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“This manual has moved the post-acute brain injury industry significantly forward by providing clear guidelines for delivering ‘best practice’ cognitive rehabilitation.”

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PATE REHABILITATION, DALLAS, TX (USA)

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MICHAEL FRAAS, PhD
OAK PARK, IL (USA)

“The manual is well aimed at ACBIS qualified staff and clinical psychologists and occupational therapists. It covers many of the well-researched and presented single or small-n case studies and the larger group outcome studies up to the present. It is certainly evidence-based in my view and it succeeds in translating the disparate evidence base in the clinical literature to workable recommendations for staff on the ground.”

DR BRIAN WALDRON
ACQUIRED BRAIN INJURY, DUBLIN (IRL)

“Dr. Haskins and his team provided a very in-depth and precise perspective to cognitive remediation therapy and the goals and objectives needed to meet these needs.”

JEFFREY A. FALLERONI, MSCCC/SLP
REMED, PITTSBURGH, PA (USA)

“Cognitive rehabilitation is a dynamic practice between the clinician and the client, not fitting into a typical treatment protocol. This manual provides the kind of support that clinicians need to develop effective and evidence-based treatment plans.”

JESSICA PETERSEN, OTR/L
MAYO CLINIC, ROCHESTER, MN (USA)

“The Cognitive Rehabilitation Manual is a landmark volume translating decades of research into clearly described procedures indispensable for working clinicians. This manual is an invaluable guide to the evidence-based practice of cognitive rehabilitation for clinicians with or without strong research backgrounds.”

JAMES F. MALEC, PhD, ABPP-CN, RP, FACRM
REHABILITATION HOSPITAL OF INDIANA, INDIANAPOLIS, IN (USA)

“Thoughtfully organized, practical, and invaluable — this manual provides step-by-step techniques for delivering cognitive therapies. This promises to be an essential guide to the delivery of cognitive rehabilitation services for persons with brain injury.”

RONALD T. SEEL, PhD
SHEPHERD CENTER, ATLANTA, GA (USA)
The Cognitive Rehabilitation Manual; Translating Evidence-Based Recommendations into Practice is a guide for clinicians who want to effectively deliver evidence-based rehabilitation interventions in everyday clinical practice. The Brain Injury Interdisciplinary Special Interest Group (BI-ISIG) of the American Congress of Rehabilitation Medicine (ACRM) is committed to fostering the use of empirically supported interventions to improve the lives of individuals with brain injury. A series of reviews, which are published in the Archives of Physical Medicine and Rehabilitation (Cicerone et al., 2000; 2005; 2011) have reviewed the scientific literature and put forth standards and guidelines for clinical practice based on the quality of evidence available for each intervention. The Cognitive Rehabilitation Manual operationalizes or “translates” these guidelines into step-by-step procedures that can be used by clinicians who treat individuals with brain injury.

The volume is organized into six chapters. The introductory chapter compiles the clinical wisdom of the authors into a practical roadmap for structuring and implementing cognitive rehabilitation interventions. Treatment considerations and patient factors that may influence the course of treatment are discussed, and a guide to goal-setting that is applied throughout the manual is introduced. Subsequent chapters present practical guides for the implementation of evidence-based interventions for impairments in each of the following areas: Executive Functions, Memory, Attention, Hemispatial Neglect, and Social Communication. The content of each chapter draws from empirically-supported rehabilitation interventions included in the Cicerone et al. reviews (2000; 2005; 2011) and the collective clinical experience of the authors of the Cognitive Rehabilitation Manual.

Wherever possible, step-by-step guidelines for implementing each intervention and setting relevant individual goals are provided, along with clinical recommendations for tailoring and modifying the intervention according to patients’ needs. In cases where in-depth treatment manuals exist, full references and links to these materials are provided. Additional appendices include rubrics for goal-setting in each of these domains of functioning, and handouts or worksheets that can be used to record and evaluate progress.

The Manual is ideally suited for clinicians who have had some formal training in cognitive rehabilitation and who have experience working with individuals with brain injury (e.g., traumatic brain injury, stroke). The interventions described can be readily used by occupational therapists, speech and language therapists, psychologists, and other rehabilitation professionals.

The Cognitive Rehabilitation Manual; Translating Evidence-Based Recommendations into Practice is a significant contribution to the field of brain injury rehabilitation. Never before have research outcomes been made so accessible for use in everyday clinical work. This important volume will raise the bar in cognitive rehabilitation by aiding clinicians in delivering high-quality, empirically-supported interventions to improve the lives of the patients we serve.

