

Specialized Oncology Rehabilitation

BACKGROUND:

As Ontario's health care system transitions to an integrated care model, Ontario Health Teams (OHTs) will be responsible for providing a full and coordinated continuum of care for all but the most specialized conditions and procedures, which will be delivered by existing specialized providers.

The provision of rehabilitation occurs at different points in the continuum of care and may require a general or a specialized approach depending on the patient population requiring treatment. The University of Toronto's Physical Medicine and Rehabilitation group alongside the GTA Rehab Network identified the following rehabilitation populations that require a specialized approach. These populations include acquired brain injury (ABI), amputee, burn, cardiovascular, complex trauma, oncology, pediatric, pulmonary, spinal cord injury and stroke. These specialized rehabilitation programs should continue to be provided regionally and/or provincially and be part of system-level planning and capacity building.

The need for specialized expertise and the lower volumes of patients for some populations may preclude the provision of rehabilitation close to home. However, rehabilitation for high volume populations (e.g., older adults with frailty, patients with progressive neurological conditions, musculoskeletal issues, or with injuries from minor trauma) should be provided as part of care that is close to home across all OHTs.

This document provides rehabilitative care best practice guidance for Ontario Health Teams to assist in determining when the expertise of a specially trained interprofessional team with a focused skill set is necessary to provide safe, effective and efficient care. It was developed by the GTA Rehab Network's Specialized Rehab Advisory Group and local rehabilitation expert working groups.

PURPOSE:

The purpose of this document is to provide a guide that:

- delineates what services and resources are required to provide specialized rehabilitation
- differentiates when specialized rehabilitation services are needed to support one of the ten rehabilitation populations (acquired brain injury, amputee, burn, cardiovascular, complex trauma, oncology, pediatric, pulmonary, spinal cord injury and stroke)

GUIDING PRINCIPLES:

There are a few guiding principles of specialized rehabilitation service provision that are common across all ten populations addressed in this document:

- Service is provided by a specially trained interprofessional team with a focused skill set. Rehabilitation professionals include audiologists, dietitians, kinesiologists, occupational therapists, physical medicine and rehabilitation specialists (physiatrists), physiotherapists, psychologists, respiratory therapists, rehabilitation nurses, social workers and speech-language pathologists, as well as other regulated health professionals.¹

¹ Rehabilitative Care Alliance. (Nov 2020). [Patient and System-Level Benefits of Rehabilitative Care A primer to support planning by OHTs and Ontario Health.](#)

Note: The Ontario Ministry of Health provides [additional information](#) on other regulated health providers.

- Expertise is demonstrated in programs that see higher volumes of patients. A critical mass of patients must be seen to maintain expertise and clinical efficiency and effectiveness.
 - Critical mass is a threshold for the volume of cases that must be seen by a rehabilitation program to maintain expertise.
- Service provision requires clinical coherence with other programs or services across the continuum of care.
 - Clinical coherence is a relationship between specialized rehabilitation program/service and a complementary service(s) across the continuum that support comprehensive integrated patient care. For example, inpatient ABI rehabilitation has clinical coherence with acute neuro/neurosurgery, outpatient ABI clinics and community care.
- Service provision requires specialized resources including extensive capital and/or operating resources.
- Specialized rehabilitation programs should be funded equitably across the province to ensure there is sufficient capacity to meet evidence-based requirements for rehabilitative care.

HOW TO USE THIS RESOURCE:

The tables that follow provide a description of what specialized rehabilitation provides for the population (Table A) and a description of the patient profile to facilitate determining the optimal rehabilitation sector/location (Table B). This resource will be used for the following rehabilitation populations:

- Acquired brain injury (ABI)
- Amputee
- Burn
- Cardiovascular
- Complex trauma
- Oncology
- Pediatric
- Pulmonary
- Spinal cord Injury (SCI)
- Stroke

To find specialized rehabilitation programs, see [Rehab Finder](#).

