Motor, Reflex, Coordination and Sensory Screening Examination

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Chiropractic Orthopaedist
• “Specializing in Spine and Nerve Rehabilitation”
Motor Function

Lower Motor Neuron Testing
Handedness

- Right or Left Handed
- Ambidextrous
- Shoulder Height-levelness
  - Dominant side lower
- Grip Strength
  - Dominant side stronger by 10%
  - Female grip strength is 50% of males
Handedness

• Impairment Rating
  – Non-dominant often rated lower

• Side Posture Adjusting
  – Farfan’s Torsion Test
  – Side of handedness up

• Pseudoambidexterity
Handedness

Pseudoambidexterity
Handedness

Pseudoambidexterity
True Ambidexterity

• Both ambidextrous and multilingual, 20th president James Garfield could write Greek with one hand while writing Latin with the other.
Bilateral Hand Shake

• Quick Assessment of Lower Cervical and Upper Thoracic Nerve Root Motor Function

• C5-T1
Fig. 1–29. Summary of muscle testing for the upper extremity.
Bilateral Hand Shake Test

- Flexion of the Shoulder - C5
- Extension of The Elbow and Fingers - C7
- Extending the Thumb - C6
- Spreading the Fingers - T1
- Bringing the Fingers Together - T1
- Flexing the Fingers - C8
- Wrist Stabilization - C6/C7
- Shaking (flex and extend the elbow) - C5/C7
Riding a Motorcycle

- Shoulder Flexion and Elevation to reach for the Handle Bars - C5
- Spreading and Extending the Fingers Preparing to Grip the Bar - T1/C7
- Bringing the Fingers together and Flexing them to Grip Bar - T1/C8
- Using the Throttle - C8/C6
- Using the Clutch or Brake - C7/C8
CONSULTING

If you’re not a part of the solution, there’s good money to be made in prolonging the problem.
Fig. 1–29. Summary of muscle testing for the upper extremity.
Upper Extremity Motor

$T_1$ Finger abduction

C8 finger flexion
Upper Extremity Motor

C7 Finger Extension

C7 Wrist Flexion
Upper Extremity Motor

C6 Wrist Extension

C5 Arm Flexion
Upper Extremity Motor

- C7 Arm Extension
Muscle Testing Rules

• Test distal to the joint without crossing the next joint
• Hold for 5 seconds
• Do Not pump the muscle/joint
• Grade the contraction
• Differentiate between true weakness and reflexive weakness due to pain
Fingers Adductors/Abductors

- For adduction...squeeze method could bring finger flexion into play and skew results, use Rosenbaum card or similar
- Note the spring response for abductors
Finger Adductors
### Medical Research Council Scale of Muscle Strength

“Record Keeping”

<table>
<thead>
<tr>
<th>Grade</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No contraction</td>
</tr>
<tr>
<td>1</td>
<td>A flicker or trace contraction</td>
</tr>
<tr>
<td>2</td>
<td>Active movement with gravity eliminated</td>
</tr>
<tr>
<td>3</td>
<td>Active movement against gravity</td>
</tr>
<tr>
<td>4−</td>
<td>Active movement against gravity with slight resistance</td>
</tr>
<tr>
<td>4</td>
<td>Active movement against gravity with moderate resistance</td>
</tr>
<tr>
<td>4+</td>
<td>Active movement against gravity with strong resistance</td>
</tr>
<tr>
<td>5</td>
<td>Normal power</td>
</tr>
</tbody>
</table>
# Grip Strength Evaluation

**NAME** ___________________________  **DATE** ______________  **CASE #** __________

**SEX** ___________________________  **AGE** ______________  **HANDEDNESS** ______________

**HEIGHT** ______________  **WEIGHT** ______________  **OCCUPATION** ______________

## Left Hand

<table>
<thead>
<tr>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
<th>Position 4</th>
<th>Position 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
</tr>
</tbody>
</table>

**Average:** __________

## Right Hand

<table>
<thead>
<tr>
<th>Position 1</th>
<th>Position 2</th>
<th>Position 3</th>
<th>Position 4</th>
<th>Position 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
</tr>
</tbody>
</table>

**Average:** __________

## Doctor's Notes

__________________________
__________________________
__________________________
__________________________
Grip Strength
Quick Test

• Test for Motor Function Of Nerve Roots L2-S2 and Lower Extremity Range of Motion (hip, knee and ankle)

