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Ambulatory Status (Walking Ability) Rating Scales x 3

Patient Name: _____ **Date of Study:** _____

The following are three standardized scales, two on the front and one on the back, with which to rate individuals' walking ability (The first is only applicable to those with cerebral palsy or brain injuries.). Please read the directions carefully and rate your (child's) walking on each applicable scale. Please do not use dashes or half numbers. When in doubt, go with lower of two numbers. Feel free to speak with the Motion Analysis Center staff upon your arrival should you have any questions or difficulty.

Gross Motor Function Classification System for Cerebral Palsy (& Brain Injury):

1-5 (1 best) Palisano R et al. *Dev Med & Child Neurol* 1997;39:214-223.

☐ NOT APPLICABLE (Patient does not have CP or history of brain injury)

DIRECTIONS: Please check only the one level below which best represents your (child's) usual performance (not best possible) in home, school, & the community at present. Please do not rate on hopes, goals or expectations.

☐ **Level 1**: ***Walks without restrictions; limitations in more advanced gross motor skills***
Walks indoors and outdoors, and goes up/down stairs without limitations (including without railing if required); performs gross motor skills including running and jumping but speed, balance, and/or coordination generally reduced versus peers.

☐ **Level 2**: ***Walks without assistive devices; limitations walking outdoors and in the community***
Walks indoors and outdoors; goes up/down stairs but requires the use of a railing for one or both; experiences limitations walking on uneven surfaces and inclines (hills), as well as walking in crowded or confined (tight) spaces; have at best minimal ability to perform gross motor skills such as running and jumping.

☐ **Level 3**: ***Walks with assistive device(s); limitations walking outdoors and in the community***
Walks indoors or outdoors on a level surface with an assistive mobility device (e.g. crutch(es), walker, cane(s)/pole(s)/stick(s)); may have limited ability to climb stairs using railing and/or assistive device; often utilizes wheelchair or stroller (even if self-propels) for long distance mobility or outdoors on uneven terrain.

☐ **Level 4**: ***Limited self-mobility with assistive device(s); generally relies on wheeled mobility***
Walks, at best, short distances with a walker and supervision or assistance (difficulty turning and maintaining balance), particularly on uneven surfaces; generally relies on wheeled mobility; transported in community; may include those independent with power wheelchair mobility.

Functional Mobility Scale: 1-6 (6 best); 3 distinct distances

Graham HK et al. *J Ped Ortho*. Sep/Oct 2004: 24 (5).; 514-20.

DIRECTIONS: Using the scale on the right below, please choose one number to describe your (child's) *typical* walking ability for each of the three distances in the table. Please write one and only one number in each of the blank cells (3) in the right hand column of the table.

Walking Distance	Rating
5 meters: *e.g. household, classroom*	
50 meters: *e.g. school hallways(empty)*	
500 meters: *e.g. mall, grocery store*	

Level 1: Uses wheelchair, stroller, scooter, shopping cart, wagon or is carried **OR** walks for exercise only with highly specialized/supportive walker (e.g. Gait Trainer, ring walker, Pony, etc.: generally with sling seat or saddle) **OR** does limited stepping with significant support/assistance from another person

Level 2: Uses regular front or reverse walker independently without help from another person

Level 3: Uses 2 crutches without help from another person

Level 4: Uses one crutch or 1-2 canes/poles/walking sticks **OR** touches furniture, walls, etc. for balance; no regular assistance (including hand hold) from another person for balance

Level 5: Independent walking on level surfaces (indoors, sidewalks, etc.) without any assistive device(s), assistance from another, nor the need to touch furniture, walls, etc. for support

Level 6: Independent walking and running on all surfaces (hills, stairs, uneven ground) without any assistive device(s) or help from another person.

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Gillette Functional Assessment Questionnaire: 1-10 (10 best)

Novachek TF et al. J Ped Ortho 2000:20; 75-81.

