

Development and developmental problems

Children's development occurs along a number of different pathways.

- Gross motor: using large groups of muscles to sit, stand, walk, run, etc., keeping balance, and changing positions.
- Fine motor: using hands to be able to eat, draw, dress, play, write, etc.
- Language: speaking, using body language and gestures, communicating and understanding what others say.
- Cognitive: thinking skills, including learning, understanding, problem-solving, reasoning, and remembering.
- Social: interacting with others, having relationships with family, friends and teachers, cooperating and responding to the feelings of others.

Children develop along these pathways at different rates. The great majority develop normally, eventually becoming adults able to work and lead fulfilled social lives. Some children, however, have specific developmental delays or disorders, and a minority develop slowly in all aspects of their development. These children are said to have intellectual disability. Some children with mild or moderate intellectual disability, will either be partly dependent on others or will be able to lead lives that are normal in most respects. A small minority are affected with severe intellectual disability and will remain dependent on others throughout their lives.

In this chapter we will discuss:

- how to assess development in the early years of life, giving details of the 'milestones' that children achieve and pass during their development
- specific developmental problems:
 - language delay
 - stammering
 - reading difficulties
 - clumsiness
- autism spectrum disorder (ASD): delay and disorder in multiple areas of development.

For each of the above we will discuss the way the problems present, their likely causes, how to assess them, and how to provide help. We will discuss intellectual disability, previously called mental retardation, in Chapter 5.

4.1 Assessment of developmental delay

Developmental delay is a term used to describe children who are slow to develop in the first 5 years of life. It is usually children of this age who are brought to a health professional by

their mother because of a worry that development is not normal. Such children need careful assessment. There are four possible outcomes to an assessment of development.

- 1 The health professional may identify that the child's development is within the normal range, and once the mother is reassured that this is the case, all is well.
- 2 The child's development is within the normal range but the mother is not reassured when you explain that this is the case. There is a problem that needs attention.
- 3 The child's development is somewhat delayed in one or more areas of development so as to cause concern. There may or may not be progress over time to bring the child within the normal range.
- 4 The child's development is definitely outside the normal range in most or all areas of development.

When conducting an assessment to see whether a child's development is a cause for concern, the following guidelines may be helpful.

- Although you will wish as far as possible to observe the level of the child's development yourself, sometimes the most useful information comes from the mother. When in doubt, ask the mother whether the child can do a particular task. She will know better than anyone.
- Try to get the mother to show you what the child can do rather than assessing the child without the mother's cooperation. Young children are very likely to cry and not show you what they can do if you take them away from their mother to carry out a task.
- It is important to find out whether the child is generally slow to develop (global developmental delay) or whether the delay is limited to one or two areas of development (specific delay in development), as described on p. 11.

4.1.1 *Developmental milestones*

These are a set of skills or tasks that most children can do by a certain age. The following are guides to what most children are doing at particular ages. If they are not, this is likely to be a cause for concern. If the child is nearly performing the task at the expected age, this is obviously much less worrying than if the child is only performing like a child half their age. Mothers will want to know whether their child is going to 'be normal', or whether they will have to catch up. It is difficult or even impossible to give a clear answer to this question until the child reaches the age of 4 or 5 years. Children who by 18 months or 2 years are only at a level equal to half their age are likely to have some degree of intellectual disability as they grow up (see Chapter 5).

At 3 months of age, is the child able to:

Motor skills

- Lift head and chest when lying on stomach
- Follow a moving object or person with the eyes
- Just able to grasp rattle when placed in hand
- Wiggle and kick with arms and legs

Sensory and thinking skills

- Turn towards the sound of a human voice
- Respond to you shaking a rattle or bell

Language and social skills

- Make cooing, gurgling sounds
- Smile when smiled at

- Communicate hunger, fear, discomfort (through crying or facial expression)
- React to 'peek-a-boo' games

By 6 months of age, is the child able to:

Motor skills

- Hold head steady when sitting with your help
- Reach for and grasp objects
- Move toys from one hand to another
- Pull up to a sitting position on their own if you grasp the hands
- Sit with only a little support
- Roll over

Sensory and thinking skills

- Open mouth for the spoon
- Imitate familiar actions you perform

Language and social skills

- Babble, making almost sing-song sounds
- Know familiar faces
- Laugh and squeal with delight

By 12 months of age, is the child able to:

Motor skills

- Drink from a cup with help
- Feed self finger food such as rice or bread crumbs
- Grasp small objects by using the thumb and index or forefinger
- Sit well without support
- Crawl on hands and knees
- Pull self to stand or take steps holding onto furniture
- Stand alone momentarily
- Walk with one hand held

Sensory and thinking skills

- Copy sounds and actions you make
- Try to accomplish simple goals (seeing and then crawling to a toy)
- Look for an object, such as a spoon, that has fallen out of sight

