




# Cognitive Rehab Overview

Using basic cognitive approaches to support our clients in daily interactions


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**While there are common traits,  
everyone's brain injury or stroke  
presents differently.**

**So, any intervention strategies will  
need to be tailored to address these  
differences .**





## Understanding the effects of the ABI

It is important that you take time in advance to learn what to expect based on the type of ABI the person has experienced.

Learn about the location of the ABI, the severity of the ABI and the typical consequences of the injury before you get started.

# Post ABI changes

## Post ABI it is common to have changes with

- Attention/Concentration
- Memory
- Problem solving, judgment, reasoning
- Insight into deficits
- Difficulty with initiating tasks
- Irritability and frustration
- Fatigue/ and difficulty with overstimulation

# Two other important considerations



**SLOWED PROCESSING  
SPEED**



**CAPACITY OF THINKING**

# Slowed Speed of Processing



SLOWED  
PROCESSING SPEED  
CAN MEAN IT CAN  
TAKE LONGER FOR  
THE PERSON TO GET  
THEIR THOUGHTS  
TOGETHER TO  
GENERATE A  
RESPONSE



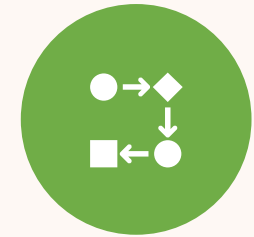
THIS SLOWED  
PROCESSING CAN  
AFFECT A  
PERSONS' ABILITY  
TO INTERPRET  
INFORMATION  
FROM THEIR  
SURROUNDINGS



SLOWED  
PROCESSING CAN  
RESULT IN MOTOR  
IN-  
COORDINATION-  
KNOCKING THINGS  
OVER,  
STUMBLING....



IT CAN RESULT IN  
CHALLENGES WITH  
WORD FINDING



AND IT CAN  
RESULT IN IT  
TAKING LONGER  
TO GET THINGS  
DONE THAT USED  
TO BE MORE  
AUTOMATIC.

