



Canadian Geriatrics Society

ADVANCING THE CARE OF OLDER ADULTS IN CANADA: A REPORT OF THE FIRST CANADIAN GERIATRIC ONCOLOGY CONFERENCE

Abstract

The population of older adults is growing, accounting for the majority of the predicted rise in cancer diagnoses. Older adults have unique needs prompting tailored oncologic care. Based on a national needs assessment, the Canadian Network for Aging and Cancer (CNAC) planned the First Annual Geriatric Oncology Conference, under the auspices of the International Society of Geriatric Oncology (SIOG), to be a full-day interactive interdisciplinary continuing professional education event targeting medical oncologists, radiation oncologists, surgical oncologists, geriatricians, pharmacists, family physicians, nurses, physiotherapists, occupational therapists, and social workers. The importance of geriatric assessment was highlighted in identifying unrecognized impairments for tailored treatment, improving risk stratification and prognostication, guiding treatment decisions, and informing patient-centred care. Breakout sessions focused on further interactive and hands-on topics including preoperative assessment and prehabilitation, cognition, nutrition, toxicity prediction, management, and modifications. We describe this conference and summarize the key learning points.

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Conflict of Interest:

Tina Hsu has received honoraria from Apobiologix, Celgene, Ipsen, Eisai, and Genomic Health. David Dawe attended advisory boards for Merck and AstraZeneca, and received educational content honoraria from Boehringer-Ingelheim. The remaining authors have no conflicts of interest. There are no funding sources for this study.

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Key Points

- The older adult population is growing and accounts for growing cancer diagnoses prompting tailored oncologic care needs.
- The First Annual Geriatric Oncology Conference was held to address gaps in knowledge identified in a needs assessment of Canadian healthcare practitioners.
- The importance of geriatric assessment was highlighted in identifying unrecognized impairments for tailored treatment, improving risk stratification and prognostication, guiding treatment decisions, and informing patient-centred care.
- Breakout sessions focused on further interactive and hands-on topics including preoperative assessment and prehabilitation, cognition, nutrition, toxicity prediction, management, and modifications.

Introduction

Adults older than 65 account for nearly 70% of new cancers.¹⁻⁴ In Canada, the aging population is a principal driver of the rising incidence of cancer.^{5,6} The Canadian Network on Aging and Cancer (CNAC) was founded to improve care of older adults with cancer through interprofessional collaboration in clinical care, research, and education.⁷ To understand the learning needs of Canadian healthcare practitioners caring for older adults with cancer, a national needs assessment was conducted by CNAC in early 2019 surveying physicians, nurses, pharmacists, and other allied healthcare professionals involved in the care of older adults with cancer.

This needs assessment formed the basis of the First Annual Geriatric Oncology Conference, which was held on November 1, 2019, in Toronto, Canada. This interdisciplinary interactive conference was organized and hosted by CNAC under the auspices of the International Society of Geriatric Oncology (SIOG). The meeting was attended by 54 healthcare providers from across Canada (British Columbia to Quebec). They included physicians of various specialties (geriatricians, medical and radiation oncologists, surgeons), nurses, pharmacists, and trainees.

The overall goals of the meeting were to:

- Develop knowledge and skills in assessing older adults with cancer.
- Describe and manage issues unique to the care of older adults with cancer undergoing treatment.
- Identify strategies to implement geriatric principles into clinical practice when caring for older adults with cancer.

Session Descriptions

The full-day conference was composed of four large group sessions with a series of smaller interactive workshops (Table 1). The final session consisted of an interdisciplinary panel discussion of two complex cases to highlight and apply learning from the previous sessions. We highlight the objectives and main learning points from each of the sessions.

Table 1.