Language and social skills

- Babble, but it sometimes 'sounds like' talking
- Say at least one word
- Show affection to familiar adults
- Show mild to severe anxiety at separation from parent
- Show fear of strangers
- Raise arms when wanting to be picked up
- Understand simple commands

By 18 months of age, is the child able to:

Motor skills

- Pull, push and drop things
- Scribble with crayons
- Walk without help

Sensory and thinking skills

- Look for objects that are out of sight
- Follow simple one-step directions
- Solve problems by trial and error

Language and social skills

- Say eight to ten words you can understand
- Look at a person who is talking to them
- Ask for something by pointing or by using one word
- Direct another's attention to an object or action
- Become anxious when separated from parent(s)

By 2 years of age, is the child able to:

Motor skills

- Feed self with a spoon
- Wash hands with help
- Walk up steps with help

Sensory and thinking skills

- Take things apart
- Explore surroundings
- Point to five or six parts of a doll when asked

Language and social skills

- Use two- to three-word sentences
- Say names of objects
- Imitate parents
- Refer to self by name and use 'me' and 'mine'
- Ask for things ('I want drink')
- Point to eyes, ears, or nose when you ask

By 3 years of age is the child able to:

Motor skills

- Feed self (with some spilling)
- Wash and dry hands by self
- Dress self with help
- Use the toilet with some help
- Walk in a straight line
- Jump with both feet off the ground

Sensory and thinking skills

- Recognise sounds in the environment
- Know what is food and what is not food
- Know some numbers (but not always in the right order)
- Know where things usually belong
- Avoid some dangers, such as a hot stove or a moving car
- Follow simple requests

Language and social skills

- Use three- to five-word sentences
- Ask short questions

- Name at least ten familiar objects
- Ask to use the toilet almost every time
- Play spontaneously with two or three children in a group
- Assign roles in pretend social play ('You be mummy'; 'I be daddy')
- Know first and last name
- Understand 'I', 'You', 'He' and 'She'

By 4 years of age, is the child able to:

Motor skills

- Hold a pencil
- Draw a circle
- Draw a face
- Pour from a small jug
- Use the toilet alone

Sensory and thinking skills

- Understand words such as 'big', 'little', 'tall' and 'short'
- Count up to five objects
- Follow three instructions given at one time (e.g. 'Come inside, wash your hands, and come and eat.')

Language and social skills

- Have a large vocabulary
- Want explanations of 'why' and 'how'
- Relate a recent simple experience
- Pretend to play with imaginary objects
- Sometimes cooperate with other children
- Enjoy tag, hide-and-seek and other games with simple rules

By 5 years of age, is the child able to:

Gross motor skills

- Stand on one foot for 10 seconds or longer
- Hop, somersault
- Swing, climb

Hand and finger skills

- Copy triangle and other patterns
- Draw person with body
- Dress and undress without assistance
- Usually care for own toilet needs

Language skills

- Recall part of a story
- Speak sentences of more than five words
- Use future tense

Cognitive skills

- Count ten or more objects
- Correctly name at least four colours
- Know about things used every day in the home (e.g. cooking utensils, food)

Social and emotional skills

- Want to please friends
- Want to be like his friends
- Able to distinguish fantasy from reality

4.2 Language delay

Case 4.1

Five-year-old Ajit has been sent to the clinic by the teacher at the village school where he has just started because he seems to have very few words and the teacher thinks he may have an intellectual disability. Ajit comes with his mother, a small, poorly dressed lady who also brings along two younger children, including a baby who looks unwashed. It turns out she also has three older children at school that day. Ajit's mother does not think there is a problem. Ajit did not speak a single word until he was 3 years old, but he now speaks as well as her other children did at this age. Ajit's father, she says, is a very quiet man who hardly speaks at all, but he is in regular work as a farm labourer. Ajit is a friendly boy who smiles at the health professional and seems very close to his mother. The health professional asks him to draw a man. His drawing has legs, arms and a face with eyes, nose, ears and mouth – quite good for a boy of his age. Yet clearly his language is indeed very limited. When asked to tell the health professional about a picture of a school classroom, he just says 'school' and 'lady' pointing to the teacher. What should the health professional do?

4.2.1 Information about language delay

- Language delay should be judged against the range of normal development of the understanding and expression of language.
- Language understanding is nearly always in advance of expression.
- Around 1 year, a child can understand 'No' and 'Pick up' if he has dropped something. He can probably say 'Mama' and 'Bye'.
- Around 2 years he can probably understand 'Go and bring a plate' and 'Show me your nose'. He can probably say 'More' and 'All gone' at the end of his meal. He can ask for things with a single word, for example 'Drink' or 'Bicky' (or a similar word for biscuit).

Table 4.1 lists some reasons why children are not speaking at all by 3 years.

If other causes are ruled out, then the problem is specific language delay. The problem is shown by very limited understanding and vocabulary. This occurs more commonly in children from large, disadvantaged families. Their parents have not been able to give them the same level of care as parents from more advantaged backgrounds. They have been deprived of attention and stimulation. If they are also behind with tasks that do not require language, such as the ability to do things with their hands or draw, then they probably have an intellectual disability. This requires a different approach (see Chapter 5).