KRISTEN DAMS-O’CONNOR, PhD
MOUNT SINAI SCHOOL OF MEDICINE, NEW YORK, NY (USA)
Acknowledgements

The ACRM BI-ISIG Cognitive Rehabilitation Task Force Manual Committee acknowledges the following individuals for their review and comment on this manual:

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Preface

This manual was developed by a sub-group of the Cognitive Rehabilitation Task Force of the Brain Injury Interdisciplinary Special Interest Group (BI-ISIG) of the American Congress of Rehabilitation Medicine (ACRM). It is modeled on a manual that was developed by Edmund Haskins, Ph.D., at Hook Rehabilitation Center in the Community Health Network in Indianapolis, Indiana. The current manual reflects the evidence-based treatment recommendations put forth by the BI-ISIG Cognitive Rehabilitation Task Force of ACRM and the clinical experience and expertise of the authors as discussed in the Introduction (see Section 1.1).
Dedication

Cognitive rehabilitation is by some standards a relatively new field. Anyone who has worked with a person with brain injury and their family is aware of the importance of cognitive recovery to them. While the humanitarian recognition of the need to promote recovery of cognitive functions following brain injury is not new, the scientific basis for cognitive rehabilitation is.

Nonetheless, while the history of science in cognitive rehabilitation may be recent, the number and sophistication of empirical studies have accelerated remarkably over the last 30 years such that we now have the scientific evidence to guide clinical practice. Without the contributions of Leonard Diller, PhD and Keith Cicerone, PhD, we would not be at this historical intersection.

Lance E. Trexler, PhD
Donna Langenbahn, PhD
J. Preston Harley, PhD
July 19, 2011

Leonard Diller, PhD having started at the [Rusk] Institute of Rehabilitation Medicine at NYU Medical Center in 1952, is now approaching his 60th year in rehabilitation. He assumed a leadership role at Rusk as the new field of medical rehabilitation sought to assess and meet the clinical and functional needs of individuals with disability, to train clinicians and researchers, and to gain a foothold in cultural and political arenas. In this context, Dr. Diller built a psychology program where clinical observation, beginning with the patient, fueled intervention protocols and research, and the research, in turn, sought to validate obtained results. His approach to the problem of brain injury treatment and research was direct and elegant, backed by scientific logic: develop a standard task sensitive to the problem, elucidate behavior by examining task response style, determine task conditions that increase or decrease the problem, and develop a methodology to increase awareness and enable the individual to overcome the problem while performing a skilled activity. In sum, he taught us that neuropsychological knowledge and process could help us design and guide rehabilitation procedures. This methodology formed the basis for an astoundingly prolific research output, much of it seminal research in the area of acquired brain injury, and caused him to be regarded as “the founder of scientifically-based cognitive rehabilitation.”

Innumerable individuals with brain injury, family members, clinicians, and researchers have benefited from Dr. Diller’s gifts, and those who know him are awed by his enduring encyclopedic knowledge, kindness, and humility.

Innumerable individuals with brain injury, family members, clinicians, and researchers have benefited from Dr. Diller’s gifts, and those who know him are awed by his enduring encyclopedic knowledge, kindness, and humility.

Keith Cicerone, PhD has been a clinician and researcher for over 30 years, and as such, has improved the quality of life for thousands of patients who have suffered brain injuries. It is clearly evident from his numerous publications and research that Dr. Cicerone had the wisdom to listen and learn from his patients. His concern for the well-being of individuals with brain injury has not been limited to clinical care. At the same time, he committed himself to improving the science behind his clinical practice. He has made significant contributions to the development of national policies recognizing cognitive rehabilitation as an effective treatment for individuals with brain injuries. In addition to conducting his own research, Dr. Cicerone led the American Congress of Rehabilitation Medicine, Brain Injury-Interdisciplinary Special Interest Group’s evidence-based reviews, which were published in the *Archives of Physical Medicine and Rehabilitation* in 2000, 2005 and 2011. The present work is primarily based upon the findings and recommendations of these three publications. His leadership and commitment in the establishment of guidelines for cognitive rehabilitation have made it now possible to offer clinical practitioners of cognitive rehabilitation treatment strategies that are based upon scientific, empirical evidence.
# Table of Contents

