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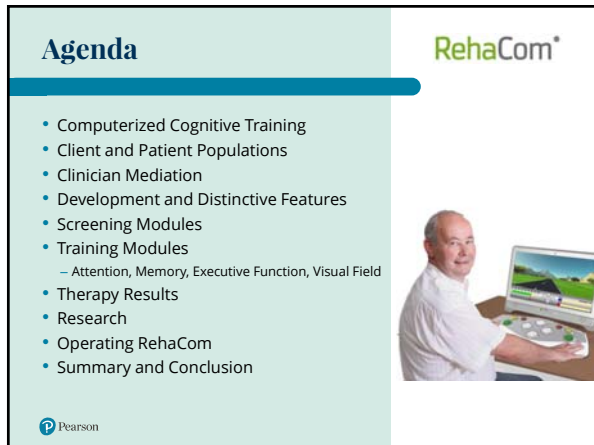
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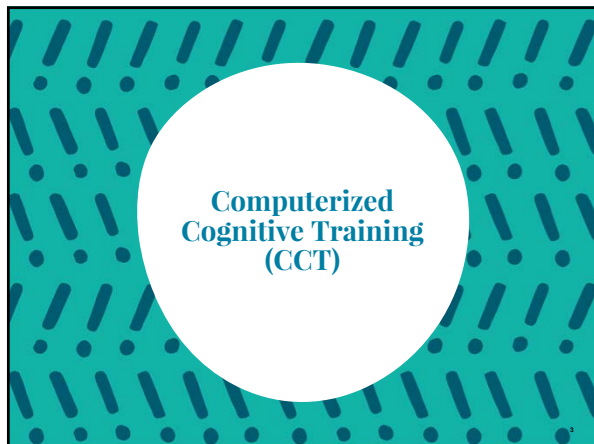
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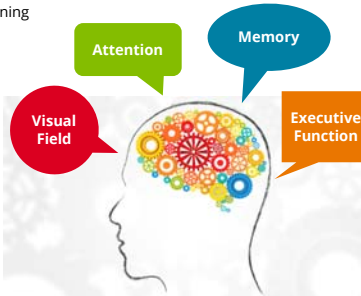
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## Computerized Cognitive Training (CCT) RehaCom®

- Four (4) key areas of training
  - ✓ Visual Field
  - ✓ Attention
  - ✓ Memory
  - ✓ Executive Function
- 20+ configurable training modules
- Continuously auto-adaptive to the training level of the patient
- Includes low training levels for those with severe cognitive deficits



Pearson 14

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## Client and Patient Populations




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## Client and Patient Populations RehaCom®

**Who is RehaCom used with?**

- Patients with cognitive deficits resulting from:**
  - degenerative neurological disorders
  - TBI
  - stroke
  - other clinical conditions impacting cognitive functioning
- Deficits range from mild to severe
- Restorative or compensatory training
- Clients work in clinic/hospital setting often within a rehabilitation center

**Who delivers RehaCom?**

- The program is clinician mediated**
  - It can only be accessed through engagement with a clinician

Pearson 14

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## Client and Patient Populations



### Relevant Patient Populations

#### What's your current process?

How do you currently work with patients who have:

- deficits in attention, working memory, visual scanning, and/or
- difficulty with executive functions?

#### What about current patients?

Do you currently work with patients who have:

- degenerative disorders?
- TBI, stroke, etc.?
- ADHD?
- schizophrenia or other psychotic disorders?
- a combination of disorders?

- The disorders mentioned here generally include deficits in **attention** and **memory**.
- Some patients may also struggle with **visual field** and **executive functions**.
- RehaCom is also relevant for patients with **depression** and **anxiety**.

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## Clinician Mediation

RehaCom is clinician mediated.  
*Why does this matter?*



### Fidelity

### Relationship

### Integral

### Efficiency

### Accessibility

Those with diagnosable disorders tend **not** to finish self-administered programs.

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## Clinician Mediation

RehaCom is clinician mediated.  
*Why does this matter?*



Fidelity

**Relationship**

The therapeutic alliance clinicians have with patients is very important to facilitate engagement with computerized cognitive training.

Integral

Efficiency

Accessibility

Pearson

110

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## Clinician Mediation

RehaCom is clinician mediated.  
*Why does this matter?*



Fidelity

Relationship

**Integral**

Computerized cognitive training in the context of more severe disorders is rarely seen as a stand alone treatment. Clinical expertise and oversight is needed to manage the process.

