

INCLLEN Diagnostic Tool for Neuro-motor Impairment (INDT-NMI) for Primary Care Physician

PERSONAL INFORMATION OF THE CHILD

1. Name of the child:

2. Age (in completed months):

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3. Sex: (Male -1, Female - 2)

4. Complete address of the child:

5. Informant: 1 = Mother, 2 = Father, 3 = Guardian, 4 = Relative:

6. Anthropometry:

A. Weight. **Kg**

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B. Height/ Length:

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cm

C. Head circumference:

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cm

INSTRUCTIONS FOR ADMINISTRATION

- **Primary caregiver** must be present during the assessment for history
- The informant should have been staying with the child for at least 6 months
- The behavior in question
 - Should be present currently and a **usual** feature
 - Should have been present for the **last 6 months**
- Explain to the parents that the behaviors should be compared with children of same age and similar background
- Ask the questions **verbatim**.
Question can be **repeated** if the respondent cannot understand. Still, if the respondent cannot understand, **examples** for the particular behaviour may be provided which are appropriate to the child's background (rural/urban, school going/ not school going)
- **No further elaboration** is allowed

Section I: Triage questions for Neuromotor Impairments

0: No

1: Yes

8: Not applicable

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| <p>1. Does your child have difficulty in <u>ANY</u> of the following?</p> <p>A. Sitting <input type="checkbox"/></p> <p>B. Getting up from floor <input type="checkbox"/></p> <p>C. Standing <input type="checkbox"/></p> <p>D. Walking <input type="checkbox"/></p> <p>E. Running <input type="checkbox"/></p> |
| <p>2. Did your child start performing the following activities later than children of his/her age?</p> <p>A. Started sitting without support beyond his/her first birthday <input type="checkbox"/></p> <p>B. Started walking without support beyond his/her second birthday <input type="checkbox"/></p> |
| <p>3. Does your child have <u>ANY</u> of the following?</p> <p>A. Excessive tightness/ limpness of the body <input type="checkbox"/></p> <p>B. Toe-walking <input type="checkbox"/></p> <p>C. Abnormal posture of any limb <input type="checkbox"/></p> <p>D. Decreased/ unequal use of any limb <input type="checkbox"/></p> <p>E. Frequent falls <input type="checkbox"/></p> |
| <p>4. Does your child have difficulty in performing <u>ANY</u> of the following activities? (For children above 4 years age only)</p> <p>A. Bathing/cleaning himself/herself <input type="checkbox"/></p> <p>B. Toileting <input type="checkbox"/></p> <p>C. Dressing <input type="checkbox"/></p> <p>D. Feeding self <input type="checkbox"/></p> |

Section II: Observations: Write responses code in the box.

0: No

1: Yes

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| <p>5. Observe for the following when the child is walking</p> <p>A. Limping</p> <p>B. Unsteadiness of gait (Ataxia)</p> <p>C. Toe walking</p> <p>D. Waddling gait</p> <p>E. Scissoring gait</p> <p>F. High stepping gait</p> <p>G. Unable to walk</p> <p>H. Any other gait abnormality (please specify) _____</p> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| <p>6. Observe for the following when the child is standing up from floor</p> <p>A. Requires assistance for standing up from floor / unable to stand</p> <p>B. Gowers' sign positive</p> <p>C. Any other abnormality.....</p> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| <p>7. Observe hands and look for the following</p> <p>A. Tremors</p> <p>B. Unequal power of hand grip</p> <p>C. Fisting of one or both hands</p> | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |

Please specify reason for Non-applicability of any item.

Section III: Record findings of detailed neurological assessment as codes in the respective boxes

