Hidden Vision Loss in Paediatric Brain Injury: Lessons from Real Cases

This eBook draws on anonymised real-world case studies to show how CVI can present in children with brain injuries, why it is often missed, and what legal professionals can do to identify it. Through these examples, you will learn how to recognise red flags in medical records and witness statements, how to frame questions for medical experts, and how to challenge conclusions that fail to consider this important condition.

The aim is simple: to equip you with the insight and strategies needed to strengthen your cases and secure fair outcomes for your clients.

This eBook was produced by INNEG based on key clinical insights shared during our Cerebral Visual Impairment in Paediatric Brain Injury Claims webinar, led by Professor Jane Ashworth, Consultant Paediatric Ophthalmologist.

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Introduction

Cerebral Visual Impairment (CVI) is one of the most common yet frequently underdiagnosed consequences of paediatric brain injury. Unlike vision problems caused by damage to the eyes themselves, CVI stems from injury to the parts of the brain responsible for processing visual information. Because the eyes may appear healthy on examination, this condition can easily be overlooked - even by experienced clinicians.

In a legal context, a missed CVI diagnosis can have far-reaching consequences. It may lead to an underestimation of a child's care needs, result in inadequate adaptations being recommended for the home or school environment, and ultimately reduce the value of the claim. It can also influence liability arguments, particularly where causation between the brain injury and the visual impairment is disputed.

01

The Missed Inferior Visual Field Defect

Scenario:
A child born following a traumatic delivery was left with cerebral palsy, microcephaly, and significant developmental delay. By the age of ten, they presented with a right convergent squint, nystagmus, and required glasses for astigmatism.

The parents reported a number of troubling day-to-day difficulties. The child frequently tripped over objects in their path, struggled to navigate busy or cluttered environments, and often failed to notice food placed on the lower part of their plate. These functional observations suggested a problem with their lower visual field.

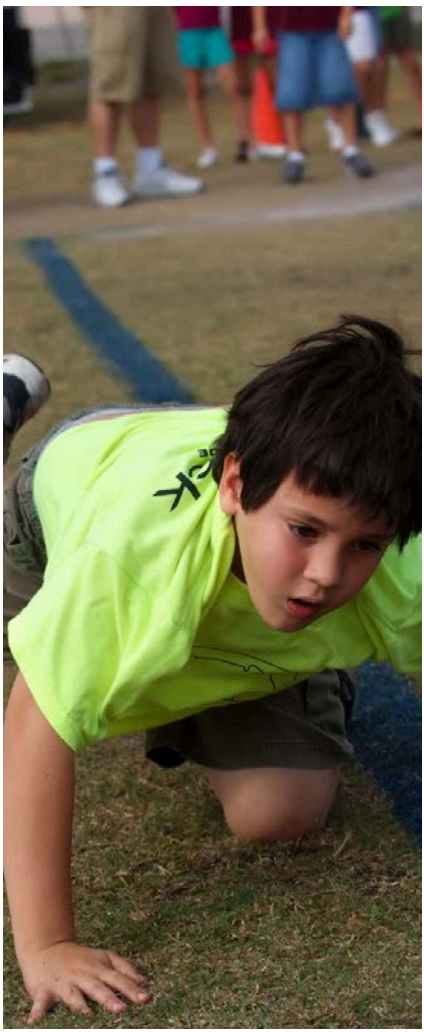
Formal visual field testing could not be completed because of the child's developmental delay and inability to cooperate with the process. Nevertheless, the clinical picture and behavioural evidence pointed strongly towards an inferior visual field defect or neglect - a hallmark feature of cerebral visual impairment (CVI).

Impact on the Claim:
Once the CVI diagnosis was made, it transformed the way the child's needs were understood. The expert evidence now recognised that they required specific environmental adaptations, such as keeping floors free from clutter, adjusting the position of educational materials to account

or their lower field loss, and implementing safety measures for navigating steps and stairs. School accommodations and assistive technology recommendations followed, and the projected care requirements were increased.

Without the CVI diagnosis, these essential needs could easily have been overlooked or understated in the litigation, leading to an undervaluation of the claim and a reduced provision for the child's lifelong support.

Legal Takeaway:
This case highlights that the absence of formal visual field test results does not rule out CVI. Functional evidence - such as consistent problems with stair navigation, difficulty in busy or cluttered settings, and missing objects located below the direct line of sight - can be compelling indicators. For solicitors, ensuring such evidence is gathered and presented can be the difference between a modest award and one that truly reflects the child's needs.