Acknowledgements .......................................................... VII
Preface ................................................................. VII
Dedication ............................................................. VIII

## CHAPTER 1
Introduction: Principles of Cognitive Rehabilitation

1.1 Functions and Structure of this Manual ........................................ 1
1.2 Limitations of this Manual .................................................... 2
1.3 How to Use This Manual ........................................................ 2
1.4 Primary Goals of Cognitive Rehabilitation .................................... 3
1.5 Process and Flow of Therapy .................................................... 3
  1.5.a Overall Stages of Treatment ............................................. 3
     ACQUISITION STAGE ...................................................... 5
     APPLICATION STAGE ........................................................ 5
     ADAPTATION STAGE ............................................................ 5
1.6 External Versus Internal Strategies ............................................ 6
1.7 A Guide to Treatment Planning and (Tactical) Goal Writing .............. 7
  1.7.a Moving from Strategies to Tactics ....................................... 7
  1.7.b Long-Term (strategic) and Short-Term (tactical) Goals ............... 8
  1.7.c Anatomy of a Short-Term Goal .......................................... 8
  1.7.d Sample Template for Goal Setting ..................................... 10
     BI-ISIG COMMITTEE RECOMMENDATIONS ........................ 10
1.8 Treatment Considerations When Designing Training Procedures ........ 11
  1.8.a Task-Specific versus Strategic Approaches to Treatment .......... 11
  1.8.b External versus Internal Strategies .................................... 11
1.9 Neurobehavioral and Psychosocial Factors that Influence Treatment
     Process and Outcome .................................................... 13
  1.9.a Patient Variables .......................................................... 13
     IMPAIRMENTS OF AWARENESS ........................................... 13
     SEVERITY AND RANGE OF IMPAIRMENT ................................ 15
     EMOTIONAL REACTIONS AND PREMORBID PSYCHIATRIC ISSUES ... 15
  1.9.b Family Factors ............................................................. 15
1.10 Monitoring Progress in Cognitive Rehabilitation .......................... 16
CHAPTER 2
Rehabilitation For Impairments of Executive Functions

2.1 Introduction ................................................................. 19
2.2 Impairments of Executive Functions and Brain Dysfunction .................. 19
2.3 BI-ISIG Recommendations for Impairments of Executive Functions .......... 20
2.4 A General Framework for Rehabilitation of Impairments of Executive Functions ................................................................. 20
2.5 Metacognitive Strategy Training for Impairments of Executive Functions ........ 23
  2.5.a Metacognitive Strategy Training for Impairments in the Treatment of Executive Functioning Deficits ........................................ 25
     SELF-TALK PROCEDURES ........................................... 25
2.6 Formal Problem-Solving Strategies ............................................. 26
  2.6.a Stages in the Training of Formal Problem-Solving Procedures ............... 29
     ACQUISITION ................................................................. 29
     APPLICATION ................................................................. 29
     ADAPTATION ................................................................. 29
  2.6.b Applying the Strategy to Specific Tasks ........................................ 29
  2.6.c General Treatment Considerations with Formal Problem-Solving .......... 32
2.7 Metacognitive Strategy Training for Behavioral and Emotional Dysregulation ......................... 32
  2.7.a Treating Deficits in Awareness ........................................... 32
  2.7.b Predict-Perform Procedure ............................................... 34
  2.7.c Summary of Awareness Interventions Matched with Causes of Unawareness ................................................................. 35
  2.7.d Clarifying the Nature of the Problem .................................... 36
  2.7.e Planning a Solution ................................................... 37
  2.7.f Executing, Monitoring, and Adapting ..................................... 38
2.8 Complex Evidence-Based Programs for the Rehabilitation of Impairments of Executive Functions ................................................................. 39
  2.8.a Problem-Solving Group Protocol: Rusk Institute ................................ 39
     PROBLEM-SOLVING GROUP PROTOCOL: WORKSHEETS ............... 40
  2.8.b Anger Management Therapy Programme: Royal Rehabilitation Centre .... 41
2.9 Strategic and Tactical Goal Writing in the Rehabilitation of Impairment of Executive Functions ........ 41
CHAPTER 3
Rehabilitation for Impairments of Memory

