Functional Classification of Tunisian Children with Cerebral Palsy Based on Mobility and Manual Ability

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Abstract

Introduction: Cerebral palsy (CP) is a common cause of impairment in children, resulting in unique and individual needs. Services for CP often focus on treating impairments rather than improving activities. To provide a comprehensive description of CP children's skills, four functional scales were selected: Manual Ability Classification System (MACS), Communication Function Classification System (CFCS), Functional Mobility Scale (FMS), and Functional Independence Measure for Children (WeeFIM). **Objective:** Our study aims to describe functional profiles of a sample of children with CP in Tunisia by using familiar international functional measures. **Methods:** A cross-sectional study was conducted on 80 children with CP (43 boys and 37 girls with mean age of 6.55 ± 3.49 years) in Tunisia using a clinical evaluation questionnaire and functional scales: MACS, CFCS, FMS, and WeeFIM. **Results:** Spastic (75%) was the most common type, followed by dyskinetic (13.8%) and ataxic (11.2%). We found a significant association between CP subtypes, and FMS 500 and CFCS. Most children required assistance in WeeFIM domains: selfcare, mobility, and cognition. Unilateral group members performed higher in both mobility and manual ability scores. The spastic bilateral group had more difficulties with mobility and hand function abilities. **Conclusion:** Children with CP present heterogenous functional profiles. Therefore, healthcare givers are encouraged to use functional classifications in addition to traditional subtypes, to provide a better assessment, an easier interdisciplinary communication, and a more comprehensive care plan for these children.

Subject Areas

Kinesiology

1. Introduction

Cerebral palsy (CP) is the most common cause of impairment in children. It has been defined as "a group of disorders of the development of movement and posture, causing activity limitation, that are attributed to non-progressive disturbances that occurred in the developing fetal or infant brain. The motor disorders of CP are often accompanied by disturbances of sensation, cognition, communication, perception and/or behavior, and/or by seizure" [1] [2]. The heterogenous and complex clinical presentation results in unique and individual needs for each child and leads to a major challenge in providing effective interventions. Health professionals usually classify children with CP into subgroups [3] [4] based on distribution of motor impairments. As a result, services delivered for these children focus on treating impairments rather than improving activities and promoting participation.

Providing comprehensive and individualized services would require a broader understanding of the functional status of children with CP and the challenges they face in carrying out daily activities. Therefore, categorizing children with CP into more cohesive groups according to their level of function is beneficial. Using functional profiles in clinical settings is expected to guide service providers in establishing realistic treatment goals and adjusting rehabilitation services.

The International Classification of Functioning, Disability, and Health (ICF) and its pediatric version [5] can be an effective tool for standardizing the description of functional abilities of children with CP. The incorporation of ICF has helped highlight functional abilities in daily life and typical performance rather than impairments.

These concepts have been integrated by researchers and clinicians to describe performance in communication, handling objects and mobility in classification systems [6]. The use of compatible classification systems contributes to better understanding of the functioning and activities of individuals with CP in their everyday lives, in accordance with the International Classification of Functioning, Disability and Health. In this study, we selected four functional scales: designed for children with CP and internationally recognized, to evaluate functional status [7] [8]. The scales are: the Manual ability classification system (MACS), the Communication Function Classification System (CFCS), the Functional Mobility Scale (FMS) and the Functional Independence Measure for children (WeeFIM). In Tunisia, there have been very few studies on children with CP that investigate functional outcomes by using functional measures. So, we find ourselves in front of unknown functional profiles of patients. This lack of clear vision of the matter in hand, may hinder our decision making in providing ser-

vices for these children.

Our study aims at describing functional profiles of a sample of children with CP in Tunisia by using familiar international functional measures.

2. Patients and Methods

2.1. Participants

This cross-sectional study was conducted between January 2019 and June 2020, on children with CP who are followed in the Physical Medicine and Rehabilitation Department (PMR) at the University Hospital Fattouma Bourguiba of Monastir (Tunisia). Children were eligible for inclusion, if they were aged between 2 and 18 years old and they were previously diagnosed with CP by their pediatrician or their physiotherapist, and have had a medical file in the PMR department.