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| <p>8. Muscle power</p> <p>0: Normal 1: Decreased</p> <p>A. Right upper limb (Shoulder abductors & wrist extensors) <input style="float: right;" type="checkbox"/></p> <p>B. Right lower limb (Hip abductors & ankle dorsiflexors) <input style="float: right;" type="checkbox"/></p> <p>C. Left upper limb (Shoulder abductors & wrist extensors) <input style="float: right;" type="checkbox"/></p> <p>D. Left lower limb (Hip abductors & ankle dorsiflexors) <input style="float: right;" type="checkbox"/></p> <p>Overall impression: If abnormal, write the power of the abnormal side</p> <p>0: Normal muscle power <input style="float: right;" type="checkbox"/></p> <p>1: Decreased muscle power <input style="float: right;" type="checkbox"/></p> | |
| <p>9. Muscle tone मांसपेशीय की स्थिति</p> <p>0: Normal 1: Hypotonia 2: Hypertonia 8: Not applicable</p> <p>A. Tone in right upper limb (Elbow & Wrist) <input style="float: right;" type="checkbox"/></p> <p>B. Tone in right lower limb (Hip adductors, knee & ankle) <input style="float: right;" type="checkbox"/></p> <p>C. Tone in left upper limb (Elbow & Wrist) <input style="float: right;" type="checkbox"/></p> <p>D. Tone in left lower limb (Hip adductors, knee & ankle) <input style="float: right;" type="checkbox"/></p> <p>Overall impression: If abnormal, write the tone of the abnormal side</p> <p>0: Normal muscle tone 1: Hypotonia 2: Hypertonia <input style="float: right;" type="checkbox"/></p> | |
| <p>10. Deep tendon reflexes (biceps, triceps, knee and ankle jerks)</p> <p>0: Normal 1: Diminished or absent 2: Exaggerated</p> <p>A. Right biceps jerk <input style="float: right;" type="checkbox"/></p> <p>B. Left biceps jerk <input style="float: right;" type="checkbox"/></p> <p>C. Right triceps jerk <input style="float: right;" type="checkbox"/></p> <p>D. Left triceps jerk <input style="float: right;" type="checkbox"/></p> <p>E. Right knee jerk <input style="float: right;" type="checkbox"/></p> <p>F. Left knee jerk <input style="float: right;" type="checkbox"/></p> <p>G. Right ankle jerk <input style="float: right;" type="checkbox"/></p> <p>H. Left ankle jerk <input style="float: right;" type="checkbox"/></p> <p>Overall impression: If abnormal, write the DTRs of the abnormal side</p> <p>0: Normal DTRs</p> <p>1: Diminished or absent DTRs <input style="float: right;" type="checkbox"/></p> <p>2: Exaggerated DTRs</p> | |

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| <p>11. Plantar response</p> <p>0: Flexor response</p> <p>1: Extensor response</p> <p>2:Withdrawal / Not elicitable</p> <p>A. Right side <input type="checkbox"/></p> <p>B. Left side <input type="checkbox"/></p> <p>Impression: Write the plantar response of the abnormal side <input type="checkbox"/></p> |
| <p>12. Balance and coordination</p> <p>0: Normal <input type="checkbox"/></p> <p>1: Poor balance of trunk or limbs (Ataxia)</p> |
| <p>13. Abnormal movements</p> <p>0: No abnormal movements <input type="checkbox"/></p> <p>1: Abnormal movements</p> |
| <p>14. Interpretation</p> <p>A. Neuromotor examination*</p> <p>0: No neuromotor dysfunction (Responses to ALL of 8-13 is “0”)</p> <p>1: UMN dysfunction (At least TWO out of 9-11 is “2”) <input type="checkbox"/></p> <p>2: LMN dysfunction (Response to 8 is “1”, AND 9 or 10 is “1” AND 11 is not “2”)</p> <p>3: In coordination/ Abnormal movements (Response to 12 OR 13 is “1”)</p> <p>9: Indeterminate (If the findings are abnormal but not fitting in any of the above)</p> <p>B. Onset of symptoms (Not for LMN dysfunction)</p> <p>0: At or before 2 years of age</p> <p>1: After 2 years of age or cannot be ascertained <input type="checkbox"/></p> <p>8: Not applicable</p> <p>C. Course of the child’s illness**</p> <p>0: Static or improving <input type="checkbox"/></p> <p>1: Progressive</p> <p>8: Not applicable</p> <p>D. Is there a clear spinal cord pathology resulting in impairment? <input type="checkbox"/></p> <p>0: No 1: Yes</p> |
| <p>15. Diagnosis</p> <p>0: No Neuromotor impairment (Neuro motor examination not indicated i.e. in Section 1 all questions 1 to 4 have all reponses 0 and Section 2 questions 5 to 7 have all responses is 0 OR When neuromotor examination indicated : Responses to ALL of 8-13 are “0”)</p> <p>1: Cerebral palsy (Response to 14 A is 1 and/or 3 AND B, C, D is “0”) <input type="checkbox"/></p> <p>2: Neuromuscular disorder (Response to 14A is “2”)</p> <p>3:Other Neuromotor impairment (Response to 14A is NOT “0”, but not fulfilling criteria for CP or NMD)</p> <p>9: Indeterminate (Response to 14 A is 9)</p> |

* The motor problem should not be solely explained by skeletal/soft tissue abnormality (traumatic deformity, club foot, post burn contractures) or painful skeletal or soft tissue condition.