3.1 Introduction ......................................................... 43
3.2 Impairments of Memory Deficits and Brain Injury ...................... 43
3.3 BI-ISIG Recommendations for Memory Dysfunction .................. 44
3.4 A General Framework for Rehabilitation of Impairments of Memory ........................................ 44
3.5 External Memory Compensations .................................. 47
   3.5.a General Guidelines for External Memory Compensations ...... 47
   3.5.b Memory Notebook Types ..................................... 47
       ORIENTATION BOOK AND STRATEGIES FOR SEVERE MEMORY IMPAIRMENT . .. 48
       ERRORLESS LEARNING TECHNIQUE ................................ 49
       SPACED RETRIEVAL TECHNIQUE .................................. 50
       CHAINING TECHNIQUE .............................................. 52
       MEMORY NOTEBOOK .............................................. 56
   3.5.c Stages of Training in the Use of Memory Notebook Procedures ... 57
       ACQUISITION STAGE .................................................. 57
       DISCONTINUATION CRITERIA ...................................... 58
       APPLICATION STAGE ............................................... 58
       ADAPTATION STAGE ................................................ 58
       CROSS OUT, NOTATION, AND NEXT ACTIVITY (CNN) ............ 60
       UPDATING AND CLEANING ROUTINE .......................... 60
       SCORING AND DOCUMENTATION ................................ 61
3.6 Memory Strategy Training .......................................... 61
   3.6.a General Guidelines for Memory Strategy Training ............... 61
   3.6.b Types of Memory Strategy Training ................................ 62
       ASSOCIATION TECHNIQUES ...................................... 62
       ORGANIZATIONAL TECHNIQUES ................................... 63
   3.6.c Stages of Strategy Training ....................................... 64
       ASSESSMENT AND SELECTION OF TECHNIQUES ............... 64
       ACQUISITION STAGE ............................................... 65
       APPLICATION STAGE ............................................... 65
       ACTIVITIES FOR APPLICATION STAGE .......................... 66
       ADAPTATION STAGE ................................................. 66
       ACTIVITIES FOR ADAPTATION STAGE .......................... 67
3.7 Complex Evidence-Based Programs for the Rehabilitation of Impairments of Memory .................. 67
   3.7.a Memory Rehabilitation Group .................................... 67
   3.7.b TEACH-M .......................................................... 69
3.8 Strategic and Tactical Goal Writing in Rehabilitation of Impairments of Memory ......................... 70
CHAPTER 4
Rehabilitation for Impairments of Attention

4.1 Introduction ................................................................. 73
4.2 Impairments of Attention after Brain Injury ................. 73
4.3 BI-ISIG Recommendations for the Rehabilitation of Impairments of Attention .............................. 74
4.4 General Framework for the Rehabilitation of Impairments of Attention ........................................... 75
4.5 Attention Process Training (APT) Training ................. 76
  4.5.a APT Generalizing Activities ........................................ 77
4.6 Time Pressure Management ........................................... 79
  4.6.a Stage 1: Identifying the Problem ............................... 80
  4.6.b Stage 2: Teaching the Strategy ................................. 80
  4.6.c Stage 3: Generalization ............................................. 83
4.7 Rehabilitation of Working Memory ............................... 83
  4.7.a LEVEL I. N-Back Procedures ................................. 84
  4.7.b LEVEL II. N-Back with Additional Working Memory Demands ........................................... 85
  4.7.c LEVEL III. N-Back with Continuous Secondary Task ......................................................... 85
  4.7.d Clinical Application .................................................. 86
4.8 Strategic and Tactical Goal Writing in Rehabilitation of Impairments of Attention ............................ 87

CHAPTER 5
Rehabilitation of Hemispatial Neglect

5.1 Introduction ................................................................. 89
5.2 Hemispatial Neglect in Brain Dysfunction ................. 89
5.3 BI-ISIG Recommendations for Hemispatial Neglect ........ 89
5.4 General Framework for the Rehabilitation of Hemispatial Neglect ............................................... 89
5.5 Visual Scanning Training .............................................. 91
  5.5.a Principles of Visual Scanning Training ....................... 91
  5.5.b Assessment of Visual Scanning .................................. 92
  5.5.c Step in Systematic and Orderly Scanning Training .......... 92
  5.5.d Computerized Visual Scanning Training .................... 94
  5.5.e Visual Scanning Training for Reading and Copying Prose ......................................................... 94
  5.5.f Visual Scanning for Describing Pictures .................... 102
5.6 Visual Imagery Training: Lighthouse Strategy .............. 104
  5.6.a Activities for Training in Visual Scanning and the Use of the Lighthouse Strategy ..................... 104
5.7 Limb Activation Strategies ................................................... 105
  5.7.a Spatio-Motor Strategies .................................................. 105
  5.7.b Visuo-Spatio-Motor Strategies ........................................ 105
  5.7.c Activities for Training in the use of Spatio-Motor and
      Visuo-Spatio-Motor Strategies: ........................................ 106
  5.7.d Imagined Limb Activation ............................................ 106