Delay in spoken language is very likely to be followed by problems in learning to read (see Section 4.4). Language delay is often accompanied by emotional and/or behaviour problems.

4.2.2 Finding out more about children with language delay

- First assess whether the child's language is delayed beyond the normal range. Assess separately what the child can understand and what the child can say.
- If language development is delayed, consider the various possible causes (Table 4.1).

Table 4.1 Differential diagnosis of language delay

	Intellectual disability	Specific language delay	Deafness	Autism	Selective mutism
Non-verbal ability	Poor	Average or above average	Average or above average	Average or below average	Average
Response to sounds	Normal for developmental level	Normal	Absent or poor	Variable	Normal
Use of gesture	Present	Present	Markedly present	Absent or impaired	Present
Neologisms (invented words) and echolalia (automatic repeating of words)	Absent or only present briefly	Absent or only present briefly	Absent	Present	Absent
Variability in language use	Absent	Absent	Absent	Present	Present
Speech intonation	Normal or immature	Often immature	Abnormal	Abnormal	Normal

Turk *et al* (2007).

- If the child is behind in other areas of development, then the child may have intellectual disability.
- The child's hearing should be carefully tested to rule out deafness (see Section 12.3) as well as other ear problems such as infection (otitis media) or middle ear effusion (glue ear).
- If the child is showing little interest in forming relationships with others and has odd movements, such as hand-flapping, then the child probably has ASD (see Section 4.6).
- If the child is not speaking at school but is speaking at home, then the child has selective mutism (see p. 63).
- If the above are all ruled out, then the language delay is specific and can be managed as below.

Now using the information you have obtained from the child with a language problem and the family member(s) you have seen, try to understand what has happened and decide what is the best course of action.

4.2.3 Helping children with language delay

Once the problem of language delay has been identified, it is important to try to improve language development as soon as possible. Language delay is a serious barrier to learning in school generally. Unfortunately there is no medical treatment for this problem and in most cases it is unlikely that the health professional will be able to refer to a speech and language therapist, but, of course, if one is available, then a referral should be made.

All the same, there is a great deal that can be done by parents and teachers to promote language development (see Section 15.4). Promoting language should start shortly after birth when shared communication begins while feeding is taking place. The mother can talk to the baby, notice when he has had enough and pause; and use his signals to decide when to go on. A little later when the baby starts to babble, the mother can enter into little pretend conversations, responding to him when he makes sounds and then waiting for him to continue his babbling. Gradually, as his first words appear, the parent needs to

respond, correct if he does not get the word quite right, but above all, listen to his attempts to communicate. A little later, parents can use the following tips to encourage language:

- talk to him about what he is doing
- ask him to tell them what he is doing
- ask him what things, such as a cup or a spoon, are used for
- help him to learn what words such as 'Up' and 'Down', 'Over' and 'Under', 'Above' and 'Below' mean
- help him to make comparisons, such as 'Where is the biggest tree?'

Playing games with children and talking at the same time is a good way to encourage language development. Going shopping provides many opportunities for this too, as does watching television by making it an active experience by encouraging the child to talk about what he sees. Telling stories to the child is more likely to help language development if he is engaged in adding to the story or (if it is a familiar story) recounting what is going to happen next.

Brothers and sisters may seem to take up parents' time so that the parents have less time to spend with the child with a problem. But brothers and sisters can be encouraged to listen to and talk with the child who is behind in language so that they actually become helpful. If they are available, grandparents and other relatives can also play their part.

If there are associated behaviour or emotional problems, then these will need attention (see Chapters 7 and 8).

Now, given this information, what can the health professional do to help Ajit, whose story began this section?

4.3 Stammering

4.3.1 Information about stammering

Stammering means the same as stuttering. The child's speech lacks fluency because of hesitations, repetitions of certain sounds (especially some consonants such as p, t and b) and prolongations of sounds. There may be occasional blocking of (inability to articulate) whole words. Stammering runs in families, with some children more genetically vulnerable than others. There is no particular form of child-rearing that produces stammering, so it is not true to say that parents cause this condition. Apart from the genetic influence, the cause is unknown. It used to be thought that left-handed children were more prone to stammer, especially if an unwise attempt was made to change their handedness. This is no longer thought to be the case.