2.2. Instruments

Data was gathered by using a clinical evaluation questionnaire (**Appendix 1**) that included: clinical data: gender, age, etiology of CP, term of pregnancy at birth, admission in the Intensive Care Unit, type of delivery, age of diagnosis of CP, marital status of parents, associated disorder(s), equipment, treatment team, schooling, physiotherapy, ergo-therapy, classification of CP subtypes: Our patients were classified based on the 2000 Surveillance for Cerebral Palsy in Europe (SCPE) classification [4] which distinguishes 3 major forms of CP: unilateral or bilateral spastic, dyskinetic and ataxic, functional assessments: the Manual ability classification system (MACS), the Communication Function Classification System (CFCS), the Functional Mobility Scale (FMS) and the Functional Independence Measure for children (WeeFIM).

The MACS describes children's self-initiated manual ability to handle objects and their need for assistance or adaptation during daily manual activities. The MACS classifies children from Level I (handles objects easily and successfully) to Level V (doesn't handle objects and has very limited ability to perform simple actions) [9].

Communication skills were evaluated through the CFCS scale at 5 levels. When assessing the CFCS level, all forms of communication are taken into consideration including speech, gestures, behavior, facial expressions, and augmentative and alternative communication [10].

The Functional Mobility Scale describes the children's functional mobility at home, school and community. The FMS rates child's walking ability at three specific distances 5, 50, and 500 meters representing the child's actual mobility at home, at school, and in the community settings. Rating is usually completed by parent report taking into account assistive devices used such as crutches, walker or wheelchair [8].

One of the most crucial aspects of daily lives of children with CP is their ability to perform routine activities for which they have difficulties performing due to muscle weakness, motor disorders, tone abnormalities, upper extremity dys-

function and many other factors [11]. The WeeFIM, which was established from the functional independence measure (FIM) is among the most frequently used tools for the pediatric functional evaluation of everyday activities. The WeeFIM consists of 3 main domains [12]: self-care, mobility, cognition. Each measurement item is scored on a scale 1 (total assistance) to 7 (complete independence). The score was categorized into: requiring help (1 - 4), requiring supervision (5) and requiring no help (6 - 7). The minimum total score is 18 (total dependence in all skills) and the maximum score is 126 (complete independence in all skills). The WeeFIM was carried out through direct observation and caregiver interviews [13].

2.3. Statistical Analysis

All statistical analysis was performed using The Statistical Package for Social Sciences (SPSS) version 21.0 also known as IBM SPSS Statistics which is a software package used for the analysis of statistical data. Descriptive statistics were calculated for participant characteristics (sociodemographic and clinical). Categorical variables are presented as frequency and percentage. Quantitative variables are summarized as mean and standard variation. Analysis was performed for the entire sample followed by subgroups based on the topographic distribution of motor disorders. The functional levels by CP types were made. The chi-square test was used to compare differences in the distribution of CP subtypes across MACS, FMS, CFCS and WeeFIM levels. We considered a p value ≤ 0.05 as statistically significant.

3. Results

3.1. Participants Characteristics

A total of 80 children were included. The average age was 6.55 ± 3.49 years with a sex-ratio of 1.16. Half of the children were unable to attend school. Epilepsy was the most common associated impairment (28.8%). Medical care was almost equally distributed between the psychiatrists and pediatricians in 62.5%. According to CP subtypes, spastic form was found in 75% of children including bilateral spastic CP in 45% and unilateral in 30%, the dyskinetic form in 13.8% and ataxic form in 11.2%. All the remaining results were reported in Table 1.

3.2. Functional Assessments

Thirty-one (38.3%) of children were independent in manual activities (MACS I-II) while only 9 (11.3%) had a very limited abilities to perform simple tasks (MACS V) (Table 2). In terms of CP subtypes, our study found that children in the spastic bilateral group were more in level IV (30.5%), while children with hemiplegic and dyskinetic CP performed mainly at level II (36%). Children with ataxic form performed at MACS V (44%) (Table 3). Association between MACS levels and CP subtypes were examined by calculating chi-square test. No significant difference was found (p = 0.101).

Table 1. Participants distribution by characteristics.

