

Identifying Rehabilitation Needs in Mild Head Injury: When and How

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Clinical Research Consortium
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What is a MILD Head Injury (mHI)?

- Injury from a variety of etiologies
- Affects clients in ways which medical models of care and rehabilitation are not traditionally prepared to address.
- Can lead to problems in daily function which are not identified by current objective measures.


* Because of this difficulty with *identifying* the deficits caused by mHI, development of effective *treatment* models and interventions has not been a priority of rehabilitation professionals

- “hidden injury” = out of sight, out of mind

Mild Head Injury versus Moderate Head Injury

	Mild Head Injury	Moderate Head Injury
Physical Presentation	Often none	Motor/Verbal deficits may be obvious
Awareness of Functional Deficits	Almost Always	Less Common
Type of Cognitive Deficits	Higher Level Cognitive Functions	More Fundamental Cognitive Skills
ADLs/IADLs	Generally Intact	Generally Impaired
Role Expectations	Previous Roles	Different Roles
Traditional Rehabilitation Practice Area	No	Yes
Valid and Reliable Measurement Tools	No	Yes

Rehabilitating Mild Head Injury: When?

Stage Model of Cognitive Rehabilitation Across Time & Injury Severity				
	Acute (<24 hours)	Post-Acute (24-72 hours)	Sub-Acute (72 hours-one month)	Chronic (>one month)
Mild Head Injury			 Potentially Indicated (deficits present during reengagement in occupational roles?)	Indicated if deficits present
Moderate Head Injury		Potentially Indicated (Begin ADL retraining)	Indicated	Usually Indicated
Severe Head Injury		Potentially Indicated (Begin ADL retraining)	Indicated	Indicated

mHI Injury: Sub-Acute Costs

- After mHI, many clients will return to all occupational roles rapidly, within days.
- Deficits may not be immediately apparent, but performance may immediately decline
 - Costs?
 - Is “damage control” feasible for mild Head Injury?

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Mild Head Injury Rehab: Chronic

- Most likely phase to have a client present to you
 - Usually they have “Run the Gauntlet” of the traditional medical model of care
- So now they’re in **your** clinic...what can you do?

mHI Rehab “How”: Identify the Functional Deficits

- How is this done?
 - Conduct a functional interview
 - Allows a client to share *subjective impressions of his or her ability to effectively engage* in occupational roles
 - Key component of any rehabilitation plan for mHI

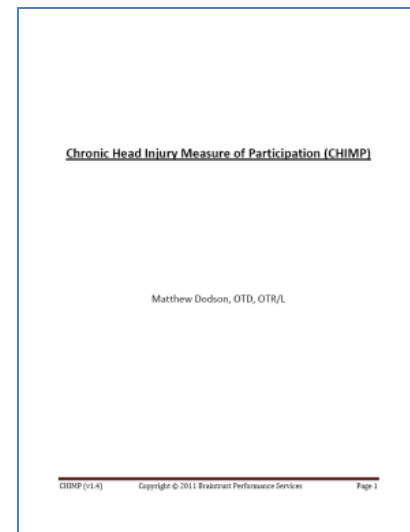
...identification continued

- The functional interview should be coupled with other measures which address specific areas of deficit which may arise:
 - Sleep/Headache/Vision
 - Cognitive component testing
 - Performance-based assessment of functional cognitive capacity:
 - Work simulations
 - Task analysis of other inherently motivating activities

Example of Functional Interview

Introducing the CHIMP: Chronic Head Injury Measure of Participation

For a thorough introduction and orientation to the CHIMP, please refer to the Chronic Head Injury Measure of Participation Manual, included in the materials for this presentation.



the CHIMP: Primary Objectives

- Primary Objectives:
 - 1) Increase the clinical knowledge-base about the functional deficits seen in chronic mHI
 - 2) Provide a tool that enables client-centered treatment planning for the chronic mHI population

the CHIMP: Secondary Objective

- Secondary Objective:
 - Establish an objective pre-post measure to identify functional deficits in mHI, and in doing so:
 - Validate functional deficits alongside component deficits in traditional studies
 - Increase the appreciation for the ‘occupational cost’ of chronic mHI in other areas of health care, science, and reimbursement

the CHIMP: Overview

- 58 questions addressing participation constructs in 14 general categories of daily occupational performance

Participation Categories in the CHIMP	
Interpersonal Interactions	Cooking Safety/Performance
Meeting Job Demands	Driving Safety/Performance
Thinking Skills	Environmental Tolerance
Decision Making	Relationship Participation
Reading/Retaining Information	Parenting Effectiveness
General Occupational Engagement	Emotional Regulation
Engaging in Recreation/Entertainment	Client-generated Responses

Constructs are addressed via questions at 3 different occupational performance levels: **Task**, Activity, and Occupational Role

- **Task-level questions:**
 - An individual set of requirements which support an activity
 - Many “tasks” make up an “activity”
 - Examples include:
 - Setting up (not following) a daily schedule
 - Remembering to take everything you need with you when you leave the house/workplace
 - Managing road rage while driving

Constructs are addressed via questions at 3 different occupational performance levels: Task, **Activity**, and Occupational Role

