



UniversitätsKlinikum Heidelberg

Standards of Care and Future Perspectives in Supportive Care

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Many aspects of supportive care

Nutrition

Anaemia

Diarrhoe/Obstipation

Pulmonary Tox.

Cardiotoxicity

Neutropenia

Antiemesis

Infections

Fertility

Tumorlysis

Fatigue

Thrombocytopenia

Neurotoxicity

Paravasation

Psychological support

Supportive measures in radiation therapy

Renal toxicity

Bone complications

Lymphedema

New Toxicities (Targeted drugs)

Pain

Venous Thromboembolism

**Supportive care
improves patient-
reported outcomes in
cancer
patients!**

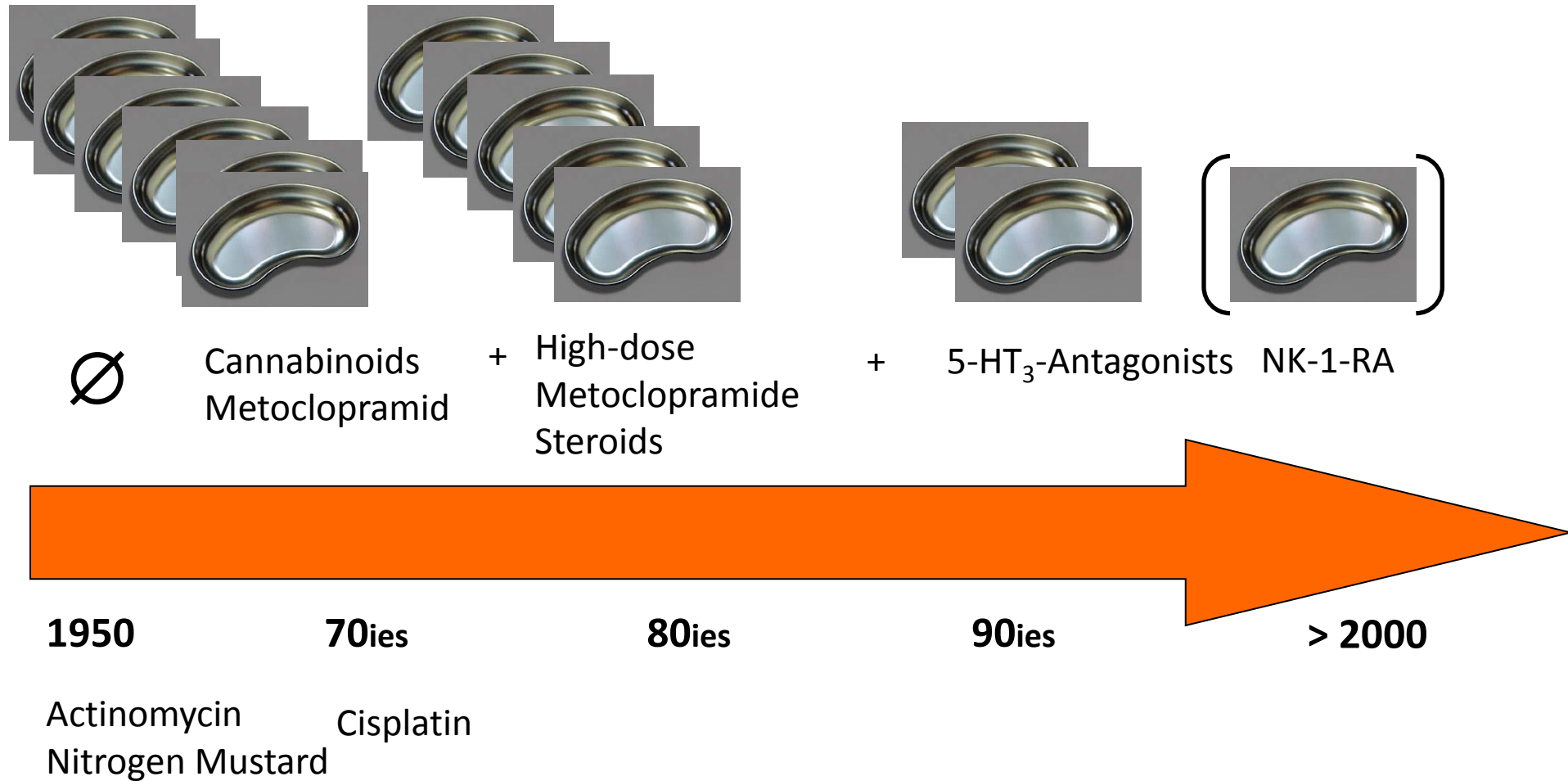


Definition of Supportive Care, MASCC

“Supportive care in cancer is **the prevention and management of the adverse effects** of cancer and its treatment. This includes management of **physical and psychological symptoms** and side effects across the **continuum of the cancer experience** from diagnosis through treatment to post-treatment care. Supportive care aims to improve the quality of rehabilitation, secondary cancer prevention, survivorship, and end-of-life care”

HISTORIC EXAMPLE OF SUPPORTIVE CARE

Development of Antiemetics



PRACTICAL TOOL IN SUPPORTIVE AND PALLIATIVE CARE

-Guidelines-

Palliative and supportive care

Management of Febrile Neutropaenia: ESMO Clinical Practice Guidelines

Published in 2016 – Ann Oncol (2016) 27 (suppl 5): v111-v118

Authors: *J. Klastersky, J. de Naurois, K. Rolston, B. Rapoport, G. Maschmeyer, M. Aapro and J. Herrstedt*

NEW

[view details](#)



Palliative and supportive care

MASCC and ESMO Consensus Guidelines for the Prevention of Chemotherapy and Radiotherapy-Induced Nausea and Vomiting: ESMO Clinical Practice Guidelines