Variables	Participants characteristics		
	Categories	Frequency	Percentage
Gender	Male	43	53.8
	Female	37	46.2
Medical care	Pediatric	61	76.25
	Neurologist	3	3.8
	Psychiatrist	64	80
	General practitioner	1	1.3
	Pediatric and physiotherapist	50	62.5
Schooling	Ordinary class	25	31.2
	Specialized institution	15	18.8
	Schooling impossible	40	50
Comorbidities	Epilepsy	23	28.8
	No impairments	38	47.5
	Other	19	23.7
CP subtypes	Spastic Bilateral	36	45
	Spastic Unilateral	24	30
	Dyskinetic	11	13.8
	Ataxic	9	11.3

Table 2. Participants distribution by MACS and CFCS levels.

Functional Scale	Levels				
	I	II	III	IV	V
MACS	11 (13.8)	20 (25)	18 (22.5)	22 (27.5)	9 (11.2)
CFCS	21 (26.25)	12 (15)	18 (22.5)	24 (30)	5 (6.25)

Twenty six percent of participants (21 children) were attributed to Level I of CFCS, while 30% of participants (24 children) to Level IV (Table 2). The majority of the studied children (60%) were verbal speakers (speaking, sounds). To further investigate our CFCS results, we compared the different levels with CP subtypes. In the spastic bilateral group, we found that most of the children with CP were level IV (14 from 36). The study group was evenly spread between level I to III in the spastic unilateral group, and from level I to level IV in the dyskinetic group. Concerning the ataxic group, we noticed that the majority were CFCS level IV and V (Table 3). These differences were statistically significant with a p value of 0.034.

Table 3. MACS, CFCS, FMS500 and WeeFIM levels distribution based on CP subtypes.

Functional Scale		CP Subtypes			
		Spastic Bilateral	Spastic Unilateral	Dyskinetic	Ataxic
MACS	I	6 (16.7)	2 (8.3)	2 (18.1)	1 (11.1)
	II	6 (16.7)	9 (37.5)	4 (36.4)	1 (11.1)
	III	9 (25)	7 (29.2)	1 (9.1)	1 (11.1)
	IV	11 (30.5)	6 (25)	3 (27.3)	2 (22.2)
	V	4 (11.1)	0 (0)	1 (9.1)	4 (44.5)
CFCS	I	9 (25)	7 (29.2)	3 (27.3)	2 (22.2)
	II	4 (11.1)	6 (25)	2 (18.1)	0 (0)
	III	8 (22.2)	7 (29.2)	3 (27.3)	0 (0)
	IV	14 (38.9)	3 (12.5)	3 (27.3)	4 (44.5)
	V	1 (2.8)	1 (4.1)	0 (0)	3 (33.3)
FMS 500	1 - 2	21 (58.3)	6 (25)	4 (36.4)	5 (55.6)
	3 - 4	9 (25)	2 (8.3)	1 (9.1)	2 (22.2)
	5 - 6	6 (16.7)	16 (66.7)	6 (54.5)	2 (22.2)
WeeFIM					
Selfcare	1 - 4	29 (80.6)	14 (58.4)	7 (63.6)	8 (88.9)
	5	3 (8.3)	5 (20.8)	2 (18.2)	1 (11.1)
	6 - 7	4 (11.1)	5 (20.8)	2 (18.2)	0 (0)
Mobility	1 - 4	27 (75)	7 (29.2)	7 (63.6)	8 (88.9)
	5	7 (19.4)	8 (33.3)	2 (18.2)	1 (11.1)
	6 - 7	2 (5.6)	9 (37.5)	2 (18.2)	0 (0)
Cognition	1 - 4	20 (55.5)	10 (41.7)	7 (63.6)	7 (77.8)
	5	10 (27.8)	9 (37.5)	0 (0)	0 (0)
	6 - 7	6 (16.7)	5 (20.8)	4 (36.4)	2 (22.2)