# Decreased Capacity of Thinking



DECREASED  
CAPACITY OF  
THINKING MEANS  
THE PERSON CAN'T  
HANG ONTO AS  
MUCH INFORMATION  
AS THEY USED TO



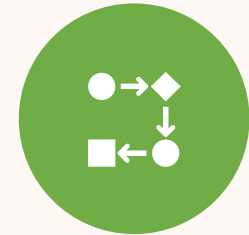
INFORMATION  
NEEDS TO BE  
BROKEN DOWN  
INTO SMALLER  
PARTS



THE PERSON WILL  
HAVE A HARD  
TIME KEEPING UP  
WITH NARRATIVE  
OR LONG WINDED  
EXPLANATIONS



A BUSY OR NOISY  
ENVIRONMENT  
WILL USE UP SOME  
OF THEIR CAPACITY  
TO FOCUS



SO, KEEP IT SHORT  
AND SIMPLE; AND  
CHOOSE THE RIGHT  
ENVIRONMENT  
FOR THE TASK

# 01

Providing  
information in small  
increments

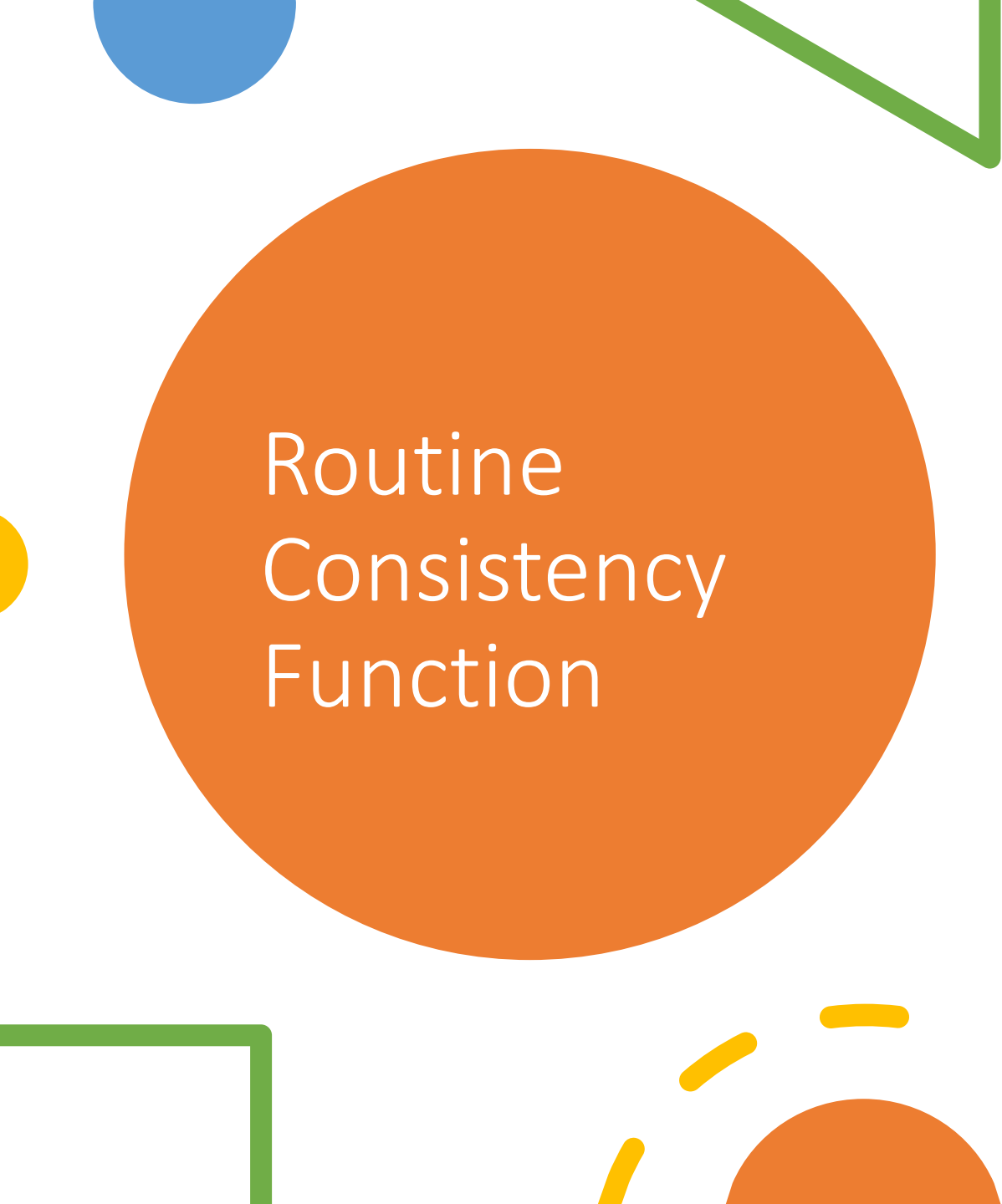
# 02

and allowing time  
for the client to  
respond at a rate  
consistent with their  
processing speed

# 03

will increase  
likelihood of them  
being successful in  
their rehabilitation.





# Routine Consistency Function

Intervention must be delivered  
early and intensively,  
  
through established routines,  
  
with a focus on function.

# Principles of Cognitive Rehabilitation

There are some basic cognitive rehabilitation principles that anyone interacting with clients after an ABI must understand.

These principles can be used no matter what intervention, task or activity you are engaging in.

1. ERRORLESS LEARNING

2. PROCEDURAL MEMORY LEARNING

# Principle 1: ERRORLESS LEARNING

A method of learning where the likelihood of errors is reduced during the learning process; this is especially important when there is reduced cognitive resources/memory changes.



# ERRORLESS LEARNING vs. TRIAL/ERROR

## Errorless learning

The client is provided the correct information to prevent incorrect guesses

- No quizzing
- Relies on repetition and implicit learning
- Over time they learn the correct information, and you can wean off your cueing

## Trial and error learning

The client attempts a task and learns from their mistakes or successes.

- This does not work for our clients
- Quizzing & guessing results in errors
- Errors get repeated and are learned/reinforced

# ERRORLESS LEARNING

We want to give the client the best opportunity to get the correct response the first time.

We want to set up our patients for success in their interactions.

Errorless learning helps the person learn or recall the correct information; which in turn helps with the establishment of the neural pathways for the correct response without the interference of errors.

# ERRORLESS LEARNING

Evidence shows that we remember information more easily when it has strong emotional connections. We remember things that make us happy, and proud.

But we also remember things that have made us feel frustrated and embarrassed.

If we allow our patients to make mistakes over and over, early in their recovery, this can lead to the client feeling frustration or embarrassment.

# ERRORLESS LEARNING

Those strong negative feelings will strengthen the encoding of those errors and possibly create pathways for storing the wrong information in the brain.

By providing the *correct* information, the client will begin to learn the correct information and strengthen the neural pathways for successful new learning and recall!

# ERRORLESS LEARNING

## DON'T:



- React negatively or dwell on errors.
- Quiz the client or continually ask them questions they do not know the answer to.

## DO:



- Redirect and distract to shift the focus away from the error.
- Quickly model the correct response after a mistake is made.
- Give the client information within your basic interactions or chit chat.
- Give the client cues or partial answers to help them produce the correct response.



