STROOP Protocol

(Color–Word Interference / Cognitive Control)

Basic

Present the patient with a set of color words printed in incongruent ink colors. The patient is instructed to **state the color of the ink**, not the word itself, while maintaining synchronous motor movement with the IM beat (clapping, stepping, tapping).

Examples:

- Word: **Blue** printed in **red ink** → Patient says *red*
- Word: **Orange** printed in **yellow ink** → Patient says *yellow*

The patient should respond on the beat while maintaining synchronization with the IM stimulus.

Advanced

Increase the complexity of the task by increasing the **number of colors and stimuli presented**. Continue requiring the patient to state the **ink color** while maintaining synchronization.

Additional difficulty can be introduced by:

- Increasing the total number of words presented
- Randomizing color placement to prevent predictable patterns
- Increasing the speed of presentation

Advanced Variations

Alternating Rule (Set Shifting)

Require the patient to **alternate responses** between stating the **word** and stating the **ink color**.

Example pattern:

1. Word → say the **word**
2. Next item → say the **ink color**
3. Continue alternating

This increases **cognitive flexibility and executive control**.

Inhibition Challenge

Provide instructions that require the patient to **suppress responses to specific colors**.

Example:

- Do **not respond** if the color is red.
- Respond only if the ink color is blue or green.

The patient must maintain synchronization while monitoring for the target condition.

Rapid STROOP Naming

Have the patient move through the grid as quickly as possible while maintaining synchronization with the beat, naming the **ink colors** of each word in sequence.

Difficulty can be increased by:

- Changing the direction of reading (top-to-bottom, bottom-to-top, etc.)
- Skipping rows or columns
- Naming every other item

Dual-Task STROOP

Require the patient to **perform a secondary cognitive task** while completing the Stroop activity.

Examples:

- Count backwards by 3s while performing the Stroop task
- Name animals between responses
- Alternate clapping and stepping while responding

This increases **attentional load and executive functioning demands**.