

Children with Cerebral Visual Impairment

School Strategies for Younger child (4-8 years)

The following strategies are suggestions to try out for some of the identified problem areas for your child at school.

It is important to remember that what works for one child may not work for others and that if a strategy works well initially it may not last and may require to be adapted or changed in the future.

It is important to prioritise a few problem areas and implement one or two strategies. Initially trying to tackle all areas of difficulty and implement all solutions at one time can result in overload and ultimately will not be beneficial.

The following information outlines some of the key areas of difficulty identified from the clinical structured history taking questionnaire and some of the strategies which may be effective for each problem.

Impaired visual field or visual perception affecting vision affecting movement

Difficulties in this area can be due to impairment in the visual field especially lower visual field or left/ right visual fields.

Difficulties in this area can also be due to difficulty with depth perception resulting in problems seeing and adjusting to uneven surfaces, changes in the floor surfaces, edges of pavements or kerbs, or the ability to see objects on the floor surface if it is patterned or cluttered. The child therefore does not adjust their movements accordingly and is increasingly likely to hesitate, stumble, trip or fall.

1. Trip over bags and obstacles on the floor

Strategies to try

- Keep floor surfaces clear especially of shoes, school bags and lunch boxes.
- Use additional supports to negotiate obstacles i.e. wall, adult.
- Develop good storage systems and routines to avoid clutter and obstacles on the floor.

Ulster University Vision Resources

School Strategies for difficulties associated with CVI, highlighted by clinical structured history taking inventory.
Younger child (4-8 years)

2. Has difficulty walking down stairs

Strategies to try

- Use additional tactile referencing and physical support, i.e. hand rails at the correct height, adult to hold.
- Highlight the edges of the stairs with bright colours or dots in the middle of the stair.
- Colour mark beyond the top and bottom of the stairs to emphasis start and finish.
- Give additional verbal reminders to slow down/ hold on to hand rails
- Use bright lighting or spot lighting on stairs, especially top, bottom and landing.
- Allow the child to be first or last when using stairs ,especially if there is a crowd of people i.e. at school
- Buddy child with a peer for support especially at school.
- Encourage use of lifts/ moving stairs if available.
- Give permission to leave early or later especially from class to avoid the rush and crowds of other people.
- Try to ensure classes are on ground floor level where possible.

6. Looks down or trips when crossing floor boundaries e.g. where lino meets carpet

Strategies to try

- Try plain carpets and floor surfaces.
- Have good lighting at the boundary areas
- Try a picture or symbol at eye level to reinforce the location of the boundary.
- Mark and highlight floor boundaries clearly i.e. where it changes from carpet to lino.

9. Has difficulty finding the beginning of a line when reading

Strategies to try

- Try finger pointing.
- Try a window marker.
- Try enlarging the font size.
- Try reducing the amount of text on the page.
- Try enlarging text books on the photocopier and blocking out extra bits of work or illustrations.
- Try using a magnifying glass or magnifying acetates.

Curated by Ulster University Vision Resources:

Available to download at: <http://biomed.science.ulster.ac.uk/vision/Visual-Skills-Inventories.html>

Developed by Debbie Cockburn & Prof Dutton at Royal Hospital for Sick Children, Glasgow Caledonian University & funded by the Scottish Spina Bifida Association Research Project.

Ulster University Vision Resources

School Strategies for difficulties associated with CVI, highlighted by clinical structured history taking inventory.
Younger child (4-8 years)

- Establish the font size and word per page and line that is easiest for the child work with (not the smallest they can read) and ensure that work is provided in this size.
- Make an individualised work book for the child highlighting in bold or a contrasting colour the start position of each line.
- Use back of hand as a line marker vertically to show start position or horizontally to eliminate surplus visual information.
- Try holding a ruler vertically down the page to show where the start position is.
- Try an elevated book stand for reading
- Practice reading items of interest i.e. children's newspaper First News, magazines

10. Has difficulty finding the next word when reading

Strategies to try

- Try finger pointing
- Try using a larger font size, establish which font style and size are best for the child.
- Try double spacing between the words and the lines
- Try vertical reading
- Try Braille
- Try a tilted work station
- Mask off additional text
- Reduce the amount of visual information presented.
- Cover text that has been read with card or the back of hand.
- Try using a computer programme presenting one word at a time.