## Principle 2:

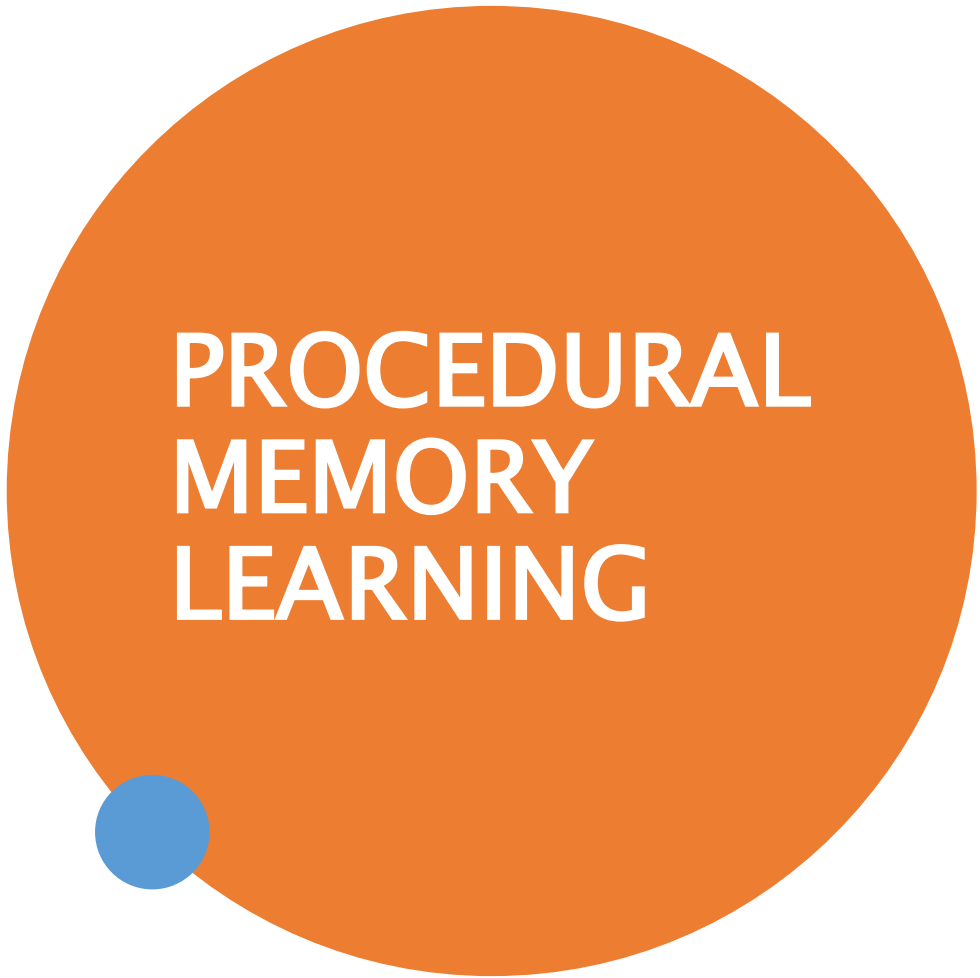
# PROCEDURAL MEMORY LEARNING

Procedural memory = the memory of how to perform different actions and skills.

Examples of procedural memory skills

- riding a bike
- tying your shoes
- making coffee
- driving a car

Learning to ride a bike: you practice it so often that it becomes ingrained/automatic. You don't need to consciously think about how to pedal the bike, you simply do it out without any thought.



# PROCEDURAL MEMORY LEARNING

We use procedural memory in our daily interactions with our clients to help them relearn their everyday activities.

We do this by providing our clients with:

- Consistency (doing things in the same order/ using checklists).
- Creating schedules and routines.
- Using errorless learning to avoid mistakes being learned.



**When can you use  
these principles in  
everyday interactions?**

It's easy!

- Introducing yourself (even if you've met the client before!)
- Self Care routines
- Medication Self-Management training
- Navigating the way to therapy sessions or to the client's room
- Everyday chit chat
- Memory books
- Transfers
- W/C skills training
- Mobility/ambulation
- Scanning (left neglect training)
- Education Sessions
- Scripts

# General approaches for everyday interactions:

Be intentional about how you say things.

Use scripts.

- Scripts are just consistent messages used by staff or family.
- They take the guess work out of what to say.
- They are developed based on previous successful interactions.
- They are most effective for repetitive issues.
- Scripts should use simple phrases that seem conversational

Use calendars, schedules posted in room, and smart phones.

# General approaches for everyday interactions:

## Errorless learning script for orientation to date & schedule:

“Good morning, Bob. It’s Emily, I’m your nurse for the day. You are at the Rehab Centre in Halifax. You had an accident in February. You’re safe and the team here at the rehab is looking after you”

“I see here on your calendar it’s Friday April 21st.”

“It’s 8a.m. right now. I’m here to give you your meds and help you get ready for your therapy.”

“On your schedule it says you have OT with Erin at 9 a.m.”