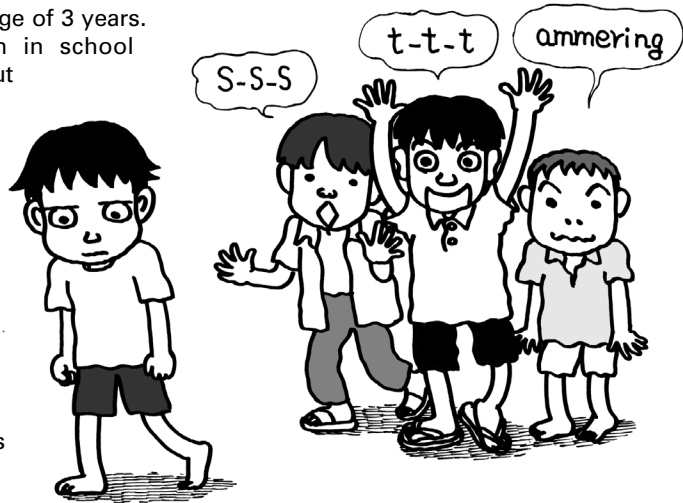
Stammering usually begins at 3–5 years and is relatively common at this age. Stammering at this early age usually stops completely without treatment, although some speech therapists believe that it is more likely to improve if the child is given treatment. When the stammer does not stop by 5 or 6 years, it may affect the child's life in school very profoundly. The child may be teased by other children and, occasionally, even by teachers.

There is no particular link with behaviour or emotional disorders, but stress at school may result in the child playing truant.

If specialist treatment by a speech and language therapist is available, this may produce some improvement but it will not result in a cure. There is no effective medication, although drugs used to relieve anxiety may be used when a child or adolescent is faced with a situation in which it is felt it is important for him to speak fluently.

Case 4.2

Rishi was a 6-year-old boy brought to the clinic by his father because of his stammer. This had been present from the age of 3 years. The stammer affected him in school because he was teased about it. His father said that he had tried shouting at him and hitting him, but this only seemed to make the stammer worse and so he had stopped doing this. Rishi's stammer was quite severe and it took him longer than normal to read a passage in a book. Rishi was a quiet, rather unhappy boy, who did not like to hear his father talk about his stammer. What should the health professional do?



4.3.2 Finding out more about children who stammer

- Find out when the stammer began and what, if anything, seemed to have triggered it.
- Find out the situations in which the stammer is better and when it is at its worst. Talking to the child about the stammer may make it worse, but it may, all the same, be necessary to ask the child directly about his problem. He may reveal, for example, that if he stops thinking about it, the stammer is much reduced.
- Ask whether anyone else in the family has stammered.
- Ask how the parents behave when the child stammers. Do they ignore it or try to get him to stop it?
- Is the child teased at home or at school because of his stammer?
- How much does the stammer affect the child's life?
- Are there any behaviour and emotional problems present?

Now using the information you have obtained from the child who has the stammer and the family member(s) you have seen, try to understand what has happened and decide what is the best course of action.

4.3.3 Helping children who stammer

- Parents should be encouraged:
 - not to blame themselves – they did not cause the stammer
 - to reassure the child that the stammer is not the child's fault – you know he is doing his best
 - to listen very attentively to what the child says; if the child thinks you are not really listening, the stammer may get worse
 - to help others to behave appropriately to the child with a stammer

- not to make the child speak unnecessarily but always let the child speak if it is clear he wants to say something
- to report any teasing or bullying complaints to his teachers
- to treat their child with the same level of affection and the same degree of discipline as they would a child without a stammer.
- Teachers should be encouraged:
 - to discuss with the child how he would like to be treated. Would he prefer, for example, not to be asked to read aloud or to be allowed to read less than the others? This question may need to be asked more than once in case the child has changed his mind. Reading aloud at home in front of a mirror or to familiar people may help the child to build confidence;
 - to strongly discourage any teasing or bullying, explaining to other children how painful this is to children with a stammer;
 - to encourage the child with a stammer to report any teasing or bullying;
 - to make sure the child is stretched, but not over-stretched, academically.
- Children should be encouraged:
 - to take their time if they have something to say
 - to tell their parents if they would like them to react differently to their stammer
 - to tell their teachers or ask their parents to tell their teachers if they would like different reactions to their stammer
 - to report any teasing or bullying at school to their parents
 - to speak slowly and to practice deep breathing – taking a deep breath is particularly helpful at the start of a sentence or when the child gets stuck on a word
 - practice reading aloud slowly.

If there is any specialist help available from speech and language therapists, then the child should be referred when the stammer has been present for 6 months or more. Earlier referrals result in specialist time being given to children who would have got better anyway. Later referrals may make treatment less effective as the stammer has become established.

Now make a list of the ways in which the health professional might be able to help Rishi.

4.4 Reading difficulties

4.4.1 *Information about reading*

Being able to read is essential for learning. Most children begin to learn to read between 5 and 7 years of age, but some do not start until 8 or 9 years. Before they begin to read, they have already learned skills essential for reading:

- understanding and expression of language
- ability to tell the difference between shapes.