Our study revealed that 38 children (48%) walked without aids (FMS 5 - 6) at home, 37% at school, 40% in the community settings. Walking aids (FMS 2 - 4) were used by 21% to 24% of children respectively at 3 distances (5, 50, 500 m). Wheelchair (FMS 1) was reported for 26% to 32% of the children (Figure 1).
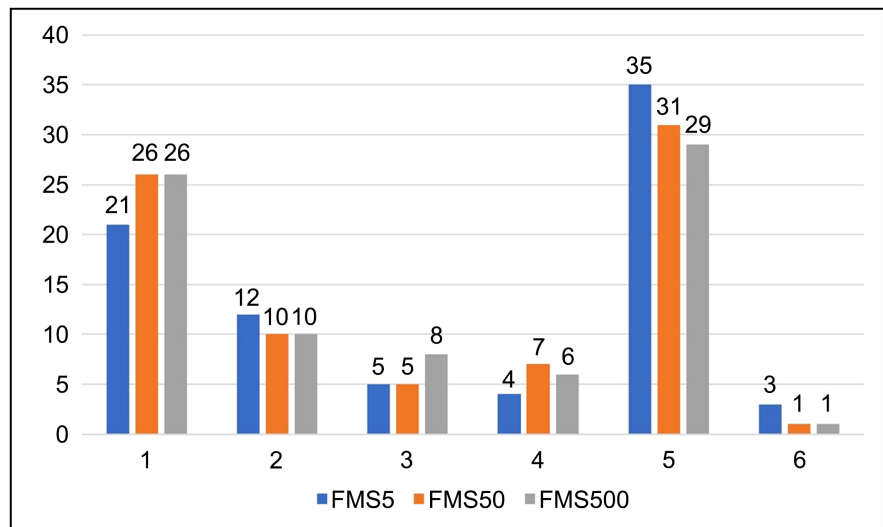
Figure 1. Distribution of participant children across FMS distances.

As for the subtypes, there were a significant statistical association between CP subtypes and FMS 500 ($p = 0.007$). We chose the FMS 500 scale as our main reference for the FMS because it reveals children's ability to ambulate on most possible surfaces. The majority of the studied children with both unilateral CP (66.67%) and dyskinetic CP (54.54%) walked at 500 m without aids, while those with bilateral spastic CP and ataxic CP were mostly seen at FMS 500 1 - 2 (Table 3).

We found that in our study, the mean sub-scores (sub-quotient) for the 3 domains of WeeFIM were: in selfcare 25.27 (45%), in mobility 18.46 (52.7%) and in cognition 19.6 (57%). The majority (62.5%) required assistance (score 1 - 4) from their caregiver, whereas only 18 children (22.5%) could achieve functional independence (score 6 - 7). We proceeded then to study the association between CP subtypes and the different domains of WeeFIM. In spastic unilateral group, highest proportion of children were dependent in selfcare domain. As for mobility and cognition domains, most of the children either needed assistance or surveillance. The results in the 3 remaining groups were similar: almost all the children required assistance in all WeeFIM domains (Table 3).

4. Discussion

The study examines the functional profiles of children with cerebral palsy in Tunisia using international functional measures. It focuses on motor skill, hand competence, and language potential. The WeeFIM scale, MACS, FMS, and CFCS accurately measure these areas, facilitating communication, identifying cohesive groups, and promoting standardized measures.

In cerebral palsy, hand functions are frequently impaired [14] which deeply affects the child's ability to manage daily tasks. Consequently, participation in society and school becomes limited. It has been more challenging to describe upper limb function in children with CP. The majority of the classification sys-