# General approaches for everyday interactions:

## Errorless Script for navigating to therapy:

“Hi Bob, It’s Alison from Physio. I’m here to take you to the 3<sup>rd</sup> floor for your physiotherapy. Let’s go to the hallway. Turn right and find the elevator”

“I’ll get you to press the down button for the elevator”

Once your get on the elevator say:

“We’re heading down to the 3<sup>rd</sup> floor for physio. Please press the button for 3<sup>rd</sup> floor for me.”

When the elevator opens on the 3<sup>rd</sup> floor say:

“This is the 3<sup>rd</sup> floor. We will get off here for physio. Turn left for the gym”

# General approaches for everyday interactions:

Use prompts to start and continue activities (e.g. visual reminders or alarms to remember medication times)

Use checklists to stay on track in tasks (i.e. self-care, transfers, meal prep)

- Use errorless learning approaches by providing the client verbal cues to stay on track with their checklist. Don't ask "what's next?"
- Point to the next step or cross off the steps as you go.
- The idea is to wean off the cueing over time.
- Eventually the client should be able to go through the routine without a checklist!



# General approaches for everyday interactions:

## Example of using a self-care checklist

After you go through your orientation script tell them the plan for the day:

“I’m here to help you get ready for the day.”

“Let’s start by using that checklist on your closet to get your stuff together”

Follow the check list for collecting items for a shower

“Let’s go to the bathroom to get started. The first step is to start the water....”

Continue to guide the client through the check list

## Getting dressed

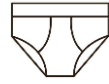
### Find clothes:

- T-shirt
- Pants
- Underwear
- Bra
- Socks
- Shoes

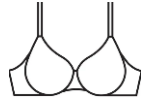
### Get dressed:

- Underwear – left leg first.
- Bra –clasp in front.
- Shirt – left arm first
- Pull shirt overhead
- Pants– left leg first.
- Pull pants up.
- Right sock
- Left sock
- Right shoe
- Left shoe

## Getting dressed



Underwear



Bra



Pants



Shirt



Socks



Shoes

# General approaches for everyday interactions:

Use a memory book or journal with the person for all interactions  
(no matter big or small)

Write down your interactions with the client in their memory book so they can accurately recall your interaction later.

Instead of asking the client “did you go to therapy?” Say “Let’s see what you did today.”

Review their memory book / journal with them to help them recall what they did during the day.

# General approaches for everyday interactions:

## Example of supporting a client with their memory book:

“Let’s write in your memory book that we worked together today.”

“Let’s find today here with this ‘today tab.’”

“We can see on the calendar that today is Friday April 21<sup>st</sup>, 2023.

“Let’s write in here at 2 pm that you went to pet therapy with Andy.”

“And look, it’s written here that you were able to walk outside for 10 metres today with Alison. That’s great progress.!”

# General approaches for everyday interactions:

**Be consistent. Provide structure and routine in your interactions.**

**Not just hourly schedules...**

**Your moment-to-moment interactions can provide structure and consistency too!**

Example: structure the order of your session

- 1) Use orientation script when you first enter the room
- 2) Review the memory book to promote errorless learning of events that have already happened in their day
- 3) Record your interaction in the memory book and state the plan for the session
- 4) Complete the plan/intervention
- 5) End the session with another review of the memory book and write down what occurred.

# General approaches for everyday interactions:

Keep tasks simple, do one thing at a time.

Keep tasks short & shift between easy/hard tasks

Remove distractions wherever possible (e.g., noise & people).

Repeat information, especially new instructions or information.



# Be a Good Role Model!

We can all use these basic principles as part of our day-to-day practices.

When we are all implementing these principles well, we can serve as good role models for others to pick up on such as: the patient's roommates, family members, housekeeping staff, front desk staff, new staff, etc.





# Try it on your own - Scenario #1

You have a client with a severe TBI. They are not oriented to date or place. They are unable to recall the reason for why they are in hospital. They have difficulty remembering daily events.

## Action:

- You are coming to give the client their morning medications. Use errorless learning to help orient client to their surroundings and use their memory book.

## Try it on your own - Scenario #2

You have a client with a stroke. They have difficulty remembering the date and daily events. They need cueing to remember the sequence for their morning routine.

### Action:

You are helping the client with their morning routine. Use errorless learning to help orient the client to their surroundings. Use a self-care checklist. Use the memory book in your session as well.

## Try it on your own - Scenario #3

You have a client with a severe TBI. They are not oriented to date or place. They are unable to recall the reason for why they are in hospital. They need assistance with navigating to/from therapy.

### Action:

Use errorless learning to navigate the client to the 4<sup>th</sup> floor for a recreational therapy program. Continue to use errorless learning to navigate back to the 7<sup>th</sup> floor nursing unit. Use the memory book to assist in your interaction.