Learning to read requires other skills:

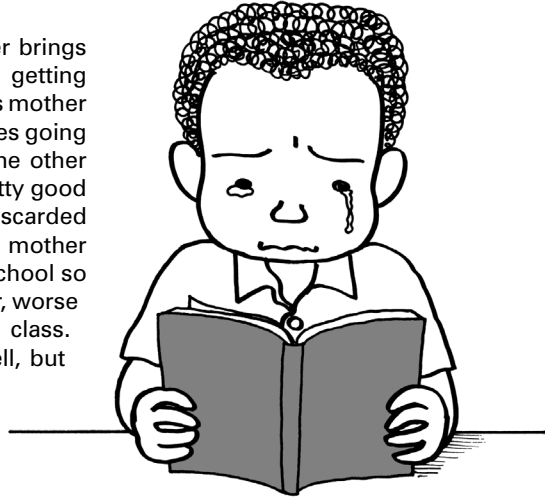
- linking different shapes to different sounds
- being able to blend individual sounds into words.

Most children begin to read by making out the sounds of letters. Then they go on to learn how to use the meaning of what they are reading so that they can make out whole words. They may also use the pictures in books to help them ‘guess’ what the next words are likely

to be. Children use a variety of strategies to help them to read successfully. All children need encouragement.

Case 4.3

David is a 10-year-old boy whose mother brings him to the clinic because he is always getting stomach aches before going to school. His mother knows what the problem really is – he hates going to school because he cannot read like the other boys. David likes drawing which he is pretty good at and enjoys making things out of discarded plastic pots, but he just cannot read. His mother thinks he sits at the back of the class at school so that he will not get asked any questions or, worse still, asked to read aloud in front of the class. David's two older sisters are reading well, but his father also had difficulty in learning to read and cannot read fluently even now. There is no psychologist available in the locality. What should the health professional do?



4.4.2 Information about reading difficulties

There are two main groups of children who have difficulty reading:

- 1 children who have intellectual disability who have difficulties learning everything or most things (see Chapter 5)
- 2 children of normal intelligence who only have difficulties in learning to read (dyslexia).

There are various reasons why children of normal intelligence find it difficult to read.

- Genetic influences.
- Problems in the child, including language delay, hearing difficulties, difficulties in telling the differences between shapes, difficulties in linking shapes to sounds, difficulties in blending sounds, difficulties in differentiating between letters and numbers that look similar (e.g. 'b' and 'd'; '6' and '9'). The latter is called 'mirror' reading or writing as children often mistake one for the other.
- Problems in the family, including lack of encouragement to read, little time spent with the child as the parents are too busy, and little conversation between the parents and the child. These problems often arise from poverty, overcrowding and poor educational level of the parents, especially the mother.
- Poor teaching at school caused by too many children in the class or by unskilled teachers.

In children of normal intelligence who have difficulty reading, many more boys than girls are affected and most children go on to have problems in spelling later on. Rates of difficulties in attention and concentration and other behaviour problems are high, as is the rate of language delay and clumsiness (motor coordination disorder).

4.4.3 Finding out more about children with reading difficulties

The health professional should check the child's hearing and vision (see Sections 12.3 and 12.4). Test also for clumsiness (see Section 4.5). Assuming that there are no medically remediable problems, if there is a psychologist or specialist teacher available it will be necessary to make an appropriate referral. In the absence of a psychologist, the health professional should:

- assess the child's ability to read – this can be done with some degree of accuracy if the health professional has three or four books of increasing level of difficulty, ranging from very simple baby books to books for adults, and has a clear idea of the level children should have reached at different ages;
- assess the child's level of understanding and expression of language (see Section 4.1.1);
- assess the child's general level of ability (see Section 4.1.1);
- decide whether the child's level of reading ability is about what one would expect from their level of general intelligence or whether it is well below this.

Now using the information you have obtained from the child with a reading problem and the family member(s) you have seen, try to understand what has happened and decide what is the best course of action.

4.4.4 Helping children of normal ability with reading difficulties

If the child is of normal general ability but is behind in reading, the health professional should discuss the problem with the parents and the child. Explain that the child does not have a medical but an educational problem. Encourage them to read to the child, tell the child stories, and get the child to talk about pictures in books. Do not punish for failure, but reward the child for small progress. After obtaining permission from the parents, discuss the problem with the child's teachers. Find out whether the teachers are aware of the problem, and whether they can give the child some extra help, and so avoid humiliating the child by asking him to read in front of the class.

Give the child individual support for reading and allow them to build up confidence on simpler words and sentences which are below their level of ability and age.

Now, given this information, what can the health professional do to help David?

