HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Rehabilitation Centre		
Document:	Multidisciplinary Policy and Procedure		
Title:	Physiotherapy Protocol for Cerebral Palsy		
Applies To:	All Physiotherapist, Physicians and Nurses		
Preparation Date:	January 11, 2024	**Index No:**	REH-MPP-005
Approval Date:	January 25, 2024	**Version:**	(2)
Effective Date:	February 25, 2024	**Replacement No.:**	REH-MPP-005(1)
Review Date:	February 24, 2027	**No. of Pages:**	04

1. PURPOSE:

1.1 To attain highest functional level of independency.
1.2 To prevent the occurrence of secondary complications.
1.3 Regain maximum ADL activities.
1.4 To evaluate change in motor function over time or with intervention for children with cerebral palsy.

2. DEFINITIONS:

2.1 Cerebral Palsy is a collection of syndromes of diverse etiology, pathology & clinical manifestation caused by non-progressive lesion of an immature brain which leads to neuromuscular & other symptoms of cerebral dysfunction, an abnormality of motor function & postural tone. Cerebral palsy is often associated with other neurological difficulties including mental retardation.

2.1.1 Definition of terms commonly used for various neurologic lesions.
2.1.1.1 Monoplegia - involvement of one extremity.
2.1.1.2 Hemiplegia- upper & lower extremity involvement on one side.
2.1.1.3 Paraplegia- involvement of both lower extremities.
2.1.1.4 Quadriplegia- equal involvement of all upper and lower extremities.
2.1.1.5 Diaplegia - all 4 limbs are affected but mild involvement of upper extremities.
2.1.1.6 Double hemiplegia- all 4 limbs are affected but severe involvement of upper extremities.
2.1.1.7 Triplegia - involvement of 3 limbs.

2.1.2 Definitions of terms use for classifications.
2.1.2.1 Spastic- is most common and indicates a fixed lesion in the motor portion of cerebral cortex.
2.1.2.2 Ataxia- refers to cerebellar lesion. Usually with disturbed balance and equilibrium and uncoordinated movements.
2.1.2.3 Athetosis or Dystonia- reflects involvement in the basal ganglia. Athetosis frequently involves intermittent tension of the trunk or extremities & a variety of uninhibited movement patterns.

2.1.3 Definitions of terms use for evaluation and treatment:
2.1.3.1 The Gross Motor Function Classification System (GMFCS) is a multi-level categorization technique that helps to describe varying levels of severity in people with cerebral palsy (CP). The GMFCS has five levels; the lower levels correspond with milder forms of CP, while the higher levels indicate increased severity. The Gross Motor Function Classification System can be used to describe all types and severity levels of cerebral palsy. It takes into consideration an individual's voluntary movements, age, and functional ability under a variety of circumstances.

3. POLICY:

3.1 Patient should have a referral form from a paediatrician or rehab doctors.
3.2 Patient will be evaluated & assessed by the Physiotherapist depending on GMFCS.

3.3 Appointment will be given depending on the availability of the therapist and scoring.
3.4 The patient shall deliver assistive devices if needed, as directed by the treating doctor, or during the treatment period, as the therapist sees.
3.5 The patient's condition is re-evaluated after 3 months of treatment or after any change in his \ her condition if he\she needs a consultation from a rehabilitation doctor or discharging the patient.

4. PROCEDURE:

4.1 In 1st visit therapist makes patient assessment and determines the level gross motor function according to GMFM score.

4.1.1 There are five levels that comprise the GMFCS, increasing in severity from level I to level V. It is important to note that this system is meant as a general guideline and that each case of cerebral palsy is different; because of this, the GMFCS will not completely describe each unique person. Broadly, the five levels are described as follows:

4.1.1.1 Level I – Has functional gross motor skills, though may struggle with speed, balance, and coordination. Moves independently without the aid of adaptive equipment.

4.1.1.2 Level II – Can walk with limitations and may need assistance with inclined or uneven surfaces. Moves without the aid of adaptive equipment.

4.1.1.3 Level III – Can walk with the use of hand-held adaptive equipment and may need a wheelchair to move on inclined or uneven surfaces, or to travel long distances.

4.1.1.4 Level IV – Is self-mobile only with significant limitations. Many uses powered-wheelchairs, require significant help with transfers, and are dependent on adaptive and assistive equipment.

4.1.1.5 Level V – Typically has limitations that impair all voluntary movement and is extremely dependent on adaptive equipment, assistive technology, and other people for mobility.

