

# Neuropsychological Rehabilitation: Applying science to clinical practice

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## Objective

Neuropsychology in the US is focused almost exclusively on assessment, while neuropsychological rehabilitation (NPR) is almost non-existent. Elsewhere, models of holistic NPR establish core principles that guide clinical practice and lead to rehabilitation that is evidence-based and interdisciplinary. Best practice in NPR involves applying scientific knowledge to clinical practice, extending the findings from basic and applied science to improving health care for people with brain injuries and illnesses. The objective of this poster is to present an evidence-based model of NPR illustrated through a single case study.

## Methods

The participant is a 48-year-old male survivor of a severe traumatic brain injury referred 18 months post-injury for assessment of his potential to return to work. Both interview and neuropsychological testing revealed significant cognitive impairment that led to grave concerns about his ability to safely return to his job in a restaurant kitchen. Instead of allowing this conclusion to end the story, we used a model of interdisciplinary NPR involving formulation, psycho-education, metacognitive strategy training, behavioral experiments, and focus on recovering his confidence and sense of identity. The occupational therapist supported the participant to prepare increasingly complex food items in the OT kitchen under increasingly noisy and distracting conditions while using strategies and receiving feedback. The neuropsychologist supported the participant to re-engage in activities that formed aspects of his identity (music, golf, being a good friend) through controlled engagement via behavioral experiments and strategy use.

## Results

Within four months of starting rehabilitation, the participant was able to successfully return to his restaurant under supervision and in a graduated fashion, initially as a volunteer. Ratings of his cooking safety and quality dramatically improved.

## Conclusions

Models of NPR in other countries can be successfully applied to the US health care context. These models are based on established core components of NPR and identify processes and

principles that lead to effective evidence-based practice. Neuropsychology in the US should be expanded to include NPR in training programs and in clinical practice so that we can actually help our patients improve their lives rather than be limited to identifying their problems. The UHNI is pioneering such a program in Cleveland.