

Functional Abilities Program For Seniors

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- Focus on maintaining or improving independence in residents in long-term care facilities

- Collaborative program
 - Winston Park and Oakwood Retirement Communities

 - Schlegel-UW Research Institute for Aging, University of Waterloo

- Designated as Leading Practice Program by Canadian Council on Health Services Accreditation

FAP Collaborators

■ Community Partners

- Oakwood
 - Kinesiologist at each site
- RIA
 - FAP Coordinator

■ University Partners

- University of Waterloo
 - Postdoctoral fellow
- Sunnybrook HSC
 - Cognitive Neurology
- Grad Dept of Rehab Science, U of T
 - NSERC-IPS student
- Baycrest Centre for Geriatrics
- York University

Functional Abilities Program: Components

- Clinical

- Neurobehavioural assessments
- Treatment-management programs
- Falls tracking
- Tracking cognitive-motor function

- Research

- Intervention evaluation
- Falls assessment
- Targeted projects

- Education

- Volunteer training
- In-Service education
- University practicum and assessment courses

Clinical Component: Neurobehavioural Assessments

■ Assessment Battery

- Cognitive Functions
- Strength
- Balance and Gait
- Coordination
- Visuomotor Control
- Functional Independence
- Life Satisfaction
- Pain
- Goal Attainment Scaling
- Qualitative analyses

■ Work with care team

- Kinesiologist
- Kin coop education student
- Physician
- Nursing
- Physiotherapist
- Occupational Therapist
- Recreation
- Family

Clinical Component: Treatment-Management

■ Triggers

- Balance or mobility
- Dizziness
- Strength
- Cognitive dysfunction
- ADL-IADL Deficits

■ Programs

■ Focus

- Mobility
- Functional Tasks
- Cognitive Remediation

■ Types

- Individualized
- Group

■ Residents involved

- 15 to 73 % of total number of residents

Clinical Component: Falls Tracking



- Falls registry records every fall
 - Location and time
 - Activity at time of fall
 - Medications
 - Behavioural observations
 - Injuries

Clinical: Tracking Cognitive-Motor Function

Test	Cut off Score	J.B.	J.B. Post Scores
Berg Balance	>45/56	37/56	31/56
Falls Risk Assessment	10	20	21
Grip Strength	38.7kg(D) 37.2kg (ND)	17.16kg(D) 23 kg (ND)	4.7kg (D) 3.9kg (D)
TUG Test	10 sec independent	20.02 sec	32.78 sec
Mini Mental State Exam	19/30 80/100	19/30 66/100	7/30 19/100

Clinical:

Tracking Cognitive-Motor Function

- Large decrease in upper body strength
- Cognitive decline
- Slowed walking during test
- Did not follow directions – needed constant instruction
- Coordination Test could not be completed – got “stuck” on finger to nose task – preservation Errors
- Could not initiate movements
- High risk of falling
- Base of support at normal range
- Sway while standing
- Small step length
- Mental flexibility decreased (ability to switch tasks)

Clinical: Tracking Cognitive-Motor Function

Symptoms	J.B.
Mental Rigidity	X
Confusion	X
Distractibility	X
Slowing of Mental Responses	X
Attention Shifting Difficulty	X
Depression	X
Intelligence Deterioration	
Poor Memory	X
Conceptualization Difficulty	X
Temporal Disorientation	X
Spatial Disorientation	X
Irritation Difficulty	X
Loss of Writing Ability	X

Symptoms	J.B.
Inhibition/ impulse control	X
Loss of Empathy	
Apathy	X
Loss of Object Recognition	X
Laboured Speech	X
Non-Fluent Speech	X
Word Finding Difficulty	X
Verbal Recall Difficulty	X
Progressive Change in Personality	X
Muscle Wasting	X
Motor Weakness and Slowing	X
Inappropriate Expression of Language	
Irritability	X

Research: Intervention Evaluation

- Evidence-based evaluations
- Goal attainment scaling
- Qualitative evaluations

Quantitative measures

Taylor et al (2003) Journal of Community Health Nursing, 20, 15-26.

TABLE 2
Pre- and Post-Scores of the Tinetti Performance-Oriented Assessment of Mobility Problems in Elderly Patients and the Balance and Gait Subscales

	<i>Pre-Test</i>	<i>Post-Test</i>
Tinetti total	12.2	16.7**
Balance subscale	6.6	9.2**
Gait subscale	5.4i	7.9*

* $p < .05$. ** $p < .001$.