4.2 Therapist will determine management/treatment plan according to which level patient take in GMFMS.

4.3 The therapist explains to the parent's the child condition and what the short and long-term goals are intended from the treatment program and also determines the number of sessions for them.

4.4 After the evaluation and determination of the appropriate treatment plan, the therapist will complete the physiotherapy evaluation form.

4.5 Therapist should observe all the time the following precautions:

4.5.1 In the patient's first session, the therapist reviews the full reports of the patient and follows the precautions and guidance indicated by the doctor.

4.5.2 Observe all changes that occur to the patient during the sessions, either improving or delay.

4.5.3 Occurrence of fixed contracture must be prevented.

4.5.4 Management/treatment should be planed properly by the therapist according to the case.

4.6 Management /Plan in treating CP:

4.6.1 Passive range of motion exercises (PROME) & Active range of motion exercises (AROME).
4.6.2 Gentle passive stretching (GPS) of the spastic extremities.
4.6.3 Hot Moist Packs (HMP) before doing stretching.
4.6.4 Strengthening and weight bearing exercises.
4.6.5 Ball exercises and Balance exercises.
4.6.6 Mat exercises.
4.6.7 Ergometer and treadmill exercises will be given depending on the condition and age of the patient.
4.6.8 Standing on the tilting table depending on the patient condition and age.
4.6.9 Electrical muscle stimulator (EMS).
4.610 Stairs climbing depending on the case.
4.6.11 Home instructions/program is a must. Especially proper positioning of the involved limb.
4.6.12 Plan for correction splint depending on the case.
4.6.13 Gait training with parallel bars depending on the case.
4.6.14 Occupational therapy.

4.6.15 Play therapy.

4.7 Frequency and duration of treatment:

4.7.1 Frequency of visits will depend on severity of the case (1-3 times / week).

4.7.2 Timing will depend on the availability of the physiotherapist & patient condition.

4.7.3 Home instructions/program is a must for family or care giver about care condition.

4.8 Discharge Planning:

4.8.1 Any patient after 3 months of treatment is re-evaluated by the therapist to see if the planned goal has been reached or not.

4.8.2 If the patient exceeds 2 months of treatment or more without any noticeable improvement, a consultation is requested from the rehabilitation doctor to take an opinion based on the rehabilitation program. Either the patient is discharged to complete the treatment at home or he is transferred to a higher rehabilitation center for intensive treatment.

4.8.3 If the patient's condition improves during the 2-month treatment period, during which the treatment method is changed according to the patient's need and the treatment period is extended according to the vision of the therapist and upon achieving the desired goal, the patient is discharged.

4.8.4 Any patient who reaches the treatment goals set by the therapist is re-evaluated and discharged.

4.8.5 Patients who were recently discharged from rehabilitation after two months of treatment and became the utmost goal of treatment is to maintenance only will not be accepted in the Rehabilitation Department.

5. MATERIALS AND EQUIPMENT:

5.1 Hot Moist Pack (HMP) Hydro-collator unit.
5.2 Electrical Muscle Stimulator (EMS).
5.3 Ergometer.
5.4 Tilting Table.
5.5 Vestibular Ball.
5.6 Stairs.
5.7 Parallel Bars.
5.8 Treadmill.

6. RESPONSIBILITIES:

6.1 Physician: Assess, diagnose and prescribe medicine.
6.2 Physiotherapist: Initial assessment, evaluates and fills out the General Evaluation Form and documents data in the Referral Form.
6.3 Nurse: Triage, and if the patient is more than 12, she should help male physiotherapist to do physiotherapy.

7. APPENDICES:

7.1 Referral form. (Electronic)
7.2 Assessment forms. (Electronic)
7.3 Follow up notes. (Electronic)
7.4 Discharge form. (Electronic)
7.5 Education form. (Electronic)

8. REFERENCES:

8.1 Physiotherapy Department Protocols in MCH- Al-Jouf.
8.2 Pediatric Physical Therapy; by Jan Stephen Tecklin.

9. APPROVALS:

	Name	Title	Signature	Date
Prepared by:	Ms. Amira Yahya Hamed	Head of Rehabilitation Centre		January 11, 2024
Reviewed by:	Mr. Abdulelah Ayed Al Mutairi	QM&PS Director		January 18, 2024
Reviewed by:	Dr. Tamer Mohamed Naguib	Medical Director		January 18, 2024
Approved by:	Mr. Fahad Hazam Alshammari	Hospital Director		January 25, 2024