Time	Session	Speaker	Discipline	Speaker Affiliation
08:00-08:30	Breakfast and Networking			
08:30-08:45	Welcome and Introduction			
08:45-09:30	Geriatric Oncology – It’s not just about the cancer	Camilla Wong	Geriatrics	St. Michael’s Hospital, University of Toronto
09:30-10:15	What is a geriatric assessment and how to do it	Shabbir Alibhai	Geriatrics	University Health Network, University of Toronto
10:15-10:30	Break			
10:30-11:50	Interactive Workshops			
	A Cancer and cognition	Arielle Berger	Geriatrics	University Health Network, University of Toronto
		Martin Puts	Nursing	Lawrence S. Bloomberg Faculty of Nursing, University of Toronto
	B Prehabilitation and the preoperative assessment	Daniel Santa Mina	Kinesiology	University of Toronto
		Tyler Chesney	Surgical Oncology	St. Michael’s Hospital, University of Toronto
11:50-12:30	Best of geriatric oncology	David Dawe	Medical Oncology	CancerCare Manitoba, University of Manitoba
12:30-13:30	Lunch and Networking			
13:30-14:15	Communication, treatment decision making, and coordination of care	Fay Strohschein	Nursing	McGill University
14:15-15:45	Interactive Workshops			
	A Nutrition in older adults with cancer	Daniela Fierini	Dietician	Princess Margaret Cancer Centre
		Martin Chasen	Palliative Care	William Osler Health System
	B Toxicity prediction, management and modification	Ines Menjak	Medical Oncology	Sunnybrook Health Sciences Centre, University of Toronto
		Kristen Haase	Nursing	College of Nursing, University of Saskatchewan
15:45-16:00	Break			
16:00-16:45	Panel discussion of complex cases	Panel: Tina Hsu (Medical Oncology, University of Ottawa), Rana Jin (Clinical Nurse Specialist, Toronto), Carlo DeAngelis (Oncology Pharmacy, University of Toronto), Shabbir Alibhai (Geriatrics, University of Toronto)		
16:45-17:00	Wrap-up and Evaluations			

Session 1: Geriatric Oncology – It’s not just about the cancer

- *Objective 1: Discuss the relationship between aging and oncology.*
- *Objective 2: Review how the construct of frailty impacts cancer management.*
- *Objective 3: Evaluate the evidence for geriatric assessment in older adults with cancer.*

Camilla Wong, MD MHSc, opened the day by setting the stage highlighting the aging population and how this impacts cancer incidence, as well as cancer care. She summarized the myriad changes that occur with aging and how multimorbidity impacts care. For older adults, care must be contextualized by multimorbidity, geriatric syndromes, frailty, polypharmacy, psychosocial complexity, and disease dominance. Dr. Wong highlighted that frailty is a state of high vulnerability to adverse healthcare outcomes including mortality and poor treatment tolerance.^{8,9} Crucially, she highlighted the importance of moving from “What is the matter?” to “What matters to [patients]?” to help frame treatment decisions; what “matters most” is the fifth M in the Geriatric 5Ms framework.¹⁰

Dr. Wong introduced the concept of comprehensive geriatric assessment (CGA) and outlined the evidence for CGA in oncology, such as identifying deficits not otherwise detected, optimizing non-oncologic domains, increasing the precision of prognostication, influencing chemotherapy intensity, and possibly improving treatment tolerance and completion.¹¹⁻¹³

Session 2: What is a geriatric assessment and how to do it

- *Objective 1: Define and explain key elements of a geriatric assessment and their relevance to older adults with cancer.*
- *Objective 2: Describe the advantages and disadvantages of using screening tests to identify older cancer patients who need a geriatric assessment.*

Shabbir Alibhai, MD MSc, built on the prior presentation highlighting the difference between a geriatric assessment, which includes assessing patients across multiple domains (comorbidities, polypharmacy, nutrition, functional status, mood, cognition, and social supports), and a CGA. He emphasized that the value of a CGA is not only assessment, but that development and implementation of an integrated care plan with management strategies for identified deficits is essential.