4.5 Clumsiness

Case 4.4

Abhilash is a 9-year-old boy brought by his father to the clinic because he complains of nausea and he cries every morning saying he does not want to go to school. His father thinks that the problem is to do with Abhilash's writing. Whenever the teacher asks the class to write something down, he takes one look at Abhilash's work and laughs at him. Often, the teacher, who is very keen on good, neat handwriting, asks 'How am I supposed to read this scribble?'. Now Abhilash, who has always seemed a bright boy, does not want to go to school and says he feels like vomiting nearly every weekday morning. His parents think this is a fairly obvious excuse. The health professional found out that Abhilash walked and talked at the usual times. His speech was a little slow to develop and he had some difficulty in making himself understood. His attention span is a little short but he can concentrate in the classroom. He has always been a clumsy child. He did not manage to handle a cup properly until he was 4 years old. He is still clumsy using a spoon and food spills off his plate when he

eats. He is not very good at ball games. He can run quite fast but he looks awkward when he is running. He still cannot catch a ball. When he tries to kick a ball he often falls over and the other boys laugh at him. He is always the last to be chosen when the children pick teams.

4.5.1 *Information about clumsiness*

Other terms for clumsiness include dyspraxia and developmental coordination disorder. More boys than girls are found to be clumsy but this may be because boys are expected to be more agile and sporty.

Clumsiness usually shows itself in the first 3 or 4 years of life. Children may be slow to walk, and then have difficulty in holding a cup or spoon. They may bump into things and fall over a lot. They are slow to dress themselves and have particular difficulty doing up buttons or shoelaces. Once they start school they will have problems with handwriting and this may cause them trouble in most school subjects. Often it is only by school age that it becomes obvious that a child's slightly clumsy movements are not just a development phase but are beginning to be a significant problem.

Clumsiness is mainly caused by genetic influences. Very occasionally the problem may be caused by a neuromuscular disorder or by medication the child is taking. Children born very prematurely are more at risk, but most children who are clumsy have been born following a normal delivery.

The type of clumsiness may not be easy to detect. Some children seem to have a poor sense of the position of their limbs (known as proprioception). This is something most children have automatically. Others have difficulties in recognising when the patterns they are making or drawing are the same or different (perceptual or spatial difficulties). Obviously this will cause problems in handwriting. A child may not be able to tell the difference between a 'b' and a 'd' or between a 'p' and a 'q' and so have a problem learning to read.

There is a link with overactivity and attention problems (see Section 8.2). Children who have severe or moderate learning difficulties or ASD are also often clumsy. However, most children who are clumsy are of normal intelligence.

Children who are clumsy often have a poor opinion of themselves. Boys especially may become depressed because they are not nearly as good as other children at sport. They may develop oppositional behaviour as they resent being told off particularly when they are trying hard.

Children who are clumsy in the first few years of life are likely to remain so during childhood and adolescence, but they can be helped in a number of ways.

4.5.2 *Finding out more about children who are clumsy*

- Obtain an account of the problems the child is having, especially in writing and in sporting activities. If the child is old enough, make sure the child is involved in giving the story.
- Find out about any early problems in coordination, for example in holding a cup and eating with a spoon.
- Ask whether the child has any problems in attention or concentration in school.
- Ask how the child is affected by his clumsiness – does it make him miserable or anxious?
- Examine the child for muscle weakness or any other obvious neurological disorder.
- Observe the child walking along a straight line and hopping. Get them to touch their fingers in turn against the thumb of the same hand. Watch the child's handwriting yourself. Get the child to throw and catch a ball. Judge the child's performance in these tasks against how other children you know or have seen can perform.

- If possible, discuss the child's clumsiness with the school and find out how they think the child is affected.
- Decide with the parent(s) and child whether the child really is unusually clumsy.
- Note, a child's clumsiness is often very variable: a child might appear quite able one day, but another day, especially if tired, might have a lot more difficulty. Many children who are clumsy can perform quite well on some tasks such as handwriting if they try hard for short periods of time (e.g. when being examined) but cannot keep up the effort.

Now, given the information you have obtained from observing the child and talking to the family member(s), try to understand why the child is so clumsy. Then go on to work out a plan to help.

4.5.3 *Helping children who are clumsy*

Assuming the child is unusually clumsy but, as is nearly always the case, there is no neurological problem present, explain to the parent(s) and child what the problem is. Explain (if this is indeed the case) that you do not really know why the child is unusually clumsy but that some children are born this way. Always add that this does not mean there is nothing that can be done to help – indeed, although there is no cure, there is a lot that can be done. If the child has an associated problem with attention or concentration refer to Section 8.2 for what to do.

Explain to the child's school about the nature of the child's clumsiness and encourage the teachers to take a sympathetic attitude to the problem. It is not the child's fault. The parents are probably already sympathetic but may need to be talked to along similar lines.

There are three approaches to helping the child with the difficulties he is experiencing as a result of clumsiness. They should all be used. First, the child needs more practice than others in the tasks he finds difficult. It is really important to give the child more opportunities to practice handwriting than is the case with other children. Parents can practice throwing, catching and kicking a ball. This should be seen as fun, not as a task to be completed. Often running, jumping, swinging and catching a big ball are both fun and the best way of helping develop coordination for more precise tasks such as handwriting.

Second, the child needs to be helped to find alternative activities to those which he finds a problem, so sports that do not require as much coordination as others, such as running rather than football, are to be preferred. As computers gradually become universally available, even to children in LAMI countries, handwriting will become less important. Children with handwriting problems need to be given more time to complete tasks.