Efficiency

Accessibility

Pearson

111

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## Clinician Mediation

RehaCom is clinician mediated.  
*Why does this matter?*



Fidelity

Relationship

Integral

**Efficiency**

RehaCom extends the reach of clinicians by automating some elements of treatment and thereby creating greater efficiency and efficacy.

Accessibility

Pearson

112

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## Clinician Mediation

RehaCom is clinician mediated.  
*Why does this matter?*



Fidelity

Relationship

Integral

Efficiency

Accessibility

More time and opportunity become available for the complicated and critical aspects of overall treatment management.

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## Clinician Mediation

RehaCom is clinician mediated.  
*Which clinicians mediate RehaCom?*



Disorders like TBI, stroke, ABI require a more comprehensive approach to treatment which often includes:



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## Clinician Mediation

RehaCom is clinician mediated.  
*Which clinicians mediate RehaCom?*



Treatment requires a comprehensive approach therefore, a variety of clinicians may be the mediator.



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**Development and Distinctive Features**  
RehaCom is clinician-developed.  
*Why does this matter?*




**Relevance** Updated and revised based upon clinical use and feedback which is reflected in a range of training areas, breadth of training, and its configurability.

**Training**

**Breadth**

**Configurability**

 Pearson 117

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**Development and Distinctive Features**  
RehaCom is clinician-developed.  
*Why does this matter?*




**Relevance**

**Training** RehaCom offers a distinctively broad range of training areas including attention, memory, executive functioning, and visual scanning.

**Breadth**

**Configurability**

 Pearson 118

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## Development and Distinctive Features

RehaCom is clinician-developed.  
*Why does this matter?*




**Relevance**

**Training**

**Breadth**

**Configurability**

Levels vary from lower levels of challenge, for more severely impaired patients, to rather difficult levels for those with milder problems.

 Pearson 119

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## Development and Distinctive Features

RehaCom is clinician-developed.  
*Why does this matter?*




**Relevance**

**Training**

**Breadth**

**Configurability**

While some sequences of training are typical, configurability offers clinicians an opportunity to refine their treatment through prioritizing areas of treatment and shifting levels of challenge.

 Pearson 120

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## Development and Distinctive Features

Distinctive Features of RehaCom  
*Screening, Semi-Automation, and Reporting*



**Screening**


RehaCom provides an initial baseline and reference points for training with nine screening modules or tests.

**Semi-Automation**

The program adjusts according to an algorithm providing semi-autonomous training including live feedback. Training can be modulated by the clinician as well.

**Reporting**

Performance report including graphs and numeric data can be generated. It can be exported, printed, and entered into the medical record.

 Pearson 121

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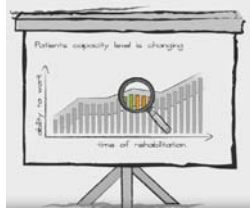
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## Development and Distinctive Features

### Distinctive Features of RehaCom

*RehaCom is auto-adaptive.*

- RehaCom is individualized to the patient
- Auto-adaptation makes training more effective and easier to tolerate for the patient
- Clinician decides where to start training
- Flexible platform gives clinicians a range of options
- Helps clinicians do their jobs more effectively and efficiently



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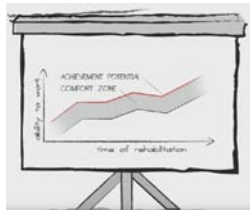
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## Development and Distinctive Features

### Distinctive Features of RehaCom

*RehaCom meets the patient at their level.*

- Low levels of training allow those with severe deficits to train in a comfort zone
- The highest levels of training are very challenging
- This gives patients a broad range of rehabilitation
- Try the top levels yourself!



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## Development and Distinctive Features

### Distinctive Features of RehaCom

*RehaCom keyboard is uniquely designed.*

- This keyboard makes the program accessible for a broader range of patients
- The large buttons allow the patient to select or steer, and two large "OK" buttons are used to confirm the patient's decisions



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## Development and Distinctive Features

### Distinctive Features of RehaCom *Screening and Training*

- Screening is a good place to start
  - Identify deficits
  - Guide treatment
- Training is flexible
  - Start with almost any module
  - Patients may need foundation training
  - Allows clinicians to approach training as they see fit