Published in 2016 – Ann Oncol (2016) 27 (suppl 5): v119-v133

Authors: *F. Roila, A. Molassiotis, J. Herrstedt, M. Aapro, R. J. Gralla, E. Bruera, R. A. Clark-Snow, L. L. Dupuis, L. H. Einhorn, P. Feyer, P. J. Hesketh, K. Jordan, I. Olver, B. L. Rapoport, J. Roscoe, C. H. Ruhlmann, D. Walsh, D. Warr and M. van der Wetering*

NEW

ESMO Clinical Practice Guidelines: Supportive Care and Palliative Care

Treatment of Dyspnoea in Advanced Cancer Pts.: ESMO Clin. Practice Guidelines	M. Kloke, 2015
Central Venous Access in Oncology: ESMO Clinical Practice Guidelines	B. Sousa, 2015
Management of Oral and Gastrointestinal Injury: ESMO Clinical Practice Guidelines	D.E. Peterson, 2015
ESMO Clinical Practice Guidelines for the Management of Refractory Symptoms at the End of Life and the Use of Palliative Sedation	N.I. Cherny, 2014
ESMO Clinical Practice Guidelines on Palliative Care: Advanced Care Planning	D. Schrijvers, 2014
Bone Health in Cancer Patients: ESMO Clinical Practice Guidelines	R. Coleman, 2014
Cancer, Pregnancy and Fertility: ESMO Clinical Practice Guidelines	F.A. Peccatori, 2013
Management of Chemotherapy Extravasation: ESMO Clinical Practice Guidelines	J. Pérez Fidalgo, 2012
Cardiovascular Toxicity Induced by Chemotherapy: ESMO Clin. Prac. Guidelines	G. Curigliano, 2012
Management of Cancer Pain: ESMO Clinical Practice Guidelines	C.I. Ripamonti, 2012

Guidelines on a national level

S3 Leitlinie »Supportive Therapie bei onkologischen PatientInnen«



Our decision: 10 subjects

1. Anemia
2. Antiemesis
3. Neutropenia
4. Dermal toxicities
5. Mucositis
6. Chemotherapy induced diarrhoea
7. Peripheral neurotoxicity
8. Bone complications
9. Supportive measures in radiation oncology
10. Extravasation