Third, boost the child's confidence by making sure he gets lots of praise just for trying hard as well as for making small improvements in the things he is not good at. Encourage the child to talk about his feelings if he is left out of team games and find other things for him to do instead.

It is very unlikely that there will be any specialist therapists, such as occupational therapists, available to advise, but if there are then a referral should be made. A great deal of help can, however, be given by parents and teachers.

Now make a list of the ways in which the health professional might be able to help Abhilash.

4.6 Autism spectrum disorder

Case 4.5

Mustafa is a 4-year-old boy whose mother is very worried because he has no speech. He has never said a word. He does not seem to understand speech either. He does not respond when he is called by his name. He does seem to respond to sounds he has not heard before and is upset by loud noises. He is unusual in other ways too. He does not look at his mother in the face when she talks to him. He seems to want to look away. Unlike her second child who is now 2 years old, he does not like to be picked up and cuddled, and struggles to be put down. In fact he has never seemed to miss his mother when she is not there. Even when he hurts himself he does not look to his mother to comfort him. He also has a strange way of flapping his hands up and down when he is excited. Yet Mustafa started to walk by himself quite normally when he was 1 year old and he is able to draw a man, using a pencil, better than most 4-year-olds.

Case 4.6

Josef is a 10-year-old boy whose teachers have told his mother to take him to the health professional because they think he is very odd. His mother is not too worried about him, although she recognises that he is an unusual boy. He looks away when looked in the eye. He does not have any friends and does not seem to mind this. He is very close to his mother. His speech is also unusual because although he uses language correctly, he speaks in a rather mechanical way, almost as if he were a machine or a robot. His schoolwork is good, especially his number work. Indeed, he is unusually good with his numbers and can multiply numbers together much better than most children of his age.

Both of these boys have language development and relationship problems. They both have autism spectrum disorder (ASD), with Mustafa at the severe end of the spectrum and Josef at the milder end. Josef's condition is sometimes called Asperger syndrome, where there is no speech delay and the language is well developed but its use is odd and mechanical.

4.6.1 Information about ASD

Children with ASD have problems with their development which is very uneven. Usually this abnormality of development is present from birth, but occasionally development is normal for the first 18 months or 2 years, after which, often for no obvious reason, their development becomes seriously abnormal, with the loss of some of the skills they had achieved.

Social development

Relationships with other people are both delayed and abnormal. If severely affected, children with ASD are very slow to become attached to their mother and other family members. They do not seem to show any anxiety when they are separated from their mother. Such separation anxiety is a feature of normal development, especially between the ages of 6 and 18 months (see Chapter 15). Gradually, such children do become attached to members of their family and may become quite clingy by the age of 5 or 6 years. Less severely affected children do show some affection and sociability with close family members but do not develop friendships with other children. They seem to like being solitary. Others appear to try to play with other children but hit them or say upsetting things and then find it difficult to understand why the other children are upset or do not want to play with them.

Language development

For some severely affected children, spoken language never develops at all. Others do develop speech but in an unusual way, for example they may echo or repeat back words that are spoken to them (echolalia) and make up words they have never heard (neologisms). They might, for example, call a chair a 'sit-down'. More mildly affected children often have normal language except for their intonation – the way they pronounce their words is often monotonous and mechanical sounding or may have special accents.

Odd interests

More severely affected children easily become obsessed with apparently meaningless rituals such as spinning things around. More able children may have well-developed but unusual interests, for example in maps or timetables. They often have difficulty understanding that other people do not share their interests.

Odd movements

Odd movements (the most common is flapping of the hands) are called mannerisms or stereotypies and are likely to be most obvious when the child is excited or upset. Mildly affected children may not show these at all.

Sensitivity to noise

If there is a loud noise, more severely affected children may put their hands up to their ears as if they are in pain.

Frequency

Boys are affected four or five times more than girls. The severe form of ASD is rather rare, occurring in about 1 in 3000 children. The milder form is much more common, occurring in as many as 1 per 100–200 children.

Causes

Abnormal genes are by far the most important cause of ASD. Children with ASD sometimes have a parent who is rather solitary. Most brothers and sisters develop normally, but they do have language and other learning problems somewhat more often than siblings of children without ASD. It has not so far been possible to identify the exact genetic abnormality, although a number of genes have been implicated. Occasionally, children with ASD have a rare genetic disorder such as tuberose sclerosis that affects their brain and causes this type of developmental problem.

Associated problems

Many children with ASD are slow in other aspects of their development such as using a pencil or gaining bladder and bowel control. In contrast, a small minority are unusually gifted in, for example, drawing, music or computers. Children with ASD have a slight but definite increase in the risk of developing epilepsy.

Outcome

Mildly affected children will improve and be able to lead normal lives, although it is likely they will always have difficulty getting on with other people. More severely affected children will also improve but at a much slower rate. In adulthood they will probably only be able to live partly independent lives and will continue to need special care.

