

An 8 by 8 array of homogeneous shapes ("Martians") is searched for one different shape (a "sleeping" Martian). Search times are recorded from when the display appears to when the ultimately successful response was initiated.

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Purpose
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This program is designed to detect differences in attention and responsiveness on the two sides of the visual field. It is particularly designed to identify those persons who have a spatial hemi-imperception which affects their ability to scan both sides of a display efficiently and, used in conjunction with SEARCH, it differentiates this skill from shape examination and matching.

The display contains an intermediate level of information compared to REACT (one stimulus in an otherwise empty display) and SEARCH (an 8 x 8 array of heterogeneous shapes). This variation in information density enables one to differentiate hemi-inattention and hemi-imperception.

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Materials
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No special materials are needed. Each stimulus face is identical.

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Procedure
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The patient searches an array of identical patterns (which can be interpreted as the heads of little space people) for the "odd" one (the one which appears to have closed its eyes). Using this analogy and the instruction "Find the one that fell asleep", SOSH becomes simple to understand. From trial to trial, the display stays the same; only the location of the target shape changes. Locations throughout the array are sampled and search times are reported and recorded for each. Median search times are computed for left side and right side targets, respectively.

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Settings
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1...Accept, Change, Reset Default value: none

A = Accept settings as listed. These settings are based on the settings when this program was last used. C = Change one or more of the listed settings; R= Re-set to standard default values.

2...Feedback Default value: YES

Feedback tends to be motivating, but unobtrusive. Change to no

feedback only if you wish to minimize cues that would trigger compensation - usually to demonstrate to patients who think they are compensating well.

3...Response Device Default value: Keyboard

If the layout of the arrow keys is logical, and the keys are easily reached, they are usually the most convenient and reliable mode of responding. If the mouse is selected, but does not work, check to see that a DOS mouse 'driver' has been loaded.

4...Time Limit Default value: 30 (secs.)

For patients who are likely to need extra time, we re-set this to a multiple of 30. How long do you want patients to search before giving them help? If the time limit is too short, it can be discouraging.

5...Response Registration Time Default value: 15 (1.5 s)

Pause threshold for registering a response. During initial evaluation the examiner should enter the response moves. Dwell time should be increased if the patient is making the responses, e.g., to 20 or 25, and keyboarding is inefficient.

6...Goal Time Default value: 5 secs.

If feedback has been requested, an auditory beep confirms response registration. A double beep is offered for responses which are initiated within this goal time. For therapy one might increase this to 10 sec, or, possibly, 20 sec.

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Results
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NOTE: If printed output was selected when you first started the COGREHAB programs, then

- (1) the printout will contain whatever is displayed on the screen.)
- (2) you may pause the display by pressing the <SPACE> bar. Freezing the display is useful for discussing the results with the patient

The initial display shows the reaction times in seconds to locate the target in the different screen locations. These times are for correct trials only, since, if an error is made, the same location is retested.

The next display shows mean and median response times for the left and

right sides of the display, as well as the entire display. We use the median search times on the left and right sides to summarize the results for SOSH.

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Clinical Findings
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Median response times which differ by more than two sec on the left and right sides, are clinically significant, particularly if responses are consistently quick on one side.

Overall long response times may reflect difficulty with oculomotor function, including scanning and search. The emphasis is not on recognition and inspection of shapes, but rather on the scanning of visual arrays of information.

Inconsistent response times without any pattern suggests visual inattention.

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 Normative Findings
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Formal norms are pending; however, the following guideline is offered:
 Median response times should be about 2.0 sec with all times below 5 sec.

| Measure | Mean | StDev | Cutoff |
|--|-------------------------|-------|--------|
| ===== | ===== | ===== | ===== |
| SOSH : Left average N = 20: 27.4 yrs | 1.52 Source: C. Hall | 0.61 | 2.74 |
| SOSH : Left average N = 20: 75 yrs | 3.04 Source: C. Hall | 1.58 | 6.19 |
| SOSH : Right average N = 20: 27.4 yrs | 1.70 Source: C. Hall | 0.59 | 2.88 |
| SOSH : Right average N = 20: 75 yrs | 3.65 Source: C. Hall | 1.33 | 6.31 |
| SOSH : Absolute difference N = 20: 27.4 yrs | 0.29 Source: C. Hall | 0.25 | 0.79 |
| SOSH : Absolute difference N = 20: 75 yrs | 1.22 Source: C. Hall | 0.86 | 2.93 |
| SOSH : Combined N = 20: 27.4 yrs | 1.61 Source: C. Hall | 0.57 | 2.76 |
| SOSH : Combined N = 20: 75 yrs | 3.34 Source: C. Hall | 1.29 | 5.92 |

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|---|-------------------------|------|------|
| SOSH : Standard deviation N = 20: 27.4 yrs | 0.67 Source: C. Hall | 0.44 | 1.55 |
| SOSH : Standard deviation N = 20: 75 yrs | 2.02 Source: C. Hall | 1.36 | 4.74 |

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 Miscellaneous
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If the person does well with normal contrast, explore low contrast. This may be accomplished informally by lowering the contrast on the display monitor. More formally, use lenses which filter all but 1% of the light.

These may be obtained in wrap-around glasses which fit over ordinary spectacles. In persons who have a lateralized relative loss of visual responsivity, you will find that response times are differentially lowered on one side of the display; while on the other side, times are relatively unaffected.

This program does not run under Windows. You must exit Windows completely, or, in Windows 95, set the properties of the shortcut to force the program to run in DOS mode with a maximized window.

The reason for this requirement is that this program involves precision timing which WINDOWS (an inherently timesharing/multitasking program environment) does not do well. We have opted to maintain the program's timing over the convenience of running in Windows. However, we regret this inconvenience and continue to seek a better solution.

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 References
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Gianutsos,R & Suchoff,IB (1997)
 Visual fields after brain injury: Management issues for the occupational therapist. In M. Scheiman (ed.) Understanding and managing vision deficits. Thorofare, NJ: Slack Inc.

Gianutsos,R (1991c)
 Visual field deficits after brain injury: Computerized screening. Journal of Behavioral Optometry,2(6),143-150.

Gianutsos,R (1997a)
 Vision rehabilitation following acquired brain injury. In M. Gentile, Functional Visual Behavior: A Therapist's Guide to Evaluation and Treatment Options. Bethesda,MD: American Occupational Therapy Assn. (301 652-2682)

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 Variables Saved in *.CUM Disk File
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Note: The information below is for use in reading the saved data into a spreadsheet, such as Quattro Pro. With this information one can identify what each measure represents. These procedures are somewhat technical, but useful for comparing performance across sessions.

| Seq | Variable | Description | I/D | Chrs | Example |
|-----|----------|-----------------|-----|------|----------|
| 1 | TASK | PROCEDURE NAME | I | 8 D | SOSH |
| 2 | NAME | LAST NAME | I | 10 D | DOE |
| 3 | 1ST | FIRST INITIAL | I | 1 D | J |
| 4 | WHEN | DATE/RUN NO. | I | 8 C | 05079501 |
| 5 | THGP | THERAPIST/GROUP | I | 8 D | RG\TBI |