5.8 Strategic and Tactical Goal Writing for the Rehabilitation
      of Hemispatial Neglect .................................................. 107

CHAPTER 6
Rehabilitation of Impairments of Social Communication

6.1 Introduction ................................................................... 110
6.2 Impairments of Social Communication after Brain Injury .......... 110
6.3 BI-ISIG Recommendations for the Rehabilitation of Impairments
      of Social Communication .................................................. 111
6.4 A General Framework for the Rehabilitation of Impairments of
      Social Communication .................................................... 111
6.5 Group Treatment for Social Communication Deficits ................. 112
  6.5.a Structure .................................................................. 112
  6.5.b Group Process ............................................................ 112
  6.5.c Individual Goal Setting ................................................ 113
  6.5.d Feedback ................................................................. 113
  6.5.e Practice and Repetition ................................................ 114
  6.5.f Self-Monitoring .......................................................... 114
  6.5.g Generalization of Skills ................................................ 114
6.6 Treatment of Emotion Perception Deficits .............................. 114
  6.6.a Errorless Learning ...................................................... 115
  6.6.b Self-instruction Training ............................................... 115
6.7 Individual Psychotherapy and the Treatment of Impairments of
      Social Communication .................................................... 115
6.8 Strategic and Tactical Goal Writing in the Rehabilitation of Impairments
      of Social Communication .................................................. 116
6.9 Strategic and Tactical Goal Writing in the Rehabilitation of Impairments
      of Visual Emotion Perception .......................................... 116
6.10 Example Treatment Goal and Strategies for Use with Auditory Emotion
      Perception ................................................................ 117
REFERENCES .............................................................. 119

APPENDIX A
Strategic and Tactical Goal Writing

A.1 Executive Dysfunction ............................................ 124
A.2 Memory Impairment ............................................. 125
A.3 Attention Impairment ........................................... 126
A.4 Visuospatial Strategies ......................................... 127
A.5 Sample Template of Monthly Goals ..................... 128

APPENDIX B
General/Non-Specific Forms

B.1 Acquisition Record ............................................... 129
B.2 Acquisition Record: Multiple Tasks ....................... 130
B.3 Adaptation Record: Multiple Tasks, Alternate Form ... 131

ACRM OVERVIEW .................................................. 132
# List of Tables, Figures and Clinical Forms

## Chapter 1
**Introduction: Principles of Cognitive Rehabilitation**

| Table 1-1 | Treatment Goals and Strategies Associated with Each Stage of Cognitive Rehabilitation | 4 |
| Table 1-2 | Factors that Comprise a Comprehensive Short-term Goal | 9 |
| Figure 1-1 | Decision Tree for Treatment Planning | 12 |

## Chapter 2
**Rehabilitation For Impairments of Executive Functions**

| Figure 2-1 | A Decision Tree for Treatment Planning for Executive Dysfunction | 22 |
| Table 2-1 | General Framework for Rehabilitation of Executive Deficits: Metacognitive Strategy Training | 24 |
| Table 2-2 | General Framework for Rehabilitation of Executive Deficits: Problem-solving | 27 |
| Table 2-3 | Steps in Problem-solving from Ylsvaker and Feeny (1998) | 28 |
| Worksheet Form: | Goal-Plan-Do-Review Model | 30 |
| Worksheet Short-Form: | Goal-Plan-Do-Review Model | 31 |
| Table 2-4 | Identifying and Naming Dysexecutive Disorders | 37 |

## Chapter 3
**Rehabilitation for Impairments of Memory**

| Table 3-1 | Approaches and Techniques in the Rehabilitation of Memory | 45 |
| Figure 3-1 | Decision Tree For Treatment Planning In Memory Dysfunction | 46 |
| Form 3-1 | Autobiographical Orientation Page | 48 |
| Form 3-2 | Errorless Learning Protocol for Orientation | 50 |
| Form 3-3 | Spaced Retrieval Training Protocol | 51 |
| Form 3-4 | Spaced Retrieval Record Form | 52 |
| Form 3-5 | Chaining Worksheet Using Errorless Learning | 54 |
| Form 3-6 | Memory Notebook | 56 |
| Table 3-2 | Memory Group Leaning Modules | 68 |
| Table 3-3 | Components of TEACH-M | 69 |
Chapter 4
Rehabilitation for Impairments of Attention