TABLE 3
Pre- and Post-Scores of the Functional Reach and Barthel Index

	<i>Pre-Test</i>	<i>Post-Test</i>
Functional reach	4.0	5.63**
Barthel Index	71.8	76.0*

* $p < .05$. ** $p < .001$.

Qualitative measures

Taylor et al (2003) Journal of Community Health Nursing, 20, 15-26.

1. Residents found the experience pleasurable.

“Oh, I love to walk. It makes me feel good.” Hamilton, age 99

“I enjoy talking while I’m walking. Sally and I walk together.” Sands, age 82

“I like to walk, I am always walking.” Cummings, age 84

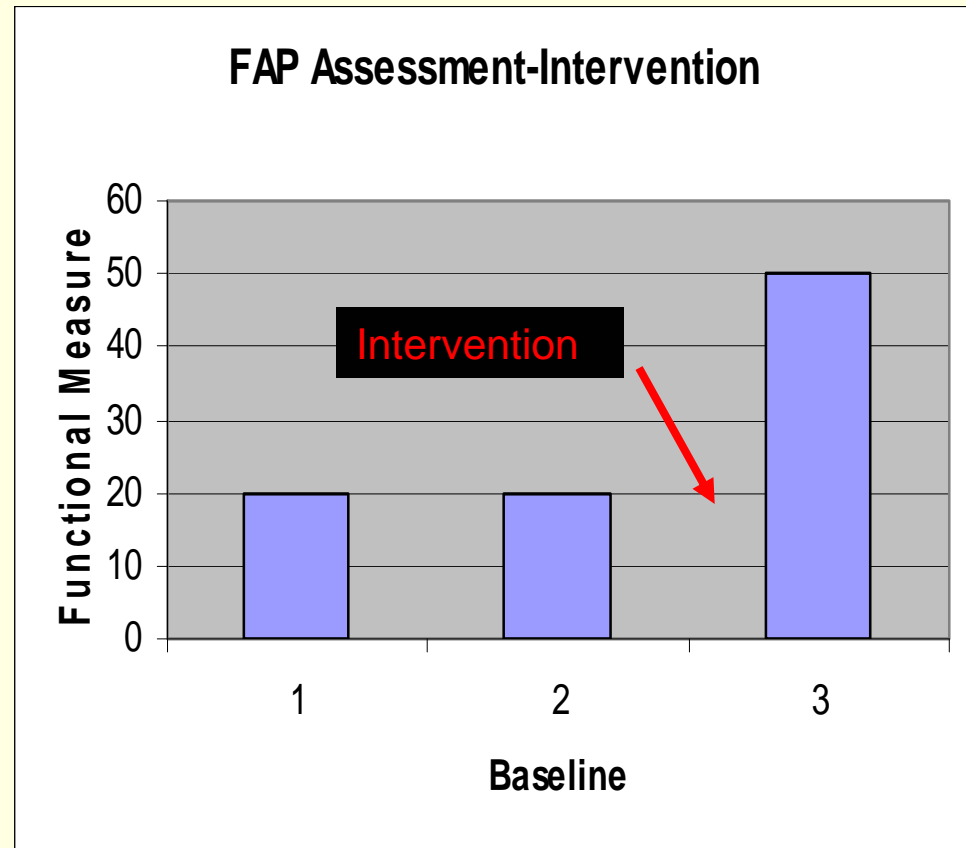
“Oh, I love to walk. Did you notice that I would check every time I walked each day? So did Joyce. We had a little competition going.” Edwards, age 79

2. Residents walked as a means to manage current health problems.

“If I didn’t walk, I wouldn’t walk at all. Look at these knees, I have to keep moving. I am afraid to stop.” (Resident has severe, bilateral knee osteoarthritis.) Harris, age 84

Evidence-Based Evaluations: Changes from Baseline

- Baseline – 1
- Baseline – 2
- Intervention
- Baseline - 3



Success Story - DB

- History

- July 2005 difficulty with mobility.
- Unable to move effectively in her wheelchair.
- Came to the pool once a week but could only float

