

WHAT IS DYSCALCULIA?

Dyscalculia is defined as a specific difficulty in mathematics, but in particular numeracy. It is particularly related to difficulties in calculating and being flexible with number operations.

The main facts:

1. At present there is no general consensus over the diagnostic criteria as the underlying root cause is still open to debate.
2. It is usually identified through a specialist assessment by a specialist teacher or educational psychologist who will conduct a range of assessments to determine the extent of the mathematical difficulty.
3. There is no definitive assessment for dyscalculia; an assessment should be conducted which includes all areas of cognitive functioning, including verbal and nonverbal reasoning, language development and auditory sequential and working memory.
4. Dyscalculia is a developmental difficulty which a child may be born with; they will not acquire dyscalculia
5. Between 3 and 5 % of the population are thought to experience severe mathematical difficulties
6. The difficulties associated with dyscalculia occur irrespective of the underlying cognitive abilities of the individual
7. Both males and females alike can experience dyscalculia in equal numbers
8. It is not associated with mathematical notation and recording.

It is essential for a thorough analysis to be conducted in order to tease out any other causes for the mathematical difficulties occurring. Mathematical difficulties can be caused by an underlying difficulty, such as dyslexia and it would be inappropriate to treat the symptoms of the mathematical difficulties without understanding the root cause.

Mathematical difficulties are remediated through intensive support as early as possible, to develop a thorough understanding of the number system.

The main difficulties associated with dyscalculia:

Main areas of difficulty:	Things to look for:
<ul style="list-style-type: none"> A lack of an <i>intuitive</i> sense of number - the fiveness of five – understanding the meaning of a number 	<ul style="list-style-type: none"> Understanding partition (numbers are made up of parts) These parts can be the same or different They can be counted in any order The final number stated represents the whole set The number name is the label with give to the whole set
<ul style="list-style-type: none"> Understanding the magnitude of a number 	<ul style="list-style-type: none"> More or less Positioning on an empty number line Place value, teen and ty confusion That 100 is 10x the value of 10
<ul style="list-style-type: none"> Understanding relationship to other values and numbers 	<ul style="list-style-type: none"> Numbers are counted in order, 12 comes before 13 and so on Place value
<ul style="list-style-type: none"> Difficulties in seeing the pattern or rule 	<ul style="list-style-type: none"> Difficulty learning tables and number bonds $3 \times 4 = 4 \times 3$ Commutivity of addition, subtraction undoes addition Odd and even 5, 10, 15, 20... Doesn't see the connection between $3x$ and $6x$ in simultaneous equations or struggle with equivalent fractions
<ul style="list-style-type: none"> Difficulty in generalisation and making links and connections 	<ul style="list-style-type: none"> Transferring skills, such as $12+10=22$, $22+10=32$ $5+2 = 7$, so $6+2 = 8$
<ul style="list-style-type: none"> Difficulty in remembering number facts 	<ul style="list-style-type: none"> Difficulty in learning tables and number bonds Difficulty learning factors, multiples, percentages, fractions
<ul style="list-style-type: none"> Difficulty in transferring between the concrete and the abstract forms 	<ul style="list-style-type: none"> Can use equipment, such as a number line or 100 square, but struggles with the written notation



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