Pearson

125

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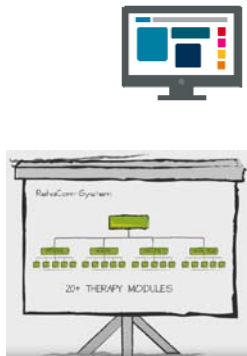
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## Development and Distinctive Features

### Distinctive Features of RehaCom *Screening and Training*

- 20+ Training Modules
  - Same principles and structure applied to all modules
  - Makes training faster and more intuitive



Pearson

126

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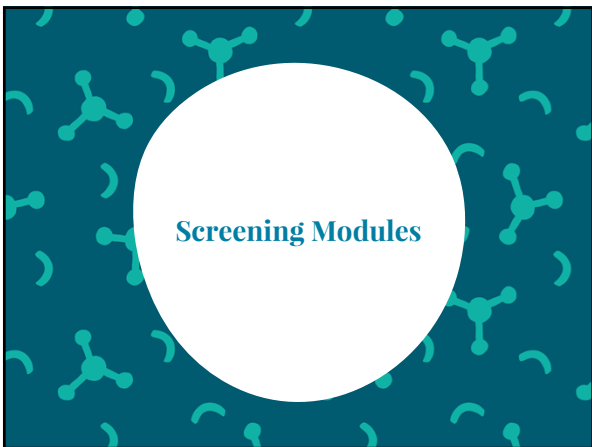
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## Training Modules

Attention  
 Memory  
 Executive  
 Functions

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### Training Modules

RehaCom®

#### Attention

Attention

Ten (10) training modules are dedicated to **Attention**, a pervasive deficit in stroke, TBI, and other disorders.

Pearson 112

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### Training Modules

RehaCom®

#### Ten (10) Attention and Concentration Modules

Modules		Levels
Alertness	Alertness	16
	Reaction Behavior	16
	Responsiveness	20
Vigilance	Vigilance	15
Selective Attention	Attention & Concentration	24
Visual Spatial Attention	2D Operations	24
	3D Operations	24
Visual-Spatial Attention (Spatial-Perceptive)	Spatial Operations	42
Divided Attention	Divided Attention	14
	Divided Attention 2	22

} Easier Modules (includes Alertness, Vigilance, and the first two rows of Visual Spatial Attention)

} Challenging Modules (includes Selective Attention, the last two rows of Visual Spatial Attention, and Divided Attention)

} Starting Point (points to the Selective Attention module)

} Too hard? Too easy? (indicates a feedback loop between the easier and challenging groups)

Attention and Concentration

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## Training Modules

Start with Attention and Concentration Training

RehaCom®

Start here

Level Indicator

Press ESC to change level of difficulty.

CORRECT  
INCORRECT

Tasks too hard? Go to **Alertness Therapy**

Tasks too easy? Go to **Spatial Attention** or **Divided Attention**

Pearson

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## Training Modules

Attention and Concentration Training

RehaCom®

Easy Hard Harder

Alertness Modules

Alertness Reaction Behaviour

Responsiveness Vigilance

Spatial Attention Modules

Spatial Operations

2D Operations

Spatial Operations 3D

Divided Attention Modules

Divided Attention

Divided Attention 2

Pearson

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## Training Modules

Memory

RehaCom®

Memory

The next most common deficit is **Memory**.

Memory deficits after Stroke & TBI

60%

MEMORY DEFICITS

Pearson

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## Training Modules

Six (6) Memory Modules

RehaCom®

Memory

Modules	Levels
Working Memory	70
Topological Memory	20
Physiognomic Memory	21
Memory for Words	30
Figural Memory	9
Verbal Memory	10

P Pearson 127

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## Training Modules

Memory Training


RehaCom®




**Working Memory**  
Short-term and selective memory, mental manipulation.




**Topological Memory**  
Picture cards are turned over, memorize positions and content.




**Physiognomic Memory**  
Memorize faces, names, occupations, and phone numbers. Can be personalized.



**Figural Memory**  
Figural content, picture-word association, captions, aphasia.



**Memory for Words**  
Memorize up to 10 words in 3 degrees of complexity.



**Verbal Memory**  
Short stories are presented, multiple choice questions.

P Pearson 128

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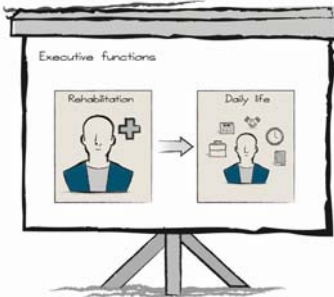
## Training Modules