**Supportive
Therapie**

Benutzer

Kennwort

Login

Startseite

Projektinformation

Leitlinienkoordination

Themen der Leitlinie

Kooperation

Impressum

S3 Leitlinie »Supportive Therapie bei
onkologischen PatientInnen

Please visit us: www.s3supportiv.de
Our Promise: pure german science
language- very easy to understand!
586 pages, excluding method report

Willkommen auf der Homepage der S3 Leitlinie »Supportive Therapie bei onkologischen PatientInnen«. Im Rahmen des Leitlinienprogrammes Onkologie werden in den nächsten 2 ½ Jahren zu 10 wichtigen Themen aus dem Bereich der Supportiven Therapie Handlungs- und Therapieempfehlungen erarbeitet, um eine bessere Versorgung von onkologischen PatientInnen zu erreichen.

Das Projekt im Rahmen des Leitlinienprogrammes Onkologie mit ca 60 MitarbeiterInnen und MandatsträgerInnen aller relevanten Fachgesellschaften und Arbeitsgruppen sowie VertreterInnen von Patientenorganisationen ist unter das Mandat der Arbeitsgemeinschaft Supportive Maßnahmen in der

Leitlinienkoordination/
Sekretariat

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Dr. med. Franziska Jahn

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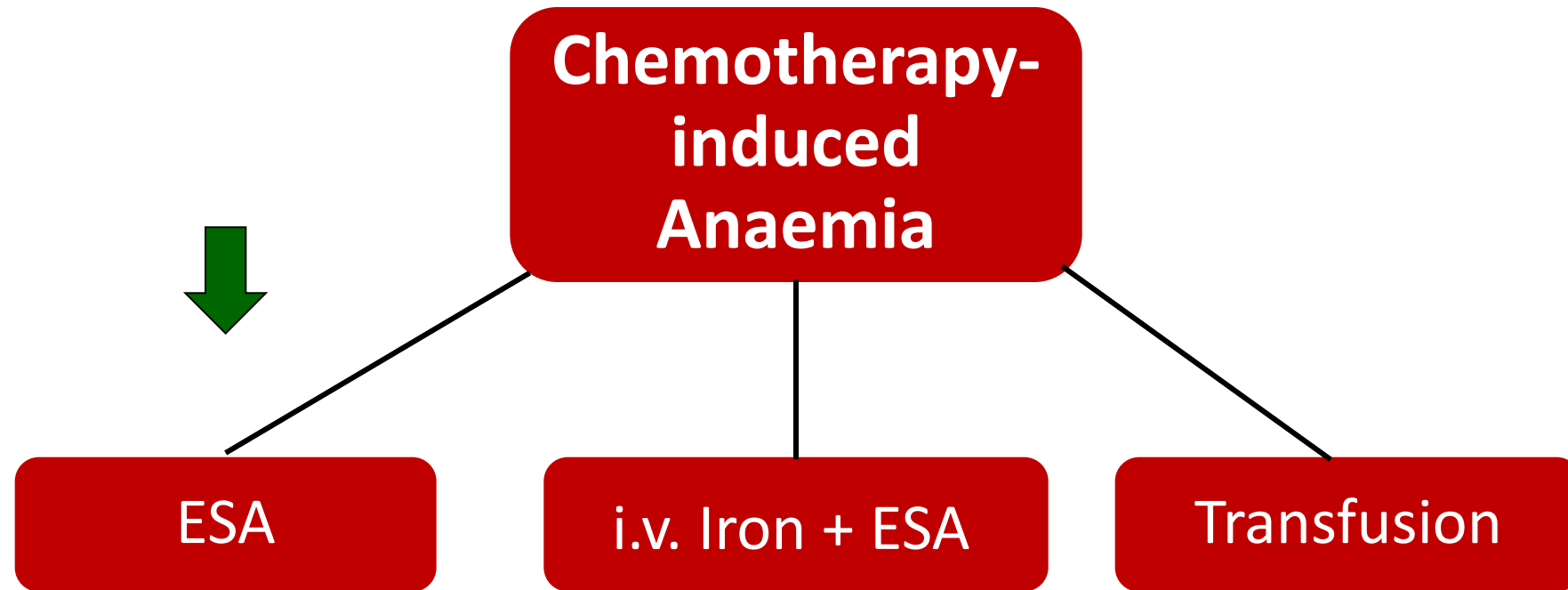
Let's get practical

