

## **MEDICAL PART ( Section1)**

Medical Examinations are a fundamental first step for the diagnosis of CVI with low vision. The medical involvement must be multi-disciplinary and carried out collaboratively by a neuropaediatrician and a paediatric ophthalmologist.

The protocol starts when relatives and carers think about the possibility of CVI and have responded to the **questionnaire** (see the **Section .....**).

If it indicates the possibility of CVI, carrying out a diagnostic confirmation will start and the first step will be **medical**.

### **1. General anamnesis**

- Child's family history
- The child's personal information: development during pregnancy, delivery (at what point of the pregnancy, weight at birth, size of skull, APGAR score ( at 0, 5 and 10 minuts)
- Perinatal Period :
  - Events afterwards : infection ? stroke? Hospitalisation? Period in Intensive Care? Epilepsy (+ description)
  - Additional examinations : neurophysiological (EEG) or by image (cerebral echography, scanner, MRI ...)
- Development of the child :
  - Has he/she had surgery procedures? Derivation of Hydrocephaly? Others?
  - Has he/she been a victim of (a) cerebral trauma? If yes: at what age? Was he/she in a coma? For how long? Have cerebral lesions been identified?
  - Any other medical event?
  - Psychomotor development : At what age appeared : ocular fixation, ocular pursuit, the first smile, first words, sitting, standing, first steps
  - Education : Mainstream or Special School ? Learning disability?
- Other : are any concerns about the child's vision? If so, what are they?

### **2. Neuropaediatrician assessment**

The Neuropaediatrician will examine the child : weight, height, diameter of skull; looking at the cranial nerves, tonus? Reflexes? Abnormal movements ?

If the child has cerebral palsy (CP), in order to appreciate its degree of severity, the following classifications will be used :

- GMFCS : Gross Motor Function Classification System
- MACS: Manual Ability Function Classification System
- CFCS: Communication Function Classification System
- EDACS: Eating and Drinking Ability Classification System

The resulting presence of epilepsy will be noted and its type, the medical treatment of the child, any other resulting complementary examinations which have been carried out: EEG? Hearing assessment? Scanner or cerebral MRI.

### 3. **Paediatric ophthalmologist assessment**

The paediatric ophthalmologist will start by reviewing specific ophthalmological activities and history: previous examinations, previous refractions, wearing glasses, strabismus or nystagmus treatments, anomaly of the photomotor reflex in the one eye and in the other, premature retinopathy, any other eye pathology.

The ophthalmological examination will include:

- Study of reflexes of the eye pupils (relative afferent pupillary defect, RAPD, or Marcus Gunn pupil test); pupillary reflex near vision
- Refraction: after use of cycloplegic drugs (cyclopentolate or Atropine 0,5%) by retinoscopy or autorefraction
- Slit lamp exam: looking at cornea, iris, lens, anterior chamber, abnormality
- Fundoscopy: by direct or indirect ophthalmoscopy looking at retina and these vessels and the optic disk
- Tonometry: if possible by air or applanation tonometer

Gathering these informations will allow :

- to suspect and/or to point out objectively the presence of a cerebral lesion ;
- to establish the presence or not of associated ocular abnormalities.

Localisation and extent of the cerebral lesion(s) are important elements for understanding the clinical picture. The same applies for associated ocular problems.

After this medical exams, the diagnostic approach should be pursued, within a multidisciplinary team using tests measuring **Low Vision (Section...)** **Neurovision (Section ...)** and **Daly life (Section ...)**

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