

Guide to Consistent Diagnosis of Cerebral Visual Impairment (CVI)

CVI has two main elements:

1. Difficulty in basic or primary visual processing
(visual acuity/clarity, field of vision, eye movements)
2. Difficulty in higher visual processing - features are often grouped under two broad terms but individual children will not necessarily exhibit all features in each group.

Dorsal stream function:

- simultaneous visual perception
- movement perception
- visually guided movement
- visual attention particularly in the lower field and division of attention

Ventral stream function:

- visual memory/recognition
- route finding / orientation

Some children will have disorders of both basic/primary and higher visual processing

- To make a diagnosis of cerebral visual impairment in terms of higher visual processing, other causes of the features presented require to be identified /excluded to ensure appropriate treatment and support. History taking alone is not sufficient but must be accompanied by appropriate examination and neurodevelopmental assessment. Questionnaires/patient inventories may be used to aid history taking but are not diagnostic
- All assessments for CVI require a multidisciplinary approach to ensure a robust diagnosis – higher visual processing requires input from a neurodevelopmental paediatrician in addition to eyecare professionals – a team approach is required to meet all the required competencies
- There are generally 2 routes to diagnosis, either through the eye clinic or the neurodevelopmental clinic, both of which are reflected in the attached pathway
- The diagnosis, for those with higher visual processing dysfunction, should be made by a professional who has an understanding of, and information on, both the child's visual abilities and his/her overall development and skills.

Skills and Competencies Required

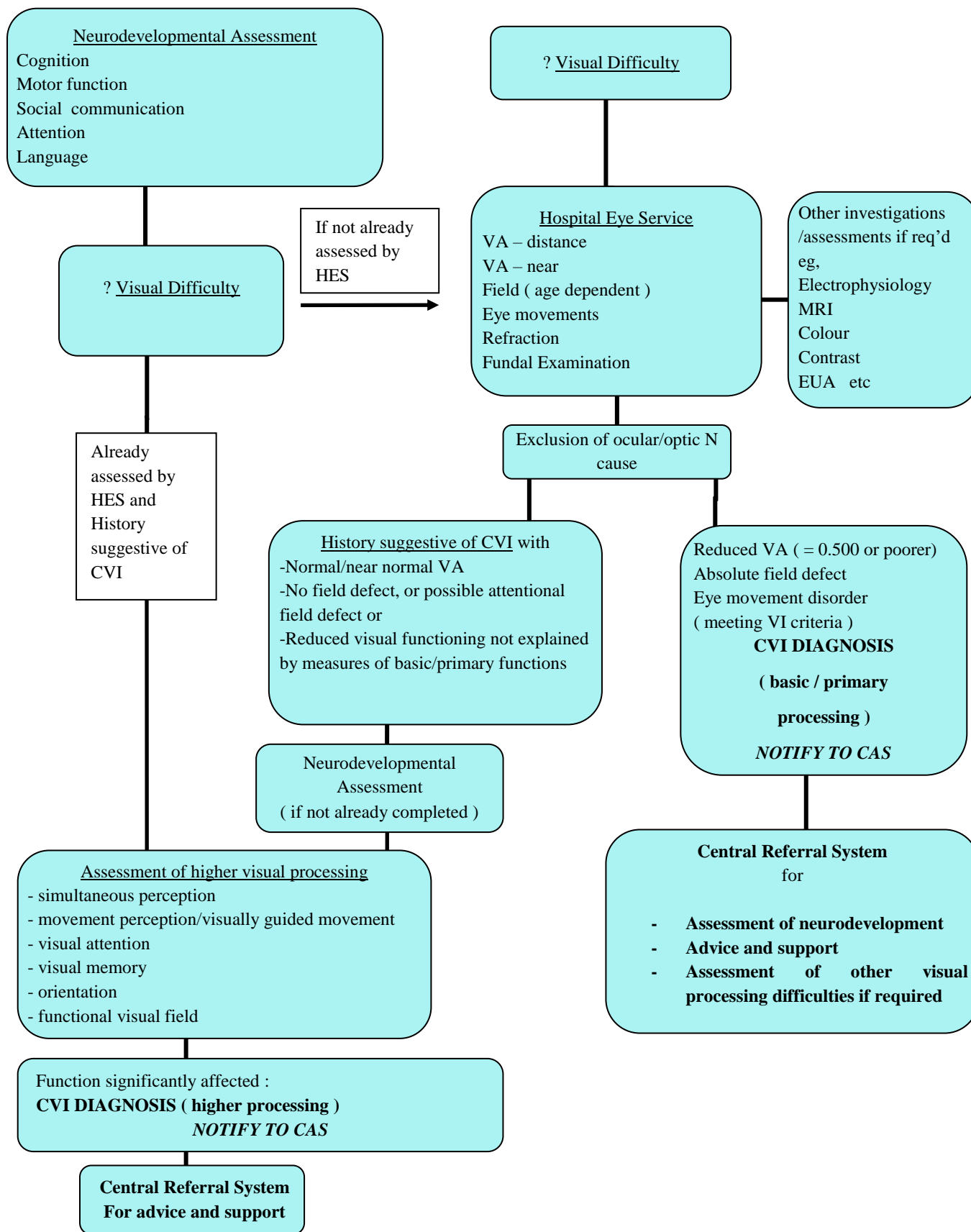
Basic/Primary Visual Processing

- Assessment of visual behaviour
- Measurement of distance visual acuity -ability to use all standard paediatric charts
- Measurement of near visual acuity – ability to use all standard paediatric charts
- Assessment of visual fields – using behavioural methods and formal measures
- Knowledge of age related norms for tests applied
- Assessment of eye movement – including abnormal movements, pursuit and saccades
- Dilated (cycloplegic) and undilated refraction
- Ocular and fundus examination
- Knowledge of normal visual and general development
- Knowledge of additional investigations required and ability to ensure ocular/optic nerve/ psychological causes excluded
- Ability to explain the diagnosis of CVI to patients and professionals, its impact and to outline strategies to improve function
- Knowledge of how to access support services

Higher Visual Processing - all above plus

- Ability to undertake a full neurodevelopmental assessment including cognition, motor skills, communication and attention.
- Ability to take a detailed visual history in order to identify and demonstrate difficulties in specific areas of visual processing , having excluded other causes.
- Ability to substantiate reports suggestive of visual processing difficulties by use of standardised and non-standardised tests.
- Ability to put any visual processing difficulties identified into the context of the whole child, differentiating between specific visual processing difficulties/ cerebral visual impairment and global processing difficulties that include vision

VINCYP CVI Diagnostic Pathway



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NOTE

This guideline is not intended to be construed or to serve as a standard of care. Standards of care are determined on the basis of all clinical data available for an individual case and are subject to change as scientific knowledge and technology advance and patterns of care evolve. Adherence to guideline recommendations will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care aimed at the same results. The ultimate judgement must be made by the appropriate healthcare professional(s) responsible for clinical decisions regarding a particular clinical procedure or treatment plan. This judgement should only be arrived at following discussion of the options with the patient, covering the diagnostic and treatment choices available. It is advised, however, that significant departures from the national guideline or any local guidelines derived from it should be fully documented in the patient's case notes at the time the relevant decision is taken.