

## The Senior Friendly Hospital Toolkit

What is Functional Decline?

Functional decline is a new loss of independence in self-care capabilities and is typically associated with deterioration in mobility and in the performance of activities of daily living (ADLs) such as dressing, toileting, and bathing.  When older adults are hospitalized, the medical illness causing hospitalization can cause a decline in functional status.  Functional decline can also be caused by other factors related to hospitalization such as extended bed rest, reduced daily participation in ADLs, iatrogenic events, and inappropriate use of mobility-restricting devices such as indwelling catheters and intravenous lines.

Why is Functional Decline an Important Issue in Hospitals?

1. **Functional Decline is a common problem in older people admitted to hospital:**
* 30-60% of older people experience functional decline when acutely hospitalized[1](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn1),[2](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn2),[3](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn3),[4](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn4),[5](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn5)
* One year after hospital discharge, less than 50% of older adults recover to their pre-illness level of functioning and rates of long-term care placement are high[6](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn6),[7](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn7)
1. **Processes of hospitalization may lead to Functional Decline:**
* It is estimated that up to 50% of older adults experience functional decline during hospitalization that is largely independent of their presenting medical illness[4](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn4),[8](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn8),[9](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn9)
* Many factors related to processes across the hospital organization can contribute to functional decline

**Factors Related to Hospitalization that Contribute to Functional Decline**[10](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn10)

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| **PCPROCESS OF CARE-RELATED FACTORS** |
| * Bedrest orders
* Use of physical restraints
* Mobility restricting devices such as indwelling catheters and intravenous lines/poles
* Insufficient nutrition and hydration – extended use of NPO (no food by mouth) orders, diet not in keeping with patient preferences, inadequate access to water/fluids
* Decreased patient participation in own ADLs
* Polypharmacy, use of medications which can compromise activity/mobility (e.g. sleep medications, psychoactive medications)
* Discharge planning occurs late
 |
| **EBEMOTIONAL AND BEHAVIOURAL ENVIRONMENT FACTORS** |
| * Social deprivation – patient and family/caregiver participation not encouraged or optimized
* Insufficient communication and patient engagement during care planning
* Discharge planning focused on bed utilization rather than on early determination of patient and family needs
 |
| **PhysPHYSICAL ENVIRONMENT FACTORS** |
| * Environment does not encourage mobility – e.g. high beds with rails, meals served to patients in bed
* Lack of furniture and equipment to support mobility – bedside chairs, mobility aids, handrails/grab bars, commodes and raised toilet seats, seating for showers
* Environment contributes to disorientation – lack of clock and calendar in room, lighting does not match time of day, shiny floors that cause glare and can contribute to falls
* Noisy environment which disrupts sleep
* Sensory deprivation – lack of access to vision and hearing aids
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1. **Functional Decline is associated with negative outcomes:**
* Functional Decline is often difficult to reverse, and may lead to long term loss of independence, social isolation, and reduced quality of life[6](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn6),[7](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn7)
* Increased hospital length of stay and increased rate of long term care admission

**Consequences Associated with Bedrest and Immobility**[11](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn11),[12](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline%22%20%5Cl%20%22_edn12),[13](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn13)

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| --- | --- |
|   **JOINTS** | * contractures
* decreased range of motion
 |
|   **MUSCLES** | * loss of strength (2-5% per day)
 |
|   **BONE** | * loss of bone density
* osteoporosis
* risk of fractures
 |
|   **CARDIOVASCULAR SYSTEM** | * decreased exercise tolerance
* orthostatic hypotension
* risk of deep vein thrombosis
 |
|   **RESPIRATORY SYSTEM** | * pneumonia
* atelectasis
* pulmonary emboli
 |
|  **NUTRITION/GASTROINTESTINAL TRACT** | * anorexia
* malnutrition
* distension
* constipation
* impaction
 |
| **URINARY TRACT** | * infection
* incontinence
* calculosis
 |
|   **SKIN** | * ischemia
* skin shearing
* pressure ulcers
 |
|   **MENTAL HEALTH** | * anxiety
* depression
* disorientation
* apathy
 |
|   **FUNCTION** | * reduced mobility
* reduced independence in activities of daily living
 |

1. **Functional Decline during hospitalization can be prevented with prompt intervention involving the inter-professional team and including early interaction with patients and family caregivers**
* Positive outcomes of multi-component interventions studied in academic and community hospitals include improved performance of ADLs, improved patient and provider satisfaction, decreased length of stay, decreased rates of discharge to long-term care homes, and lower overall hospital costs[14](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn14),[15](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn15),[16](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn16),[18](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn18)

What are the foreseeable outcomes when Functional Decline is appropriately addressed?

1. **For the patient**
* Improved mobility and independence in ADLs[14](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn14),[15](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn15),[16](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn16),[18](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn18)
* Improved self esteem related to greater independence – elderly patients often view their health in terms of their function rather than their disease status[17](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn17)
* Reduced complications during hospitalization
* Improved rate of return to pre-hospital living environment[14](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn14),[15](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn15),[16](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn16),[18](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn18)
1. **For hospital staff**
* Improved ability to detect and prevent functional decline
* Improved inter-professional collaboration
* Empowerment and improved  satisfaction when caring for older adults
1. **For the healthcare system**
* Decreased institutionalization[14](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn14),[15](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn15),[16](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn16),[18](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn18)
* Decreased length of stay[18](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn18) and ALC rates
* Decreased costs of health care[16](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn16)
* Improved patient and family satisfaction[14](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn14),[15](http://seniorfriendlyhospitals.ca/toolkit/processes-care/functional-decline#_edn15)

 What can be done across the organization to address Functional Decline?