tems for the upper limb classifies aspects of grasping (House classification, Modified House classification, Zancolli classification systems) or manual capacity (Bimanual fine motor function classification system) rather than functional performance [9]. However, there is a significant difference between what the children can do and what he/she really does. The MACS was developed to reflect the typical and spontaneous manual performance in different activities throughout the day instead of focusing on what they are doing best. The MACS has been shown to be a valid reliable and stable measure for children with CP [7]. In our study, we found that 32% of children were independent in manual ability (MACS I and II). These results were similar to Compagnone *et al.* study who reported that 28% of their population were independent [15] but lower than Choi *et al.* study who reported a percentage of 62% [16] and Om Aggarwal *et al.* study who found a percentage 48% [17]. In the studied group, 11.3% had very limited manual functional abilities which is in line with Przysda *et al.* study (10%) [18] and with Hidecker *et al.* who reported 9% [10]. Other studies reported a higher frequency (23%, 40%) [15] [17]. Based on CP subtypes, our research showed that 30.5% of the children in spastic bilateral group were assigned to level IV. Our results were higher than those reported by Compagnone *et al.* (9.8%) [15], similar to the results reported by Hidecker *et al.* (27%) [10] and lower than those reported by Om Aggarwal *et al.* (60%) [17]. The disparity in the results between the different studies could be explained by the fact of the inclusion of children with lower limb involvement in the group of spastic bilateral would create a bias in the definition of the functional profile evaluated by MACS. The children with spastic unilateral CP subtype present best manual skills (45.8%, MACS level I and II). This could be attributed to the use of alternative strategies to compensate for poor bimanual function reflecting the object of MACS to report the collaboration of both hands.

Communication is one of the affected aspects of the daily living of children with CP. This effect will impair their social skills thus hindering their social functioning [19]. To evaluate our group of children with CP, we opted for using CFCS because we found through the literature that although there have been many classification systems to evaluate Children with CP (for example the GMFCS and MACS), most were not really suitable functional classification systems to build social function trajectories on, and that the CFCS was the best functional classification system for predicting social function development [20]. In addition to showing content validity, the CFCS also exhibits extremely good test-retest consistency, good professional interrater and moderate parent-professional interrater reliability. According to the World Health Organization's International Classification of Functioning, Disability, and Health, the CFCS adds to a functional performance picture of everyday living for people with CP [10]. Furthermore, many studies reported a definite correlation between CFCS levels and quality of life. Sharawat and Panda found that CFCS level is one of predictors of impairment in QOL in young children with CP [21]. To emphasize this rela-

tionship, Unes *et al.* reported a statistically significant correlation between CFCS levels and Eating and Drinking Classification System (EDACS) levels (p < 0.001) [22]. In our study, we found that only 26.25% of the research group was classified CFCS level I, and that almost a third of them (30%) were level IV. These results were inconsistent with the finding of Burgess *et al.* where they reported in their Australian population a predominance of level I (61%) [20]. To investigate these discrepancies, we compared CFCS levels with CP subtypes. We found that most of the level I are in the subgroup of spastic CP (16 out of 21 representing 76.2% of all the level I) with a p value of 0.034. We also found that 60% of the level V was in the ataxic group. Our results aligned with the findings of Vos *et al.* They reported that despite being based on parent reports and thus subject to bias, the type of motor disorder is more closely related to the development of expressive communication [23]. Additionally, receptive communication is more intimately associated to the cognitive capacity to process and comprehend others as well as the intellectual capacity to comprehend the meaning of written language [22] [23].

In our study, we aimed at describing the most frequent mobility method for different distances and environments, used by the child with CP and to examine the association between FMS levels and CP subtypes. We found that 36% - 43% of the study population had unaided walking, and 21% - 24% walked with aids, at 3 distances (5 m, 50 m and 500 m). Similar results were reported by Rumeau-Rouquette *et al.* in a French study on 8 - 14 years old children, 38% - 44% were independent walkers, while 13% - 28% required walking aids, at 3 distances [24]. In the present study, wheelchairs were slightly more used than walking aids (26% - 32% compared to 21% - 24%). This difference was more prominent in Rodby-Bousquet and Hägglund study where children with walking aids (4% - 8%) were distinctly less frequent than those using a wheelchair (11% - 18%) [25]. The authors explained this difference by the physical fatigue and the increase of energy consumption, caused by the prolonged use of walking aids deterring children from their use. Other studies also showed the use of walking aids increased energy cost [26] [27] [28] [29]. Jahnsen *et al.* reported that children with CP experience more freedom, move faster and use less energy when using wheelchairs [30]. The increased use of wheelchairs instead of walking with aids was related to the high accessibility for wheeled mobility in Swedish community [25]. Focusing on the subtypes, we found that most of the children in unilateral (66.67%) and dyskinetic (54.54%) groups walked without aids whereas those in bilateral (58.33%) and ataxic (55.56%) groups used wheelchairs. In the Swedish study [25], the authors found somewhat similar results. They reported that the variance between the subgroups in the FMS scores was statistically significant with a p value < 0.001. They found, like in our study, that almost all of the children in the spastic unilateral group walked without aids. They also did not find any difference in the performance of the children belonging to the spastic bilateral and ataxic groups. Their results differed from ours in the dyskinetic group.

