Cognitive Rehabilitation in TBI: Techniques for Improving Your Memory

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Improving Memory After TBI

• Internal strategies

• External aids and environmental adaptations
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Modified Story Memory Technique (mSMT)

- Uses **imagery** and **context** to facilitate learning
  - 10 sessions
    - 2x per week for 5 weeks
    - 30-90 minutes in duration
mSMT

• Session 1-4: Imagery
  – Each story contains capitalized words to remember
  – Create mental images of each story line
  – Picture the characters, setting, etc.

*note: context is provided
Story Example
(skill: imagery)

Mr. Jones pulled a fresh APPLE from a tree. This made him think of his childhood summers with the flowers in BLOSSOM and his mother churning BUTTER sitting on a CHAIR drinking COFFEE. Mr. Jones was a DIAMOND salesman but his father worked in a FACTORY using a pitch FORK and a HAMMER. On Saturdays his mother would KISS him and send him to the MARKET. The goods there reminded him of a PALACE. On Sundays he went to church to visit his PRIEST making sure to get a SEAT in the first row. One day Mr. Jones' father left boarding a STEAM boat with a TICKET that his WIFE had bought. Her BETRAYAL by not using DISCRETION in their personal lives led him to mistrust members of the opposite GENDER.
mSMT

• Guidance for imagery
  – Concentrate on forming a mental image of a chunk of the story
  – *Several pieces* of information into images
  – Verbal information transformed into pictures
mSMT

• Session 5-8: Context
  – Make up story using a provided list of words
  – Create easy to visualize story

*Continue using imagery – adding meaningful context.
Sunday after CHURCH I need to take my AUTOMOBILE to the bank to get CASH for a BOTTLE of wine.
mSMT

• Guidance for context (with imagery)
  – Keep the story simple
  – Chunk several target words with meaningful information
Sunday after ______ I need to take my ______ to the bank to get ______ for a ______ of wine.
mSMT

Example of poor context:

There was _____ on the _______ next to the _____.

Internal strategies
Example of more effective context:

In the winter, the green ____ was covered in _____ from shoveling the ________.
mSMT

- Session 9-10: Everyday life
  - Words from shopping list, to-do list, or directions
  - Make up story using a provided list of words
  - Create easy to visualize story
Method of Loci
(Memory Palace)

https://www.wikihow.com/Build-a-Memory-Palace
Method of Loci (Memory Palace)

• Step 1:
  – Identify a memorable place
    • Childhood home
    • Your house of 25 years
    • Favorite oft-visited vacation spot
  – Define a route
    • Take your mind for a walk!
  – Pick specific locations to use
    • Fireplace in the corner of the living room
    • Vegetable patch in side yard
Method of Loci (Memory Palace)

• Step 2:
  – Put information in specific places in palace
    • Make it weird!
      – Bizarre, graphic, memorable, funny
        » Need to remember: grape jelly
        » Put in palace: Mom stepping in pool of grape jelly by the kitchen sink and making purple footprints on the tile, with the dog trying to clean it up as she walks
Method of Loci
(Memory Palace)

• Step 3:
  – Explore your palace
    • Envision yourself walking through each room and interacting with each object
    • Add new details
    • Clean up when necessary
Improving Memory After TBI

- Internal strategies

- External aids and environmental adaptations
Prospective Memory

- Remembering to perform an intended action at a specific moment in the future
  - “Remembering to remember”
- Always has:
  - **Intention** – what you need to do
  - **Cue** – when you need to do it (specific time or event)
  - **Ongoing activity** – what you’re doing while you’re waiting to do that task

**Remembering to mail birthday card on the way home**
- Intention (what): mail birthday card
- Ongoing activity: driving home
- Cue (when, event-based): seeing mailbox

**Remember to call TBI clinic at 11am on Monday**
- Intention (what): call TBI clinic
- Ongoing activity: morning activities (breakfast, work, errands)
- Cue (when, time-based): 11am on Monday
External Aids & Environmental Adaptations

- **Offload memory demands**
  - Write it down! *(helps with the what)*
    - Memory notebook
    - Calendars
  - Alarms *(helps with the when)*
    - Electronic
    - People
External Aids & Environmental Adaptations

• *Can’t miss* reminders
  – Obvious
  – Interactive and tactile
External Aids & Environmental Adaptations

- Utilize habits to help you remember
  - Linking tasks with existing habits
    - Medications with meals
      - Pillbox on kitchen table
    - New vitamin with teeth brushing
      - Toothbrush on vitamins
External Aids & Environmental Adaptations

- Utilize habits to help you remember
  - Create a “home” for objects you need to remember
    - Keys, wallet, phone
*Can’t Miss* Reminder w/ “Home”
Practical Considerations

• Act like a scientist
  – Collect data
    • “Does this strategy work for me? When?”
    • Ask a loved one what they observe
  – Test your theories
    • “Maybe it will work better if I try ______...”
  – Explore new options
    • Ask others what works for them
Practical Considerations

• Do what works for you and your:
  – Lifestyle
    • Tech savvy? Prefer routine? Always on the go?
  – Significant others
    • What’s a strategy you can both use?
  – Care team
    • Access to a cognitive rehabilitation specialist? Use them!
  – Memory sticking points
    • Tailor to your needs
DON'T KNOCK IT UNTIL YOU'VE TRIED IT
Collaborators

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All of our TBI research participants and patients
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