INTERVENTIONS TO IMPROVE THINKING SKILLS

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DISCLOSURES

• None
OBJECTIVES

• Identify 6 interventions to improve thinking
• Identify 6 types of thinking skills
• Review Cogsmart activities
# INTERVENTIONS FOR THINKING ISSUES

<table>
<thead>
<tr>
<th>Thinking/Interventions</th>
<th>Medication</th>
<th>Other</th>
<th>Cog Training</th>
<th>Internal Strategies</th>
<th>External Strategies</th>
<th>Environment physical</th>
<th>Environment People</th>
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<td>Executive Functioning</td>
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## STAMINA AND ALERTNESS

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<tr>
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<tbody>
<tr>
<td>Sleep</td>
<td>Sleep Naps</td>
<td>Time on task</td>
<td>Awareness of fatigue</td>
<td>Timer Reminders</td>
<td>Place to rest</td>
<td>Support</td>
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Attention is focusing on something
Concentration is prolonged or sustained focus
Both are essential for completing daily activities and underlie successful memory
Active attending is needed to learn
COGSMART – ATTENTION AND CONCENTRATION TECHNIQUES

• Self-talk during tasks
  • Repeat the steps of the activity to yourself as you complete them
  • Talk to yourself about your progress
  • Helps you remember completing the task: “I am feeding the dog”

Conversational vigilance – paying attention during a conversation
  • Listen actively
  • Eliminate distractions
  • Ask questions
  • Paraphrase

Eliminate distractions
Ask questions
Paraphrase
COGSMART – ATTENTION AND CONCENTRATION TECHNIQUES

• Preparation
  • Break task into simpler parts
  • Rehearse the steps mentally or write them down
  • Visualize completing the task
• Energy Conservation  STEP BACK and conserve energy to avoid fatigue
  • Sleep Enough Be Open to help
  • Take Breaks Avoid interruptions
  • Exercise Cut distractions
  • Pace yourself Keep is simple
• Active Effort
# ATTENTION AND PROCESSING SPEED

<table>
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<td>Mood</td>
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- 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
- 5, 9, 1, 3, 2, 8, 4
WORKING MEMORY

• Rehearse
• Chunk
• Write it down
• Medication
• Visualize
• Associate - story
### WORKING MEMORY

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<td>Write Remind</td>
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<td>Remember to Remember</td>
<td>Ask to repeat, go slower,</td>
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<td>Mindful</td>
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- 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
- 5, 9, 1, 3, 2
ELEMENTS OF LEARNING AND MEMORY (CHIARAVALLOTI, 2018)

- Working Memory
- Attention
- Visuospatial Processing
- Processing Speed
- Executive Control

Learning & Memory
COGSMART – LEARNING AND MEMORY

• ENCODING > STORAGE > RETRIEVAL
• Info goes in > Info gets stored > Info comes out
• Focus on encoding and storage
• Best learning happens when alert, well rested, attention, and sober
• Write things down
• Association – link new information to old information, focus on similarities and differences
• Chunking
• Categorizing and grouping
• Acronyms
• Rhymes
COGSMART – LEARNING AND MEMORY NEW MEMORY STRATEGIES

• Visual Imagery
• Overlearning
COGSMART – LEARNING AND MEMORY EXTERNAL STRATEGIES

• Calendar/ PDA/ Microsoft Outlook
• Lists/ Notes/ Appointment cards
• Sticky Notes
• Notebook “Can’t miss reminders” (e.g., bag on doorknob)
• Automatic places
• Writing on your hand

• Filing boxes
• Timers/ Alarms
• Watch
• Voicemail messages (call yourself)
• Signs & Landmarks
• Automatic shut-off applications (coffee-maker, iron)
• Pill boxes
COGSMART – LEARNING AND MEMORY RETRIEVAL STRATEGIES

• Relax
• Mental Retracing
• Alphabetic Searching
• Recreating the Context
• Organization
• Automatic places
COGSMART PROSPECTIVE MEMORY STRATEGIES

• The ability to remember to do things in the future
• Calendar
• Alarm
• Linking tasks and using automatic places (place you will see something you need to remember)
• To Do lists (High [today/tomorrow], Medium [within week] and Low priority [within a month]), can put in calendar
• Appointments, Transportation, Work, Errands, Kitchen, Bathroom, Bedroom, Living Room. Paperwork, Household chores, school/learning, phone calls, office
COGSMART – LEARNING AND MEMORY INTERNAL STRATEGIES

• Pay attention (conversational vigilance, task vigilance)
• Self-talk
• Repeat/ Rehearse
• Associate
• Acronyms
• Visualize
• Categorize/ Chunk
• Rhymes
COGSMART SHORT-TERM PROSPECTIVE MEMORY STRATEGIES

• Write a reminder
• Leave your self a message
• Use visual image
• Can't miss reminders
• Talk to yourself about the consequences of forgetting to do something
### MEMORY: IMPLICIT & EXPLICIT

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- Car  Bird  Apple  Tree  Cat
COGSMART – PROBLEM SOLVING & COGNITIVE FLEXIBILITY

• 6 step problem solving method
• Define the problem
• Brainstorm solutions to the problem
• Evaluate each solution in terms of ease of implementation, costs, and benefits and likely consequences
• Select a solution to try
• Try the solution
• Evaluate the solution
COGSMART – PROBLEM SOLVING & COGNITIVE FLEXIBILITY

• Strategy Verbalization – self talk
• Hypothesis testing
• Set shifting and set maintenance, determine if strategy working and shift if not working, maintain it if it is working
• Planning to meet goals/deadlines
METACOGNITIVE STRATEGIES (ACRM MANUAL HASKINS ET AL., 2014, P25-38)

• Self-talk: thinking out loud a strategy such as Go Plan Do review and then move to inner speech

• Formal problem-solving strategies: What is problem, set goals, plan a solution, execute the solution, monitor feedback and make changes as necessary

• Training deficits in awareness: point out behavior, educate on behavior, identify evidence of impairment, managing avoidance and denial, recording frequency of behavior. Predict and Perform procedure, Clarification of Problem, Solution Planning, Executing, Monitoring and Adapting
ACTIVITIES TO WORK ON EXECUTIVE FUNCTIONING

• Tower of London
• Card Games
• Memory Games
• Writing Projects
• Cooking and Baking
• Role-play social interactions
## EXECUTIVE FUNCTIONING

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<td>Write Record Prepare</td>
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<td>Switching</td>
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**Diagram:**
- **Redo**
- **Plan**
- **Replan**
- **Do**
- **Eval**

**Notes:**
- **Medication:** Sleep, Pain, Attention, Mood, Memory, Inhibition
- **Other:** Sleep, Naps, Breaks, Diet, Exercise, Mindful
- **Cog Training:** Planning, Doing, Assessing, Replan, Redo, Switching
- **Internal:** Awareness of fatigue, Reminders
- **External:** Write, Record, Prepare
- **Environment – Place:** Adjust complexity
- **Environment – People:** Support, Repeat, Write, Remind, Slow down, Assist
RESOURCES


• Other resources
  • You can view educational videos about TBI at: http://depts.washington.edu/uwtbi/Education/documentary.htm

• Cognitive training programs:
  • Brain HQ https://www.brainhq.com/
  • Neuropsychonline https://www.neuropsychonline.com/
  • Lumosity https://www.lumosity.com/