



Your Child and **Hydrocephalus**

Section five 3–5 years

3–5 years

When you are three, the world is an exciting place to be. Whilst still dependent on you, their personalities are really beginning to develop. They are likely to be letting you know if they do or do not like something and starting to question you when you ask them to do something. Up to now, the world has been mainly about their relationship with their family, but they are entering a world of many others as they embark on preschool and school and all the skills that come with that.

Skills to look out for

- Talks and asks questions
- Builds a tower with blocks
- Begins to understand the concept of time, ('now', 'later' etc.)
- Ready to stop their afternoon nap
- Feeds themselves, introducing cutlery (it will be messy but don't rush in with the wet wipes!)
- Takes easy clothes on and off
- Draws, beginning to hold a pencil
- Plays with others, although sharing their favourite toy is unlikely to happen

Physical development – Gross motor skills (large movements)



They will be beginning to have control and coordination over their movements, which may include

- Walking unaided
- Increasing confidence on the stairs
- Balancing on one leg for 3-4 seconds
- Kicking a large ball
- Throwing a ball
- Beginning to ride a tricycle or scooter

Mobility

If you notice that your child is tripping when walking, struggling with the stairs, bumping into objects, or has difficulties throwing and catching a large ball then it may be worth speaking to your physiotherapist.

Hydrocephalus can result in difficulties with coordination of movement, balance and/or visual perceptual skills and your therapy team can help you with this.

Bikes, in particular, can be a challenge for some children with hydrocephalus. Balance bikes, larger saddles, stabilisers or specialist bikes and trikes can help. Charities can often help with funding.

The ability to explore your environment independently is very important for all aspects of child development. If your child is unable to do so on their own, then explore the potential of therapy and mobility equipment to enable this.

Some of the causes of hydrocephalus can also affect mobility, for example brain bleeds may cause cerebral palsy.



Upper limb skills – Fine motor skills

As your child gains greater control of their upper limbs (shoulders and arms), this leads to finer, more precise movements (fine motor skills). By the age of three, we are looking at gaining skills relating to holding a pencil, holding cutlery, preparing for preschool and school. (See handwriting tips on page 46)

- In order for your child to fully develop their fine motor skills, they need to have enough stability in their trunk and their shoulders
- It's helpful to make sure that your child is sitting well when doing things that require a steady hand



Tips to help

Activities in long-leg sitting such as batting a balloon, or catching bubbles encouraging them to reach from side to side are excellent for core control.

Activities to help shoulder stabilisation

- 4-point kneeling and playing on hands and knees rolling over a ball to rest on hands with straight arms – try lifting alternate hands
- Doing activities such as drawing, puzzles, or lego on their tummies propped on their arms

Grip strength

In order for your child to successfully start to grip pencils, they need to have strength in their hands.



Good activities to help with hand strength and coordination include:

- Any construction toy that involves pulling and pushing such as Duplo, Lego, Stickle Bricks
- Playing with clothes pegs
- Playdough
- Squeezing wet flannels
- Baking is a great multi-sensory, fun activity to do together; it allows for lots of different skills:

Physical – kneading or rubbing breadcrumbs, rolling, pouring and lifting.

Sensory – exploring textures and smells of flour, butter, washing-up liquid, etc. There are also the sounds made by the equipment, and of course the tastes!

Language – learning to follow a recipe, beginning to read words and follow instructions.

Cognitive/learning – weighing and measuring sizes or volume. Science, sequencing and questioning: “What do the eggs do in a cake?”

Social/emotional – working together and sharing the finished products. The sense of achievement from producing something themselves.





Some children with hydrocephalus can have difficulties with balance, coordination and their vision, all of which can affect their fine motor skills. If you feel this is the case, then a referral to a paediatric occupational therapist would be recommended. They will be able to assess your child and to give you a therapy plan to help. If possible get them to see your child at home and in a preschool/ school environment. See page 81 Additional Information for some practical advice.



Screen time

All children seem to love screens and they are everywhere, but how do we know how much is too much?

Evidence is currently mixed, but research into children's development has shown that excessive screen time can affect areas such as behaviour, sleep patterns and fine motor skills (the hand skills needed for writing, using cutlery and doing buttons, etc.).

Time spent on a screen is time away from exploring the wider world and developing physical, sensory, communication and social skills that are so important, especially for a child for whom these things may not come naturally.

Young children learn best when they are with another person, communicating face to face.