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# Screening and Detecting Functional Decline

1. Screening tools have been developed which offer some predictive ability of patients most at risk of functional decline, although no “gold standard” tool has been established having all of the properties required to accurately measure this.[1](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn1),[2](http://seniorfriendlyhospitals.ca/print/book/export/html/632%22%20%5Cl%20%22_edn2),[3](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn3)  However, it could practically be asserted that ALL patients in hospital should have their functional status optimized by inter-professional intervention.  For instance, patients who are already independent in mobility and ADLs can be encouraged by the health care team to ambulate regularly and to independently perform their own ADLs to the greatest extent while in hospital.

**Predictors of Functional Decline**[1](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn1),[4](http://seniorfriendlyhospitals.ca/print/book/export/html/632%22%20%5Cl%20%22_edn4)

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| * Advanced age[5](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn5),[6](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn6),[7](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn7)

          70-74 – 23% experience loss of ADL function          75-79 – 28%          80-84 – 38%          85-90 – 50%          90+ – 63%  |
| * Cognitive impairment[8](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn8)
 |
| * Lower baseline functional status[6](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn6)
 |
| * Pre-admission disability in mobility: unsteadiness, use of a cane or walker[9](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn9),[10](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn10)
 |
| * Pre-admission disability in Instrumental ADLs (e.g. finances, groceries)[6](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn6),[7](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn7)
 |
| * Delirium[11](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn11),[12](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn12)
 |
| * Depression[13](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn13)
 |
| * Length of hospital stay[14](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn14)
 |

1. Functional status is highly correlated with health and illness in older adults.  It is also a predictor of mortality, hospital length of stay, discharge destination, and readmission rate.[15](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn15) Routine monitoring, documentation, and communication of a patient’s functional status are important practices in planning for their care during and after hospitalization.
2. Functional status includes the patient’s performance in mobility, basic ADLs (e.g. bathing, dressing, toileting), and Instrumental ADLs (e.g. medication administration, shopping, finances).
3. There are many tools used to measure mobility and ADL performance.  No single instrument appears to adequately measure all dimensions of mobility and ADL performance over the wide range of functional abilities of older patients.[16](http://seniorfriendlyhospitals.ca/print/book/export/html/632#_edn16) Therefore a number of instruments are included in this toolkit.  The choice of tool may depend on its applicability to your patient population and its feasibility of use within your institution.

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# Preventing Functional Decline

1. Systemic, inter-professional interventions have demonstrated successful outcomes in the prevention of functional decline during hospitalization.  For instance, a recent systematic review of inter-professional interventions that include exercise demonstrates an increase in patient discharge to home, a decrease in acute hospital length of stay, and a decrease in total hospital costs, whereas exercise interventions on their own failed to realize these same outcomes.[1](http://seniorfriendlyhospitals.ca/print/book/export/html/633#_edn1)

**Component Interventions in Evidence-Informed Functional Decline Prevention Programs**[**2**](http://seniorfriendlyhospitals.ca/print/book/export/html/633#_edn2)**,[3](http://seniorfriendlyhospitals.ca/print/book/export/html/633%22%20%5Cl%20%22_edn3),**[**4**](http://seniorfriendlyhospitals.ca/print/book/export/html/633#_edn4)**,**[**5**](http://seniorfriendlyhospitals.ca/print/book/export/html/633#_edn5)

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| **OS ORGANIZATIONAL SUPPORT INTERVENTIONS** |
| * Provide education to the inter-professional team on function-focused interventions
* Implement organizational policies that support mobility, such as use of physical restraints, mobility standards, and physical design and maintenance procedures to maximize accessibility, safety, and functional mobility
 |
| **PC PROCESS OF CARE INTERVENTIONS** |
| * Minimize bedrest orders, and consider daily mobility/out-of-bed orders
* Minimize use of physical restraints and of mobility restricting devices such as indwelling catheters and intravenous lines/poles – when used, review daily
* Optimize nutrition and hydration – provide easy access to water and fluids, provide diets consistent with patient preferences, daily review of NPO (no food by mouth) orders
* Obtain Best Possible Medication History (BPMH), reconcile, review and optimize medications to avoid those which may restrict or impair mobility
* Initiate early functional goal setting and discharge planning with patient and family
* Maximize patients’ own participation in ADLs while in hospital
* Encourage and assist with regular daily mobility where appropriate; early referral to physiotherapy and occupational therapy for complex patients
* Optimize sleep using non-pharmacologic protocols
* Assess and manage depression
* Assess and treat pain appropriately
 |
| **EB EMOTIONAL AND BEHAVIOURAL ENVIRONMENT INTERVENTIONS** |
| * Maximize social engagement – encourage patient and family/caregiver visits and participation with care, volunteer visits
* Initiate early discharge planning focusing on patient and family goals and their needs to return home
 |
| **Phys PHYSICAL ENVIRONMENT INTERVENTIONS** |
| * Environmental modifications – floors with a non-glare finish, lighting to match time of day, large clock and calendar in patient rooms for orientation, grab bars where necessary, wide doorways, clutter reduction
* Noise prevention measures – reduced use of overhead pagers, acoustical room treatments, headphones, earplugs
* Furniture and equipment –low beds with rails down, bedside chairs, assistive mobility aids, access to vision and hearing aids, commodes and raised toilet seats, seating in showe
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1. While there is a theoretical risk of increased falls and patient harm when functional decline prevention interventions are in place, evidence shows little or no difference in falls, transfer to an intensive care unit, or mortality with inter-professional functional activation and exercise programs in hospital.[1](http://seniorfriendlyhospitals.ca/print/book/export/html/633#_edn1)

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