- Goals

- propel herself in her wheelchair
- to be able to swim again

Success Story

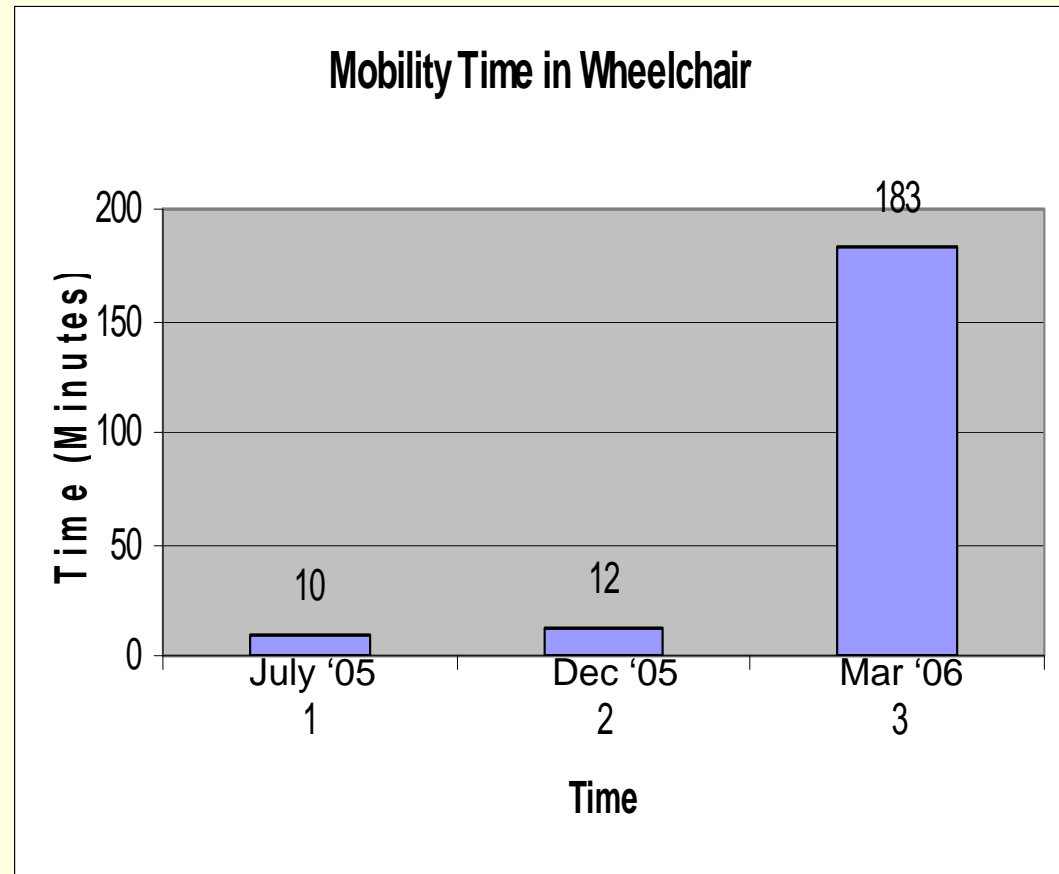
- Program

- Group exercise classes twice per week
- Group aquafit classes twice per week
- Individual walking and weight-bearing exercises

Evidence of improvement

March, 2006

- Evidence-based measures
 - Increased mobility time in wheel chair
 - Swim up to 4 feet in pool



Success Story

- Evidence of improvement – March, 2006
 - Goal attainment scaling – success in achieving goals
 - Qualitative data – responses to questions
 - I can now get around on my own.
 - I know I am stronger now.
 - It is fun! (Well, sometimes it is.)