Children with hydrocephalus can have difficulties with their visual perceptual skills, including depth perception which is important for being able to judge distances when going down kerbs, or crossing the road.

Activities on flat (2D) screens, especially small, handheld devices, require limited eye movement which can affect the full development of visual perception abilities.

A screen also requires very little physical movement. No strength is required to swipe on a screen, but we know that activities such as crab-walking, climbing frames, baking and Lego encourage good shoulder stability and strength which are important for developing good fine motor skills.

Are screens all bad? No. We all need down time. Structured screen use can aid learning. There are some really useful apps that can help with learning, memory and behaviour. Screens can be used to help calm and relax both you and your child.

Top screen tips

- Establish family screen time rules. Under twos should only use screens very occasionally. For over twos, the limit should be two hours a day
- No screens in bedrooms, especially before bedtime. The blue light from screens can reduce the effect of melatonin, which helps regulate sleep
- Screen-free time at meals; it's a great time to spend time talking with your child
- Use interactive apps so you are learning together
- Invest in a screen stand. It's not good for posture to be looking down at a screen
- Use fun and educational apps to help your child learn, whilst having fun
- Make sure you have the correct safety filters on your devices

Ref: Paediatrics & Child Health, Volume 22, Issue 8, 27 November 2017, pages 461–468, Fine motor skills on testing were reduced or delayed in preschool children who use screens regularly. (Lin yi ling 2017)

<https://medium.com/s/little-minds-and-big-screens/six-screen-time-studies-that-changed-my-parenting-approach-68a3d32e0bc2>



Skills for life

Your child is beginning to get more independent and is starting to learn some of the important skills needed for life.

Washing – when having a bath or shower, give them a flannel, or body puff (easier to grip) and allow them to wash themselves. This is helpful for developing body awareness, especially if they have spina bifida with little or no sensation in their legs and feet.

Dressing – learning to dress yourself is an important skill to master.

Many children find dressing/undressing skills a challenge. This can be particularly difficult if you have additional needs. Children with hydrocephalus may have difficulties planning movements and with their balance and visual perception.

Here are some tips to help:

- 1 Be organised** – if you are organised and have clothes in different sections, it will help your child to be organised. Keep shoes and coats in the same place. You can label drawers using pictures or words to help.
- 2 Start small** – practise with one item at a time, for example putting on a T-shirt or underwear. Give them a choice of two or three items. Praise them every time they try.
- 3 Choose your timing** – getting ready for bed can be stressful, especially if you and your child are tired. Having a bath and getting in pjs before tea can make for a more relaxing evening.
- 4 Weaker side first** – if your child has a weaker side, when putting clothing on always put that side in first.

5 Get your balance – teach your child to get dressed sitting down on a stool, bed or better still the floor as they will have more stability.

6 Choose easy clothes – elastic waists, T-shirts and stretchy fabrics can help. Going up a size, especially with socks and tights, can make things easier. Polo shirts are easier than shirts for school. Skirts are easier than dresses.





7 Zips and buttons – if zips are difficult, attach a small keyring or piece of ribbon through the zip pull to help with grip and visual clues.

8 Buttons can be tricky – look for clothing with large buttons to start.

9 To help line up buttons and holes – put a coloured mark using nail varnish underneath the button and corresponding hole. Get one right and the rest should follow.

10 Socks – use socks with brightly coloured heels to help get them the right way. If you put socks on first, trousers slip on easier.

11 Putting clothing on – use brightly coloured name tags at the back of clothing. Teach them that the label goes at the back. Buy underwear with pictures on the front.

12 Order of clothing – try laying out clothes in a body shape. You can use picture charts for the order of item – “Pants first” is a good motto!

13 Shoes – learning to tie shoelaces is a complicated business; it requires concentration, fine motor skills and hand-eye coordination. Try practising with your child at a quiet time, not when you are in a rush. You can get alternatives such as elastic laces or try velcro shoes.

As a parent, teaching any child how to get dressed can sometimes be frustratingly slow, but with patience and lots of praise they will get there. If you think your child is having difficulty with dressing themselves you can get further support and advice from an OT and/or Shine.

Toileting

Ideally, your child will be continent (or have their continence managed) before starting school. If this is a cause for concern, or if your child has other continence difficulties relating to spina bifida, or other conditions, do speak to your health visitor and look at a referral to a continence advisor. See section on ‘toilet training’.

