Section 5: Rehab in inpatient settings: acute and post-acute

REHAB IN INPATIENT SETTINGS

In this section:

INTRODUCTION

This section refers to rehabilitative care that is provided in inpatient settings. In the inpatient acute care setting, rehabilitative care is primarily focused on assessing and initiating treatment of the rehabilitative care needs of patients, providing patient/caregiver education and assisting with transition planning. Early intervention in the acute care setting has been shown to reduce length of stay, reduce hospital-associated deconditioning and increase the likelihood of discharge to home. In the inpatient rehab and complex continuing care setting, the focus is delivering more intensive and frequent rehabilitation using a coordinated, interprofessional approach to enable individuals with impairments and disabilities to reach and maintain their optimal physical, sensory, intellectual, psychological and social functional levels.[1]

To find information on inpatient rehabilitative care programs and services, refer to the Rehabilitative Care Alliance's resource, rehabcareontario.ca. Information can be found for specific conditions and regions across Ontario.

PATIENT AND SYSTEM-LEVEL BENEFITS OF REHABILITATIVE CARE

The following are examples of the role that rehabilitative care can play in acute and post-acute (rehab and complex continuing care) inpatient settings to achieve patient and system level benefits.

- **Early assessment and intervention by rehabilitative care professionals** within a hospital setting is important for a number of reasons. It serves to identify the patient's baseline status and functional deficits (e.g., physical, cognitive, communication) and psychosocial situation; inform an early discharge planning process; and activate a process for providing support and education to patients and caregivers regarding the patient journey ahead.[2]

- **Early rehabilitative care in acute care can reduce length of stay**. For example, the length of stay for seniors admitted following isolated hip fracture can be reduced by more than 10 days when early rehabilitative care is provided. Reduced length of stay in turn has a positive effect on overall patient flow.[3] From a systems perspective, about 13,000 people living in Ontario experience a hip fracture every year and the health care expenditures associated with hip fracture are substantial, accounting for nearly $500 million of health care spending per year in Ontario. Rehabilitative care programs have been shown to improve patient outcomes, including functional status, leg strength, health status, balance, mobility, instrumental activities of daily living and social functioning.[4]

- **Early rehabilitative care in acute care can increase likelihood of discharge to home.** Rehabilitation consisting of occupational therapy and other rehabilitative care services provided to patients with various conditions (e.g., stroke, spinal cord, arthritis, cardiovascular disease, orthopaedic dysfunction, neurological disorders, etc.) who were admitted to acute care resulted in more discharges to the home environment. From a patient perspective, discharge to home maintains involvement with family and community and supports overall quality of life. From a systems perspective, discharge to home reduces the demand for long-term care home placement.[5]

- **Early mobilization of acute care patients, assessment of functional status and provision of multidisciplinary exercise interventions result in positive patient and system level outcomes.** Functional decline, rapid loss of muscle strength (i.e., up to 5% per week) and reduced ability to ambulate independently are common in seniors who are hospitalized and spend the majority of their days in bed. Reducing the risk of such hospital-acquired functional loss through early mobilization, assessment and a multidisciplinary rehabilitative care has been shown to decrease length of stay, ALC days, risk of depression

and the duration of delirium. It also improves patients' functional and cognitive status and increases their rate of discharge to home.[6]

- **Early rehabilitative care involvement pre-operatively and in the acute care phase prepares patients and caregivers** for surgery and the trajectory of functional recovery, the rehabilitation process and the transition to the next phase of the recovery process.[7, 8]

- **Following a stroke, patients benefit from early, intensive stroke rehabilitation** in both the acute and subacute stage of stroke. Stroke rehab helps to improve arm and leg motor recovery and language and communication function, which in turn improves mobility, independence in self-care and participation in leisure activities. Best outcomes are achieved in stroke-specific units where rehabilitative care is provided by a multidisciplinary team of stroke specialists who offer comprehensive and intensive services to patients, often with the involvement of the caregiver.[2]

- **Inpatient rehabilitative care provided by an interprofessional team using a focused, coordinated approach improves functional outcomes**. The benefits of inpatient rehab on improving functional outcomes (e.g., mobility, self-care, cognition, quality of life, etc.) have been shown for patients of various diagnoses. These include, but are not limited to, patients with acquired brain injury, stroke, spinal cord injury and multiple sclerosis, Guillain-Barré syndrome, multiple sclerosis, Parkinson's disease and stroke, and hip fracture with or without dementia.[9, 10, 11, 12, 13] The incidence of hip fractures in Canada is projected to increase four-fold by 2041, with 31-51% of individuals with hip fracture experiencing dementia and/or delirium. Access to inpatient rehabilitation programs with expertise in treating patients with cognitive deficits will benefit not only these patients (by improving their functioning) but also the health care system (by reducing length of stay in acute care).[14]