12. Bumps into door frames or partly open doors

Strategies to try

- Highlight door frames in a contrasting colour
- Use contrasts in colour and brightness of walls and floors to emphasise where they start and finish.

13 Misses pictures or words on one side of a page

Strategies to try

- Use finger pointing.
- Try using window markers.
- Give additional verbal reminders to scan.
- Try displacing text to area of visual field.
- Try using a vertical book stand.

Curated by Ulster University Vision Resources:

Available to download at: <http://biomed.science.ulster.ac.uk/vision/Visual-Skills-Inventories.html>

Developed by Debbie Cockburn & Prof Dutton at Royal Hospital for Sick Children, Glasgow Caledonian University & funded by the Scottish Spina Bifida Association Research Project.

Ulster University Vision Resources

School Strategies for difficulties associated with CVI, highlighted by clinical structured history taking inventory.
Younger child (4-8 years)

- Try making an individualised book by scanning and enlarging text, and or using photographs of familiar people or objects to reinforce the text.

Difficulties showing evidence of impaired perception of movement

These difficulties indicate that there is a problem with the information being received and processed when the eyes move or when objects in the environment move. The individual may misjudge their own movements through space but may also demonstrate fear or panic if they are surprised by moving objects approaching them unexpectedly. For example; children in a playground, dog in the park, a car: as they will not have tracked or seen the object move.

15. Has difficulty seeing things which are moving quickly, such as other children.

Strategies to try

- Give additional verbal information “your friend Jenny is at the gate in a pink jacket”
- Ensure friends and teachers introduce themselves if approaching in a busy areas where there is a lot of movement
- Ensure additional assistance both verbal and physical is offered to help find friends/ family in busy places i.e. playground.
- Encourage child to rely on voice recognition to locate friends and family.
- Encourage child to stay still and call for person.

16. Avoids watching fast moving TV

Strategies to try

- Sit close to the TV to minimise other visual distractions.
- Minimise the visual distractions around the TV. i.e. pictures.
- Ensure class teacher is aware that many curriculum TV programmes may be unsuitable due to the speed and content- the time may be best utilised by child for another task.
- Avoid using TV/ DVD as a teaching tool where possible as many new materials may be too sophisticated and fast moving for the child’s visual processing.

Curated by Ulster University Vision Resources:

Available to download at: <http://biomed.science.ulster.ac.uk/vision/Visual-Skills-Inventories.html>

Developed by Debbie Cockburn & Prof Dutton at Royal Hospital for Sick Children, Glasgow Caledonian University & funded by the Scottish Spina Bifida Association Research Project.

Ulster University Vision Resources

School Strategies for difficulties associated with CVI, highlighted by clinical structured history taking inventory.
Younger child (4-8 years)

18. Has difficulty catching a ball

Strategies to try

- Practice catching skills using a balloon which will move more slowly.
- Try using large brightly coloured balls with, sound or light effects, at gym.

Difficulty interpreting a complex visual scene and making sense of the information when too much visual information is present

This can be due to the overwhelming visual impact of too much information being presented at the one time. Difficulty searching for and locating specific items, people, or places can also depend on the amount of visual information, the additional movement visible and the orientation and view of the object.

Poor visual memory and the ability to retain information presented visually may also impact on performance.

Orientation of self around the environment is also a challenge especially if there is a lot of visual information to interpret and to process.

20. Has difficulty finding a close friend or relative who is standing in a group i.e. Mum at school gate, friend in the playground.

Strategies to try

- Give additional verbal cues e.g. mum calls out name to allow voice recognition to assist with visual scanning.
- Have a pre-determined meeting place between the child, parent and school, so that the child knows where to look for person.
- Encourage child to use voice to call for the person.

21. Has difficulty finding an item they want if there is too much visual information i.e. items in tray, bag, or in a cupboard.

