

BACKGROUND

- By 2040, the proportion of cancer survivors over 65 years old will rise to 73%.
- Exercise could be an effective therapy to mitigate the combined threats of aging and cancer on the physical and mental health of older cancer survivors.
- Current exercise guideline for cancer survivors do not specifically addresses programming for older cancer survivors, leaving healthcare providers with little guidance about recommending exercise to their older patients

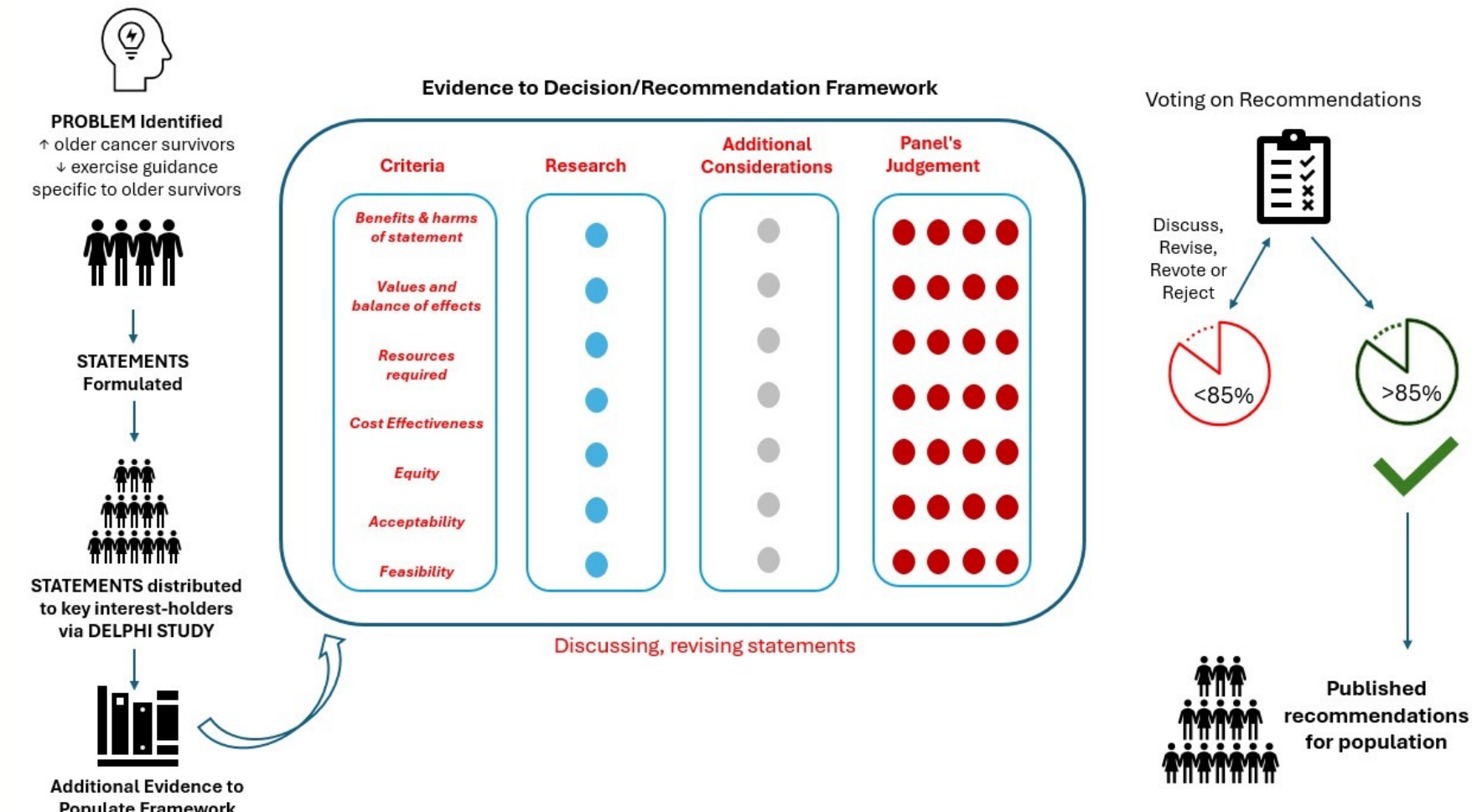
AIM












- The ACES (*Advancing Capacity to Integrate Exercise into the Care of Older Cancer Survivors*) initiative is an NCI-funded project that aims to fill this gap by developing consensus-based guidelines for exercise in older cancer survivors.