02

The RTA Infant with Post-Traumatic Hydrocephalus

Scenario:
At just five months old, a child was involved in a serious road traffic accident while travelling in a rear-facing car seat. The collision caused multiple skull fractures, brain haemorrhages, and subsequent seizures. Neuroimaging confirmed widespread brain injury.

Within weeks, the child began showing signs of hydrocephalus - raised fluid pressure within the brain. A ventricular peritoneal shunt was surgically inserted to relieve this pressure and prevent further neurological damage.

When assessed at the age of five, the child was found to have poor vision in both eyes, with one eye more severely affected than the other. They presented with a divergent squint and a cluster of classic cerebral visual impairment (CVI) indicators: difficulty judging edges and boundaries, problems navigating steps and stairs, and an inability to accurately copy shapes. These functional limitations were consistent and severe enough for the child to be registered as severely sight impaired.

Impact on the Claim:
The extent of the visual impairment had a significant impact on the litigation. Educational recommendations

had to be revised to account for specialist visual support, including tailored teaching materials and adapted learning environments. Mobility needs also increased, requiring the use of aids, closer adult supervision, and structured travel training. Housing recommendations shifted toward single-level living or adaptations to minimise stair use and reduce fall risks.

The CVI diagnosis provided robust evidence for these enhanced needs, ensuring that they were included in the quantum of the claim. Without early and accurate identification, these requirements might not have been fully recognised, leading to insufficient provision for the child's future care, education, and living arrangements.

Legal Takeaway:
This case underscores the importance of early ophthalmological assessment following a traumatic brain injury (TBI). Detecting CVI in the immediate aftermath can prevent vision loss from becoming entrenched, guide early intervention strategies, and preserve crucial causation evidence. For solicitors, instructing an ophthalmic expert at the earliest stage can help secure a stronger evidential foundation and ensure no aspect of the child's impairment is overlooked in the litigation process.

03

The “Not Negligence” Vision Loss

Scenario:
A claim was brought following a difficult birth, with the central allegation being that negligent handling during delivery had caused significant brain injury. From the outset, the child’s poor vision was assumed to be a direct consequence of the alleged birth trauma. The impairment was incorporated into the pleaded case as part of the damages sought.

However, upon further ophthalmological investigation revealed a very different picture. The child was diagnosed with a rare genetic retinal dystrophy - a degenerative eye condition affecting the retina itself rather than the brain.

This disorder, entirely unrelated to the events surrounding the delivery, accounted for the child’s visual impairment. The finding meant that the poor vision could not be causally linked to the birth incident in question.

Impact on the Claim:
This discovery fundamentally altered the trajectory of the litigation. By confirming that the vision loss stemmed from an unrelated genetic condition, the claim for damages related to the visual impairment became unsustainable. Pursuing that element of the claim would have risked presenting unprovable allegations, weakening credibility and potentially inflating costs unnecessarily.

Early, accurate diagnosis ultimately prevented the expenditure of time, resources, and expert fees on a point that could never be proven.

Legal Takeaway:
This case illustrates the necessity of ruling out non-brain-injury causes of vision loss before attributing causation in pleadings. For solicitors, it is a reminder that expert ophthalmological input should not only be used to confirm impairment but also to determine its origin. Establishing the correct aetiology at the outset safeguards the integrity of the case and prevents the pursuit of claims that cannot be substantiated in court.

04

Hypoglycaemia and Optic Nerve Hypoplasia

Scenario:

A claim was brought alleging that negligent management of neonatal hypoglycaemia had caused lasting injury to a newborn. Among the alleged consequences was significant visual impairment, which was initially assumed to be a direct result of the hypoglycaemic episode. This assumption shaped both the pleadings and the early expert instructions, with the vision loss being cited as an important component of the damages sought.

However, during a detailed ophthalmic review, the true cause of the child's visual impairment came to light: optic nerve hypoplasia. This congenital condition, in which the optic nerves are abnormally small and underdeveloped, was entirely unrelated to any neonatal care decisions. While hypoglycaemia and optic nerve hypoplasia can sometimes occur in the same patient - and may even share associated endocrine issues - the impairment in this case was not caused by the alleged negligent care.

