

## About

### **BRAIN FUNCTION THERAPY (BFT)**

Developed by  
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**BFT - Brain Function Therapy** is one of the earliest computer based cognitive retraining programs developed for use with brain damaged patients.

The computer based program was conceptualized by Dr. Mukundan CR in 1995, who was then an Associate Professor in Clinical Psychology at the National Institute of Mental Health & Neuro Sciences, Bangalore who headed the Clinical Neuropsychology Facility at that institute. The program was extensively used at NIMHANS by him and the clinical trainees as part of the rehabilitation program of patients with head injury and other brain damaged conditions.

Scientific papers on BFT have been also presented in many clinical conferences. The program is being used in several clinical centers in India.

BFT is not a computer based game for cognitive restoration or enrichment. It is a highly professional program for improving speed and accuracy of neurocognitive processes and measures the improvements in speed in terms of millisecond. Similarly complexity-difficulty levels can be changed stepwise for gradual retraining or restoration.

When the program is used for clinical purposes,i.e. with brain damaged patients, or children with cognitive difficulties, it must be administered by an expert technician, until the client learns to perform the tasks by himself.

*There are 11 modules for training in the following cognitive areas:*

1. Attentional system: selective, attention and directed attention
2. Number recognition: Increasing number of digits, speed of recognition, recognition and recall from memory.
3. Alphabet recognition: Increasing number of alphabets, speed of recognition, recognition and recall from memory.
4. Word recognition: direct comparison and comparison from memory. Recognition of word arrays, shifting fixation points and reading. Recognition and comparison of visual imageries of words.
5. Reading: Reading words and sentences, speed of reading, immediate and delayed recall, reading and comprehension.

6. Visuospatial Comparison: Direct comparison of geometric forms, and comparison from memory. Speed of recognition, and delayed recognition.

7. Working Memory Tasks

i) Using Numbers: Hold and process, switch process and hold, use of buffer memory. Series of tasks, increasing difficulty levels Using ii) Alphabets: Hold and process, switch process and hold, use of buffer memory. Sequential processing, Series of tasks, increasing difficulty levels

8. Continuous Performance: “n” back test using geometric figures

9. Temporal Sequencing: Recognize temporal sequence, hold and detect the same sequence.

10. Continuous Performance test: This is a typical ‘n’ back test, in which there is a continuous presentation of different geometric figures one after the other in which a figure may occasionally repeat itself, when the subject make response using the keyboard. The intertrial interval can be arranged to randomly vary around a preset value. The repetition of the figure is randomly arranged and the random order and the figure details are set in a data file.

11. Response Inhibition. Adapted from “Go - no Go” paradigm. 4 levels of performance.

12. Increase difficulty level of each task by increasing task demands on speed of processing and quantum of information.

13. Selection of Exposure time and intertrial intervals for increasing difficulty levels and speed of processing. Automated report generation of entire session giving before – after performance scores. Scores of each performance session are stored for later display.

**MODULES included in BFT are**

1. BFTNUM : PRESENTATION OF 1 - 4 DIGIT NUMBERS
2. BFTALPHA: PRESENTATION OF 1 - 4 ALPHABETS
3. BFTSP1 : SPATIAL COMPARISON - SAME SIZE TARGET
4. BFTSP2 : SPATIAL COMPARISON - LARGER SIZE TARGET
5. BFTSP3 : SPATIAL COMPARISON - SMALLER SIZE TARGET
6. BFTWORD: WORD COMPARISON
7. BFTSEM : SEMANTIC COMPARISON
8. BFTWMN : WORKING MEMORY - WITH NUMBERS
9. BFTWMS : WORKING MEMORY - SPATIAL
10. BFTCPT : CONTINUOUS PERFORMANCE TEST
11. BFTRIT : RESPONSE INHIBITION CONTROL
12. BFTSEN : READING SPEED CONTROL
13. BFTEMP : TEMPORAL SEQUENCING CONTROL