METHODS

- A 16-member multi-disciplinary panel of experts in geriatric medicine, oncology, rehabilitation medicine, exercise physiology, behavioral and implementation science and patient advocates convened at OHSU in October 2024 to create consensus-based guidelines to inform clinical practice.
- The ACES panel followed the GRADE Evidence-to-Decision framework for developing good practice statements (Fig 1)

Figure 1. Grading of Recommendations, Assessment, Development and Evaluation (GRADE) Evidence-to-Decision (EtD) making framework for developing good practice statements as applied to the ACES initiative



Consensus Based Exercise Recommendations for Older Cancer Survivors (OCS)		
	1	For an OCS, additional medical evaluation beyond what is recommended in the current ACSM EGCS and NCCN guidelines is not required to begin an appropriately prescribed exercise program, unless the survivor has experienced recent unexpected and rapid changes in cognition, function, and/or mobility.
	2	In addition to traditional health-related fitness assessments to determine an exercise prescription the following functional assessments are recommended for OCS : Timed Up and Go (TUG), Short Physical Performance Battery (SPPB), and tests of static and dynamic balance.
	3	The FITT prescription for OCS should include balance training : An appropriate balance prescription is 1-2 sets of 4-10 different balance exercises at least 3 days per week
	4	The FITT prescription for OCS should include flexibility training : An appropriate flexibility prescription is for stretches that target each of the major muscle-tendon units held to the point of mild discomfort and/or tightness for 30-60s per stretch, 2-7 days a week.
	5	An exercise professional should consider the following environmental factors and instructional techniques to deliver safe and effective exercise for OCS : assess the environment for fall hazards, limit auditory and visual distractions, use appropriate cueing and feedback, demonstrate exercises and repeat instructions as needed, educate participants about appropriate clothing, footwear, nutrition and hydration.
	6	The exercise professional should routinely monitor OCS for the following symptoms/conditions : joint pain, fatigue, vertigo/dizziness/lightheadedness, heart palpitations, muscle pain or weakness, shortness of breath, and/or incontinence with movement.
	7	In an OCS who has significant deficits in strength, mobility and/or balance, exercise programming should first focus on improving muscle strength, flexibility and balance before moving on to improving aerobic capacity. In addition, exercise programming should include exercises that emphasize functional movement patterns (e.g., chair stands, stepping routines, walks with turns, etc.) as much as possible
	8	A person who prescribes and delivers exercise to OCS should have empathy and be able to appropriately modify and tailor exercises. It is strongly encouraged for people who prescribe and deliver exercise to OCS to gain experience, education and/or advanced certification specific to exercise in older adults and/or cancer survivors
	9	In a supervised setting, the exercise professional should consider personal characteristics when determining the recommended degree of supervision (e.g., group size, instructor:participant ratio) during exercise.
	10	If unsupervised exercise is deemed unsafe, it is important to modify exercises and/or engage caregiver, family or friend to assist the individual and/or provide supervised exercise
	11	An exercise professional should consider the following when encouraging an OCS to engage in structured exercise training : behavioral techniques (i.e. goal setting, incentives), education about expected responses to exercise (i.e. delayed onset muscle soreness (DOMS)), initial starting volume and progression (e.g. start low, go slow), individual circumstances, social support, cancer team support, caregiver support, and/or potential barriers to ongoing exercise.

ACSM EGCS: American College of Sports Medicine Exercise Guidelines for Cancer Survivors; NCCN: National Comprehensive Cancer Network

Special Considerations for Safe and Effective Delivery of Exercise for Older Cancer Survivors

Reduce Fall Risk


Minimize fall risk with attention to proper lighting, changes in color/texture of flooring, removal of slip/trip hazards, spacing of equipment for safe ambulation

Limit Distractions

Minimize noise and competing stimuli such as loud or off-tempo music. Minimize visual and environmental distractions (i.e., pets or clutter)

Instructional Technique

Slower the pace of instruction. Use simple language / terms when teaching/cueing. Demonstrate movements first; repeat as needed



Nutrition & Hydration

Consider a nutritional assessment; encourage 1g /kg PRO/day; encourage 48-60 oz water and increase intake in hot/dry climates

Proper Exercise Gear

Encourage proper footwear (athletic / sturdy shoes; no sandals, slippers, loafers, etc). Educate about proper clothing and sun protection

Temperature Control

Ensure proper climate control and ventilation in a class environment. Encourage layered clothing / proper outerwear and encourage proper hydration

Research Priorities to Fortify the Exercise Evidence in Older Cancer Survivors (OCS)	
Medical Evaluation	<ul style="list-style-type: none">Clear and consistent reporting of whether trials required provider approval for participationClear and consistent reporting of exclusion criteria for medical and/or safety reasons
Exercise Testing	<ul style="list-style-type: none">Rigorously report on selection of eligibility criteria based on pre-exercise assessments, such as physical functioning or ADLsInclude outcomes meaningful to OCSInclusion of outcomes to advance standard care and cost recovery
Exercise Prescription	<ul style="list-style-type: none">Testing understudied exercise prescriptions, including low intensity exercise, balance training and flexibility training
Exercise Tolerance & Safety	<ul style="list-style-type: none">Reporting of environmental and instructional techniques to OCSReporting of approaches to monitor and quantify compliance and toleranceReporting of AEs using CTCAE criteria and/or following EX-HARMS guidelines
Implementing Exercise Prescriptions in Practice	<ul style="list-style-type: none">Use of best practices for inclusion of older adults in researchIncrease volume of studies in understudied samples of older survivors (i.e., frail, functional/cognitive impairments or dependence)Strengthen reporting and rationale of intervention design components (i.e., FITT) specific to OCS, instructor education, retention strategies

CONCLUSIONS

The ACES panel issued a set of exercise recommendations aimed to promote engagement and uptake of exercise by OCS while keeping risks as low as possible. Exercise is a low-cost, accessible, and scalable strategy that can improve outcomes for this fast-growing population.