Impact on the Claim:

Identifying the correct cause of the vision loss changed the complexion of the case. The visual impairment could no longer be linked to the alleged breach of duty, and its inclusion in the claim would have introduced a weak and easily

challengeable causation argument. By clarifying the medical position early, the legal team avoided pursuing a speculative head of loss, prevented unnecessary expert disputes, and maintained the overall credibility of the case.

Legal Takeaway:

Optic nerve hypoplasia can present in ways that mimic vision loss from brain injury, making it essential to consider as part of any expert ophthalmic assessment. For solicitors, this means ensuring that expert instructions explicitly ask for differential diagnosis and that all plausible causes of visual impairment are explored. Ruling out unrelated conditions early can prevent wasted resources and help ensure that the claim rests on robust, defensible medical evidence.

05

Papilloedema Delay in Hydrocephalus

Scenario:

In this case, a child developed raised intracranial pressure, but the early warning signs were missed. Initial ophthalmic assessments did not identify or record the subtle swelling of the optic nerves, known as papilloedema, which can be an early indicator of dangerously elevated intracranial pressure. Without timely intervention, the swelling worsened over time, progressing through the recognised grading stages of papilloedema.

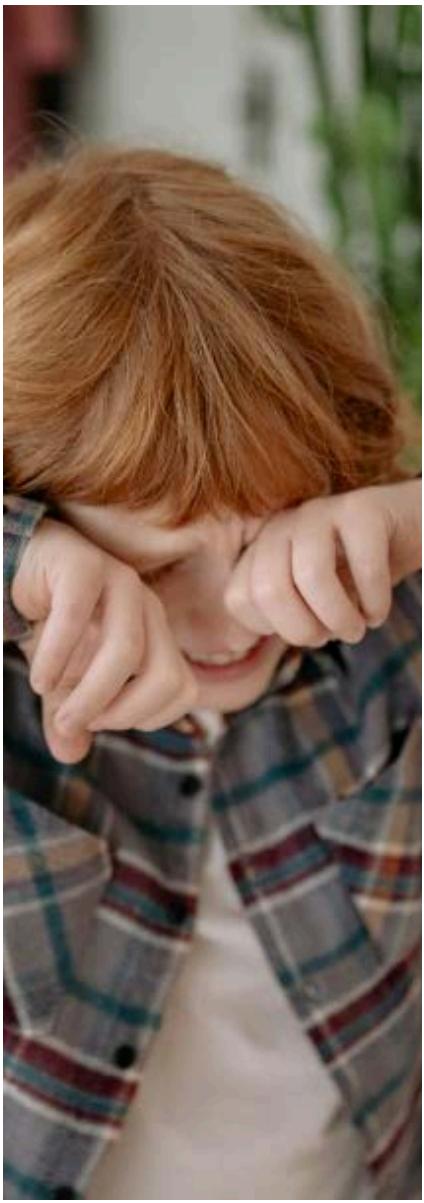
The lack of early diagnosis and treatment allowed the condition to advance to the point where irreversible damage occurred. The child ultimately developed optic atrophy - a permanent degeneration of the optic nerves - which resulted in significant, irreversible vision loss. This loss could have been mitigated, or even prevented, had the papilloedema been detected and addressed at an earlier stage.

Impact on the Claim:

The progression from subtle papilloedema to optic atrophy provided a strong evidential basis for arguing that part of the child's vision loss was avoidable. Expert ophthalmic evidence supported the view that timely recognition of the early optic nerve swelling should have prompted urgent investigation and treatment, potentially preventing the

deterioration. This directly strengthened the quantum of the claim, allowing for damages to be sought in respect of the additional and unnecessary disability caused by the delay.

Legal Takeaway:
Papilloedema can be difficult to spot in its earliest stages, but the consequences of missing it can be devastating. For solicitors, this underlines the importance of obtaining and reviewing all ophthalmic records at the outset - including any optic nerve grading and fundus examination notes. Where grading is absent or ambiguous, further expert review may reveal overlooked signs of early swelling. Early, meticulous scrutiny of this evidence can be pivotal in establishing avoidable harm and maximising recoverable damages.



06

Five Red Flags for Solicitors

Drawing on Professor Ashworth's screening questions, the following red flags should prompt further investigation:

1: Difficulty with steps, stairs, or changes in floor texture. Children with CVI may misjudge the depth of steps or fail to notice subtle changes in surface, such as a transition from carpet to wood flooring. This can lead to frequent trips and falls and may justify environmental adaptations or mobility support in a claim.

