Context and instruction for the rehabilitation of children with cerebral palsy

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Introduction:

The rehabilitation of cerebral palsy need to follow for a long time because the problem and child's needs change with age, the overall child's problems is delayed development either in the field of motor, mental or functional.

There is a difference between the real child's age and developmental age so we should use Rehabilitation's instruction to activate and stimulate the child's development.

General rules and regulations:

1st- The establishment of a medical committee under the ministerial order / directorate of technical affairs No.460616 in 27/07/2011

The committee includes:

-specialist doctor in medical rehabilitation

-specialist doctor in pediatric

-specialist doctor in neurology

-specialist doctor in orthopedic

-physiotherapist and technician in P&O

The Committee held once or twice per month, which responsible for:

1-Examine and diagnosis of children Referred to Committee.

2- Evaluation of the child's situation.

3- Determine a treatment plan and rehabilitation: (Drugs, surgery, physiotherapy, orthotics, medical aids)

4-follow up children who reviewed previously within specific date.

2nd- Medical Rehabilitation

1-Assessment

1. Evaluation of the child physically, mentally, functionally and social assessment.
2. Gross Motor Function Classification System (GMFCS) according to his age.
3. Determine the developmental age of the child.
4. Identify the problems and needs of the child.

2- The goals of cerebral palsy rehabilitation must be:

1. Improve transfer and the motor movement of the child.
2. Prevention of deformities.
3. Parent education.
4. Training on the activity of daily living.
5. Attention to the psychological and social situation of the child (social worker)

- Goals must be realistic for a child with cerebral palsy:

1. A child who cannot sit in the age of 4 years, he will not be able to stand and walk.
2. A child who cannot control his head and neck at the age of 1 year, he will not be able to stand and walk.
3. A child who can sit at the age of less than two years , he will be able to stand and walk.

3-physiotherapy

1. General rules and regulations
   1. Provide specialist doctor or general practitioner doctor in medical rehabilitation.
   2. Provide physiotherapists which expertise in the field of child rehabilitation.
   3. Specifications of physical therapy room for cerebral palsy :

- Place capacity not less than 8x16 m

- The colors of the place must be commensurate with the kids.

- Provide rehabilitation supplies which suitable for children.

- Available suitable ground.

- Availability of toys suitable for children.

-Physical therapy for cerebral palsy children includes the following:

1. Range of motion exercises active and passive.
2. Balancing exercises.
3. Strengthening exercises.
4. Stretch exercises.
5. Orthotics devices.

Spasticity:

Evaluated under the standard of **modified Ashworth Scale**

|  |  |  |
| --- | --- | --- |
| Class | Assessment | physiotherapy |
| 0 | No increase in muscle tone | -ROM  -Follow up |
| 1 | Slight increase in muscle tone, manifested by a catch and release or by minimal resistance at the end of the range of motion when the affected part(s) is moved in flexion or extension | -ROM  -Follow up |
| 1+ | Slight increase in muscle tone, manifested by a catch, followed by minimal resistance throughout the remainder (less than half) of the ROM | -ROM  -stretch exercise |
| 2 | More marked increase in muscle tone through most of the ROM, but affected part(s) easily moved | -ROM  -stretch exercise  Daily for frequent times |
| 3 | Considerable increase in muscle tone, passive movement difficult | **Little** benefit from exercise |
| 4 | Affected part(s) rigid in flexion or extension | **No** benefit from exercise |

Note: Move the joint gently and repeatedly until that spasticity released then keeps the joint position for five minutes and then repeat attempt.

Medical rehabilitation of children with cerebral palsy in Physiotherapy Unit

1. Examination and evaluation of the child under evaluation form attached (rehabilitation doctor and physiotherapist)
2. Identify the problems and needs of the child.
3. Determine the class of the childaccording to **modified Ashworth Scale**.
4. Develop a plan to deal with the child's problems, according to the priorities after discussion with the child's parent.
5. Identify goals of rehabilitation and the time limit.
6. Determine the dates of the appointment.
7. Make a reassessment appointment after the ending of first stage of rehabilitation.

Medical rehabilitation for cerebral palsy children under the standard of the Gross Motor Function Classification System (GMFCS) & Age group

-Child Age group (0-2 years)

**GMFCS1 :** These children like normal children need monthly follow-up and then every three months**.** There may have a slight tightening in some joints need stretch exercise **.**

-The child can move and sit on the ground **without** the help of hands.

-The child can grab things with his hand.

- The child can crawl on his hands and knees.

- The child can stand up with assistance.

- The child can walk with assistance.

-At age 18-24 months, The child can Walking without assistance.

**GMFCS2**

-The child can sit on the ground **with** the help of hands.

-The child can grab things with his hand.

- The child can crawl on his hands and knees.

- The child can stand up with assistance.

- The child can walk with assistance.

-Strengthen exercises to the muscles of the back and hips

- Balancing exercises in the stand and sitting position.

- Walking exercises using medical aids (walking frame)

**GMFCS3**

-The child can sit on the ground **with** low back support.

- The child can crawl on his abdomen, can turn around.

-Strengthen exercises to the muscles of the back and hips

-Free sitting exercises.

-Hand exercises while sitting (play with toys)

- Balancing exercises in the sitting position.

- stand exercises with assistance.

**GMFCS4**

- The child can control his head, but when he sits needs complete back support.

- The child can turn around.

-Strengthen exercises to the muscles of the back and neck.

- Strengthen exercises to the muscles of the upper and lower limbs.

- positioning exercise every 2 hours.

- Sitting exercises with less possible assistance.

**GMFCS5**

- The child has very limited movement.

- Child cannot control his head and trunk.

-Child needs help to turn to the other side

-Strengthen exercises to the muscles of the head and neck.

- Strengthen exercises to the muscles of the trunk.

- Head exercise from prone position.

- positioning exercise every 2 hours.