KEY ASPECTS OF SPECIALIZED REHABILITATION PROGRAMS FOR ONCOLOGY

Table A

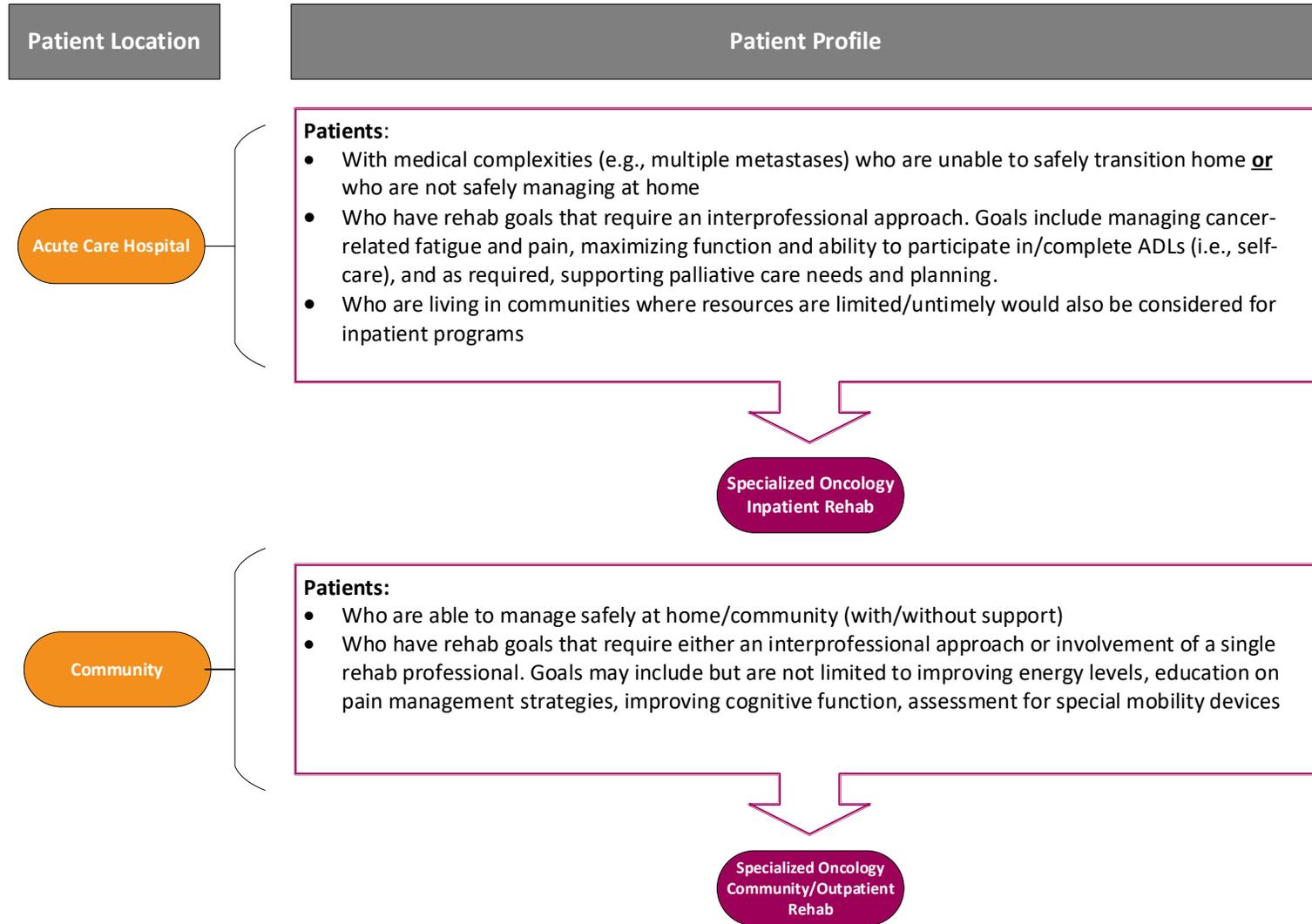
The following section describes four guiding principles for specialized rehabilitation programs. In order to be considered a specialized rehabilitation program, all aspects of these principles need to be in place and should not be considered in isolation.