Now, given the information you have obtained, try to understand how ASD has arisen in this particular child. Then go on to work out a plan to help.

4.6.2 *Helping children with ASD*

Need for special upbringing

Children with ASD are different from those with general learning difficulties or intellectual disability. They show average or even occasionally above average ability in some skills, especially drawing, music or computer skills, so they should not be treated in the same way.

Explanation to parents

Parents, especially mothers, are often particularly confused and upset by the rejecting way these children behave towards them. They need reassurance and to be told that their child's problems are not their fault. They will benefit from continuing support from other family members, friends and health professionals as the child gets older.

Help but no cure

Medication has no part to play except for associated problems such as epilepsy or hyperactivity (see Sections 8.2 and 12.6). Parents can be helped to cope with their child better, to reduce some of their behaviour problems and to promote their development. If parents name things when they use them – 'drink', 'dinner', 'bed', 'book' – their children may gradually learn what these words mean. Parents should try to communicate in any way possible, including the use of signs. Mildly affected children will be able to attend school, but more severely affected children are likely to have to be kept at home. Parents will need all the help they can get from other family members and friends if they are to continue looking after the child. In most areas there will be no special schools for children with these problems, but if there are, such children should attend.

Reducing difficult behaviour

Parents should be encouraged to ignore difficult behaviour but to reward all desirable behaviours with words of praise. Hugs and cuddles may not be liked by the child. Observe the child, learn what kind of activities/words makes him happy. Mildly affected children can be helped to get on better with other children if it is realised they need a great deal of help to make friends.

4.6.3 *Identifying and treating signs and symptoms*

Early identification of signs and symptoms (Box 4.1) in the second and third year of life and intensive intervention are important in improving outcome (Bryanne & Eapen, 2012). The 'wait and see' method often recommended to concerned parents could lead to missed opportunities. Instead, pre-school children can be helped through programmes (at home, at school or at special centres) directed at providing intense stimulation with opportunities for play. The main goals include:

- 1 bringing the child into social relationships rather than allowing the child to drift away from the social circle of the home environment
- 2 following the child's lead when interacting with the child, and
- 3 engaging the child in play activities that involve interacting and communicating with the child using the following strategies:
 - i responding sensitively to even the slightest emotional response from the child
 - ii balancing your actions according to the interest shown by the child
 - iii imitating and matching the emotional and social responses of the child
 - iv sharing and turn taking
 - v engaging in activities that promote joint attention where the child attends to an object or event (e.g. 'Hey look...') with another adult (parent, teacher or therapist) in joint activities.

Box 4.1 Early signs and symptoms suggestive of autism

- Does not respond to his name being called or recognise familiar sounds (familiar voice, door-bell, etc.)
- Does not point to or show things as a way of sharing the experience
- Does not use gesture to communicate (e.g. waving bye-bye)
- Does not interact with others during play (e.g. showing or looking up for a reaction) or engage in social games (e.g. peek-a-boo or hide-and-seek)
- Does not engage in pretend play (e.g. feeding doll; racing car) or engage in group games, imitate others, or use toys in creative ways
- Does not let you know what he wants or does not want
- Does not imitate actions (including facial expression) or speech or songs
- Unusual (lining up or spinning objects, moving fingers in front of the eyes) and repetitive behaviours (e.g. hand flapping, rocking, tip-toe walking)
- Does not like to be touched, held or cuddled
- Does not attend jointly with you to share an experience (e.g. does not respond to 'Hey, look ...' or bring toys to 'show' you)
- Does not show interest or is unaware of what's going on around
- Does not know how to connect with others, or make friends
- Does not understand other people's feelings, intentions, etc.
- Restricted interests, insistence on doing things the same way and does not like change to routines

Speech stimulation (see Section 4.2 on language delay), social skills training and educational programmes ensure optimum development and well-being. Behavioural therapy techniques can help children acquire self-help and social skills and improve communication. Although healthy children learn mostly by observing and through minimal adult guidance the daily living skills such as feeding, dressing and toilet training, as well as social skills such as playing and interacting with others, children with ASD need teaching and training using specific techniques. Similar to those used in intellectual disability, these techniques include:

- rewarding by praising the child and giving rewards when the child shows desirable behaviour or makes an attempt to learn appropriate and new behaviours
- modelling and encouraging the child to do the activity by showing the child how this is done
- teaching the simplified version of a complex activity first and then gradually increasing the complexity at a pace comfortable to the child
- teaching an activity such as feeding skills by breaking it up into several small steps (see Section 5.3 on helping children with intellectual disability) – this can be done by starting with the first step and going forwards or teaching the last step first and then going backwards
- for children who are not able to learn by modelling, the child can be taught the activity by holding their hands and doing it with them until they are able to do it by themselves.

Now work out ways in which a health professional could help Mustafa and Josef.