• Alternate Version
Motor innervation for lower extremity movements performed during deep knee bends

<table>
<thead>
<tr>
<th>Movement</th>
<th>Nerve Root Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIP</td>
<td></td>
</tr>
<tr>
<td>flexion</td>
<td>L2-L3</td>
</tr>
<tr>
<td>extension</td>
<td>L4-L5</td>
</tr>
<tr>
<td>KNEE</td>
<td></td>
</tr>
<tr>
<td>extension</td>
<td>L3-L4</td>
</tr>
<tr>
<td>flexion</td>
<td>L5-S1</td>
</tr>
<tr>
<td>ANKLE</td>
<td></td>
</tr>
<tr>
<td>dorsiflexion</td>
<td>L4-L5</td>
</tr>
<tr>
<td>planar flexion</td>
<td>S1-S2</td>
</tr>
</tbody>
</table>
• Gluteus Maximus (S1)
  – S1 strength is usually WNL if the patient can move from sitting to standing without using the hands to push up
The IT Band

- Snapping
- Crepitus
  - Repetitive
  - Non-repetitive
- Trochanteric Bursitis
- Ober’s and Noble’s Tests
Heel Walking L₄-L₅

- Marching in place on the heels
- Stabilize
- Space considerations
Toe Raises S₁-S₂

• 25 Bilateral Repetitions
  – McNab
    • 15 unilateral
  – Hoppenfeld
    • Hop on foot
  – Manual?

• Stabilize

• Space Considerations
Starting Position
Lower Extremity Motor

**Toe Raises**

**Heel Standing/Marching**
Muscle Testing at the Feet

- Foot Dorsiflexion L4
- Great Toe Extension L5
- Toe Flexion S₁-S₂
Motor Function

Upper Motor Neuron Testing
Hautant’s - Drift Test

- Vertebral Artery Test
- Doctor Should Position Patient’s Head
- Eyes Must be Closed
- Held 15-30 Seconds Each Side
- Drift
  - Objective
  - Validity by Common Use
Drift

• Basic Life Support (BLS)
  – American Heart Association
  – Cincinnati pre-hospital stroke

• Scale (one positive)
  – Facial droop
  – Arm drift
  – Abnormal speech

• Acceptance/Reliability
Drift

• F.A.S.T.
  – Face
  – Arms
  – Speech
  – Time
Drift

• Names
  – Drift
  – Pronator Drift
  – Spontaneous Drift
  – Barre’s Test (some confusion here because there is a Barre’s test for the cervical spine)
    • Jean Alexandre Barre’ first described the sign
Drift

• Positive Indications:
  – One hand rolling from supination to pronation is a positive
  – Typical sign is the hand rolling from supination to pronation with the arm dropping toward the floor
  – The arm drifts laterally (outward) in cerebellar lesions
    • These lesions are unilateral
  – The arm drifts upward in Parietal lesion
    • These lesions are contralateral
Drift

• Positive Indications:

  – Movements are slow and may take a few seconds to initiate

  – Tapping the hand or arm may help initiate movement

  – Both arms drifting is not significant
Lower Extremity Drift Starting and Normal

- This is a side note
- Confirmatory Test to Upper Extremity Drift (UMN)

Miller 2002
Lower Extremity Drift Abnormal

• This is a side note
• Are the eyes closed?
• Does it matter?
Arm Rolling & Finger Rolling

• Test for UMN
  – Forward and backward
Arm Rolling & Finger Rolling

• Pathological Findings
  – Arm Rolling
    • The pathological arm remains stationary or wobbles a little while the non-pathological arm rotates around it like a satellite.
  – Finger Rolling
    • The pathological finger remains stationary or wobbles a little while the non-pathological finger rotates around it like a satellite.
  – Finger Rolling is more sensitive than Arm Rolling
## Investigative Progression of Physical Examination

<table>
<thead>
<tr>
<th>Progression →</th>
<th>History</th>
<th>Observation</th>
<th>Baseline Testing</th>
<th>Evolvement of Testing</th>
<th>Further Evolvement of Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structure/Function Pathology ↓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Motor Neuron</td>
<td>• Patient reports loss of strength</td>
<td>• Muscle atrophy of the upper extremity/hand</td>
<td>• Hand shake</td>
<td>• Strength testing individual muscles</td>
<td>• Dynamometer testing</td>
</tr>
<tr>
<td>Upper Extremity Motor Strength</td>
<td>• Patient reports dropping items</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grip Strength</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Motor Neuron Strength</td>
<td>• Patient reports weakness</td>
<td>• Possible Spasticity</td>
<td>• Drift</td>
<td>• Referral</td>
<td></td>
</tr>
</tbody>
</table>
### Investigative Progression of Physical Examination