Where we found similar results to the unilateral group, they reported the worst performance was in the dyskinetic group with only 10% of the study population walked unaided [25]. Salah *et al.* reported in their study conducted in Jordan that the use of wheelchair mobility is limited in the group of children with spastic bilateral CP. They attributed these findings to several factors including lack of financial resources, environmental accessibility, parents' anxiety about stigmatizing their children with disabilities [8]. Researchers also reported that the CP subtypes were a predictive factor of the mobility performance of children with CP [31] [32].

The WeeFIM, which was developed in 1993 (adapted from FIM), is one of the most widely used method for pediatric functional evaluation [33]. It measures functional abilities and limitations when performing everyday activities in natural environment such as home and community considering caregivers assistance and he use of special equipment. Previous studies have demonstrated the reliability and validity of the WeeFIM [13]. The WeeFIM can be obtained through direct interview or observation [34]. Our studied population achieved a mean total score 64.81 out 126 (overall functional quotient = 54%) with sub-scores (sub-quotients) for 3 domains: selfcare 25.27 (45%), mobility 18.46 (52.7%) and cognition 19.6 (57%). We noticed that functional achievement in the 3 domains was unfairly proportionate. We found it useful to divide the scores into 3 functional categories: requiring help (scores 1 - 4), requiring supervision (score 5), and independent (score 6 - 7). We observed that regarding selfcare, only 11% of children were completely independent while the majority (62.5%) required assistance from their care givers. More than half (55%) needed assistance with speech and social interaction. As for mobility, the results showed that 60% required assistance. Our mean WeeFIM overall score was lower than those reported in other studies. In fact, a study in China found a mean score of 80.9 (67.5%) [35]. While in north America, Sanders *et al.* reported a mean overall score of 79.5 [36]. In Turkey, Özen *et al.* found a score of 73.8 [37]. When we take a closer look at the different domains of the WeeFIM, we observed that our population was lacking in every one of them compared to those reported by other studies. They have shown a selfcare sub-score varying between 32.8 and 35.9, mobility sub-score between 21.9 and 22.1, and cognition sub-score between 23 and 24.7 [35] [36] compared to our scores of 25.27, 18.46 and 19.6 respectively. The variation between different countries could be attributed to the differences in socio-cultural behaviors including feeding, bathing, grooming and toilet habits. Wong *et al.* mentioned that the use of chopsticks in eating results in different scores [38]. Tsuji *et al.* reported that Japanese society uses deep bathtubs instead of shower for bathing furthermore hindering their use even in healthy children [39]. We found in our study group that most of the children needed assistance in all of the domain and that across all CP subtypes. The spastic unilateral group was the better performing having similar results between needing assistance and surveillance in cognition and mobility domains. This aligns with

what we found in the literature were the unilateral group was the better performer with a mean overall score of 102.5 [36] and 103.06 [40]. Sanders *et al.* dived deeper in the results of the bilateral group and reported that the diplegic children have similar scores to the unilateral group (96.6) whereas the tetraplegic children have the worst scores of all CP children combined (48.1).

CP, a long-lived disease, causes diverse impairments that impact academic and professional development. Classifications in clinical practice often focus on neurological symptoms or impairment location, without considering functional abilities. Therefore, reliable classification tools are crucial for consistency in reporting clinical presentations and functional status.

The International Classification of Functional, Disability, and Health (ICF) is a widely used framework in the field of cerebral palsy, guiding researchers and clinicians in selecting outcomes and measures, shifting focus from describing anatomy and physiology to everyday activities, providing a standard description of children with CP. In the clinical settings, appropriate and straightforward tools are crucial for assessing the most pertinent outcomes. The MACS, CFCS, FMS are developed in compliance with ICF to better characterize the functional profile of children with CP by determining the appropriate level of functional ability in the areas of mobility, communication and manual ability [41].