A geriatric assessment has been endorsed by the American Society of Clinical Oncology with recommended domains and tools to [include](#).¹⁴ Dr. Alibhai highlighted the importance of the interdisciplinary team in geriatric oncology clinic and outlined elements utilized at Princess Margaret Comprehensive Cancer Centre including:

- 1) Understanding the reason for referral (pretreatment, during treatment, survivorship issues).
- 2) Data gathering on nutrition (weight loss, body mass index [BMI]), mood (Patient Health Questionnaire-2), cognition (Mini-Cog), screening for vision and hearing and symptoms.
- 3) Validated prognostic tools as appropriate including [ePrognosis](#) (Lee/Schonberg Indices), chemotherapy toxicity prediction ([Cancer and Aging Research Group Tool](#)), and/or surgical risk ([American College of Surgeons’ Surgical Risk Calculator](#)).¹⁵⁻¹⁷
- 4) Summary of domain-specific issues and recommendations.
- 5) Implementation of CGA-based plan.
- 6) Follow-up as needed.

Access to CGA may not be feasible or necessary for all older adults in some settings, and several models to complete geriatric assessment have been tested.^{18,19} Screening tools to detect vulnerability in older adults were discussed as a potential strategy to efficiently identify those needing a CGA. However, Dr. Alibhai cautioned that the sensitivity and specificity of these tools varied and this may limit their usefulness despite their appeal to improve accessibility.²⁰

Workshop 1: Cancer and cognition

- *Objective 1: Describe the difference between normal aging, mild cognitive impairment, and dementia.*
- *Objective 2: Describe the prevalence of cognitive impairment in cancer patients and its impact on the cancer trajectory.*
- *Objective 3: Utilize common screening tools for cognitive impairment.*
- *Objective 4: List supports available for an older adult with cognitive impairment who is starting cancer treatment.*

Dementia is common with increasing age, but it is also often underdiagnosed. Arielle Berger, MD, and Martine Puts, PhD RN, gave an overview outlining the spectrum of cognitive changes occurring with age distinguishing between normal aging and dementia. Although cognitive impairment is common after cancer treatment (17-75%), most is mild to moderate and may be transient in nature.²¹⁻²³ Dementia can impact the treatment course, increasing the risk of treatment toxicities and cancer-related mortality.²⁴ Cancer treatments of all modalities can lead to cognitive impairment, though the frequency, degree, and duration of impairment is of great debate within the oncology literature.²⁵ Identification of a power of attorney and support for the patient and caregivers was emphasized.

Screening tools for cognitive impairment were highlighted and practiced including the Mini-Mental Status Exam (MMSE), Montreal Cognitive Assessment (MoCA), Mini-Cog, and Rowland Universal Dementia Assessment Scale (RUDAS).²⁵

Workshop 2: Prehabilitation and the preoperative assessment in older adults with cancer

- *Objective 1: Understand the value and approaches to preoperative assessment.*
- *Objective 2: Be familiar with the evidence and approaches to surgical prehabilitation.*
- *Objective 3: Appreciate the contributions and collaborations of surgeons and geriatricians to preoperative assessment and prehabilitation.*

Tyler Chesney, MD MSc, highlighted how geriatric screening and comprehensive geriatric assessments are also relevant to surgery. Both standard disease-based assessments and geriatric-specific assessments should be synthesised with patients' values and goals to generate patient-centred recommendations.²⁶ Clinical judgment alone should be avoided as this often misattributes the degree of risk and benefit from surgery. Geriatric assessment enables more accurate risk stratification, identification of unrecognized deficits, and anticipates postoperative recovery needs.^{11,27,28} The [American College of Surgeons' Surgical Risk Calculator](#) is the most commonly used prognostic model to estimate postoperative outcomes and recently has been updated to include geriatric variables and outcomes.²⁹

Daniel Santa Mina, PhD, presented data on cancer prehabilitation, which is a care process that occurs between diagnosis and the beginning of cancer treatment to enhance treatment tolerability and improve outcomes.³⁰ Some evidence suggests that prehabilitation can improve preoperative physical function, reduce healthcare utilization and costs, improve treatment satisfaction, reduce delirium, and decrease postoperative complications.³¹⁻³⁴ Multimodality prehabilitation delivery that considers exercise, nutrition, psychology, and geriatric considerations is likely most beneficial.³⁵

Session 3: Best of geriatric oncology

- *Objective 1: Review recent literature informing the care of older adults with cancer.*
- *Objective 2: Discuss the importance and applicability of new evidence in the care of older adults with cancer.*