Eating and drinking

Your child should be beginning to feed themselves, with finger food and also holding cutlery.

You can help them by

- Being prepared for a mess
- **Using child-sized cutlery.** You can mark knives and forks to show them where to hold them. It can be tempting to continue feeding your child if they are struggling, but it is important to let them try
- **Sensory and food** – children at this age can become fussy in their eating, but it is a good time to get them into good, healthy eating habits. This is particularly important if your child has restricted mobility, as they may gain weight more easily than others. Some children with hydrocephalus can have issues with hyper- or hypo-sensitivity to different textures, smells, etc. which can lead to a restricted diet. See page 10 on sensory issues
- It is ok for your child to have messy hands and face when eating; it helps develop normal sensory experience, so as before, keep those wet wipes until you have finished the meal and allow your child to practise cleaning themselves

Drinking

Keeping hydrated is important for all children, and especially important for children with hydrocephalus, who might get headaches if they don't drink enough. Good fluid intake helps to maintain a healthy bladder and reduce the risk of urinary tract infection. It can also help maintain concentration throughout the day. Your child might need prompting to drink throughout the day. Even if the drink is in front of them, they might not realise they're thirsty and need to drink.



3 – 5 years

Cognition and learning

By the age of three children are doing a lot of their learning by exploring, actively doing things, and using their senses to explore.

Some children with hydrocephalus can have difficulty with learning, in particular the higher-level thinking skills such as language and memory, which in turn can affect decision-making, logical thinking and organisational skills. All these can have an impact on how your child learns.



Ideas that can help include:

- **Creating a routine** – children learn best when they have some boundaries and a routine. Putting some structured routines in at home can help and begin to prepare them for school life. Have a written or visual timetable for the day and then the week. If the routine needs to change, prepare your child and show the changes on the picture timetable
- **Consistency** – do the same things in the same places
- **Time** – some children with hydrocephalus struggle with time, especially understanding the passing of time. You may have asked your child to get dressed ten minutes ago, but they don't feel the ten minutes in the same way as you. Time might pass with nothing happening, leading to tension and upset in an already busy household. Using visual countdown times on a phone, with verbal prompts, may help
- **Organisation** – it does help if you, as the grown-up, can be organised. This will be more natural for some people than others

Communication

A preschool child typically has a large range of vocabulary, around 1500 words, and will be asking you about the world around them: “Can we fly to the moon?” ...“Why not?”

They can understand a lot of your conversation, so do be aware of what you are saying! You can help communication by keeping questions and statements separate. For example,

instead of, “Would you like to tidy your toys now?” use, “It's time to tidy your toys now”, which is less confusing for your child and doesn't give them the option to say no all the time! Say what you mean, simply, clearly and in short sentences.

Nursery rhymes and songs with actions are a really fun and useful way to improve and develop language skills.

Language is not just ‘speaking’, it includes the process of understanding (comprehension) as well.

Language is more than just words. A neutral tone of voice can be hard for a child with hydrocephalus to interpret and they may ask, “Are you happy with me?” just to check. Body language and facial expressions can be tricky for a child with hydrocephalus to understand and this can lead to misunderstandings. There are some useful books and phone apps that look at facial expressions which may be helpful at home and at school.



Verbal fluency (speaking) and comprehension

(understanding) occur in different sections of the brain. Children with hydrocephalus may have good vocabularies but may struggle with comprehension. Other children may find it hard to find the right word quickly, or to use grammar in the correct way. This is important, as the meaning of the sentences we speak is based on grammar. Not understanding how words are used means not understanding the sentence as it was intended. This can sometimes be missed, so it is important to make those working with your child aware of this if it is an issue.

An occupational therapist, speech and language therapist or an educational psychologist should be able to carry out standardised tests to identify any areas of difficulty and then provide tips for helping at home and school.

Social and emotional

Your child is beginning to have more awareness of the world around them, including how they fit in the world. If they have some limitations, or differences from their brothers and sisters or peers, they may become aware of this and this can lead to different emotions.

Make time to chat to your child and allow them opportunities to talk. The Benny and Bella books from Shine may be useful to read through.

Some children with hydrocephalus can find it hard to adjust emotionally to changes in plans or routine. If possible, pre-warn them of changes and be aware that their initial response may not be positive, but just give them time for the information to 'sink in'. Keeping to routine will help your child, but helping them learn that things can change and still be ok is important too.