<table>
<thead>
<tr>
<th>Progression → Structure/Function Pathology ↓</th>
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<th>Observation</th>
<th>Baseline Testing</th>
<th>Evolvement of Testing</th>
<th>Further Evolvement of Testing</th>
</tr>
</thead>
</table>
| **Lower Motor Neuron**                       | Patient reports loss of strength  
Patient reports difficulty raising from a chair  
Patient reports difficulty with climbing/descending stairs | Muscle atrophy of quad, hamstring, calf musculature | Heel and toe walking  
Heel standing/toe raises  
Quick test  
Going from sitting to standing | Strength testing individual muscles  
Sit to Stand Test | Dynamometer testing |
| **Lower Extremity Motor Strength**            |         |             |                  |                       |                              |
| **Upper Motor Neuron Strength**              | Patient reports weakness  
Patient reports weakness  
Possible atrophy  
Spasticity | Drift | Referral  
EMG |                      |                              |
| **Further**                                  |         |             |                  |                       |                              |
Reflex Function

DTR and Pathological Testing
Hammer Selection
Antique Hammers

- Dejerine Hammer
- Berliner Hammer
- Queen’s Square Hammer
- Taylor Hammer (Looped Handle)
- Queen’s Square Hammer
- Traube Hammer
- Taylor Hammer (Solid Handle)
Reflex Performance

• You get what you pay for here
  – Weight and length of the handle
• Practice using both hands-dimes on a desk
• Multiple Taps
• Symmetry vs the Wexler Scale
• Striking the tendon vs the muscle belly
• Jendrassik Maneuver
Deep Tendon Reflex Arc

Fig. I–2. The stretch reflex arc.
Biceps Reflex

- C5-C6
- Symmetry
- Multiple Taps
Brachioradialis Reflex

- C5-C6
- Symmetry
- Multiple Taps
Brachioradialis Reflex

Identify the muscle belly

Identify The Muscle Belly
Brachioradialis Reflex

• STRIKING THE BELLY
Triceps Reflex

- C7
- Symmetry
- Multiple Taps
Patellar Reflex

- L2, L3 & L4
- Symmetry
- Multiple Taps
Achilles Reflex

- $S_1 - S_2$
- Symmetry
- Multiple Taps
# Wexler’s Scale for Grading Deep Tendon Reflexes

“Record Keeping”

<table>
<thead>
<tr>
<th>Grade</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 5+</td>
<td>Sustained clonus</td>
</tr>
<tr>
<td>Grade 4+</td>
<td>Clonus</td>
</tr>
<tr>
<td>Grade 3+</td>
<td>Hyperreflexia</td>
</tr>
<tr>
<td>Grade 2+</td>
<td>Normal</td>
</tr>
<tr>
<td>Grade 1+</td>
<td>Hyporeflexia</td>
</tr>
<tr>
<td>Grade 0</td>
<td>No reflex</td>
</tr>
</tbody>
</table>
Deep Tendon Reflex (DTR) Summary

- **Biceps**
  - Musculocutaneous
  - C5-C6
- **Brachioradialis**
  - Radial
  - C5-C6
- **Radial**
  - Radial
  - C5-C6
- **Triceps**
  - Radial
  - C7
- **Patellar**
  - Femoral
  - L2-L4
- **Achilles**
  - Tibial
  - S1-S2
Deep Tendon Reflex (DTR) Summary

- Extensor Hallucis Longus: Deep Peroneal, L4, L5, L6
- Pec Major (Pectoral): Med/Lat Pectoral
  - C5-C6 Clavicular Head, C7-C8, T1 Sternocostal Head
- Medial Hamstring: Sciatic, L5, L6
- Masseter (Jaw Jerk): Trigeminal (CN V)
Extensor Hallucis Longus
Hoffman’s Reflex