- **Occupational therapy assessment and treatment is associated with lower readmission rates** for patients admitted with heart failure, pneumonia and acute myocardial infarction. Occupational therapists assess the functional needs of complex patients and help inform effective discharge planning by determining whether patients can be safely discharged home or need further rehabilitation, assessing whether they require assistive devices to assist with performing activities of daily living (e.g., long-handled reachers and shoehorns, elevated commode seats, specialized eating utensils, etc.) and providing training to patients and caregivers on strategies to manage basic needs**.**[15]

- **Speech-language pathology interventions address the most prevalent communication difficulties in patients with an acquired brain injury: cognitive-communication disorders.** The reported incidence rates of cognitive-communication

disorders are as high as 80-100%. These disorders are defined as difficulties in communication (listening, speaking, gesturing, reading, writing, conversational interaction) resulting from cognitive impairments (attention, memory, organization, reasoning, executive function) and impaired behavioural-self regulation.[16]

REHABILITATIVE CARE CONSIDERATIONS

Rehab post-injury/illness

Rehab post-injury or illness	
Patient characteristics	Examples of patients seen in inpatient acute or post-acute beds following injury or illness: • Patients who have experienced a sudden onset, life-altering disability and were admitted to an acute care hospital • Patients who are deconditioned as a result of illness or a complicated/extended hospital stay • Patients with complex medical needs and/or a history of recurrent hospital admissions
Patient population examples	Patient populations include, but are not limited to: • Frail seniors who until recently were able to live independently in the community • Patients admitted to hospital for treatment of illness or injury such as: o Brain injury, cardiopulmonary conditions, stroke, cancer, peripheral vascular disease, acute respiratory conditions (flu, pneumonia), complications as a result of cancer treatment, falls/fractures, spinal cord injury, work related injuries, burns, amputations
How rehab can help	Rehabilitative care begins with a comprehensive assessment. • Providing an early assessment, education and advice pre-operatively prepares the patient/caregiver for the consequences of surgery on function and stages of recovery (e.g., for patients requiring an amputation, patients requiring total joint replacement). Where possible, pre-operative assessment is conducted before admission. • The assessment serves to identify functional loss/decline, restorative potential and the impact of impairments on daily functioning:

Rehab post-injury or illness	
	○ Functional impairments affecting mobility, performance of activities of daily living (ADLs) and instrumental ADLs, cognition and cognitive-communication, swallowing, safety ○ Need for assistive devices and/or environmental modifications • Assessment findings are used to develop individualized treatment plans; plans to support early discharge from acute care hospital, or discharge plans from inpatient rehab to support and maximize re-integration to community. Interventions are provided to improve, develop or restore function and may include, but are not limited to: • Supporting early mobilization and ability to move/transfer • Improving balance, lower/upper extremity strength and increasing coordination • Improving seating and positioning • Addressing cognitive-communication deficits to improve reasoning, problem-solving, memory and organization skills required to communicate effectively • Providing recommendations and treatment to address swallowing disorders and speech disorders • Prescribing assistive devices to support participation in activities of daily living, reduce pain and improve overall quality of life • Providing compensatory strategies, recommendations for environmental modifications and training to increase, maintain or improve functional capabilities and minimize impact of functional impairments • Ensuring sufficient nutrition and providing nutritional recommendations • Enhancing coping of patient/caregivers including emotional functioning and adjustment to a condition/illness and its psychosocial consequences • Providing patient/caregiver education to enhance coping with impairments, activity limitations and participation restrictions
Rehabilitative care considerations / recommendations	There are a number of frameworks and resources that outline rehabilitative care best practices for particular populations. For example, see: • RCA Total Joint Replacement Framework

Rehab post-injury or illness	
	• RCA Guidance for post Shoulder Arthroplasty • RCA Hip Fracture Framework • Frail Senior/Medically Complex Compendium • Canadian Stroke Best Practices The RCA's Definitions Framework for Bedded Levels of Rehabilitative Care outlines the key components of bedded levels of rehabilitative care including the patient characteristics, medical/nursing/rehab resources and therapy intensity for each level. The framework also includes eligibility criteria for the bedded levels, including a definition for restorative potential. See also **Appendix B: Acute and post-acute inpatient rehabilitative care considerations**

Where to access rehab	Information on rehabilitative care programs and services can be found on the Rehabilitative Care Alliance's rehabcareontario.ca website. Information can be found for specific regions.
	