- **Activity**-level questions:
 - Complex performance pattern made up of many tasks
 - Must be accomplished to produce a functional outcome
 - Examples include:
 - Interacting appropriately with supervisors at work
 - Engaging in recreational activities with others
 - Being effective at disciplining your children

Constructs are addressed via questions at 3 different occupational performance levels: Task, Activity, and

Occupational Role

- **Occupational Role-level questions:**
 - A set of behaviors and capacities that must be intact to accomplish roles which society expects of an individual
 - Made up of competent performance of tasks and activities
 - Examples include:
 - Being a “good employee”
 - Being a “good spouse”
 - Being a “good parent”

CHIMP Administration: Step 1

- Step 1:
 - Record the client's responses to Sleep, Headache, and Vision narrative questions

Chronic Head Injury Measure of Participation - Civilian CHIMP-C (v1.4)

Name:
Date:
Time:

"DO YOU HAVE ANY PROBLEMS WITH YOUR SLEEP? Y N" if yes, describe...

*if necessary, administer Sleep Questionnaire

"DO YOU HAVE ANY PROBLEMS WITH HEADACHES? Y N" if yes, describe...

*if necessary, administer Headache Questionnaire

"DO YOU HAVE ANY PROBLEMS WITH YOUR VISION? Y N" if yes, describe...

*if necessary, administer Vision Questionnaire

CHIMP-C (v1.4) Copyright © 2011 Braintrust Performance Services 1

CHIMP Administration: Step 2

- Step 2:
 - Provide the Importance, Performance, and Satisfaction rating scales for the client to refer to in answering the next 58 questions
 - attached as Page 6 in the CHIMP-C (v1.4) tool

Importance, Performance, and Satisfaction scales

IMPORTANCE									
1	2	3	4	5	6	7	8	9	10
Not important at All							Extremely important		
PERFORMANCE									
1	2	3	4	5	6	7	8	9	10
Extremely Poor/Cannot Do							Do Extremely Well		
SATISFACTION									
1	2	3	4	5	6	7	8	9	10
Not Satisfied at All							Extremely Satisfied		
CHIMP-C (v1.4) Copyright © 2011 Braintrust Performance Services 6									

CHIMP Administration: Step 3

- Ask the client the construct question, and record his or her Importance, Performance, and Satisfaction ratings
 - Space is also provided to record additional information about the client's response

T r i e s t	Construct ("What's the importance of...")	I m p o r t a n c e	P e r f o r m a n c e	S a t i s f a c t i o n	<i>Space for additional response information</i>
	...interacting appropriately with supervisors at work	10	5	3	hard to take feedback, cannot tolerate being interrupted during tasks



Record client ratings here

CHIMP Administration: Step 4

- Once the 58 questions have been answered, review the responses and identify up to ten questions in which:
 - The client ranked the importance high...
...but his or her performance and satisfaction low

*...reading and retaining information related to work (emails/paperwork/manuals)	10	4	2	Has to re-read manuals x3, can't recall information in longer emails...
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Should you triage this construct?

...and then “triage” these ~10 questions and their rankings to the “Construct to be Triageed” table
-page 5 in the CHIMP-C (v1.4)

Triage Ranking (Assigned in reverse order by SM)	Construct to be Triaged	Importance	Performance	Satisfaction
3	...interacting appropriately with supervisors at work	10	7	5
4	...doing more than one thing at a time (multitasking)	9	3	2
2	...remembering to take everything when you leave the house	10	3	1
5	...reading and retaining information pertaining to work	7	5	4
7	...engaging in recreational activities by yourself	7	5	5
6	...cooking in a safe manner (not leaving stove on)	8	5	1
1	..."being a good spouse"	10	3	1

Sum of construct scores			
Total number of constructs			
AVERAGE I, P, & R Ratings (Sum/Total)			

Optional overall I, P, and S score profile



Step 5: Reverse Prioritization

the CHIMP: Moving Forward

- **Strengths:**
 - High face validity with clients
 - High content validity with providers
 - Excellent psychometrics of scoring rubric, as demonstrated by the COPM
 - High clinical utility of “reverse prioritization” process
 - Uniquely targeted to an underserved and voluminous population
 - Both Civilian (CHIMP-C) and Military (CHIMP-M) versions
 - Flexibility!
 - Can be utilized as an interview guide, without utilization of Importance, Satisfaction, and Performance scores

the CHIMP: Moving Forward

- Opportunities for Improvement:
 - Has been used only in non-standardized clinical applications up to present
 - Research establishing objective reliability and validity data yet to be performed
 - Further clinical development of CHIMP-C v1.4 needed
 - As a member of the CRC, please feel free to utilize this tool and offer input & insights from your clinical experiences

“Accessing the upper reaches of executive function in cognitive rehabilitation”

Topics covered include:

- Orientation to cognitive constructs such as mental flexibility and deductive logic, and how mHI can effect these mental operations
- Specific clinical tools utilized to engage clients with deficits in these extremely high level cognitive functions

*Didactic Presentation to include hands-on experience in “what it feels like to think” in these complex ways!

Contact Information

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