- Test for UMN Lesions
- Upper Extremity Equivalent of Babinski’s Sign
- Must Be Firm
  - Fake finger nails
  - Partially amputated fingers
Hoffman’s Reflex
Babinski’s Reflex

• Test for UMN Lesions

• Most Common UMN Test

• Must Be Firm

• Present or Absent
  – Up Going or Down Going
Babinski’s Reflex
# Investigative Progression of Physical Examination

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<th>Further Evolvement of Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep Tendon Reflexes</td>
<td>NA</td>
<td>NA</td>
<td>• Biceps C5-C6</td>
<td>• Re-enforcement</td>
<td>• Advanced imaging</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Brachioradialis C5-C6</td>
<td>• Additional Reflexes</td>
<td>• Referral</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Triceps C7</td>
<td>• Other types for tests for the same root level</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Patellar L4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Achilles S1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pathological Reflexes</td>
<td>NA</td>
<td>NA</td>
<td>• Hoffman’s</td>
<td>• Additional pathological reflexes, upper and lower extremities</td>
<td>• Advanced imaging</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Babinski’s</td>
<td></td>
<td>• Referral</td>
</tr>
</tbody>
</table>

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10/01/2018
Coordination Function

Neurological Testing
Important Point

• It isn’t just the fact that the patient finds/touches his nose…
  – It must be done repeatedly and the movements must be smooth and on target
Finger to Nose Test

• Cerebellar Test
  – Coordination
• Eyes Closed
• This isn’t Just Touching the Nose
  – Fast, Smooth and on Target
Finger to Nose Test
Coordination

Heel to Shin test
Tandem Stance

- Cerebellar Test
  - Coordination
- Eyes Closed
- Tandem stance is Harder than Tandem Walking or Romberg's tests due to the testing position having a more narrow base
  - Magee, Dutton
- Also referred to as Sharpened Romberg’s Test or Tandem Romberg Test
- You can also grade this = partial tandem
Tandem Stance
# Investigative Progression of Physical Examination

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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Upper Extremity Coordination | • Patient reports a decrease in hand coordination | • Poor handwriting  
• Lack of coordination in arm movements | • Finger to nose  
• Rapid alternating movements | • Finger to finger test  
• Past pointing test  
• Drift  
• Arm rolling  
• Finger rolling | • Advanced imaging  
• Referral |
| Lower Extremity | • Patient reports a loss of balance  
• Walking with a wide stance | • Tandem Stance | • Romberg's Test  
• Tandem Walk  
• Heel to Shin test | • Advanced imaging  
• Referral |
Sensory Function

Neurological Testing
Dermatomes
Dermatomes
Sensory Testing Tools
Sensory

- Major Dermatomes and Peripheral Nerves of the Hand and Foot
- Why test these locations?
- Sensory tests are my least favorite neurological tests - subjective
  - Dermatome and Peripheral nerve innervation of the skin is highly variable
Upper Extremity Sensory
Foot Sensation
## Investigative Progression of Physical Examination

<table>
<thead>
<tr>
<th>Progression → Structure/Function Pathology ↓</th>
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<th>Further Evolvement of Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensation</td>
<td>• Patient reports numbness “dead” areas • Patient report an inability to feel his feet</td>
<td>• NA</td>
<td>• Sensation scan (run hands down arms and legs)</td>
<td>• Tissue • Tooth picks</td>
<td>• Sharp and dull • Light touch • Vibration • Proprioception • Two point discrimination • Hot/Cold • Graphesthesia • Stereognosis • Advanced imaging • Referral</td>
</tr>
</tbody>
</table>

- Sensation
OTHER SENSORY FUNCTIONS AND TESTS
Know these Tracts

- Spinothalamic Tract: Pain & Temperature
- Posterior Column: Proprioception & Stereognosis & Light Touch
- Spinocerebellar Tract*: Proprioception
- Corticospinal Tract: Motor Function

- The only tract that does not cross over
Sharp-Dull

- Test along the course of dermatomes/peripheral nerves
- Wattenberg Pin Wheel
- Problems with safety
  - Sanitation
  - Breaking the skin
- Pointed vs cutting ends
Sharp-Dull

• Problems with safety
  – Sanitation
  – Breaking the skin
• Pointed vs cutting ends
• Tooth picks
Light Touch

• Usually spared in unilateral cord lesions
• If pain and proprioception are intact then light will not likely be effected
• So only test light touch if deficiencies of the pain and proprioception are found
Light Touch
Light Touch