	For information pertinent to rehabilitative care post-injury or illness, look for information under the following categories:
	• Inpatient rehabilitative care. Subcategories include:
	  o Rehabilitative care – activation/restoration
	  o Rehabilitative care – complex medical management – short and long term
	  o Rehabilitative care – high intensity
	  o Rehabilitative care – low intensity
	• Condition or population-based rehabilitative care

Rehab for progressive/chronic conditions

Rehab for progressive/chronic conditions	
Patient characteristics	• Patients with a chronic disease/condition • Patients experiencing a worsening of symptoms due to a debilitating event or progressive condition • Caregiver strain or burnout should also be taken into consideration
Patient population examples	• Patients with a chronic disease or condition (e.g., arthritis, pain syndrome, chronic obstructive pulmonary disease, congestive heart failure and coronary arterial disease, failure to thrive, multiple sclerosis, neurological conditions and others)
How rehab can help	• Assess impairments or disability resulting from acute exacerbation • Provide treatment to improve, prevent or slow deterioration in functioning in areas of a person's life, develop or restore lost or impaired function • Provide consultation regarding patient's functional needs/status and recommendations to maintain and/or prevent further decline • Increase self-management skills and assist patient in optimizing independence, maintaining activity and quality of life • Assess need for and use of assistive devices • Provide education to caregivers on illness/condition and provide strategies to optimize their support efforts and lower stress
Rehabilitative care considerations / recommendations	See **Appendix B: Acute and post-acute inpatient rehabilitative care considerations**
Where to access rehab	Information on rehabilitative care programs and services can be found on the Rehabilitative Care Alliance's rehabcareontario.ca website. Information can be found for specific regions. For information pertinent to rehabilitative care for progressive/chronic conditions, look for information under the following categories:

Rehab for progressive/chronic conditions	
	• Hospital-based outpatient rehabilitative care and community-based rehabilitative care Subcategories include: o Hospital-based outpatient therapy and community-based therapy o Prevention and education o Specialized clinics and services • Condition or population-based rehabilitative care

Rehab for prevention

Rehab for prevention	
Patient characteristics	• Seniors who present in emergency department with a potentially reversible functional/loss for whom home- and/or ambulatory–based rehabilitative care is not a safe, effective or available option, and who are at risk of institutionalization (acute care or LTC) if nothing is done (See RCA's Direct Access Priority Process) • Patients with multiple co-morbidities and complex health needs may be at risk of falls • Caregiver strain or burnout should also be taken into consideration
Patient population examples	• Frail seniors • Caregivers of patients with changes in functional status and/or complex needs
How rehab can help	• In an acute care setting, a rehabilitative care assessment can help inform recommendations for preventing a decline in functional/clinical status, which may be as a result of de-conditioning, a health condition, pain or aging. Rehabilitative care involvement may include, but is not limited to: o Identifying treatment plan as needed o Providing patient/caregiver education to enhance coping with impairments, activity limitations, participation restrictions and to put in place supervision strategies o Linking patients/caregivers to community programs, wellness/health promotion programs and other resources

Rehab for prevention	
	○ Assessing barriers/risks to patient's ability to maintain independence ○ Promoting adaptation of/to the home environment ○ Increasing self-management skills
Rehabilitative care considerations / recommendations	RCA Pathway to rehabilitative care for frail older adults presenting to ED post-fall RCA's Direct Access Priority Process RCA Checklist to rule out Acute Cause of Recent Functional Decline NICE Guideline-Falls in older people: assessing risk and prevention (June 2013) See also **Appendix B: Acute and post-acute inpatient rehabilitative care considerations**
Where to access rehab	Information on rehabilitative care programs and services can be found on the Rehabilitative Care Alliance's rehabcareontario.ca website. Information can be found for specific regions. For information pertinent to rehabilitative care for prevention post-discharge from acute care or inpatient rehab, look for information under the following categories: • Community-based or hospital-based rehabilitative care ○ Rehabilitative care: community-based prevention and education ○ Rehabilitative care: specialized clinics and services • Community-based rehabilitative care ○ Rehabilitative care: fall prevention programs • Condition or population

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