Beyond Accessibility

Clinical Decision-Making for Housing Accommodations in Acquired Brain Injury

Alicia Kralt, OT Reg. (Ont.) FunctionAbility

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- Adaptiv Home Renovation Course; Canadian Home Builders Association
- Senior Home Safety Specialist Training; AgeSafe Canada
- Universal Design and Home Modifications; University of Buffalo
- Executive Certificate in Home Modifications; University of Southern California

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LEARNING OBJECTIVES

- **Identify cognitive, behavioural, and functional factors** that influence housing accommodation needs for individuals with acquired brain injury.
- **Describe common environmental and structural housing modifications** that support independence, safety, and participation in community living.
- **Recognize potential risks and unintended consequences** associated with housing accommodations when ABI-related impairments are not fully considered.
- **Apply a practical clinical decision-making framework** to guide collaborative housing accommodation planning for individuals with ABI.

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Quick Question?

How many of you have been involved in an accessibility renovation of some sort?

How many of these projects experienced some "bumps" along the road? Or did not go exactly as planned?

4

The modification itself is inaccessible

The individual cannot use it reliably

The modification changes risk

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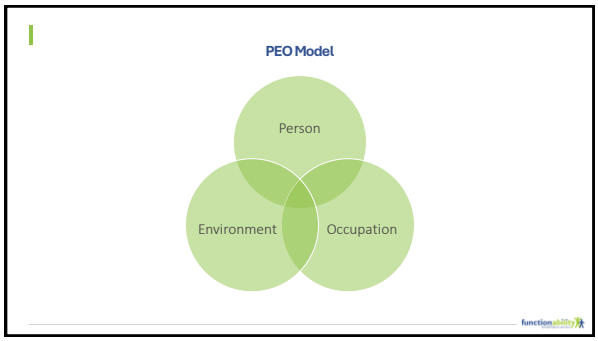
Is the modification physically accessible?

Important – but incomplete if we stop here…

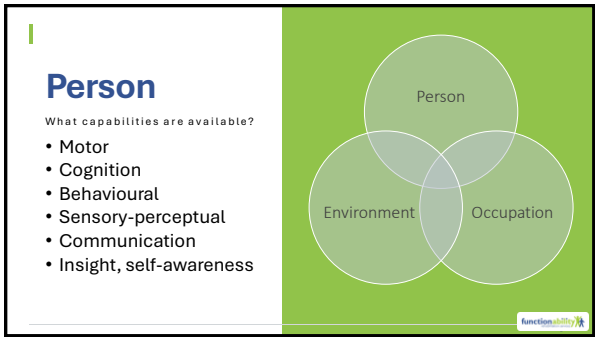
Can the individual use the environment safely, reliably, and consistently for the task?

Will this modification still be effective when fatigue, stress, caregiver availability, behaviour, finances or the environment changes?

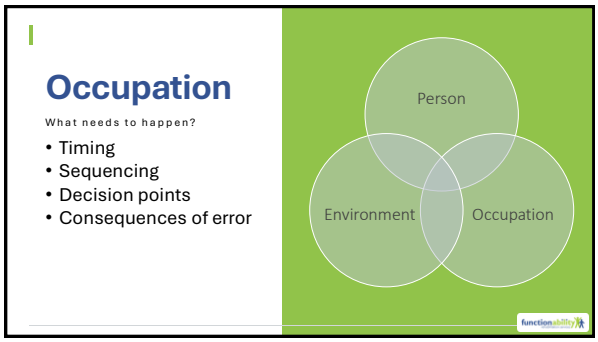
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PEO Model
Person
Environment
Occupation

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Person
What capabilities are available?
• Motor
• Cognition
• Behavioural
• Sensory-perceptual
• Communication
• Insight, self-awareness
Person
Environment
Occupation

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Occupation
What needs to happen?
• Timing
• Sequencing
• Decision points
• Consequences of error
Person
Environment
Occupation

9

Environment

- Layout
- Cues
- Noise/lighting
- Entrances/Exits
- Fixtures
- Furniture



10

Where is the mis-match?



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Cognition

An often overlooked factor

12

Executive Function

An individual needs to....

- Notice the feature
- Decide to use it
- Remember the sequence
- Adapt when conditions change/ recognize a mistake

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Insight & Awareness

Will the individual...

- Recognize risk?
- Accept assistance?
- Use when alone?
- Adapt when the routine breaks down?

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A client with an acquired brain injury uses a wheelchair and requires an accessible bathroom to increase the client's independence and safety with showering. The client has some visual/perceptual difficulties.

The OT consults with the client, the family, and the healthcare team. They all work together with a contractor to design a new bathroom.



The new bathroom included:

- Barrier free shower
- Handheld shower head
- Grab bars
- Comfort height toilet
- Non slip flooring

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During a follow up home visit, the OT learned that he:



- The client's commode cannot fit over the comfort height toilet
- The grab bars, shower controls have little visual contrast from the tile.
- The client is frustrated that he still can't use his bathroom independently

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- The renovation addressed the **physical access in the bathroom space**
- **What was missed?**
- **Communication**
  → Ensuring the contractor was aware of the importance of toilet height
- **Vision**
  → Consideration of the client's visual perceptual difficulties when choosing fixtures and tile

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Behaviour Matters

Designing for what actually happens

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Behavioural Considerations

IMPULSIVITY:
Clients may act before considering safety or consequences.