• Tissues for Light Touch
  – Readily available
  – Cheap
  – Clean-disposable
Sensory Testing Tips

• Facial Sensation CN 5
  – A lesion will likely effect all three branches of the sensory nerve.
  – Over 90% of lesions effect the maxillary branch

• Tuning form for hot cold comparison
  – Near heating/cooling vent if possible
Vibration

• Use a 128 Hz tuning fork with weighted ends

• Testing locations
  – Great toe
  – Metatarsal heads
  – Malleoli
  – Tibia
  – Anterior superior iliac spine
  – Scrum

• Testing locations continued
  – Spinous processes
  – Sternum
  – Clavicle
  – Radius/ulna styloid processes
  – Finger joints
Vibration

• Sensitive test as the nervous system must perceive, transmit and interpret rapidly changing stimulus

• Lack of the sensation indicates peripheral nerve and/or posterior columns
Proprioception

- Position sense: knowledge of where body parts are in space
- Unilateral dorsal column that crosses over in the brain stem
- Test distally and move proximal if necessary
Proprioception

• Drift, arm rolling, finger rolling, Romberg’s test, tandem stance are depend upon proprioception but also vestibular and cerebellar function

• So...the individual testing isn’t always immediately necessary in chiropractic clinical practice. When it is it will usually be for patient’s with head injury, cerebral/cerebellar ischemia or the elderly in general
Two Point Discrimination
Two Point Discrimination

• The purpose is to access if the patient can differentiate between being touched by one or two different points of contact

• Multiple tools are available

• The test can be performed static and/or moving. Moving is considered more accurate
Two Point Discrimination

• Any number of sensory pathologies central or peripheral can cause positive findings. Peripheral pathologies more common

• The most common concern is diabetes

• Posterior columns, medial lemniscus
## Two Point Discrimination

<table>
<thead>
<tr>
<th>Anatomical Location</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tip of the tongue</td>
<td>1 mm</td>
</tr>
<tr>
<td>Lips</td>
<td>2-3 mm</td>
</tr>
<tr>
<td>Finger tips</td>
<td>2-4 mm</td>
</tr>
<tr>
<td>Dorsum of the fingers</td>
<td>4-6 mm</td>
</tr>
<tr>
<td>Palm</td>
<td>8-12 mm</td>
</tr>
<tr>
<td>Back of hand</td>
<td>20-30 mm</td>
</tr>
<tr>
<td>Dorsum of foot</td>
<td>30-40 mm</td>
</tr>
</tbody>
</table>
Monofilament

• Used frequently with diabetic patients
• Compare to two point discrimination
Hot and Cold

• Spinothalamic tract with pain

• If pain is intact hot and cold usually will be as well

• Tubes of hot and cold water
  - Cold of warm metal instruments
Stereognosis

• The ability to identify objects by touch and/or differentiate objects by touch or identify textures

• Palpation/Braille

• Parietal Lobe Function

• Depends on intact lower neurological functions

• Can only be tested at the hand
Stereognosis
Graphhesthesia

- The ability to recognize letters or numbers written on the skin with a pencil, dull pin, or similar object
- Parietal Lobe Function
- Depends on intact lower neurological functions
- Right side up or upside down
- Must use dissimilar numbers and letters
Graphesthesia

- Remember – You are not really drawing the letters/numbers
Question

• After I published the first edition of *Practical Assessment* I was frequently asked, “What do I do if the patient cannot move or every test is painful for the patient?”
Micro-systems
Concentrated Neurological Examination
Neurological “Microsystem”

- Upper motor
- Lower Motor
- Coordination
- Pathological Reflexes
- Stereognosis
- Graphesthesia

- Sensation
  - Sharp/dull
  - Light touch
  - Hot/cold

- Vibration
- Proprioception
## SPECIALTY EXAM: NEUROLOGY

Refer to data section (table below) in order to quantify. After reviewing the medical record documentation, identify the level of examination. Circle the level of examination with the appropriate grid in Section 5 (Page 3).

<table>
<thead>
<tr>
<th>Performed and Documented</th>
<th>Level of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>One to five bullets</td>
<td>Problem Focused</td>
</tr>
<tr>
<td>Six to eleven bullets</td>
<td>Expanded Problem Focused</td>
</tr>
<tr>
<td>Twelve or more bullets</td>
<td>Detailed</td>
</tr>
<tr>
<td>At least one bullet in the box with the unshaded border AND every bullet in each box with the shaded borders.</td>
<td>Comprehensive</td>
</tr>
</tbody>
</table>

(Circle the bullets that are documented.)

