

# Fact Sheet

## **DAMP** Deficits in Attention, Motor Control and Perceptual Abilities

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### What is DAMP?

DAMP is used as an umbrella term to cover various combinations of motor control and perceptual problems in addition to attention difficulties. Professor Christopher Gillberg and his team working in Sweden originally described DAMP in the 1980's. This is now an accepted term in Scandinavia. In Australia we have found this term useful to describe children who present with similar problems.

Children who have DAMP may not have any definite neurological disorder or identifiable brain damage. It is thought that their brain networks behave differently to other children.

### Key problems

Children with DAMP show the following features:

#### Attention problems

- Being unable to sit still, unable to concentrate on an activity or completing the activities they are doing. These problems are usually seen at school, home and the doctor's office.

#### Coordination problems

- Fine or gross motor tasks can be difficult to do. These can range from clumsiness to difficulties riding a bike, finding it hard to tie shoelaces or spilling food when eating.

#### Perceptual problems

- Often relates to the understanding of how to draw, write and read. It can also result in children misjudging body distances and body parts in space. Perceptual problems can cause falls, collisions or accidents.

#### Speech and language problems

- It can be difficult saying words, and often the child can stutter. They can have trouble making sense of what they hear and also have poor comprehension. Some of these difficulties have to do with the ability of the child to adjust the volume and pitch of their voice.

#### Difficulty appreciating the thoughts and feelings of others

- Difficulty seeing things from other people's point of view.

Children with DAMP can have any of the above-mentioned problems to a mild degree or to a severe degree. Different mixes of problems occur, eg: mild motor problems and severe perceptual problems, or mild attentional difficulty and severe fine motor deficit.

**These children have a combination of motor, perceptual and speech-language difficulties not merely problems of concentration. This is why we do not simply diagnose all these children as Attention Deficit Hyperactive Disorder (ADHD).**

Based on Swedish studies, 3-6% of all 7 year olds have some form of DAMP. Children with DAMP come from all social classes and some have very high intelligence. There are many more boys than girls with DAMP.

### Why does it happen?

Why DAMP occurs is unclear. In 10% of the cases it is without a cause; in 35% it is due to brain injury during pregnancy and childbirth; in 35% it is hereditary and in the remaining 20% it is a combination of many factors.

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### **Is there a problem with the brain?**

There is a high rate of learning and reading problems although these children are usually considered to have 'normal intelligence'. Studies have shown some evidence of certain brain parts being more involved in this impairment. The frontal part of the brain that pays attention, monitors behaviour, and plans complex activities, appears to take longer to mature in these children.

### **Course and development**

In Sweden these children were followed up from early childhood through adulthood. This study and other long term studies reveal the following findings.

#### **Infancy – activity & temperament**

DAMP may have two distinct sub groups in infancy. One is the high activity group and the other the low or normal activity group.

The overactive group usually shows sleep problems, feeding difficulties, colicky stomach pains and a generally high level of motor activity even from the first months of life. The low activity group's slowness is usually thought to indicate low intelligence and parents regard these children as 'good' infants. Some of them show repetitive behaviours (head rolling, rocking, repeating sounds etc) from a very early age.

#### **Preschool – coordination & understanding consequences**

During preschool years the two groups are more difficult to tell apart. Both are hyperactive or at least inattentive. Coordination problems surface around 2-4 years but are often obscured by the high activity level and lack of appropriate fear, which is also very common. Two thirds have speech and language

difficulties by this time but only in half is there severe delay.

#### **Early school – concentration & cooperation**

In early school years many more difficulties emerge for DAMP children in both behavioural and academic performance. Difficulties in concentration, interacting in an age appropriate way, participation in games/sharing and sometimes in basic reading and writing skills. All of these problems peak in the 7-10 year old period.

#### **Adolescence – less clumsy but more distractable**

Adolescent children with DAMP experience persisting difficulties in concentration. Motor clumsiness becomes less evident during puberty.

### **What psychological problems do they get?**

- Depression.
- Aggression & conduct problems.
- Autistic traits.

### **What can we do?**

There is no single treatment for DAMP. Children benefit from a variety of treatments. The important part of any management plan for a child is the physical, psychological and neuromotor examination. This information has to be clearly discussed with parents, teachers and therapists dealing with the child. Many DAMP children need special education. Some need one on one instruction for learning. Quite a few need speech therapy, physiotherapy and occupational therapy.

Almost all children with DAMP need special assistance for school work (reading, writing, maths or other areas).

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Specific programs need to be made available both at school and home. Some children who have DAMP benefit from the same medication used for ADHD. This group of drugs helps with hyperactivity, concentration difficulties and some learning problems. These drugs are relatively free of side effects. Stimulant medication, as it is called, works when combined with other therapies and rarely works when used alone.

### Long term follow-up

In early adult life, many children who have had DAMP overcome most or all of the severe problems in early adult life. Half of all DAMP cases have some persisting difficulties in one or more areas. Low self esteem is common even among those who are doing reasonably well. In the long term, motor coordination problems improve best with only a residue of motor clumsiness left. In contrast reading and writing difficulties tend to persist well into the adult years.

### What makes the difference?

These children have lots of difficulties in many areas of their lives. However they make a much better adjustment if they are accepted and their schooling takes into account their special needs.

### Remember

- Children who have DAMP do not usually have any definite neurological disorder or identifiable brain damage. It is thought that their brain networks behave differently to other children.

This fact sheet is for education purposes only.  
Please consult with your doctor or other health professional to make sure this information is right for your child.

*This document was reviewed on Thursday, 6th July 2006.*

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