If you have any concerns about any aspect of your child's development do speak to your health visitor, or relevant health professional. You may also contact us here at Shine.

Reading really matters

Reading with your child is a fantastic opportunity for you to enjoy something together while developing important life skills. Organisations like Book Trust, the National Literacy Trust and The Reading Agency promote reading for pleasure and shared reading in the UK, to help children become confident readers as well as building social awareness.

Raising readers at home gives children a great start in life. The benefits of early reading with your child includes improved brain function, better literacy and enhanced vocabulary. Reading regularly at home leads to the ability to read better when starting school, which also improves behaviour in the classroom. By promoting a love of reading at home, parents and carers encourage their child's learning development.

When you share and talk about books with your child you help them to focus on pictures and text. You help your child to learn that pictures and symbols have meanings. They also learn to follow a sequence and to predict how a story ends, while learning new words. It's the perfect learning tool for having fun and entertaining your child.



Children who struggle with print, including children and young people with dyslexia or who are partially sighted, can still enjoy picture books and large print in order to decode the written word. Many libraries have dyslexia-friendly books which are helpful for a range of children. Children with hydrocephalus often enjoy word play and love remembering favourite stories. Some children can struggle with subtle hidden meanings so reading regularly together can develop that skill for use in everyday life.

Sitting together, sharing a story and having quality time with your child has so many positive effects on communication, learning development, social, sensory and hand skills. You are not just teaching your child to read; you are teaching your child to enjoy sharing a book and all the fun that can be.





Handwriting tips

Your child will spend a lot of their school days holding a pencil, and later a pen, so preparing your child for this is important.

Pre-writing skills – do fun activities that help prepare your child for writing such as painting, threading pasta and beads, colouring and simple dot-to-dots. Practising cutting skills with close adult supervision is also very good.

To find free downloadable sheets by generous arrangement with Twinkl, visit www.twinkl.co.uk/resources

When children first grip writing tools, they tend to use their whole fist. This then develops gradually until they move on to what is known as a tripod grip. This allows for finer control of the pen. Children do not usually achieve this until around six years of age.

Are you sitting comfortably?

Sitting in a good position is an important part of learning to write. If feet are off the ground, or the child is perched on the edge of the seat, they will not be stable enough.

Tips to help

- It is best to have a seat and table at the correct height. The table should reach to just above the elbow
- Feet should be flat on the floor, you can use a non-slip footrest if needed
- They should be sitting up straight, with their bottom right at the back of the chair
- To reduce leaning over the desk to write, you can use a sloping surface – a small lever-arch file could be used or you can buy writing boards

- It is easier to write with the paper angled away from the hand they are writing with
- You can always use some tape to secure the paper. Using a non-slip product such as 'Dycem' can also help to secure items in place

Holding the pen/pencil

The way your child grips the pencil will affect the quality, speed and flow of the handwriting.

Show your child how to hold the pencil with the middle finger resting underneath and the first finger and thumb on top – this is called a 'tripod grasp'. The pencil should be held about one to three centimetres from the writing tip, so that there is control over its movement. The grip should be relaxed, not pressing too hard on the paper.



Start with larger crayons, and pencils which are easier to grip.

You can get a variety of pen and pencil grips that can help. Schools often have a selection of these you can try with your child. Many children benefit from a simple rubber triangular pen grip which are not expensive.

Tips to help:

- Copying words from a whiteboard on to paper can be difficult for some children as they have to look at the board, remember what it is they need to write and then look down to write it out
- Where possible have a copy of the work next to them
- Using graph paper can help with spacing letters
- Mark where to begin writing, as children with visual perception issues might not begin at the top left-hand corner
- Be aware of concentration levels

Writing and hydrocephalus

It is often more common for a child with hydrocephalus to be left-handed, owing to prematurity and other events that result in hydrocephalus. Most often the tools your child has available to them will be for right-hand use and therefore totally back to front for them. This can make them appear clumsy and awkward. Fortunately, there are lots of left-handed products available such as scissors, notebooks, knives, rulers, pens and even potato peelers!

You can make writing easier by encouraging them to start writing to the left of their body, with the left corner of the paper tilted up, holding the pen 2-3cm from the tip. As well as physically gripping a pen, some children can struggle with their visual perceptual skills and their concentration which can make handwriting difficult.