Strategies to try

- Reduce the amount of visual information available i.e. the number of items in the tray, or on the desk.

23. Gets lost in places which are well known and which are new (e.g. classroom, playground)

Curated by Ulster University Vision Resources:

Available to download at: <http://biomed.science.ulster.ac.uk/vision/Visual-Skills-Inventories.html>

Developed by Debbie Cockburn & Prof Dutton at Royal Hospital for Sick Children, Glasgow Caledonian University & funded by the Scottish Spina Bifida Association Research Project.

Ulster University Vision Resources

School Strategies for difficulties associated with CVI, highlighted by clinical structured history taking inventory.
Younger child (4-8 years)

Strategies to try

- In class try using a few circle markers or brightly coloured footprints on the floor to mark specific routes i.e. seat to board, seat to door.
- Highlight child's desk with brightly coloured masking tape.

25. Has difficulty finding a chosen toy in a toy box, books on a shelf.

Strategies to try

- Minimise the number of items in boxes, shelves and cupboards.
- Minimise number of items on desk, in pencil case, in school bag.
- Try using transparent containers, pencil case, school bag.
- Encourage child to return items to a set position.
- Organise storage system with clearly labelled drawers and boxes using pictures, photos, colours.
- Reduce the amount of items to choose from.
- Involve individual in reorganising and minimising storage systems.

May also have difficulty recognising/ finding a person, object if viewed from an unusual angle or if the item is partially hidden. i.e. side or profile view of friend, item in tray or bag is partly concealed.

Strategies to try

- Ensure items are clearly visible and not overlapping
- Store items in the upright position
- Have an organised work space and mark out lines on the desk with coloured tape for book, pencil etc, keep items required on desk to a minimum
- Try using a schoolbag with individual pockets.
- Try using a flat pencil case with a clearly allocated space for each item.
- Try a transparent pencil case.

26. Sits closer to the television than about 30 cm. (NB this will not harm the child's vision)

Strategies to try

- Avoid visual clutter between seats and TV
- Avoid visual clutter i.e. photos, plants beside or above the TV
- Try smaller TV if a large screen offers too much of a demand for scanning.

27. Find copying words or drawings time consuming and difficult

Curated by Ulster University Vision Resources:

Available to download at: <http://biomed.science.ulster.ac.uk/vision/Visual-Skills-Inventories.html>

Developed by Debbie Cockburn & Prof Dutton at Royal Hospital for Sick Children, Glasgow Caledonian University & funded by the Scottish Spina Bifida Association Research Project.

Ulster University Vision Resources

School Strategies for difficulties associated with CVI, highlighted by clinical structured history taking inventory.
Younger child (4-8 years)

Strategies to try

- Minimise copying demands by providing information on a printed sheet
- Ensure written material is clearly visible depending on acuity and contrast.
- Find out what colour of ink is most visible – use a white board
- Reduce visual clutter on the board leaving only relevant text.
- Remove visual distractions from above or beside the board i.e. pictures, mobiles.
- Positioning in class should be face on to the board and at the best distance for the individual to minimise visual clutter, reduce head movements and give appropriate visual magnification.
- Maximise lighting at board area.
- Use large well spaced script.
- Make use of auditory memory skills – speak out loud giving the information by sound.
- Do not expect the child to write and speak or write and listen at the same time.

Impairment of visually guided movement of the body and further evidence of visual field impairment.

Difficulties may be impacted by visual field and may need retraining to adjust head position. Difficulties may also be related to perception of depth and judgement.

29. Finds uneven ground difficult to walk on

Strategies to try

- Give additional physical support i.e. rails/banisters as required
- Hold onto adult's arm pulling down, adult should have a straight arm extended downwards.
- Ensure safe ground cover in outside areas frequently visited i.e. playground
- Minimise height variations on floor surfaces
- Try coloured footsteps/ hand rails to follow to different areas
- Try white trainers to increase visibility of the feet
- In play grounds/play areas use Astroturf, coloured matting and vary colours for different areas. Use flush rubber flagstones to emphasise different areas of the ground.