5. Conclusion

Health professionals are encouraged to classify children with CP using functional classifications in addition to the conventional subtypes classification, with an emphasis on function rather than impairment. The incorporation of functional assessment as regular component in physical examination is recommended in order to have a comprehensive overview of functional status of children with CP. Moreover, functional classifications, by selecting homogenous groups based on functional levels, facilitate the design of therapeutic goals and treatment strategies. Therefore, plans of care will be responsive to the variety and heterogeneity of CP condition and target specific needs of those children such as specialized tools, assistive aids, and environment adaptation and modification.

Conflicts of Interest

The authors declare no conflicts of interest.

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Appendix 1. Clinical Evaluation Questionnaire

évaluation fonctionnelle chez les   ENFANTS PARALYSIES CEREBRAUX

Numéro du Dossier: *Carnet de soins:*   .

Nom: *Prénom:*   *Âge:*   *Sexe*   .

Étiologie de la Paralysie Cérébrale:

Anténatale	Néonatale	Postnatale
AVC	Prématurité	Infection
Malformation cérébrale	RCIU	Traumatisme crânien
Fœtopathie à CMV, rubéole	Ictère nucléaire	Traitement d'une tumeur cérébrale
Toxoplasmose	Souffrance à terme	Bas débit per-opératoire

Cause inconnue ☐

Antécédents néonataux:

- Poids de naissance:
- Terme à la naissance:
- Admission des unités de soins intensifs à la naissance: Oui ☐   Non ☐
- Circonstances de l'accouchement: Césarienne ☐
  Accouchement par voie basse ☐   Forceps ☐
- Âge du diagnostic de la PC:

Fratries et situation familiale:

Nombre de frère et sœur: ....

Parents: En couple ☐   Divorcé ☐   Orphelin ☐

Présentation clinique:

	Diplégie
	Quadriplégie (ou quadriparésie)
Forme spastique bilatérale	Triplégie
	Symétrique
	Asymétrique prédominante: Droite/Gauche
Hémiplégie (ou hémiparésie)	Droite/Gauche
Monoplégie (ou monoparésie)	Droite/Gauche
Forme dyskinétique (choréique et dystonique)	
Forme ataxique (cérébelleuse hypotonique)	
Forme mixte	

Troubles associés:

    Strabisme/Troubles de la motricité oculaire ☐

    Dyspraxie bucco-faciale ☐

    Troubles neuropsychologiques (dyspraxie visuo-spatiale) ☐

    Épilepsie ☐

Nature de prise en charge:

Équipe médicale: Pédiatre ☐   Neurologue ☐   Psychiatre ☐

                  MPR ☐   Généraliste ☐

Scolaire: Primaire/secondaire en classe ordinaire ☐

          Établissement spécialisé ☐   Scolarisation impossible ☐

Échec scolaire: Oui ☐   Non ☐

Kinésithérapie: Libérale ☐   Hôpital ☐

Fréquence: Régulière ☐   Irrégulière ☐   Pas de Kiné ☐

Ergothérapie: Oui ☐   Non ☐

Orthophonie ☐   Orthoptie ☐   Psychothérapie ou psychomotricité ☐

Traitement habituel:

Antispastique ☐   Antiépiléptique ☐   Antalgique ☐

Traitement antérieur:

Toxine botulinique ☐   Plâtres progressifs ☐   Chirurgie ☐

Geste chirurgical: Muscle ☐   Tendon ☐   Osseux ☐

Autre:

Appareillage:

Orthèse de posture anti-équin de nuit ☐

Orthèse de marche ☐

Type d'orthèse de marche: Attelle postérieure ☐   Chaussure orthopédique ☐

Déambulation d'intérieur:

    Possibilité de déplacement au sol avec/sans dissociation des MI ☐

    FR ☐

Marche avec aide: Cannes ☐   Cadre de marche ☐   Tiers personne ☐

              Marche sans aide ☐

Déambulation d'extérieur:

    FR manuel ☐   FR électrique ☐

    Marche avec aide (cannes, cadre de marche, tiers personne) ☐

    Marche sans aide ☐