Executive Functions

RehaCom®

Executive Functions

**Executive Functions**, such as planning and logical reasoning, are important for the patient's return to daily life.



Executive functions

P Pearson 129

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## Training Modules

RehaCom®

Three (3) Executive Functions Modules

Executive Functions

Modules	Levels
Logical Reasoning	18
Plan a Vacation	55
Shopping	23

P Pearson 140

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## Training Modules

RehaCom®

Executive Functions Training



Logical Reasoning



Plan a Vacation



Shopping

- The Executive Functions modules provide activities that are more ecologically meaningful such as planning a shopping trip, planning a vacation, etc.
- We expect people will better understand why they would need to train on these activities because they make a difference in their daily lives.
- Patients want to resume self-reliance. These training activities are more obviously relevant to accomplish this.

P Pearson 141

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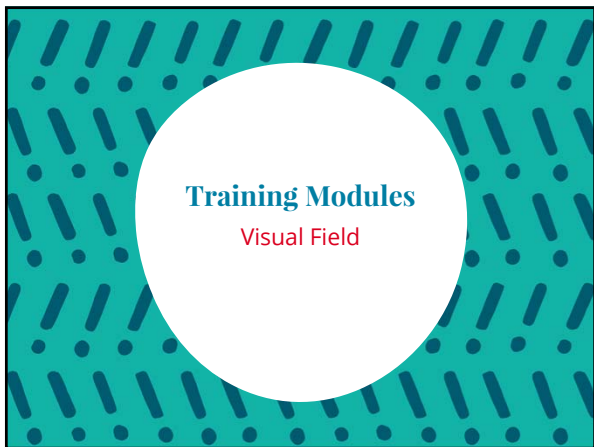
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## Training Modules

### Visual Field

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**Training Modules** RehaCom®

**Visual Field**

Visual Field

Approximately 1 in 5 stroke and TBI patients experience **Visual Field** deficits.

Pearson 143

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**Training Modules** RehaCom®

**Three (3) Visual Field Modules**

Visual Field

Modules	Levels
Saccadic Training	34
Restoration Training	1
Overview and Reading	52

Pearson 144

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**Training Modules** RehaCom®

**Visual Field Training**

**Saccadic Training**

Eye movement training, hemianopia, neglect.

*Click the correct arrow button depending upon which side of the screen an object appears.*

**Restoration**

Stimulates the re-organization of damaged, but not destroyed, neuronal structure through intense stimulation.

*Look at fixation point and respond to changes of central stimuli and stimuli emerging in the 'blind' area of your visual field. Keep eyes focused upon fixation point.*

**Overview & Reading**

Parallel and sequential search on the homonymous visual fields.

*Searching for one letter among groups of letters.*

Pearson 145

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# Therapy Results

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## Therapy Results

On the **Dashboard**, on the left side under **"Parameters"**, click **"Results"** to access this screen.

Navigate to the **"Results"** tab to view progress and session data in graphical format.

More detailed information is accessible in this area.

All training modules for this patient are listed.

Progression through levels of training over several sessions.

Data can be printed or exported to PDF or Excel.

Configuration allows adding information to reports such as clinic name.

The screenshot shows a software interface with a sidebar on the left containing navigation options like 'Home', 'Reports', 'Parameters', and 'Results'. The main area displays several bar charts and a table of data. A 'Results' tab is highlighted. The interface includes a search bar and various filters. The Pearson logo is visible in the bottom left corner.

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# Research

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**Research** RehaCom®

**Research Studies with TBI, CVA & MS**

**Traumatic Brain Injury**

- Attention remediation following traumatic brain injury in childhood and adolescence by (Galbiati et al., 2009).
- Clinical Impact of RehaCom Software for Cognitive Rehabilitation of Patients with Acquired Brain Injury, (Fernandez et al., 2012)
- Effectiveness of Cognitive Rehabilitation Following Acquired Brain Injury: A Meta-Analytic Re-Examination of Cicerone et al.'s (2000, 2005) (Rohling et al., 2009)



P Pearson 149

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**Research** RehaCom®

**RehaCom Research**

**Stroke**

- Effect of computerized cognitive rehabilitation program on cognitive function and activities of living in stroke patients (Yoo et al., 2015)
- Clinical Efficacy of Acupuncture Treatment in Combination With RehaCom Cognitive Training for Improving Cognitive Function in Stroke: A 2 × 2 Factorial Design Randomized Controlled Trial (Jiang et al., 2016)