32. Finds inside floor boundaries difficult to cross

Curated by Ulster University Vision Resources:

Available to download at: <http://biomed.science.ulster.ac.uk/vision/Visual-Skills-Inventories.html>

Developed by Debbie Cockburn & Prof Dutton at Royal Hospital for Sick Children, Glasgow Caledonian University & funded by the Scottish Spina Bifida Association Research Project.

Ulster University Vision Resources

School Strategies for difficulties associated with CVI, highlighted by clinical structured history taking inventory.
Younger child (4-8 years)

Strategies to try

- Give additional physical support i.e. arm, rail, wall.
- Ensure floor boundaries are clearly highlighted.

34. Finds well known boundaries difficult to cross

Strategies to try

- Give additional physical support.
- Colour contrast floor boundaries

Impairment of visually guided movement of the upper limb resulting in poor judgement of grasp, hand position, finger width, positioning and timing.

This results in difficulty with manual dexterity tasks and an increased likelihood of items being knocked or spilt

35. Reaches incorrectly for object- reaching beyond or round it

Strategies to try

- Try using items that are contrasting in colour with the desk.

36. When picking up an object will grasp incorrectly or miss or knock over the object.

Strategies to try

- use items which have a high colour contrast
- use weighted items

Difficulties demonstrating impaired visual attention and fatigue which is likely to result in difficulties with tasks requiring sustained visual attention and concentration especially school work.

37. Finds it difficult to keep to task for more than 5 minutes.

Strategies to try

Curated by Ulster University Vision Resources:

Available to download at: <http://biomed.science.ulster.ac.uk/vision/Visual-Skills-Inventories.html>

Developed by Debbie Cockburn & Prof Dutton at Royal Hospital for Sick Children, Glasgow Caledonian University & funded by the Scottish Spina Bifida Association Research Project.

Ulster University Vision Resources

School Strategies for difficulties associated with CVI, highlighted by clinical structured history taking inventory.
Younger child (4-8 years)

- Minimise visual distractions around the work area.
- Consider the need to minimise other distractions around the work area. i.e. sound , movement.
- Encourage short periods of focused attention.
- Time concentration span and work with minimum to build it up.
- Try using a sound or visual timer to set limits.
- Vary tasks and demands. i.e. seated , standing, moving, listening, talking, looking
- Have a quite low stimulus work space without visual distractions to work in.
- Allow frequent movement breaks i.e. to hand out pencils, go deliver a message.
- Position near to front of the class facing the board and teacher to reduce visual distractions and looking over other heads. Do not position right at the front of the class as child will be tempted to turn around.
- Try a chair with arms to assist sitting balance if required.
- Try a separate desk for child at the end of the group to give increased personal space but not exclusion.
- Try a fidget object to help with attention when using listening skills

38. Finds it difficult to get back on task when distracted

Strategies to try

- Minimise distractions around the work area.
- Present work tasks in short blocks breaking down activities.
- Present tasks one at a time.
- Give additional movement breaks to alter positioning.
- Try a screened work area.
- Try a quiet work station.

40. Misses objects which are obvious because they are different from their back ground and seem to pop out e.g. a bright ball in the grass.

Strategies to try

- Reduce the amount of items presented
- Space out items
- Use contrasting colours of background and object i.e. plain floor, walls, bed spread
- Maximise contrast and visibility to increase pop out effect.

Curated by Ulster University Vision Resources:

Available to download at: <http://biomed.science.ulster.ac.uk/vision/Visual-Skills-Inventories.html>

Developed by Debbie Cockburn & Prof Dutton at Royal Hospital for Sick Children, Glasgow Caledonian University & funded by the Scottish Spina Bifida Association Research Project.

Difficulties demonstrating evidence of behavioural difficulties associated with crowded environments i.e. cinema, shopping centre.

This may be due to too much visual and or auditory stimulation which can be overwhelming and stressful.