David Dawe, MD MSc, presented a selection of recent research in geriatric oncology, including recommendations made by the [American Society of Clinical Oncology supporting geriatric assessment](#) in those patients 65 and over receiving chemotherapy and outlining which tools should be used.¹⁴ A phase II randomized trial of geriatric

assessment and management in 61 patients age 70 and over receiving chemotherapy demonstrated improved quality of life at three months and lower mortality at six months, providing further evidence about the value of CGA in oncology patients.³⁶ He also highlighted a large [systematic review](#), which demonstrated that geriatric assessment results in a change in oncologic treatment in 28% of patients and a recommendation for non-oncologic intervention in 72%.¹¹ Lastly, a new prognostic model consisting of cancer type (breast vs. other), metastases, gait speed, nutritional status, and performance status, was shown to predict early death within three months which, if further validated, could be used to select patients for chemotherapy vs. supportive care.³⁷

Session 4: Communication, treatment decision-making, and coordination of care

- *Objective 1: Increase awareness of challenges associated with aging that impact communication, treatment decision-making, and coordination of care.*
- *Objective 2: Discuss strategies for optimization of communication, decision-making and coordination.*

Fay Strohschein, RN PhD, highlighted the challenges faced by older patients with cancer including those related to ageism, the heterogeneity of aging, under-representation in studies, and communication. Ageism impacts access, quality of care, and health behaviours.³⁸ Systemic and subtle ageism includes exclusion from research with need to extrapolate results from younger adults, inaccessibility of healthcare environments, and poorly integrated care. Almost half of older adults with cancer experience difficulties with communication with healthcare providers.³⁹ Several barriers exist that can limit effective communication and participation of older adults with care providers including sensory deficits, cognitive impairments, functional limitations, and lack of coordination between providers.³⁹

Awareness of sensory and cognitive deficits is important. Strategies related to communication, coordination of care, and treatment decision-making were recommended. These included acknowledging and asking about patient values, collaborative agenda setting, engaging family members, and care navigation to coordinate care. Dr. Strohschein also highlighted her research showing that establishing trust with healthcare providers is important to the way older adults make decisions regarding treatment.⁴⁰ Identification of those needing additional support, such as those with depression, poor physical function, lack of social support, or with high distress was emphasized.^{4,41}

Workshop 3: Nutrition in older adults with cancer

- *Objective 1: Identify patients at high nutritional risk requiring early intervention.*
- *Objective 2: Explain the role of nutrition therapy in the cancer care of older adults.*

Martin Chasen, MBChB MPhil, and Daniela Fierini, RD, highlighted the importance of identifying and managing malnutrition due to its association with poorer tolerance of treatment, functional status, and cancer survival.⁴² Malnutrition can be easily missed in older adults and should be screened for; some recommended screening tools are the mini-nutritional assessment-short form ([MNA-SF](#)) and the malnutrition screening tool ([MST](#)).⁴²⁻⁴⁴ A recent international consensus on the diagnosis of cancer cachexia includes weight loss >5% (>2% if BMI <20) or sarcopenia (low muscle mass) in addition to reduced food intake or systemic inflammation.⁴⁵

Generally, nutritional counselling represents first-line nutritional therapy.⁴³ Adequate nutrition requires high nutrient dense foods. Older adults may need guidance on protein sources that are easier to chew and comparatively low in fat (e.g., eggs, low-fat dairy products, and legumes). One of the resources suggested to help patients was Nourish (www.nourishonline.ca).

Workshop 4: Toxicity prediction, management, and modification

- *Objective 1: Identify tools to predict chemotherapy toxicity in older adults.*
- *Objective 2: Understand how to modify treatments based on expected toxicity and counsel patients.*
- *Objective 3: Understand the role of the multidisciplinary team in toxicity management of older adults with cancer.*

Prediction and avoidance of toxicity is of great interest to both patients and clinicians. Kristen Haase, RN PhD, and Ines Menjak, MD MHSc, highlighted several tools predicting for toxicity post-surgery, radiation, and chemotherapy. The Cancer and Aging Research Group ([CARG](#)) tool and the Chemotherapy Risk Assessment Scale of High-Age Patients ([CRASH](#)) score are the most common tools used to predict chemotherapy toxicity in older adults.^{13,46} Tumour type, age >80, [ECOG performance status](#) 1 or greater, or use of chemoradiotherapy were factors associated with acute radiation toxicity.⁴⁷