Supportive Care - Content

1. Anaemia
2. Fatigue
3. Neurotoxicity
4. Febrile neutropenia

CHEMOTHERAPY-INDUCED ANAEMIA

3 Options



ESA: Erythropoiesis stimulating agent

Most Up to Date Anaemia Guidelines

NICE National Institute for
Health and Care Excellence

Erythropoiesis-stimulating agents
(epoetin and darbepoetin) for
treating anaemia in people with
cancer having chemotherapy
(including review of TA142)

Issued: November 2014

2014

Konsultationsfassung

S3-Leitlinie Supportive Therapie bei onkologischen PatientInnen

Version 0.1 - Juni-2016

AWMF-Registernummer: 032-054OL

German S3 Guideline Supportive
Therapy: Summer 2016

Metaanalysis of 65 ESA studies

State of the Art: ESA

Metaanalysis of 65 ESA studies



Only ESA-studies within current approval were included (Start Hb < 10 g/dl, Target Hb 12 g/dl):

- Hb-Level increase
- Reduced need for red blood cell transfusions
- No disadvantage for overall survival (OR 0.99, 95% CI 0.89–1.10)
- Improvement of therapy-associated fatigue

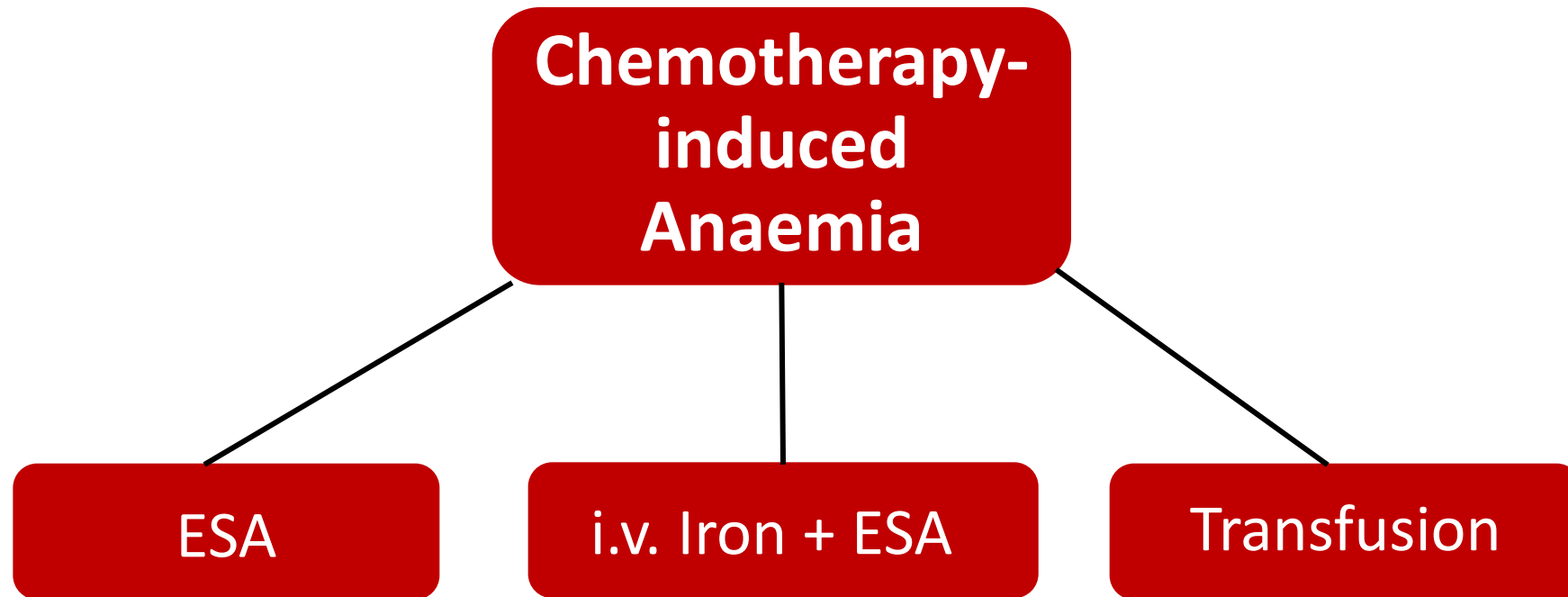


BUT

- ↑ Risk of thromboembolic events (RR 1.53, 95 % CI 1.02 – 2.31)
- ↑ Hypertension