Guiding Principles for Specialized Services	REHABILITATION PROGRAM: ONCOLOGY REHABILITATION
<p>Requires team expertise and competency</p>	<ul style="list-style-type: none"> • All members of the interdisciplinary team demonstrate ongoing competencies and application of evidence-based practices to deliver care that minimizes the impact of impairments, reduces activity limitations and maximizes participation of the oncology patient to promote their functional recovery. This includes: <ul style="list-style-type: none"> ○ Competencies in cancer specific impairments including but not limited to: lymphedema, cancer-related fatigue, neurocognitive impairment (including ‘brain fog’), exercise clearance and prescription, care of the transplanted patient (including GVHD), post mastectomy syndrome, cording, head drop, scapular dyskinesia, oral and gastrointestinal impairments, neuropathy, steroid myopathy, sexual health, dietary and nutritional disorders, psychosocial and mental health difficulties. ○ Knowledge of specific neuromuscular, neurologic (central and peripheral) and musculoskeletal impairments related to treatment (i.e., chemotherapy, radiation, immunotherapy, and targeted therapy) and taken in the context of patient prognosis. • Specialized rehabilitation programs systematically capture and analyze patient, staff and coordinating-specialist data to address discrepancies and improve patient outcomes. An interprofessional team that utilizes skills and training from individuals’ respective disciplines to focus and augment the recovery of patients with complex rehabilitation (with condition specific needs and risks) through experience, communication and continued professional development.
<p>Provides services to a critical mass</p>	<ul style="list-style-type: none"> • To be considered experts, rehabilitation clinicians should carry a caseload of patients requiring oncology rehabilitation on a regular basis to develop/maintain clinical skills to address patients’ needs and to be comfortable with the evolving treatment options. • The volume of patients seen in specialized inpatient and/or outpatient rehabilitation programs should be inclusive of all oncology-related levels of impairment and needs to be sufficient to

Guiding Principles for Specialized Services	REHABILITATION PROGRAM: ONCOLOGY REHABILITATION
	<p>maintain expertise in the oncology rehabilitation population, resulting in effective and efficient care.</p> <ul style="list-style-type: none"> Specialized oncology rehabilitation has the capacity to offer specialized services across multiple sectors/locations of care (e.g., inpatient rehabilitation and community-based/outpatient rehabilitation including in-person, virtual rehabilitation or a hybrid of both).
<p>Services require clinical coherence with other programs</p>	<ul style="list-style-type: none"> In person/on-site consultation with the primary oncology team or treating physicians (i.e., medical oncologist, radiation oncologist, surgeon, palliative care (if relevant) and psychiatry) When oncology diagnosis overlaps with rehabilitation medicine, coherence and timely involvement with primary rehabilitation programs is needed (e.g., brain injury for brain tumors or metastasis; spinal cord injury for spinal tumors or compression; cardiovascular rehabilitation for cardiotoxicity or comorbid disease; prosthetics and orthotics for oncology related amputations or musculoskeletal injuries; interventional medicine for those with pain or modifiable disability, etc.).
<p>Services require specialized resources</p>	<ul style="list-style-type: none"> Interprofessional expertise from: neuropsychologists, psychiatrists, PM&R physicians, geriatricians, psychologists, dietitians, social workers, physiotherapists, occupational therapists, respiratory therapists, speech language pathologists, complete decongestive therapists or therapists with lymphedema management training, wound care specialists, nurses with cancer specific training, sex therapists, kinesiologists, pharmacists, palliative care and orthotists. Medical equipment funding for patients with limited prognosis is a current barrier in Ontario and needs special consideration. Proximity to the oncology centre for consult and treatment, and/or reliable and efficient transportation or portering services.

DETERMINING THE OPTIMAL SPECIALIZED REHABILITATION LOCATION BASED ON PATIENT PROFILE: ONCOLOGY

Overview - Oncology Rehabilitation (see Table B for details)



PATIENT PROFILE FOR THOSE REQUIRING SPECIALIZED ONCOLOGY REHABILITATION

Table B

The following section describes the patient profile for those who require specialized rehabilitation. It is not meant to reflect comprehensive admission criteria.

To achieve optimal functional outcomes, oncology rehabilitation requires a coordinated and collaborative interprofessional team approach that should be holistic and person-centred addressing the specific needs of the patient. Patients and families are viewed as partners in service delivery and the interprofessional team works in collaboration with them to deliver care.

LOCATION OF REHABILITATION	PATIENT PROFILE: ONCOLOGY REHABILITATION
<p>Inpatient Rehabilitation</p>	<p>Patient profile:</p> <ul style="list-style-type: none"> • Patient with medical complexities (e.g., multiple metastases) who is unable to safely transition home <u>or</u> who is not safely managing at home • Rehabilitation goals that require interprofessional approach. Goals include managing cancer-related fatigue and pain, maximizing function and ability to participate in/complete ADLs (i.e., self-care), and as required, supporting palliative care needs and planning. • Estimated prognosis that is conducive to identified rehabilitation goals • Medical stability for rehabilitation that limits transfers to and from acute care (i.e., frequency of transfusions, radiation and/or chemotherapy) <p>Other Considerations:</p> <ul style="list-style-type: none"> • Patients living in communities where resources are limited/untimely would also be considered for inpatient programs • Tolerance of up to 2-3 hours/day in the context of cancer-related fatigue and pain is recommended, but not always necessary for inpatient rehabilitation
<p>Community-Based/ Outpatient Rehabilitation Specialized oncology rehabilitation can be</p>	<p>Patient profile:</p> <ul style="list-style-type: none"> • Patient who is able to manage safely at home/community (with/without support) • Rehabilitation goals that require either an interprofessional approach or involvement of a single rehabilitation professional. Goals may include:

LOCATION OF REHABILITATION	PATIENT PROFILE: ONCOLOGY REHABILITATION
<p>provided in person, virtually or as a hybrid of both.²</p>	<ul style="list-style-type: none"> ○ Improving ease of performing activities of daily living (ADLs) including self-care, return to work and/or leisure activities. For example, rehabilitation goals may include but are not limited to: <ul style="list-style-type: none"> ▪ Improving energy levels and tolerance to exercise ▪ Providing education on pain management strategies ▪ Optimizing physical function and functional mobility (e.g., bracing, splinting, gait training, orthotics) ▪ Improving cognitive function (i.e., ‘brain fog’) following cancer treatment ▪ Providing assessment of the need for and prescription of special mobility devices (e.g., wheelchair type or walker) ○ Connecting patients to ongoing psychosocial supports (e.g., Gilda’s Club, Wellspring, etc.) ○ Providing education on precautions related to bone metastases. For example, precautions may include avoidance of certain movements to reduce the risk of fractures and increase safety (e.g., avoiding quick torque movements, high extension/flexion movements, deep squats) ○ Providing education on management strategies for chemo-induced peripheral neuropathies. <p>Other Considerations:</p> <ul style="list-style-type: none"> ● Patients benefit from the ability to access rehabilitative care at different points throughout their cancer journey in consideration of late effects that may result from treatment (e.g., side effects from radiation, chemotherapy). Late effects may appear months to several years following initial treatment.^{3,4,5}

² See Appendix A for key considerations for virtual rehabilitation.

³ Byrne, J. (April 14, 2020) *Chronic, late effects of cancer treatment: The consequences of a cure*. HemOnc today. <https://www.healio.com/news/hematology-oncology/20200414/chronic-late-effects-of-cancer-treatment-the-consequences-of-a-cure>

⁴ National Cancer Institute. (Updated Sept 16, 2016) *Late Side Effects of Cancer Treatment* <https://www.cancer.gov/about-cancer/coping/survivorship/late-effects> Retrieved June 14, 2021.

⁵ Treanor, C., & Donnelly, M. (2016). Late effects of cancer and cancer treatment—the perspective of the patient. *Supportive Care Cancer* 24. 337–346, <https://doi.org/10.1007/s00520-015-2796-4>.

APPENDIX A: KEY CONSIDERATIONS ON VIRTUAL REHABILITATION

There are several benefits of providing virtual rehabilitation for patients and clinicians. These include: reducing travel time for patients and increasing the ability to reach patients in more remote communities.¹ There are also challenges with providing virtual rehabilitation. These may include the lack of equipment and/or comfort with using technology, the absence of contextual factors that are more available during in-person sessions, limitations around safety (e.g., hands on assistance with exercises), and limitations in the ability to conduct some assessments and interventions.^{1,2,3} The following are key considerations for conducting virtual rehabilitation:

- Select patients carefully. Not every patient or every patient's goals are suitable and the decision to use a virtual format should be considered on a case-by-case basis using professional clinical judgment.⁴
- Confirm that the patient has the required technology and the needed support/assistance for virtual rehabilitation and that the patient's setting is in a safe, secure and confidential environment.⁵
- Follow professional regulatory college guidelines about obtaining consent; the collection, use and retention of personal health information; safety considerations and emergency planning, and having the proper skills and training to provide virtual rehabilitation.^{2,4,5}
- Use the most effective and secure virtual platform to provide high quality and confidential virtual rehabilitation (e.g., use high speed internet, a confidential setting, and a platform that is compliant with the [Personal Information Protection and Electronics Document Act \(PIPEDA\)](#)).⁵
- Have support processes in place to provide technical support and address technical issues for both the patient and provider and to address language, communication or other accessibility issues.⁴
- Consider use of virtual, in-person or a mix of the two formats (e.g., hybrid model) depending on the patient's resources, needs, and goals.
- Use indicators to evaluate the impact, effectiveness, quality and safety of virtual rehabilitation.⁴

References:

¹ Bland, K., Bigaran, A., Campbell, K., Trevaskis, M., & Zopf, E. (2020). Exercising in isolation? The role of telehealth in exercise oncology during the COVID-19 pandemic and beyond. *Physical Therapy, 100* (10), 1713-1716. <https://doi.org/10.1093/ptj/pzaa141>

² McGuff, R., Cotie, L., Harris, J., Baer, C., Brisco, K., Chipperfield, D., Moran, B., Pike, R., Ross, M., Yeung, C., Blacquiere, D., Mountain, A., Gierman, N., Lindsay, P. (Eds.), on behalf of Heart and Stroke Foundation of Canada in collaboration with the Canadian Association of Cardiovascular Prevention and Rehabilitation. (2021). *Virtual Cardiovascular Prevention and Rehabilitation Implementation Toolkit*. Heart and Stroke Foundation of Canada. Available from <https://www.heartandstroke.ca/-/media/1-stroke-best-practices/vcr-toolkit-final-2021.ashx?rev=e2d73b476e6e4ef1abc09624992566d0>

³ Turolla, A., Rossetini, G., Viceconti, A., Palese, A., & Geri, T. (2020). Musculoskeletal physical therapy during the COVID-19 pandemic: Is telerehabilitation the answer? *Physical Therapy, 100* (8), 1260-1264. <https://doi.org/10.1093/ptj/pzaa093>

⁴ Rakover, J., Laderman, M., & Anderson, A. (2020). [Telemedicine: Centre Quality and Safety](#). *Healthcare Executive, 35*(5), 48-49.

⁵ O'Neil, J. (n.d.) [Tele-Rehabilitation in times of COVID-19](#). Canadian Physiotherapy Association. <https://physiotherapy.ca/times-covid-19>

APPENDIX B: STAKEHOLDER ENGAGEMENT

UNIVERSITY OF TORONTO, TEMERTY FACULTY OF MEDICINE, DIVISION OF PHYSICAL MEDICINE & REHABILITATION ^a		
PM&R Specialist	Job Title and Affiliation	Specialized Rehab Population
Dr. Mark Bayley	Medical Director and Psychiatrist-in-Chief, University Health Network/Toronto Rehab and Altum Health Professor, University of Toronto ^a Vice-Chair, Coordinating Council, GTA Rehab Network Adjunct Scientist, Institute of Clinical and Evaluative Sciences, Sunnybrook Health Sciences Centre	All Populations
Dr. Larry Robinson	Program Chief, Rehabilitation Services, Sunnybrook Health Sciences Centre Director and Professor, Division of Physical Medicine and Rehabilitation, University of Toronto ^a Senior Scientist, Evaluative Clinical Sciences, St. John's Rehab Research Program, Sunnybrook Research Institute	All Populations
Dr. Eugene Chang	Physician (Physical Medicine and Rehabilitation Specialist), University Health Network/Toronto Rehab and Princess Margaret Cancer Centre Assistant Professor, University of Toronto ^a	Oncology Rehab
Dr. David Langelier	Physician (Physical Medicine and Rehabilitation Specialist), University Health Network/Toronto Rehab and Princess Margaret Cancer Centre Assistant Professor, University of Toronto ^a	Oncology Rehab

SPECIALIZED REHAB ADVISORY GROUP	
Organization	Member
Holland Bloorview Kids Rehabilitation Hospital	Joanne Maxwell
Sinai Health System/Hennick Bridgepoint Hospital	Wendy Cameron
Sunnybrook Health Sciences Centre/St John's Rehab	Dr. Larry Robinson (Co-Chair) Siobhan Donaghy
Unity Health Toronto/ Providence Healthcare	Anna Marie Sneath
University Health Network/ Toronto Rehab	Dr. Mark Bayley (Co-Chair) Joanne Kwong
West Park Healthcare Centre	Angela Dowd
GTA Rehab Network	Charissa Levy Sue Balogh Sanja Milicic lafrate Sharon Ocampo-Chan

SPECIALIZED REHAB WORKING GROUP – ONCOLOGY REHAB	
Organization	Member
Sinai Health System/Hennick Bridgepoint Hospital	Richard Duarte Ryan Selvadurai
Unity Health Toronto/ Providence Healthcare	Nicola Bell
University Health Network/ Toronto Rehab	Mandy McGlynn
University Health Network/ Princess Margaret	Mariam Salama
GTA Rehab Network	Charissa Levy Sue Balogh Sanja Milicic lafrate