2: Trouble seeing moving objects until they are very close. A child might not notice a ball being thrown towards them until the last moment, or fail to react to passing traffic when near the roadside. This has implications for both safety and independence, and can influence recommendations around supervision and outdoor mobility.

3: Struggles in cluttered or busy environments. In visually complex settings - such as crowded classrooms, busy playgrounds, or bustling shopping areas - children with CVI may appear disoriented or unable to locate specific items. This can affect educational access, social participation, and care planning.

4: Difficulty locating distant or small objects. A child may not respond when an object is pointed out from across the room, or might only notice it when they are within a few

metres. This impacts learning, play, and navigation, and should be factored into educational and therapy provision.

5: Variable visual performance depending on fatigue or environment. Parents may report that their child sees much better at home or when well-rested, and significantly worse when tired, unwell, or in an unfamiliar environment. This variability can complicate assessment but is a hallmark feature of CVI - and a strong argument for flexible, needs-based support.

These functional signs can be just as compelling as clinical evidence when building a case. Even in the absence of formal test results, consistent and well-documented behavioural observations can help establish the presence of CVI, justify care and adaptation costs, and strengthen the overall credibility of the claim.

07

Action Points for Case Building

To maximise the strength and value of a paediatric brain injury claim where vision may be affected, solicitors should embed ophthalmology considerations into their strategy from the outset. The following practical steps can help ensure that potential cerebral visual impairment (CVI) is identified, evidenced, and factored into both liability and quantum.

Instruct Early

Ophthalmology input should be sought at the same time as neurology and neuropsychology. Early involvement of an eye specialist increases the likelihood of detecting CVI before compensatory behaviours mask its impact. It also helps secure a baseline assessment, preserving crucial causation evidence. Without this early step, the opportunity to prove the link between the brain injury and the visual impairment may be lost.

Challenge Assumptions

A “normal” eye examination does not mean normal vision. CVI affects the brain’s processing of visual information, not the eye’s ability to receive it. This means a child may pass basic eye health checks while still struggling with major functional vision deficits. Solicitors should ensure experts go beyond standard eye tests and assess visual processing, visual fields, and behaviour.

Push for Functional Evidence

Parent, carer, and teacher observations can be as telling as - and sometimes more revealing than - formal clinical results. Patterns of behaviour, such as tripping over unseen objects or struggling in crowded environments, can be strong evidence of CVI. Make sure these accounts are documented in detail and incorporated into expert instructions, as they help bridge the gap between medical findings and day-to-day realities.

Document Environmental Needs

Vision loss affects much more than reading and recognition - it has direct implications for housing design, school placement, and mobility support. Single-storey accommodation, adapted learning materials, or assisted travel may all be required. Linking these environmental needs directly to the CVI diagnosis strengthens the justification for associated costs in the claim and ensures they are not overlooked in quantum calculations.

By integrating these action points into case preparation, solicitors can uncover hidden impairments, challenge incomplete assessments, and present a more comprehensive picture of the claimant's needs - ultimately maximising the likelihood of achieving a fair and robust settlement.

08

Conclusion

Cerebral visual impairment is not a rare complication of paediatric brain injury - but it is a frequently overlooked one. Its subtle presentation, the variability of symptoms, and the fact that many affected children have normal eye examinations mean it can slip under the radar of both treating clinicians and medico-legal experts.

As the case studies in this eBook show, the consequences of missing a CVI diagnosis can be significant. Without it, a child's true care requirements may be understated, environmental adaptations may be omitted, and damages may be undervalued. In some instances, the absence of accurate ophthalmic evidence has even risked pursuing unprovable causation arguments, weakening the entire case.

For solicitors, the message is clear: CVI must be part of the investigative landscape from the earliest stages of a paediatric brain injury claim. That means instructing ophthalmic experts early, questioning assumptions in medical reports, gathering functional evidence from those who know the child best, and ensuring environmental needs are documented and costed.

By doing so, you are not only strengthening your legal position - you are helping to secure the resources, adaptations, and specialist support that can make a tangible difference to the child's life. In CVI cases, as in litigation generally, the smallest details can transform outcomes. It is your role to ensure those details are seen, understood, and acted upon.

Conclusion

Birth injury claims are not won or lost on isolated errors. They turn on how clinicians made decisions as labour evolved, how risk was contextualised, and whether escalation occurred at the right time.

Understanding these seven decision points allows solicitors to assess cases more effectively, identify where breach and causation are strongest, and instruct experts with greater precision.

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