DIRECTIONS: Please check the one and only one level below which best describes your (child's) most *typical* walking ability. This may include/assume the use of any needed assistive devices and/or orthoses (braces))

- ☐ **Level 3:** Walks for exercise/therapy only and/or less than typical household distances
- ☐ **Level 4:** Walks for household distances, but makes slow progress; does not use walking at home as preferred mobility (primarily walks in therapy or as exercise)
- ☐ **Level 5:** Walks more than 15-50 feet but only inside at home or school/classroom (walks for household distances)
- ☐ **Level 6**: Walks more than 15-50 feet outside the home, but usually uses a wheelchair or stroller for community distances or in congested areas
- ☐ **Level 7:** Walks outside the home for community distances, but only on level surfaces (can not perform curbs, uneven terrain, or stairs without assistance of another person)
- ☐ **Level 8:** Walks outside the home for community distances; is able to perform curbs and uneven terrain in addition to level surfaces, but usually requires minimal assistance or supervision for safety
- ☐ **Level 9:** Walks outside the home for community distances, easily gets around on level ground, curbs, and uneven terrain, but has difficulty or requires minimal assistance or supervision with running, climbing and/or stairs; has some difficulty keeping up with peers.
- ☐ **Level 10:** Walks, runs, and climbs on level and uneven terrain and does stairs without difficulty or assistance; is typically able to keep up with peers

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NeuroRehabilitation and Robotics
IU Health Neuroscience Center
355 W. 16th. St.
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(O) 317-963-7050 (F) 317-963-7055 www.iuhealth.org

Child's Name: _____ Appointment Date & Time: _____

Instructions for Motion Analysis

- Please bring form-fitting clothing and/or shorts. This might include a swimsuit for a girl, boxer-briefs for a boy, or spandex clothing.
- Please bring any braces/orthotics and the shoes the child wears over the braces/orthotics.
- Please bring any assistive device that the child might use (walker, crutches, braces, etc.).
- Please bring completed forms regarding history and ambulatory status of the child.
- Please bring any toy or object that might motivate the child to walk.
- Please prepare the child by discussing the analysis and what will occur. If the child is fearful, it might be helpful to suggest that the child will get to dress up like a superhero, be a movie star, or be on TV.

What to expect the day of testing…

- The child will need to wear as little clothing as possible while still being comfortable. The clothing that the child does wear must be as form-fitting as possible. This will prevent interference with the reflectors.
- Measurements of anatomical landmarks will be taken and small reflective markers will be placed on the child's body in various locations. Electromyography (EMG) electrodes will also be placed on various muscles of the legs. This may require using a razor to shave small areas if there is excessive hair. This process will take approximately 30-45 minutes.
- The child will need to walk across the room several times to capture the child's movement with the cameras.
- A caregiver should be present throughout the analysis to put the child at ease and to assist with motivating the child. Toys or objects that motivate the child may be brought to the analysis.
- The reflectors are attached with double-sided tape and will need to be removed after the analysis. They might leave small red marks on the child's skin, similar to removing a band-aid.
- The entire process will take between 2-3 hours.

Please contact DeAngela or Jeff at 317-963-7050 with any questions or concerns regarding your child's motion analysis.

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HISTORY QUESTIONNAIRE for MOTION ANALYSIS

Please complete as thoroughly and accurately as possible.

Patient's name: _____
Date of birth: _____
Date of next physician appointment: _____

What is your relationship to the patient?
□ Self (adult) □ Foster parent
□ Patient's mother □ Patient's stepmother
□ Patient's father □ Patient's stepfather
□ Caregiver (_____)
□ Other (_____)
□ Do you have legal guardianship? □ Yes □ No □ N/A

BIRTH/ DEVELOPMENTAL HISTORY

Was patient born prematurely? □ Yes □ No

If yes, how early? _____

How was the patient delivered? □ Vaginal □ C-section □ Forceps □ Vacuum

What was the patient's birth weight? _____

What were the patient's Apgar scores? _____1 min. _____5 min. □ Unknown

Did the patient spend time in a neonatal intensive care unit? □ Yes □ No

If yes, for how long? _____

Was the patient on a ventilator? □ Yes □ No

If yes, for how long? _____

Were there any major issues or concerns during the NICU stay? _____

_____At what age was the patient first able to consistently walk across a room independently without any support? _____ □ Currently unable

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SURGICAL HISTORY

Please list any relevant surgeries that the patient has undergone (for example, orthopedic or neurologic surgeries involving the hip, leg, foot, or spine).