PERSEVERATION:
Clients may repeatedly attempt the same unsafe action.

AGITATION / IRRITABILITY:
Environmental changes may increase frustration or distress in the client.

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Case Example

A 47-year-old man with ABI lives with his spouse. He has impulsivity, reduced insight, and episodes of disinhibition.

He frequently leaves the home unexpectedly, particularly in the evening.

The family requests a keypad lock and door alarm to prevent him from leaving without their knowledge.

What else do you need to consider before recommending the keypad lock?



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HOME MODIFICATIONS TEAM

HOMEOWNER
CLIENT
FAMILY
CAREGIVER

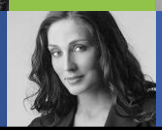


CONTRACTOR
ARCHITECT
DESIGNER





OCCUPATIONAL
THERAPIST



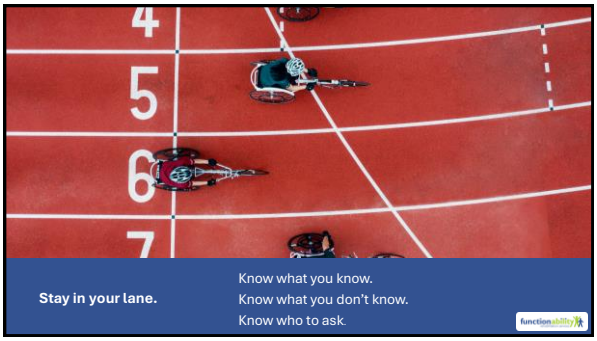
EQUIPMENT
VENDOR

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HOME MODIFICATIONS TEAM

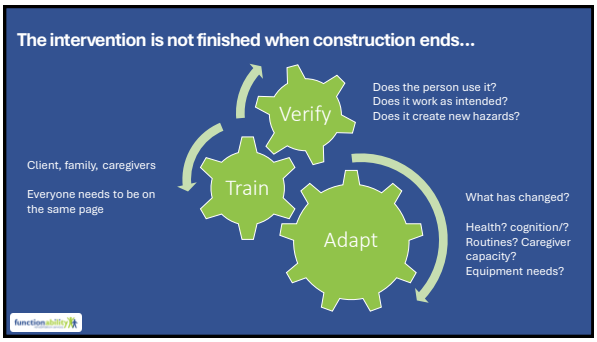


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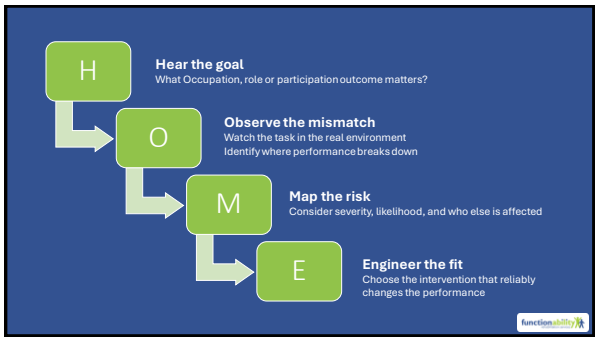


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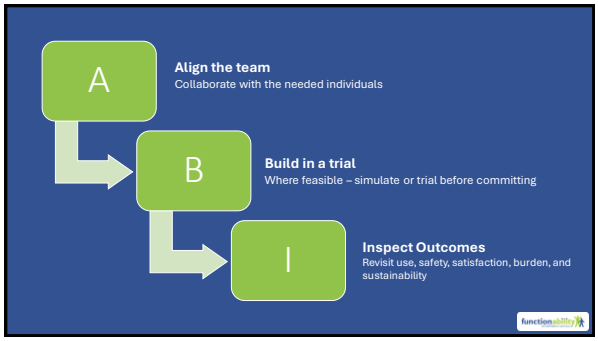
The intervention is not finished when construction ends...



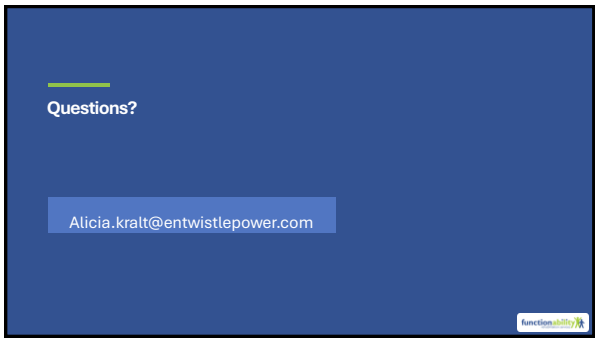
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H
Hear the goal
What Occupation, role or participation outcome matters?
O
Observe the mismatch
Watch the task in the real environment
Identify where performance breaks down
M
Map the risk
Consider severity, likelihood, and who else is affected
E
Engineer the fit
Choose the intervention that reliably changes the performance

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A
Align the team
Collaborate with the needed individuals
B
Build in a trial
Where feasible – simulate or trial before committing
I
Inspect Outcomes
Revisit use, safety, satisfaction, burden, and sustainability

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Questions?
Alicia.kralt@entwistlepower.com

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