For daily practice



Benefit versus Risk:

- Potential quality of life ↑
- Transfusion ↓
- Potential adverse events ↑

Possible with functional iron deficiency

Transfusion of **1** erythrocyte concentrate

ESA Recommendation, I

1.2.1.	Evidenzbasierte Empfehlung
Grade of recommendation A	When considering the use of ESA it is recommended to inform the patient about the potential risks (thromboembolic complications and hypertension) and potential benefits (potential increase of quality of life and reduction of transfusion rate).
GRADE ⊕⊖⊖⊖	Literatur : (Tonia, Mettler et al. 2012 , Moebus, Jackisch et al. 2013 , Nitz, Gluz et al. 2014)
Plenary vote	Strong consensus

ESA Recommendation, II

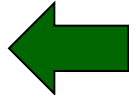
1.3.1.	Evidenzbasierte Empfehlung
Grade of recommendation 0	For the treatment of chemotherapy induced aneamia ESAs can be considered.
GRADE ⊕⊕⊖⊖	Literatur : (Tonia, Mettler et al. 2012 , Moebus, Jackisch et al. 2013 , Nitz, Gluz et al. 2014) (Case, Bukowski et al. 1993 , Cascinu, Fedeli et al. 1994 , Cazzola, Messinger et al. 1995 , Henry, Brooks et al. 1995 , Silvestris, Romito et al. 1995 , Welch, James et al. 1995 , Osterborg, Boogaerts et al. 1996 , Quirt, Micucci et al. 1996 , Wurnig, Windhager et al. 1996 , Del Mastro, Venturini et al. 1997 , Kurz, Marth et al. 1997 , Oberhoff, Neri et al. 1998 , Ten Bokkel Huinink, De Swart et al. 1998 , Carabantes, Benavides et al. 1999 , Dunphy, Harrison et al. 1999 , Thatcher, De Campos et al. 1999 , Coiffier, Boogaerts et al. 2001 , Dammacco, Castoldi et al. 2001 , Kunikane, Watanabe et al. 2001 , Littlewood, Bajetta et al. 2001 , Hedenus, Hansen et al. 2002 , Huddart, Welch et al. 2002 , Kotasek, Albertsson et al. 2002 , Osterborg, Brandberg et al. 2002 , Vansteenkiste, Pirker et al. 2002 , Aravantinos, Linardou et al. 2003 , Bamias, Aravantinos et al. 2003 , Boogaerts, Coiffier et al. 2003 , Gebbia, Di Marco et al. 2003 , Hedenus, Adriansson et al. 2003 , Iconomou, Koutras et al. 2003 , Kotasek, Steger et al. 2003 , Luksenburg, Weir et al. 2004 , Chang, Couture et al. 2005 , Grote, Yeilding et al. 2005 , Leyland-Jones, Semiglazov et al. 2005 , O'Shaughnessy, Vukelja et al. 2005 , Savonije, Van Groeningen et al. 2005 , Witzig, Silberstein et al. 2005 , Razzouk, Hord et al. 2006 , Wilkinson, Antonopoulos et al. 2006 , Moebus, Lueck et al. 2007 , Aapro, Leonard et al. 2008 , Katakami, Nishiwaki et al. 2008 , Krzakowski and Dynepo Oncology Study 2008 , Pirker, Ramlau et al. 2008 , Suzuki, Tokuda et al. 2008 , Thomas, Ali et al. 2008 , Christodoulou, Dafni et al. 2009 , Hernandez. 2009 , Ray-Coquard, Dussart et al. 2009 , Tsuboi, Ezaki et al. 2009 , Engert, Josting et al. 2010 , Pronzato, Cortesi et al. 2010 , Tjulandin, Bias et al. 2010 , Fujisaka, Sugiyama et al. 2011 , Milroy, Bajetta et al. 2011 , Tjulandin, Bias et al. 2011 , Untch_1, Fasching et al. 2011 , Machtay, Zhang et al. 2012 , Delarue, Tilly et al. 2013 , Moebus, Jackisch et al. 2013 , Debus, Drings et al. 2014 , Nitz, Gluz et al. 2014)
Plenary vote	Strong consensus

