et al. Management of cancer pain in adult patients. ESMO Clinical practice guidelines. Ann Oncol 2018

CACHEXIA

Supportive Care in Pancreatic and HPB malignancies

CANCER CACHEXIA

Definition

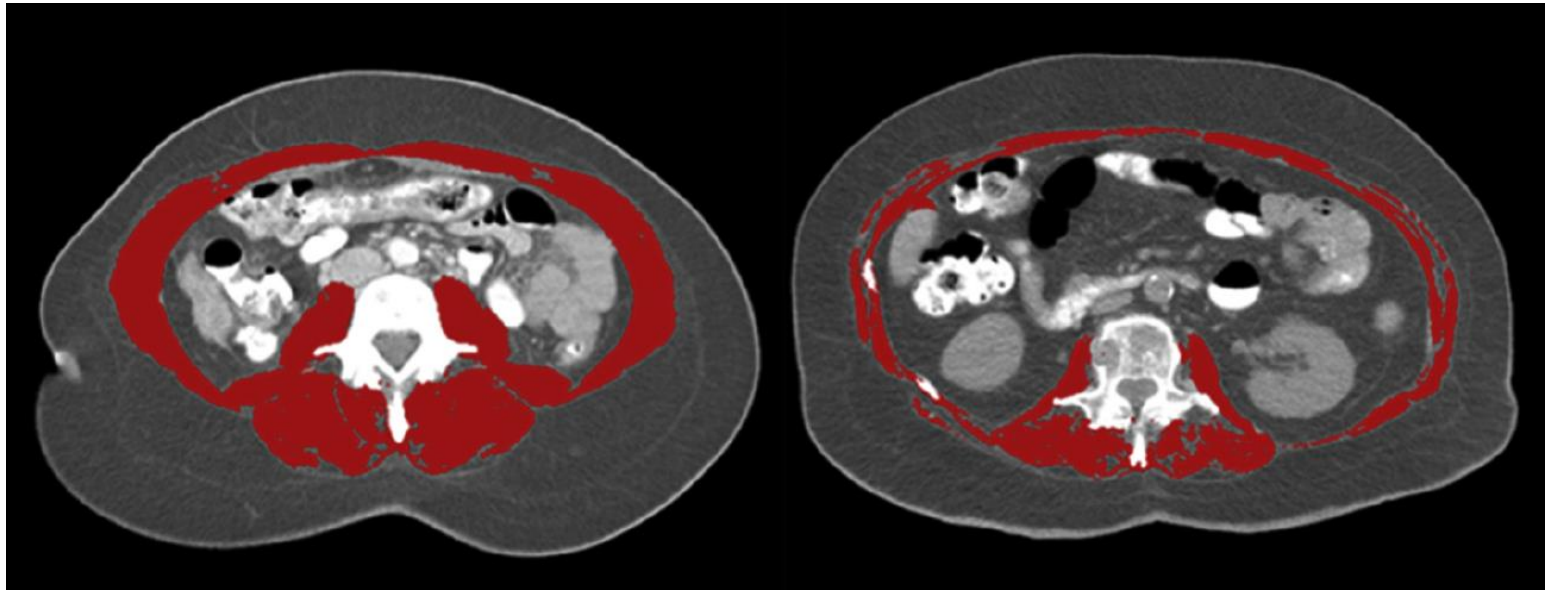


The patient does not necessarily have to be “skin and bones”!

Fearon K. et al. (2011) Lancet Oncol;12(5):489-95

SARCOPENIA AND SARCOPENIC OBESITY

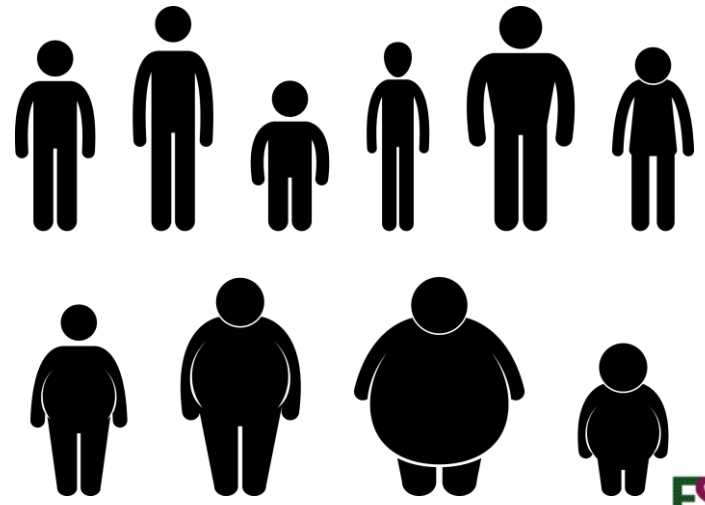
The loss of muscle mass is independent of the fat mass or body weight of a patient



Normal vs. sarcopenic cancer patient, female, BMI: 26 kg/m^2

Shachar SS et al., Eur J Cancer 57 (2016) 58-67

Sarcopenia is not a gaze diagnosis!