P Pearson 150

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**Research** RehaCom®

**RehaCom Research**

**Multiple Sclerosis**

- Computer-Assisted Cognitive Rehabilitation of Attention Deficits for Multiple Sclerosis: A Randomized Trial With fMRI Correlates. (Cerasa et al 2013)
- Cognitive Rehabilitation in Multiple Sclerosis, (Barbosa et al., 2013)
- Efficacy and specificity of intensive cognitive rehabilitation of attention and executive functions in multiple sclerosis, (Flavia et al., 2011)



P Pearson 151

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# Operating RehaCom

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**Operating RehaCom** RehaCom®  
**Computer-assisted RehaCom Setting**



- Quiet
- Minimal Distractions
- Comfortable
- Soft Lighting
- Multiple Work Stations?
- Headphones?
- Laptop
- Networked?

P Pearson 153

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**Operating RehaCom** RehaCom®  
**Technical Requirements**

**To run RehaCom you will need:**

- Windows Laptop or Desktop Computer
- 19" - 21" Monitor
- 2 GB RAM
- Direct3D Graphics Card (Nvidia, ATI)
- USB drive
- 100 GB Hard Drive
- Printer



**To install RehaCom:**

- You must be logged into your computer with **Administrator** access.
- RehaCom software is installed from a USB drive.
- Licenses are managed via the RehaCom panel or optional dongle which must be connected to run RehaCom.

P Pearson 154

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**Summary and Conclusion** RehaCom®


**RehaCom Summary**

**Training Domains**  
Computerized Cognitive Training (CCT)  
in 4 Major Cognitive Domains:

- Attention
- Memory
- Executive Function
- Visual Field

**Features and Benefits**

- 9 screening modules to identify deficits
- 20+ configurable training modules
- RehaCom keyboard to accommodate motor deficits
- Progress monitoring and/or outcome reports of patient therapy can be viewed, printed, and exported
- System is auto-adaptive to meet each patient at their current level of need



P Pearson 156

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**Summary and Conclusion** RehaCom®


**RehaCom Summary**

**Environments**

- NeuroRehab
- Skilled Nursing
- Private Practice

**Patients/Clients**  
Patients suffering from cognitive deficits resulting from

- degenerative neurological disorders,
- TBI,
- stroke,
- or other clinical conditions impacting cognitive functioning.



P Pearson 157

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## Summary and Conclusion

RehaCom®

### RehaCom Summary

#### Training

- Can be restorative or compensatory training
- All modules are configurable based on clinical need and client variables
- Clients work in clinic/hospital or rehabilitation setting
- High ceilings for training provides a comprehensive range of training levels




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## Summary and Conclusion

RehaCom®

### RehaCom Summary

#### Efficacy Research

Approximately 20 peer-reviewed studies showing some positive effects across TBI, Stroke, Dementia, ADHD, MS. RehaCom is one aspect of the total rehabilitation program for patients.

#### Pricing

Unlimited use per station with volume discounts.

#### Reimbursement Opportunities




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## Summary and Conclusion

RehaCom®

### RehaCom Pricing

Prices are valid through December 31, 2017 and are subject to change without notice.

License Terms and Inclusions		Regular Price	Renewal Price
Annual Licenses	1 Year with Panel	\$1,495	\$1,250
	2 Year with Panel	\$2,495	\$2,000
	3 Year with Panel	\$3,495	\$3,000
Quarterly Licenses	Includes Dongle	\$395	\$395
	Includes Panel	\$745	\$395
RehaCom Equipment	Panel	\$585	
	Chin rest	\$200	

Multi-station Discounts	5-9	10-24	25-50	>51
	5%	10%	15%	20%

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## Summary and Conclusion



### RehaCom Contacts

#### General Information and Ordering

Kent Willette  
Office: (888) 783-6363, option 1  
Email: Kent.Willette@Pearson.com

#### Professional Education and Services

Peter Entwistle, PhD  
Office: (888) 748-3828, x111  
(301) 569-6879  
Email: Peter.Entwistle@Pearson.com

Charles Shinaver, Ph.D.  
Office: (888) 748-3828, x110  
(800) 627-7271, x 262355  
Mobile: (317) 641-7794  
Email: Charles.Shinaver@Pearson.com



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