Treatment modifications for those at high risk of toxicity may include prehabilitation; less invasive procedures or nonoperative approaches; radiotherapy hypofractionation or other modifications to limit toxicities (stereotactic and intensity-modulated strategies); and for systemic therapies dose reduction, monotherapy, and use of targeted therapies. Multidisciplinary supportive care, caregiver engagement, and self-management also help optimize cancer care.

CONCLUSIONS

The first Canadian Geriatric Oncology Conference was organized to respond to the unique needs of older adults with cancer and to address gaps in knowledge identified in a needs assessment of Canadian healthcare practitioners. It was well attended by a range of healthcare providers from across Canada. The focus was on evidence-based, interactive, and practical geriatric principles. Based on the positive reviews we are planning for the next annual conference in early 2021; details will be advertised broadly and posted on the CNAC [website](#). We encourage those interested in learning more about geriatric oncology to attend the next annual conference. Further, we encourage specialists in Geriatric Medicine and Care of the Elderly to contact local medical, radiation, and surgical oncologists to foster new care collaborations and grow capacity in geriatric oncology across Canada. The CNAC [website](#) contains further resources, conference details, and contacts for questions and collaborations.

REFERENCES

1. Balducci L, Ershler WB. Cancer and ageing: a nexus at several levels. *Nat Rev Cancer*. 2005;5(8):655.
2. Ries LAG, Reichman ME, Lewis DR, Hankey BF, Edwards BK. Cancer survival and incidence from the Surveillance, Epidemiology, and End Results (SEER) program. *Oncologist*. 2003;8(6):541-552.
3. Edwards BK, Howe HL, Ries LAG, et al. Annual report to the nation on the status of cancer, 1973-1999, featuring implications of age and aging on US cancer burden. *Cancer*. 2002;94(10):2766-2792.
4. Smith BD, Smith GL, Hurria A, Hortobagyi GN, Buchholz TA. Future of cancer incidence in the United States: burdens upon an aging, changing nation. *J Clin Oncol*. 2009;27(17):2758-2765.
5. Statistics Canada. Population Projections for Canada, Provinces and Territories: 2009- 2036. Statistics Canada.
6. Canadian Cancer Society's Steering Committee on Cancer Statistics. Canadian Cancer Statistics 2015. Canadian Cancer Society. [http://www.cancer.ca/~media/cancer.ca/CW/cancer information/cancer 101/Canadian cancer statistics/Canadian-Cancer-Statistics-2015-EN.pdf?la=en](http://www.cancer.ca/~media/cancer.ca/CW/cancer%20information/cancer%20101/Canadian%20cancer%20statistics/Canadian-Cancer-Statistics-2015-EN.pdf?la=en). Published 2015. Accessed February 8, 2020.
7. Puts MTE, Hsu T, Szumacher E, et al. Meeting the needs of the aging population: the Canadian Network on Aging and Cancer—report on the first Network meeting, 27 April 2016. *Curr Oncol*. 2017;24(2):e163.
8. Clegg A, Young J, Iliffe S, Rikkert MO, Rockwood K. Frailty in elderly people. *Lancet*. 2013;381(9868):752-762.
9. Handforth C, Clegg A, Young C, et al. The prevalence and outcomes of frailty in older cancer patients: a systematic review. *Ann Oncol*. 2015;26(6):1091-1101.
10. Molnar F, Frank CC. Optimizing geriatric care with the GERIATRIC 5Ms. *Can Fam Physician*. 2019;65(1):39.
11. Hamaker ME, Te Molder M, Thielen N, van Munster BC, Schiphorst AH, van Huis LH. The effect of a geriatric evaluation on treatment decisions and outcome for older cancer patients – A systematic review. *J Geriatr Oncol*. 2018;9(5):430-440. doi:10.1016/j.jgo.2018.03.014
12. Hamaker ME, Schiphorst AH, ten Bokkel Huinink D, Schaar C, van Munster BC. The effect of a geriatric evaluation on treatment decisions for older cancer patients—a systematic review. *Acta Oncol (Madr)*. 2014;53(3):289-296.
13. Hurria A, Mohile S, Gajra A, et al. Validation of a prediction tool for chemotherapy toxicity in older adults with cancer. *J Clin Oncol*. 2016;34(20):2366.
14. Mohile SG, Dale W, Somerfield MR, et al. Practical assessment and management of vulnerabilities in older patients receiving chemotherapy: ASCO guideline for geriatric oncology. *J Clin Oncol*. 2018;36(22):2326.
15. Lee S, Smith A, Widera E, Yourman L, Schonberg M, Ahalt C. ePrognosis. <https://eprognosis.ucsf.edu/index.php>. Accessed January 6, 2018.