If you have any concerns about your child's handwriting skills, speak to your school. You can ask for a referral to paediatric occupational therapy who will be able to offer assessment and advice.

Vision and visual perception in hydrocephalus

Visual difficulties can be quite common in children with hydrocephalus. It is recommended that children (and adults) are regularly monitored and reviewed by an optician or ophthalmologist. This may be in a hospital or via your local optician. Your optician will look at the health of the back of the eye where any increase in pressure may sometimes be identified. You should always inform your optician of a diagnosis of hydrocephalus. Eye problems can cause headaches and blurred vision, which can mimic the symptoms of shunt malfunction; an eye check can be helpful in addressing this.

Children with hydrocephalus may also be seen in the orthoptics department if they have problems with eye movements. The nerves that control eye movements come directly from the brain (cranial nerves) and can be affected by hydrocephalus. Double vision, squints or nystagmus (involuntary eye movements) can have a big impact on learning and brain development, so the earlier they are treated, the better.



If a headache is severe, sudden and accompanied by any other signs of acute shunt malfunction, take them straight to A&E and contact the Neurosurgery Centre.

3 – 5 years

Visual perceptual difficulties

What do we mean by visual perceptual skills? Visual perception is the way we know and understand the world around us through what we see. Children who have difficulty with visual perception often find the world a very confusing place. They may experience difficulty with some of the tasks other people take for granted.

Why is it important? We use our visual perception skills in everyday life; to find our way around buildings, to judge the depth of steps and stairs or to work out what an object is when we cannot see the whole object.

Visual perception and hydrocephalus

Studies have shown that some children with hydrocephalus can have difficulties in this area, in particular with figure-ground and visual-spatial perception.

What is figure-ground perception?

Visual figure-ground perception is the ability to focus on one piece of visual information on a busy background.

Figure-ground perception can help you to:

- Find your favourite socks in a messy drawer
- Find the milk in the fridge
- Find a specific toy in the toy box

- Find a dropped item if it fell on to a similar-coloured background (e.g. a 2p coin on a brown carpet)

A child with difficulties may

- Struggle to find information on a busy whiteboard or worksheet
- Lose his place when copying work from the board
- Lose her place on the page while reading
- Struggle with map work
- Struggle to find personal items in a cluttered place

How to help

- Keep desks and bedrooms organised and reduce distractions
- If at school, try sitting at the front of the classroom
- Reduce visual distractions when trying to concentrate on a task, such as switching off the TV
- Reduce and simplify the amount of information given at one time. Focus on one simple task at a time
- Use paper or a ruler to cover up part of the page when reading
- Practise pairing socks from a basketful – start with just a few
- Play spot the difference games – start very simply





What is visual-spatial perception?

Visual-spatial perception is the ability to understand where your body is in relation to other objects and people in a room. It also includes the ability to identify different shapes and understand distance.

A child with difficulties may struggle with:

- Writing letters on a line
- Spacing letters and words
- Jigsaws
- Putting on clothes the right way around and in the correct order
- Knocking over things and tripping
- Walking up and down stairs safely and going through doors without bumping into doorways

How to help

- Practise with easy tasks to build your child's confidence
- When dressing, when putting on T-shirts and jumpers encourage your child to put 'labels at the back and pictures at the front'
- Encourage your child to explore different surroundings and surfaces, for example soft play, playgrounds, gravel and sand
- Encourage your child to move slowly through doors or up and down stairs, holding on to the rail

- Help your child to know where his or her arms and legs are, and understand how they work together. Songs such as 'Head, shoulders, Knees And Toes' work well
- Place a small sticker on writing paper to indicate to your child where to start or stop writing
- Darken the line on writing paper to help with the positioning of letters
- Use graph paper for writing, which will encourage the suitable spacing of words
- Visual perception games can train your child's brain to complete complex tasks. Matching, finding and spotting games help with visual discrimination. Finding hidden objects and making mirror pictures assists with visual closure

Dot-to-dot pictures and obstacle courses can reinforce visual-spatial relationships. Visual and sequential memory can develop with jigsaw puzzles and figure-ground discrimination can improve with 'odd one out' games. Your child may not naturally choose toys and games like these but, with a positive approach, learning when playing with these particular toys can be fun.

IMPORTANT TO KNOW... If you think your child may have difficulty in this area it is worth getting a referral to your local children's Occupational Therapy Service. They can carry out assessments to identify specific areas of difficulty and give practical suggestions to help.