FATIGUE

Fatigue: Screening, Assessment and Management

Bower et al., J Clin Oncol. 2014; 32:1840-1850

Therapeutic approaches:

1. Therapy of concomitant factors (depression, anaemia,...)
2. Pharmacological intervention 
3. Mind-body intervention
4. Psychosocial intervention
5. Physical activity



NEUROTOXICITY

Prevention of polyneuropathy from platinum derivates

- Acetylcysteine
- Amifostine
- Amitryptiline
- Carbamazepine
- Gluthatione (GSH)
- Vitamin E
- Nimodipine
- **Calcium and magnesium** (Loprinzi, JCO 2013)



**No effective
prevention available**

Hershman DL., JCO 2014;

S3 Guideline "Supportive Therapy": Karin Jordan Guideline coordinator, Franziska Jahn
Guideline secretary 2016, AWMF Register-No: 032-054OL

Therapy of painful polyneuropathy (PNP)

Moderate level of recommendation

- Duloxetine (sSRI*) effective
Dosage: 30 mg week 1. 60 mg week 2[§]

Worth a try**

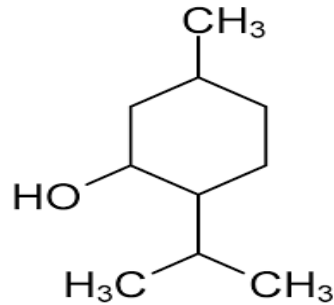
- Tricyclic antidepressants (e.g. nortriptyline or desipramine)
- Gabapentin and Pregabalin
- Topical gel: Baclofen (10 mg), Amitriptylin HCL (40 mg) and Ketamin (20 mg)

* sSRI: Selective Serotonin Reuptake Inhibitor

** Explored evidence: no studies for chemotherapy-induced PNP

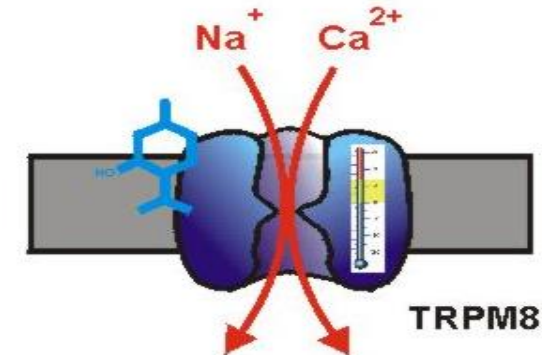
Neuropathic pain and Menthol

Fallon, M.T., et al., Support Care Cancer 2015; 23:2769-2777



- Topical application of a 1 % menthol cream in 51 Patients with chronic neuropathic pain and CTX

→ **Significant improvement in pain score after treatment in 82 % of the patients ($p < 0.001$)**

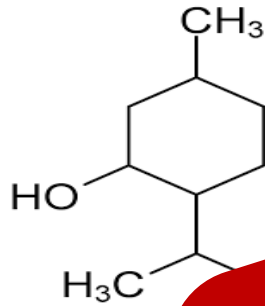


→ Assumed mode of action: stimulation of the cold-menthol-receptor (TRPM8).