Table 4-1  Stages, Components and Prerequisites for TPM .............. 81
Table 4-2  Plans and Emergency Plans for TPM ....................... 82

Chapter 5
Rehabilitation of Hemispatial Neglect

Table 5-1  Stimulus Material and Sequence of Cueing for Four Levels of Reading Training in Neglect Dyslexia ..................... 96
Form 5-1  Diller Weinburg Visual Cancellation Test-Single Stimuli .... 97
Form 5-2  Diller Weinburg Visual Cancellation Test-Double Stimuli ..... 98
Form 5-3  Diller-Weinburg Visual Cancellation Training Sheet — Single Stimuli .................................................. 99
Form 5-4  Diller-Weinburg Visual Cancellation Training Sheet — Double Stimuli .................................................. 100
Form 5-5  Sample Stimulus Material for Copying ....................... 103
1. **Introduction: Principles of Cognitive Rehabilitation**

1.1 Functions and Structure of this Manual

This manual was developed to guide clinicians who conduct cognitive rehabilitation for individuals with acquired brain injury. The clinical protocols contained herein reflect the recommendations made by the Cognitive Rehabilitation Task Force of the Brain Injury Interdisciplinary Special Interest Group (BI-ISIG) of the American Congress of Rehabilitation Medicine (ACRM). These researchers have conducted several systematic reviews of the cognitive rehabilitation literature (see Cicerone et al., 2000, 2005, 2011) and have recommended treatment approaches and strategies that have sufficient empirical evidence of efficacy in ameliorating cognitive impairments following brain injury.

The treatment strategies recommended by the BI-ISIG Cognitive Rehabilitation Task Force have been graded based on the strength of empirical evidence to support their use. Specifically, the term “Practice Standard” is used to designate those strategies which have shown “substantive evidence” of effectiveness.” These are offered with the strongest recommendation. The term “Practice Guideline” designates those that have shown “probable effectiveness,” and these are given the next strongest recommendation. The term “Practice Option” designates those treatment strategies believed to have shown “possible effectiveness” but require further research evidence for stronger recommendation (Cicerone, Dahlberg, Malec et al., 2005).

The BI-ISIG recommendations contained herein are based on empirical evidence as well as clinical experience and judgment to create a manual that fosters the application of high-quality, evidence-based interventions. In this manual, we have taken the committee’s recommendations and developed detailed protocols to instruct and guide clinicians in their implementation. Accordingly, the manual includes protocols for the treatment of the following areas: executive functioning, memory, attention and concentration, visual neglect, and social communication. Each protocol draws heavily from one or more studies that formed the basis of the BI-ISIG recommendations. In addition to presenting global strategies, each protocol includes a section describing suggested methods for implementing these strategies and guidelines for setting specific tactical goals.

As previously noted, the techniques, interventions, procedures or training strategies herein presented (except in one instance as noted) were all included in the Cicerone et al., 2000, 2005, 2011 reviews and the interventions in the systematic reviews were based on treatment for people with traumatic brain injury or stroke. While driven by research as cited, the Introduction reflects the professional consensus of the authors and editors. We also present in the Introduction stages of treatment (Acquisition, Application, and Adaptation) which were clearly used in the research of Sohlberg and Mateer (1987a), but these stages of training were not explicitly utilized in the treatment methodologies of other studies. These stages of treatment are included as useful guides to clinical application. Lastly, the Manual provides suggested methods for goal setting at the end of each chapter and in Appendix A. While the authors and editors felt that these were very useful clinically to practicing therapists, they were not part of the treatment methodologies of the studies in the Cicerone et al., 2000, 2005, or 2011 reviews.

The evidence for rehabilitation of disorders of executive functions, memory and attention includes specific protocols as well as more “complex” programs of treatment characterized by multiple steps, sequences, and highly organized protocols. The chapters on Executive Functions and Memory have a section on “Complex Evidence-Based Programs” and group treatment protocols are included in these sections as well. Throughout the current volume, when a proprietary treatment manual is available from