□ Check here if Not Applicable

Date:	Procedure(s):	Facility/Physician:
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

MEDICATION/DRUG HISTORY

Has the patient ever undergone muscle, nerve, or spinal cord injections to reduce spasticity? (For example, Botox, Phenol, Baclofen Pump) □ Yes □ No

If yes, on how many different occasions?_____

Name(s) of drug(s) used:_____

What area(s)/muscle(s) were injected?_____

Date of last injections?_____

Has the patient ever taken oral medications to reduce/control spasticity? (For example, Baclofen) □ Yes □ No

If yes, name(s) of drug(s):_____

Does the patient regularly take other oral medications? □ Yes □ No

If yes, name(s) of drug(s):_____

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THERAPY HISTORY

Does the patient currently receive physical therapy? □ Yes □ No

If yes, how often? In what setting?_____

Briefly explain how therapy time is primarily spent: _____

_____

Has the patient participated in alternative therapies such as hippotherapy or night time electrical stimulation (TES)? □ Yes □ No

If yes, please describe: _____

EQUIPMENT HISTORY

Does the patient regularly utilize any assistive devices or adaptive equipment such as a walker, canes, crutches, wheelchair, power scooter, or stander?

□ Yes □ No

If yes, please list all equipment and where it is used:_____

_____

_____

Does the patient regularly wear braces or orthotics such as AFOs, shoe inserts, arch supports, or a lift? □ Yes □ No

If yes, what kind?_____

How much time are they worn?_____

Date the most current braces were received:_____

TRIP/FALL HISTORY

Does patient trip/stumble on a regular basis when walking? □ Yes □ No

When running? □ Yes □ No □ Not able to run

If yes, how often on average? ____ times per day / week / hour

How often does the patient fall? ____ times per day / week / hour

Is there a pattern to these trips/falls? □ Yes □ No □ Uncertain

If yes, describe how/when/where/why they occur: _____

_____

_____

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ENDURANCE HISTORY

Does patient fatigue more easily than peers/family members when walking? □ Yes □ No

If yes, how long can the patient walk before needing to rest? (time or distance)

_____

PAIN HISTORY

Does the patient experience or complain of pain during or after long periods of standing or walking? □ Yes □ No

If yes, where specifically does the pain occur? (side of body, area affected)

_____

_____

How often?_____ How severe? (0-10) _____

How is the pain treated? (medicine, rest, ice, heat, massage, etc) _____

_____

Does the treatment help? □ Yes □ No

OTHER MEDICAL HISTORY

Patient's current height: _____

Patient's current weight: _____

Does the patient have a shunt for hydrocephalus? □ Yes □ No

If yes, age it was put in? _____

Number of times revised? _____

Date of last revision? _____

Does the patient have a seizure disorder? □ Yes □ No

If yes, is it controlled? □ Yes □ No

How frequently does the patient have seizures? _____

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OTHER PROVIDERS/SPECIALISTS INVOLVED

Does the patient see any specialists? □ Yes □ No
If yes, please list names and the specialty area: _____
_____

PATIENT/ FAMILY GOALS & CONCERNS

What are the major concerns with how the patient walks? _____
_____

What stands out, bothers, or limits the patient the most? _____
_____

What would you or the patient most like to see changed if possible? Please be specific (trip less, falls less, not turn left leg in, make right knee straighter, etc.):
_____
_____

Is there anything else that we should know about the patient? (personality, attention span, etc.)_____
_____

EDUCATIONAL HISTORY

What is the highest grade level equivalent that the patient has completed or is generally able to perform? Please check one:

□ Not applicable
□ Pre-school or Daycare
□ Kindergarten
□ 1st
□ 2nd
□ 3rd
□ 4th
□ 5th
□ 6th
□ 7th
□ 8th
□ 9th
□ 10th
□ 11th
□ 12th
□ College
□ Other___
_____