



MASCC/ESMO antiemetic guidelines: Introduction to the 2023 guidelines update

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The Multinational Association of Supportive Care in Cancer (MASCC) had their first antiemetic guideline consensus conference in Perugia in 1997 [1, 2] and updated the guidelines in 2004 [3, 4]. The European Society for Medical Oncology (ESMO) published their first antiemetic guideline in 2001 [5] with annual updates in subsequent years. In 2009 the two societies joined forces and published mutual antiemetic guidelines based on consensus meetings in 2009 (Perugia) and 2015 (Copenhagen). An Expert Committee was appointed by the two societies with 10 working groups identified to update specific antiemetic recommendations. The guidelines were published in *Annals of Oncology* in 2010 [6] and 2016 [7] as one review paper of all recommendations and in 10 papers in *Supportive Care in Cancer* in 2011 and 2017 as extended reviews of the recommendations from each of the 10 working groups.

For this update, members of the 2015 Consensus Committee were asked to join the current Consensus Committee. The societies also advertised for new members with documented experience (publications) in nausea and vomiting induced by antineoplastic therapy. The Consensus Committee for the 2023 update consisted of 34 multidisciplinary, health care professionals with expertise in antiemetic research (physicians, nurses, pharmacists, and pharmacologists) and three patient advocates (Fig. 1) representing a total of 5 continents and 18 countries (Fig. 2). As previously noted, the work was organised in 10 working groups including 6–10 members of the Consensus Committee. Some became members of up to three working groups, but a member could only chair one working group (Fig. 3).

The methodology for the guideline process has previously been described [6, 8]. In brief, the reporting of the literature search followed the PRISMA criteria for systematic reviews [9]. The current update of the recommendations include studies published from June 1, 2015 to January 31, 2023 (for details of the literature search and reporting are referred to the publications from each of the working groups). To change a 2015 recommendation or for a new guideline recommendation to be accepted, a consensus of at least 67% of the expert panellists was needed. The panel considered changes of $\geq 10\%$ to be sufficient to warrant a change of a 2015 recommendation. Levels of evidence (I-V) and grades of recommendation (A-E) were given according to the adapted version of the grading of the Infectious Diseases Society of America [10].

In *Supportive Care in Cancer*, we report updated recommendations (Fig. 3). Two of these guidelines are included for the first time. Working group VIII developed guidelines for “Resource limited settings”, and working group IX developed “Guidelines for patients”. A condensed version of the updated guidelines from working groups I-VII was recently published [11]. The articles in *Supportive Care in Cancer* are to be considered as more detailed (extended) reviews.

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2023 Antiemetic Guideline Committee Participants

- Matti Aapro, MD
- Mary L Affronti, RN, DNP
- Snezana Bosnjak, MD, PhD
- Luigi Celio, MD
- Alex Chan, PharmD
- Ronald Chow
- Rebecca Clark-Snow, RN, BSN
- Leslie Coleman, MD, Patient advocate
- María-Ángeles García-del-Barrio, PharmD, PhD
- Kristopher Dennis, MD
- Mapi Fleury, PharmD, PhD
- Richard Gralla, MD
- Raffaele Gusti, MD
- Jorn Herrstedt, MD, DMSci
- Paul Hesketh, MD
- Franziska Jahn, MD
- Lindsay Johnson, Patient advocate
- Karin Jordan, MD
- Jiyeon Lee, RN, PhD
- Hirotooshi Iihara, RPh, PhD
- Ernesto Maranzano, MD
- Alvaro Menendez, MD
- Alexander Molassiotis, RN, PhD
- Rudolph Navari, MD, PhD
- Ian Oliver, MD, PhD
- Vikas Ostwal, MD
- Venkatraman Radhakrishnan, MD
- Bernardo Rapoport, MD
- Christina Ruhlmann, MD, PhD
- Mitsue Saito, MD
- Paula Sayegh, PharmD
- Lee Schwartzberg, MD
- Florian Scotté, MD, PhD
- Teresa Smit, PharmD
- Stacy Tinianov, Patient advocate
- Li Zhang, MD
- Ana Zilic, MD