CACHEXIA, SARCOPENIA, SARCOPENIC OBESITY

What do we have to do?

Nutrition impact symptoms
Food intake
Body resources
Physical activity
Systemic inflammation

INDIVIDUALIZED MULTI-TARGETED THERAPY

Symptom control
Normalizing energy /nutrient intake
Exercise training
Anti-inflammatory therapies

Arends J et al. Clin Nutr 2017, www.espen.org

ESPEN GUIDELINES ON NUTRITION IN CANCER PATIENTS

What do we have to do?

Energy and Nutrient Requirements (Recommendation grade)	
Energy	25-30 kcal/kg (STRONG)
Protein	1,0-1,5 g/kg (WEAK)
Vitamins/ Trace elements	Recommended daily ammount (STRONG)

Exercise
Maintain or increase level of physical activity (STRONG)

Pharmacologic Agents and Pharmaconutrition		
Anorexia	Corticosteroids or Progestins, watch for: side effects	(WEAK)
Taste alterations	Cannabinoids	(--)
Muscle Mass	Androgens	(--)
Fat Free Mass	Amino acids/Metabolites	(--)
Weight loss	NSAID	(--)
Weight loss	EPA (N-3 fatty acids): 1.5 g/d or more	(WEAK)
Early satiety	Metoclopramide, Domperidone	(WEAK)

Only in palliative settings!

Arends J et al. Clin Nutr 2017, www.espen.org

ESMO

EXERCISE

Supportive Care in Pancreatic and HPB malignancies

EXERCISE AND PHYSICAL ACTIVITY

What do we know by now?

- Reduction of treatment-related side effects
  - Pain
  - Nausea and vomiting
  - Polyneuropathy
  - Fatigue
- Improvement of self-esteem and quality of life

Exercise and Cancer – Important and effective!

Steindorf, K., et al. Bundesgesundheitsbl. (2012) 55: 10.

EXERCISE AND PHYSICAL ACTIVITY

What is recommended?

Endurance Training	3-5 x /week	10-20 minutes	55-85 % of maximal hearth frequence
Strength training	1-3 x /week	1-4 repetitions	60-80 % of maximal strength
Stretching	2-3 x /week	2-4 repetitions	Hold 10-30 sec.

FATIGUE

Supportive Care in Pancreatic and HPB malignancies

STATE OF THE ART

Screening, Assessment and Management of Fatigue

Therapeutic approaches

- Therapy of accompanying factors (depression, anemia, ...)
- Physical activity (**more effective than drug interventions)**
- Pharmacological intervention
- "Mind Body Intervention“
- Psychosocial intervention

Bower et al., JCO 2014

Mustian K. et al, JAMA Oncol. 2017;3(7):961-968.

FATIGUE

Exercise is highly recommended

Rowing Company, Heidelberg

DOSB/Turnerschaft
Zweibrücken

PREVIEW: ESMO GUIDELINE FATIGUE

- The use of **modafinil and armodafinil** is not recommended for the control of CRF [II, D]
- The use of **L-Carnitine, coenzyme Q10, Astragalus, and Guarana** is currently not recommended for the control of CRF [II,D].

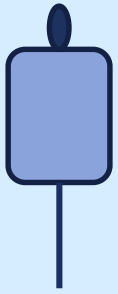
Panel has not reached consensus:

Methylphenidate, dexmethylphenidate, long-acting methylphenidate and dexamphetamine

Misteltoe extracts

Wisconsin ginseng

Acupuncture



Chemo-therapy

Radio-therapy

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BENEFIT

Overall Survival

Progression-free Survival

RISK

Muscular Disorders
Thrombocytopenia
Constipation
Infection
Fertility
Malnutrition
Anemia
Lymphedema
Sexual Dysfunction
Anorexia
Lung toxicity
Osteoporosis
Ototoxicity
Immune-related Toxicity
Paravasation
Pain
Fatigue
Nausea
Allergic Reaction
Venous Thromboembolism
Rash
Alopecia
Vomiting
Cardiotoxicity
Central nervous Toxicity
Neurotoxicity
Xerostomia
Psychological problems
Skin toxicity
Diarrhoea
Mucositis
Hot flashes
Vascular disorders
Tumorlysis
Renal Toxicity
Osseous Complications
Psychatric disorders
Neutropenia
Taste alteration