16. Hurria A, Togawa K, Mohile SG, et al. Predicting chemotherapy toxicity in older adults with cancer: a prospective multicenter study. *J Clin Oncol*. 2011;29(25):3457.
17. Liu Y, Cohen ME, Hall BL, Ko CY, Bilimoria KY. Evaluation and enhancement of calibration in the American College of Surgeons NSQIP Surgical Risk Calculator. *J Am Coll Surg*. 2016;223(2):231-239.
18. Hurria A, Gupta S, Zauderer M, et al. Developing a cancer-specific geriatric assessment: A feasibility study. *Cancer Interdiscip Int J Am Cancer Soc*. 2005;104(9):1998-2005.
19. Shahrokni A, Tin A, Downey RJ, et al. Electronic rapid fitness assessment: a novel tool for preoperative evaluation of the geriatric oncology patient. *J Natl Compr Cancer Netw*. 2017;15(2):172-179.
20. Hamaker ME, Jonker JM, de Rooij SE, Vos AG, Smorenburg CH, van Munster BC. Frailty screening methods for predicting outcome of a comprehensive geriatric assessment in elderly patients with cancer: a systematic review. *Lancet Oncol*. 2012;13(10):e437-e444.
21. Kenis C, Bron D, Libert Y, et al. Relevance of a systematic geriatric screening and assessment in older patients with cancer: results of a prospective multicentric study. *Ann Oncol*. 2013;24(5):1306-1312.
22. van der Willik KD, Schagen SB, Ikram MA. Cancer and dementia: Two sides of the same coin? *Eur J Clin Invest*. 2018;48(11):e13019.
23. Lange M, Joly F, Vardy J, et al. Cancer-related cognitive impairment: an update on state of the art, detection, and management strategies in cancer survivors. *Ann Oncol*. 2019;30(12):1925-1940.
24. McWilliams L, Farrell C, Grande G, Keady J, Swarbrick C, Yorke J. A systematic review of the prevalence of comorbid cancer and dementia and its implications for cancer-related care. *Aging Ment Health*. 2018;22(10):1254-1271.
25. Edelstein A, Pergolizzi D, Alici Y. Cancer-related cognitive impairment in older adults. *Curr Opin Support Palliat Care*. 2017;11(1):60-69.
26. Festen S, Kok M, Hopstaken JS, et al. How to incorporate geriatric assessment in clinical decision-making for older patients with cancer. An implementation study. *J Geriatr Oncol*. 2019;10(6):951-959.
27. Caillet P, Laurent M, Bastuji-Garin S, et al. Optimal management of elderly cancer patients: usefulness of the Comprehensive Geriatric Assessment. *Clin Interv Aging*. 2014;9:1645.
28. Kim K, Park K-H, Koo K-H, Han H-S, Kim C-H. Comprehensive geriatric assessment can predict postoperative morbidity and mortality in elderly patients undergoing elective surgery. *Arch Gerontol Geriatr*. 2013;56(3):507-512.
29. Berian JR, Zhou L, Hornor MA, et al. Optimizing surgical quality datasets to care for older adults: lessons from the American College of Surgeons NSQIP Geriatric Surgery Pilot. *J Am Coll Surg*. 2017;225(6):702-712.
30. Silver JK, Baima J. Cancer prehabilitation: an opportunity to decrease treatment-related morbidity, increase cancer treatment options, and improve physical and psychological health outcomes. *Am J Phys Med Rehabil*. 2013;92(8):715-727.
31. Santa Mina D, Clarke H, Ritvo P, et al. Effect of total-body prehabilitation on postoperative outcomes: a systematic review and meta-analysis. *Physiotherapy*. 2014;100(3):196-207.
32. Janssen TL, Steyerberg EW, Langenberg JCM, et al. Multimodal prehabilitation to reduce the incidence of delirium and other adverse events in elderly patients undergoing elective major abdominal surgery:

- An uncontrolled before-and-after study. *PLoS One*. 2019;14(6).
33. Barberan-Garcia A, Ubré M, Roca J, et al. Personalised prehabilitation in high-risk patients undergoing elective major abdominal surgery: a randomized blinded controlled trial. *Ann Surg*. 2018;267(1):50-56.
 34. Barberan-Garcia A, Ubre M, Pascual-Argente N, et al. Post-discharge impact and cost-consequence analysis of prehabilitation in high-risk patients undergoing major abdominal surgery: secondary results from a randomised controlled trial. *Br J Anaesth*. 2019;123(4):450-456.
 35. Santa Mina D, Alibhai SMH. Prehabilitation in geriatric oncology. *J Geriatr Oncol*. 2019.
 36. Puts MTE, Sattar S, Kulik M, et al. A randomized phase II trial of geriatric assessment and management for older cancer patients. *Support Care Cancer*. 2018;26(1):109-117.
 37. Boulahssass R, Gonfrier S, Ferrero J-M, et al. Predicting early death in older adults with cancer. *Eur J Cancer*. 2018;100:65-74.
 38. Schroyen S, Adam S, Jerusalem G, Missotten P. Ageism and its clinical impact in oncogeriatrics: state of knowledge and therapeutic leads. *Clin Interv Aging*. 2015;10:117.
 39. Noordman J, Driesenaar JA, Henselmans I, Verboom J, Heijmans M, van Dulmen S. Patient participation during oncological encounters: Barriers and need for supportive interventions experienced by elderly cancer patients. *Patient Educ Couns*. 2017;100(12):2262-2268.
 40. Strohschein F. Submitting to the momentum of care: Treatment decision making among older people with colorectal cancer [Doctoral Thesis]. Montreal, Canada: McGill University. 2019.
 41. Puts MTE, Papoutsis A, Springall E, Tourangeau AE. A systematic review of unmet needs of newly diagnosed older cancer patients undergoing active cancer treatment. *Support Care Cancer*. 2012;20(7):1377-1394.
 42. Mislang AR, Di Donato S, Hubbard J, et al. Nutritional management of older adults with gastrointestinal cancers: An International Society of Geriatric Oncology (SIOG) review paper. *J Geriatr Oncol*. 2018.
 43. Arends J, Bachmann P, Baracos V, et al. ESPEN guidelines on nutrition in cancer patients. *Clin Nutr*. 2017;36(1):11-48.
 44. Power L, Mullally D, Gibney ER, et al. A review of the validity of malnutrition screening tools used in older adults in community and healthcare settings—A MaNuEL study. *Clin Nutr ESPEN*. 2018;24:1-13.
 45. Cederholm T, Jensen GL, Correia MITD, et al. GLIM criteria for the diagnosis of malnutrition—A consensus report from the global clinical nutrition community. *J Cachexia Sarcopenia Muscle*. 2019;10(1):207-217.
 46. Extermann M, Boler I, Reich RR, et al. Predicting the risk of chemotherapy toxicity in older patients: The Chemotherapy Risk Assessment Scale for High-Age Patients (CRASH) score. *Cancer*. 2012;118(13):3377-3386.
 47. Middelburg JG, Mast ME, de Kroon M, et al. Timed get up and go test and geriatric 8 scores and the association with (chemo-) radiation therapy noncompliance and acute toxicity in elderly cancer patients. *Int J Radiat Oncol Biol Phys*. 2017;98(4):843-849.