41. Demonstrates difficult behaviour in cluttered rooms

Strategies to try

- Minimise clutter, especially visual clutter i.e. pictures on the wall, mobiles in class.
- Provide a quiet area with less clutter and visual stimulation in class.
- Be pre-warned to expect behaviour and take appropriate measures e.g. at assembly, in gym.
- Clearly labelled storage to reduce visual clutter.
- Try smaller areas with less noise and visual information i.e. smaller dining room area.

43. Behaviour is difficult in a over-stimulating or busy environment i.e, assembly, dinner hall, playground

Strategies to try

- Try a tactile object to provide alternative sensory input i.e. fidget object, toy, rubber, giant paper clip.
- Try scents on a hanky to provide additional sensory input.
- Allow the child to place their head on arms for time out or if appropriate to move to a quiet area.
- Have a colour coded system of communication i.e. green-go, amber tiring, red – need a break.

44. Reacts angrily when other children are restless and distracting.

Strategies to try

- Position in a chair with additional personal space.
- Try an individual work station.
- Try a screened off work area.
- Try head phones or ear plugs to reduce the noise level and auditory distractions.

Difficulty with the ability to recognise what is seen

For example people, shapes, family members, toys, left and right shoe: especially if the items are in a busy environment or are viewed from a different angle or are partly hidden.

48. Has difficulty understanding the meaning of facial expressions

Strategies to try

- Ensure people interacting with the person are aware of this and give additional verbal cues.
- Encourage child to focus on tone of voice and words being used.
- Give a verbal explanation to accompany the facial expression using tone of voice and words. Encourage everyone interacting with child to also do this.
- Use of voice and language with exaggerated quality of expressed emotions to assist child with understanding.

49. Has difficulty naming common colours

Strategies to try

- Establish if this is due to colour blindness
- Discover if it is due to word recognition
- Practice with the primary colours using familiar objects in 3 D
- Try applying the concept of conceptual linkage i.e. rose red, green grass, sky blue.

50. Has difficulty naming basic shapes such as squares, triangles, letters, circles, left shoe /right shoe.

Strategies to try

- Practice using 3 D shapes
- Use a tactile approach touching and exploring objects with hands
- Practice making shapes with finger in sand , shaving foam
- Minimise the amount of visual information presented at one time
- Play computer games to reinforce recognition skills.
- Highlight dominant shoe with sticker/ phone charm / initials.

51. Has difficulty recognising familiar objects such as the classroom door.

Strategies to try

Curated by Ulster University Vision Resources:

Available to download at: <http://biomed.science.ulster.ac.uk/vision/Visual-Skills-Inventories.html>

Developed by Debbie Cockburn & Prof Dutton at Royal Hospital for Sick Children, Glasgow Caledonian University & funded by the Scottish Spina Bifida Association Research Project.

Ulster University Vision Resources

School Strategies for difficulties associated with CVI, highlighted by clinical structured history taking inventory.
Younger child (4-8 years)

- Get a unique identifiable visible marker to help recognition, e.g. a mobile or poster on the door.

52. Difficulty recognising objects on a similar back ground i.e. red crayon on red paper.

Strategies to try

- Use contrasting, plain colours and backgrounds

53. Difficulty visually accessing the computer.

Strategies to try

- Highlight key board with luminous alphabet stickers
- Try using a matt screen not gloss
- Increase font size thus reducing the amount of information present.
- Try using specific fonts that are easier to follow i.e. Tahoma, Trebuchet
- Select the best font size, spacing and colour contrast fro the individual and ensure this is set up each tie the computer is turned on.
- Minimise the amount of visual information on the screen.
- Try using a larger keyboard with enlarged keys
- Adapted mouse Key or keyboard.
- Try using different programmes to reduce the dexterity skills required i.e. clicker 5 clicks on the word rather than type it out.

Curated by Ulster University Vision Resources:

Available to download at: <http://biomed.science.ulster.ac.uk/vision/Visual-Skills-Inventories.html>

Developed by Debbie Cockburn & Prof Dutton at Royal Hospital for Sick Children, Glasgow Caledonian University & funded by the Scottish Spina Bifida Association Research Project.