Prevalence of post-stroke executive dysfunction: 19-75%

Can a middle cerebral artery stroke lead to EF problems?
Yes, because the lateral prefrontal cortex is affected.

Other brain lesions that may affect EF:
- Deep structures connected with frontal cortex
- Posterior damage
- Diffuse lesions

REFERENCES:

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## EXECUTIVE FUNCTION (EF) TREATMENT POST-STROKE

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* The Cognitive Orientation to daily Occupational Performance (CO-OP) approach³ has shown promise to improve motor and functional skills post-stroke. Further research is required to evaluate its impact on executive functioning post-stroke.

** Further research is needed to evaluate the effectiveness of new technologies (e.g. smartphone applications).

### Remedial interventions

**Computerized dual-task training¹**
- The tasks involve coordinating the execution of 2 responses; patients have to identify the position (right or left) of 2 letters on the computer screen, and determine whether the 2 letters are the same or different
  - 1 session per week for 5 weeks

**Computerized training of working memory¹**
- Computerized training for working memory; the tasks involve presentations of auditory and visuo-spatial stimuli.
  - 40 to 60 minute sessions, 5 days per week, for 5 weeks

**Verbal working memory training¹**
- Training of storage and processing components of verbal working memory (e.g. oral spelling and word sorting in alphabetic order)
  - 60 minute sessions, 3 days per week over 6 months

### Cognitive strategy training

**Goal management training⁴**
- Patients learn to stop ongoing behavior to monitor and adjust goals; this is achieved through instructional material, interactive tasks, discussion of patients’ real-life deficits, and homework assignments
  - weekly 2-hour sessions over 7 weeks

**Analogical problem-solving training¹**
- Patients are presented with problems commonly encountered in daily life and are taught to draw analogies to solve other similar problems.
  - 20 sessions of 45 minutes

### External compensatory approach

**Task-specific checklist¹**
- Task-specific paper and pencil checklist: patients tick off each task once it has been done and record the total time taken to complete the task

**Paging system¹,²**
- Paging system (neuropager) involving reminders sent to standard pagers to assist with memory & planning
  - Duration: 7 weeks

### References:
2. www.strokengine.ca
(Also see http://research.baycrest.org/gmt)

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