

Specific Memory Disorders: Short term memory

What are specific memory disorders?

It is increasingly recognised that like adults, children can have specific memory disorders (Gathercole, '98). It is known that these can adversely affect the development of other skills, such as children's language development, academic attainments, independent living skills and general problem solving abilities (Hood & Rankin, in press).

Research into the links between specific memory disorders and subsequent learning difficulties and scholastic achievements is ongoing. It is useful to identify specific memory disorders as early as possible in order to ensure that children's educational and life skills programmes are adapted to maximise their learning and independence skills (Bristow et al., '99), although most specific memory disorders are difficult to clearly diagnose until children reach the age of six years or upwards. There are many competing theoretical models that propose different types of memory difficulties in adults and children. However, a lot of researchers agree that one clear difference is between short-term memory and long-term memory disorders.

Short Term Memory

Short-term memory is the ability to hold information for a limited period of time, such as visual images (e.g. a shape or face) and/or phonological/auditory information (e.g. a spoken telephone number or sentence). Information can be held in this way for a few seconds. If the information has to be held for longer a system of rehearsal can be used (e.g. repeating a number to yourself to help you remember). Should one of these skills fail to work in some way, this could lead to specific short-term memory problems. However, problems that appear to be due to poor memory can also have other causes, such as inattention, language difficulties and general learning difficulties. Therefore a comprehensive neuropsychological assessment is necessary to reliably identify a specific memory disorder and rule out other possible causes of problematic behaviour.

Children who have short-term memory disorders can have particular problems in a number of areas, including;

- Speech and language difficulties (including impairments in speech production and the acquisition of language).
- Remembering instructions and learning common sequences like nursery rhymes and the days of the week.
- Visual learning difficulties (including learning their numbers and letters, finding their way around new environments as well as manipulating visual information like shape, colour and space).
- Managing more complex problem-solving tasks like mental arithmetic.

Interventions

Following assessment, the neuropsychologist may make recommendations to support the child to improve areas of weakness. These recommendations may also guide parents and teachers to help maximise the child's learning despite their specific difficulties.

Interventions will depend on the diagnostic information for each child, and his/her age and particular circumstances. There is little evidence to show that memory weaknesses themselves can be improved through training. It is more likely that children's memory difficulties could be compensated for using external cues or alternative methods of presenting and manipulating information to be learned.

The availability and use of these strategies is still limited, partly because of resources but also because little research has been published in this area for children (Rankin and Hood, in press). This is likely to improve over coming years as specific memory disorders are increasingly recognised in the child population.

References

Bristow, J, Cowley, P & Daines, B (1999), *Memory and Learning: A practical guide for teachers*. London: David Fulton Publishers.

Gathercole, S E (1998), The development of memory. *Journal of Child Psychology and Psychiatry*. 39:3-27.

Hood, J & Rankin, P M, How do specific memory disorders present in the school classroom? (In press) *Pediatric Rehabilitation*.

Rankin, P M & Hood, J, Designing clinical interventions for children with specific memory disorders. (In press) *Pediatric Rehabilitation*.

Please note: Afasic does not hold copies of any referenced material. However, it may be obtained via academic libraries.

Other relevant Glossary Sheets

- Specific language impairment (1)
- Learning difficulties (4)
- Phonological problems (14)
- Auditory sequential memory (25)
- Specific Memory Disorders: Long term memory (27)

Written by Jane Hood (Consultant Paediatric Neuropsychologist, Newcomen Centre, Guy's Hospital) and Peter Rankin (Consultant Paediatric Neuropsychologist, Neuropsychology Department, Great Ormond Street Children's Hospital, and Neuropsychology Service, Royal Liverpool Children's Hospital)



Telephone
Helplines
Association

quality and confidence for callers to helplines

© Afasic 2004

Afasic
1st Floor
20 Bowling Green Lane
London EC1R 0BD
Phone 020 7490 9410
Fax 020 7251 2834
Email info@afasic.org.uk
www.afasic.org.uk
Helpline 0845 3 55 55 77

Registered charity no. 1045617