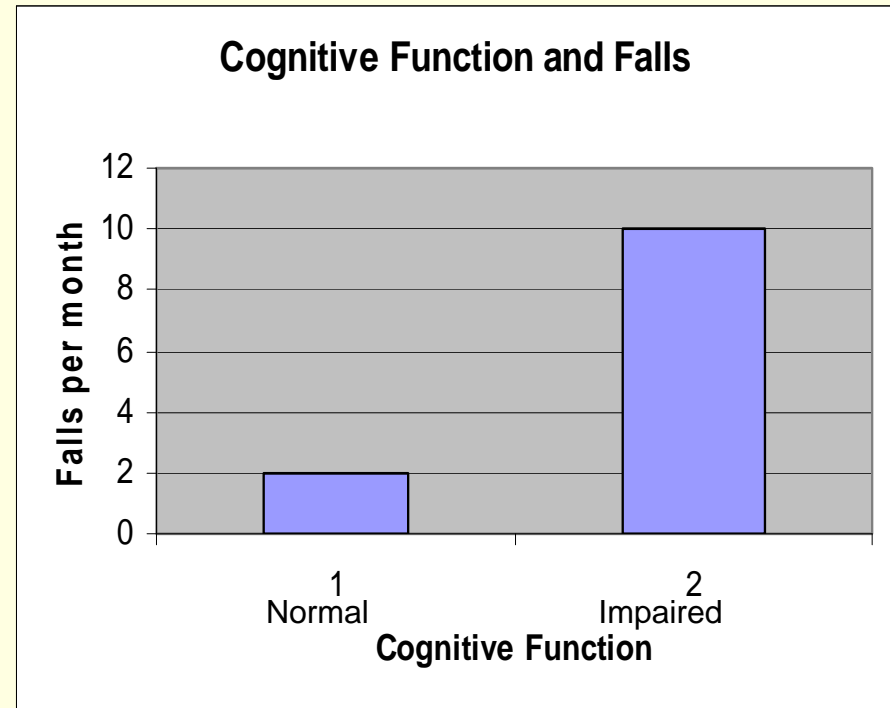
Other Success Stories

- Winston Park
 - Increased mobility and enhanced dining experience with restorative walking, aquafit and dining programs
- Tansley Woods
 - Recovery from hip fracture enhanced with FAP program

Research: Falls Assessment

- Analysis of falls
- Linking falls to cognitive and motor functioning
- Cognitive function on 3MS

- Jensen et al (2003) J. Am Geriatr Soc, 51, 627-635



Research: Current Targeted Projects

- Dr. Denise Connelly
 - University of Western Ontario
- Dr. Lori Vallis
 - University of Guelph
- Dr. Genevieve Desmarais
 - University of Waterloo
- Dr. Richard Hughson
 - University of Waterloo
- Dr. Norman Park
 - York University
- Dr. Pascal Poupart
 - University of Waterloo
- Exercise and functional independence
- Falls and mobility
- Apraxia and function in daily living
- CV Function and cognitive and motor abilities
- Activities of daily living
- Developing an intelligent walker

Education: Volunteer Training

- DARE Program
 - Didactic Component
 - What is aging?
 - Age-related changes in cognitive and motor function
 - Mobility and range of motion interventions
 - Practicum Component
 - Supervised experience working with residents

- Family Partners in Care

Education: In-Service Education

- Educate about disorders
- New developments in treatment/management

Education:

UW Courses in Neurobehavioural Assessment

Option in Kinesiology

■ Kinesiology 457

- Fundamentals of neurobehavioural assessment
- FAP Battery
- Assessment of residents

■ Kinesiology 493

- Practicum in cognitive and motor assessment
- Work with residents on assessment and treatment
- Supervised by on-site Kinesiologists

Challenges for FAP: Measuring Change

- Efficacy
 - Treatment works in controlled environment
- Effectiveness
 - Treatment works in real-world context
- Accountability to funders
 - Delisting of OHIP-funded services
- Standards of Practice for Kinesiologists
 - Quality assurance
 - Ethical Principles

Camp, C. (2001) Neuropsychological Rehabilitation, 11, 495-517

Challenges for FAP: Measuring Change

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FELLOWS COLUMN

Outcomes research: You do have the time!

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doi:10.1111/j.1745-7599.2006.00172.x

Challenges for FAP

- Linking Research to Clinical Practice
 - Effective interventions are diffused into care giving system for implementation on a large scale

Linking Research to Practice

Camp, C. (2001) *Neuropsychological Rehabilitation*, 11, 495-517

TABLE 1

Means (and standard deviations) of observed time spent (in seconds) exhibiting Constructive Engagement (CE), Passive Engagement (PE), Total Engagement (TE), and Non-engagement (NE) by activity type by site

<i>Measure</i>	<i>Activity Type</i>	<i>Site</i>		
		<i>ADC</i>	<i>SCU</i>	<i>LTC-A</i>
CE	Memory Bingo	198 ¹ (137)	342 (113)	261 (58)
	Regular Programme	72 (74)	82 (37)	32 (24)
PE	Memory Bingo	402 (136)	258 (113)	316 (61)
	Regular Programme	368 (115)	276 (138)	88 (74)
TE	Memory Bingo	600 (0.2)	600 (0)	578 (25)
	Regular Programme	440 (139)	358 (175)	120 (94)
NE	Memory Bingo	N/A	0 (0)	12 (27)
	Regular Programme	N/A	74 (74)	148 (63)

¹ 600 total seconds were possible (10-minute observations).

ADC, adult day care; SCU, special care unit for dementia residents; LTC-A, long-term care unit for advanced dementia.

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