Fig. 1 Members of the 2023 MASCC/ESMO antiemetic guideline update committee

Continents and Countries Represented in the Antiemetic Guideline Process 2023

Asia	China, Hong Kong SAR, India, Japan, Korea
Africa	South Africa
Australia/Oceania	Australia
Europe	Denmark, France, Germany, Italy, Serbia, Spain, Switzerland, United Kingdom
North America	Canada, United States of America, El Salvador

Fig. 2 Countries and continents represented in the MASCC/ESMO 2023 antiemetic guideline update committee

MASCC/ESMO Antiemetic Guideline Update 2023 Working Groups

Working Group	Members	
I Emetic classification of antineoplastic agents	Chair: Karin Jordan Co-Chair: Paul Hesketh	Members Alexandre Chan, Richard Gralla, Bernardo Rapoport, Christina Ruhlmann, Franziska Jahn, Paula Sayegh
II Highly emetic chemotherapy	Chair: Jørn Herrstedt Co-Chair: Matti Aapro	Members Alexandre Chan, Rudolph Navari, Paul Hesketh, Mitsue Saito, Luigi Celio, Li Zhang, Ronald Chow
III Moderately emetic chemotherapy	Chair: Florian Scotté Co-Chair: Lee Schwartzberg	Members Richard Gralla, Matti Aapro, Paul Hesketh, Jørn Herrstedt, Karin Jordan, Ronald Chow, Alvaro Menendez, Hiroto Iihara
IV Low or minimally emetic chemotherapy	Chair: Ian Olver Co-Chair: Rebecca Clark-Snow	Members Christina Ruhlmann, Bernardo Rapoport, Maria-Ángeles Garcia-del Barrio, Lee Schwartzberg, Franziska Jahn
V Multiple-day, high-dose chemotherapy, refractory, break-through nausea and vomiting.	Chair: Bernardo Rapoport Co-Chair: Rudolph Navari	Members Jørn Herrstedt, Teresa Smit, Mitsue Saito, Rebecca Clark-Snow, Venkatraman Radhakrishnan,
VI CAMs and non-pharmacological interventions	Chair: Alex Molassiotis Co-Chair: Ian Olver	Members Mapi Fleury, Mary L Affronti, Florian Scotté, Raffaele Gusti
VII Radiotherapy-induced nausea and vomiting	Chair: Christina Ruhlmann Co-Chair: Kristopher Dennis	Members Karin Jordan, Alex Molassiotis, Franziska Jahn, Ernesto Maranzano
VIII Resource limited settings, economic considerations	Chair: Snezana Bosnjak Co-Chair: Richard Gralla	Members Ana Zilic, Venkatraman Radhakrishnan, Jiyeon Lee, Matti Aapro, Li Zhang, Alvaro Menendez, Teresa Smit, Vikas Ostwal
IX Guidelines for patients	Chair: Mary L Affronti Co-Chair: Jiyeon Lee	Members Alex Molassiotis, Florian Scotté and patient advocates Stacy Tinianov, Lindsay Johnson, Leslie Coleman
X Future considerations: research directions, study design, etc.	Chair: Richard Gralla Co-Chair: Mitsue Saito	Members All chairs

Fig. 3 Overview of working groups

There is a need for more research in nausea and vomiting induced by antineoplastic agents. For example we know very

little about the emetic risk potential of the antibody drug conjugates and of most of the oral agents.

Furthermore, although recommendations are based on evidence-based data, it should be emphasized that not all patients have outcomes as we expect them to according to the guidelines. Therefore, recommendations concern the first course of antineoplastic therapy; modifications may be necessary in subsequent courses.

Only updated guidelines can make an impact. Therefore, each working group will make a new literature search every 6 months and if relevant update the current version of the guideline.

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RC-S has reported no potential conflicts of interest.

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F Scotté reports personal fees from Alliance Healthcare, Amgen, Biogaran, BMS, Helsinn, Leo Pharma, MSD, Mundipharma, Pfizer, Pierre Fabre Oncology, Pharmanovia, Sandoz, Sanofi, Thermofisher and Viatrix.

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