Transient receptor potential melastatin 8 Receptor =
Menthol Receptor

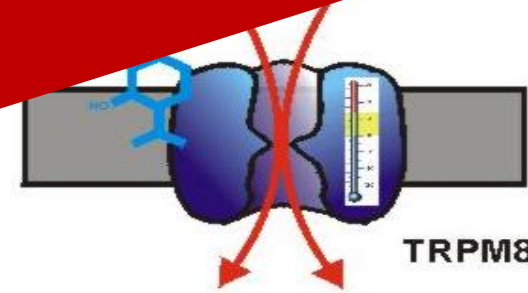
Neuropathic pain and Menthol

Fallon, M.T., et al., Support Care Cancer 2015; 23(12):2777



→ Significant
pair
of the

→ Menthol cream is worth a try
Menthol 1 g
DAC based cream 100 g



→ Assumed mode of action: stimulation of the cold-menthol-receptor (TRPM8).

Transient receptor potential melastatin 8 Receptor =
Menthol Receptor

FEBRILE NEUTROPENIA

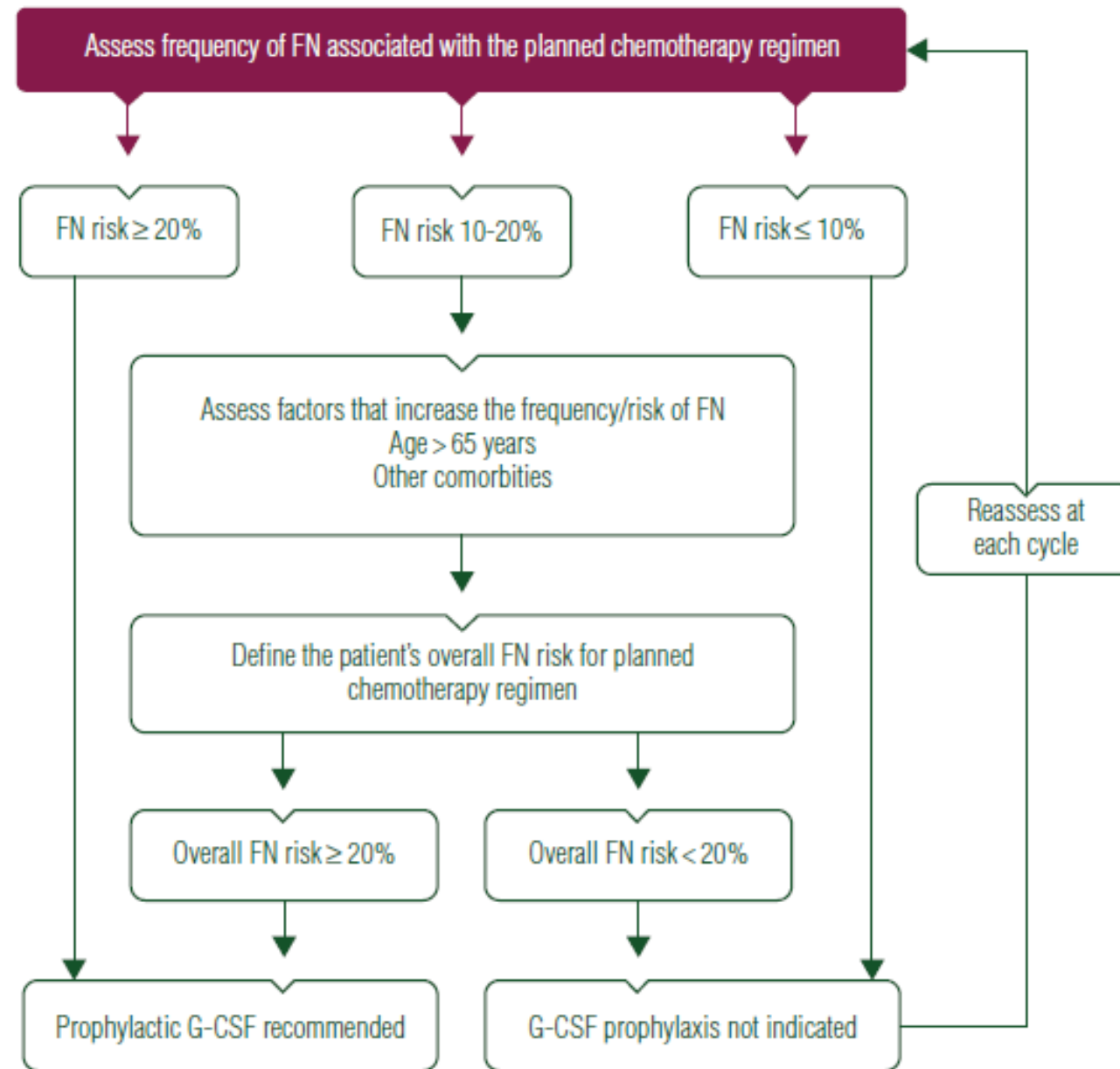
clinical practice guidelines

Annals of Oncology 27 (Supplement 5): v111–v118, 2016
doi:10.1093/annonc/mdw325

Management of febrile neutropaenia: ESMO Clinical Practice Guidelines[†]

J. Klastersky¹, J. de Naurois², K. Rolston³, B. Rapoport⁴, G. Maschmeyer⁵, M. Aapro⁶ & J. Herrstedt⁷ on behalf of the ESMO Guidelines Committee*

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Indications for prophylactic administration of G-CSF


S3 guidelines

Risk of febrile neutropenia	Recommendation	Examples
High > 40 %	G-CSF	<ul style="list-style-type: none">• MAID• BEACOPP
Moderate 20-40 %	G-CSF	<ul style="list-style-type: none">• TAC• CHOP (qd14)
Intermediate 10-20 % (additional individual risk factors)	G-CSF when individual risk factors are present	<ul style="list-style-type: none">• FOLFOX• FOLFIRI• Carboplatin/Etoposid
Low < 10 % (no individual risk factors)	NO administration of G-CSF	

Still controversial: Definition of individual risk factors

Relevance of individual risk factors



 = individual risk factor for febrile neutropenia

ASCO-2015	EORTC-2010	NCCN-2016
<ul style="list-style-type: none"> • Age ≥ 65 years • Advanced disease • Previous chemotherapy or radiation therapy • Preexisting neutropenia or bone marrow involvement with tumor • Infection • Open wounds or recent surgery • Poor performance status or poor nutritional status • Poor renal function • Liver dysfunction, most notably elevated bilirubin • Cardiovascular disease • Multiple comorbid conditions • HIV infection 	<ul style="list-style-type: none"> • Older age (≥65 years) • Advanced disease/metastasis • Prior episode of FN • No antibiotic prophylaxis • No G-CSF use • Poor performance and/or nutritional status • Female gender • Haemoglobin <12 g/dL/anaemia • Cardiovascular disease • Renal disease • Abnormal liver transaminases • Low pre-treatment or pre-cycle ANC • Serum albumin <3.5 g/dL • Prior chemotherapy • Prior infection 	<ul style="list-style-type: none"> • Prior chemotherapy or radiation therapy • Persistent neutropenia • Bone marrow involvement by tumor • Recent surgery and/or open wounds • Liver dysfunction (bilirubin >2.0) • Renal dysfunction (creatinine clearance <50) • Age >65 years receiving full chemotherapy dose intensity • Other: <ul style="list-style-type: none"> • Poor performance status • HIV- infections

Individual risk factors

4.16.	Consensus-based Statement
EK	<p>An individual risk factor can not be clearly identified. The following factors, in particular when they occur in combination, probably increase the risk for febrile neutropenia:</p> <ul style="list-style-type: none">• Age > 65 years• Low performance status (low Karnofsky Index, high ECOG)• Comorbidities (COPD, Heart failure NYHA III-IV, HIV disease, Autoimmune disease, significantly impaired renal function)• Highly advanced symptomatic tumor disease• Chemotherapy in the past• Laboratory parameters (anemia, lymphocytopenia < 700/μl, hypalbuminemia, hyperbilirubinaemia)



UniversitätsKlinikum Heidelberg

„Supportive Care makes
Excellent Cancer Care
possible“_(MASCC)



2017

22-24 JUNE
WASHINGTON DC, USA

**SUPPORTIVE CARE
MAKES EXCELLENT
CANCER CARE POSSIBLE**

SAVE THE DATE

MASCC/ISOO

ANNUAL MEETING ON SUPPORTIVE CARE IN CANCER



www.mascc.org/meeting