**NOTE:** For the descriptions of the elements of examination containing the words "and", "and/or", only one (1) of those elements must be documented.

### Elements of Examination

#### Cardiovascular
- Examination of carotid arteries (e.g., pulse amplitude, bruits)
- Auscultation of heart with notation of abnormal sounds and murmurs
- Examination of peripheral vascular system by observation (e.g., swelling, vascularity) and palpation (e.g., pulses, temperature, edema, tenderness)

#### Constitutional
- Measurement of any three of the following seven vital signs: 1) sitting or standing blood pressure, 2) supine blood pressure, 3) pulse rate and regularity, 4) respiration, 5) temperature, 6) height, 7) weight (may be measured and recorded by ancillary staff)
- General appearance of patient (e.g., development, nutrition, body habitus, deformities, attention to grooming)

#### Eyes
- Ophthalmoscopic examination of optic discs (e.g., size, C/D ratio, appearance) and posterior segments (e.g., vessel changes, exudates, hemorrhages)

#### Musculoskeletal (Includes Extremities)
- Examination of gait and station
- Assessment of motor function including:
  - Muscle strength in upper and lower extremities
  - Muscle tone in upper and lower extremities (e.g., flaccid, cog wheel, spastic)
  - with notation of any atrophy or abnormal movements (e.g., fasciculation, tardive dyskinesia)

### System/Body Area Elements of Examination

<table>
<thead>
<tr>
<th>System/Body Area</th>
<th>Elements of Examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurological</td>
<td>Evaluation of higher integrative functions including:  &lt;ul&gt;&lt;li&gt;Orientation to time, place and person&lt;/li&gt;&lt;li&gt;Recent and remote memory&lt;/li&gt;&lt;li&gt;Attention span and concentration&lt;/li&gt;&lt;li&gt;Language (e.g., naming objects, repeating phrases, spontaneous speech)&lt;/li&gt;&lt;li&gt;Fund of knowledge (e.g., awareness of current events, past history, vocabulary)&lt;/li&gt;&lt;/ul&gt; Test the following cranial nerves:  &lt;ul&gt;&lt;li&gt;2nd cranial nerve (e.g., visual acuity, visual fields, fundi)&lt;/li&gt;&lt;li&gt;3rd, 4th, and 6th cranial nerves (e.g., pupils, eye movements)&lt;/li&gt;&lt;li&gt;5th cranial nerve (e.g., facial sensation, corneal reflexes)&lt;/li&gt;&lt;li&gt;7th cranial nerve (e.g., facial symmetry, strength)&lt;/li&gt;&lt;li&gt;8th cranial nerve (e.g., hearing with tuning fork, whispered voice and/or finger rub)&lt;/li&gt;&lt;li&gt;9th cranial nerve (e.g., spontaneous or reflex palate movement)&lt;/li&gt;&lt;li&gt;10th cranial nerve (e.g., shoulder shrug strength)&lt;/li&gt;&lt;li&gt;12th cranial nerve (e.g., tongue protrusion)&lt;/li&gt;&lt;li&gt;Examination of sensation (e.g., by touch pin, vibration, proprioception)&lt;/li&gt;&lt;li&gt;Examination of deep tendon reflexes in upper and lower extremities with notation of pathological reflexes (e.g., Babinski)&lt;/li&gt;&lt;li&gt;Test coordination (e.g., finger-to-nose, heel/knee/shin, rapid alternating movements in the upper and lower extremities, evaluation of fine motor coordination in young children)&lt;/li&gt;&lt;/ul&gt;</td>
</tr>
<tr>
<td></td>
<td>Note: The Head/Neck, Ears, Nose, Mouth and Throat, Neck, Respiratory, Chest (Breasts), GI (Abdomen), GU, Lymphatic, SK, and Psychiatric systems/body areas are not integral parts of this Neurological exam.</td>
</tr>
</tbody>
</table>

(Enter the number of circled bullets in the boxes below. Then circle the appropriate level of care.)

### EXAM

<table>
<thead>
<tr>
<th>One to Five Bullets</th>
<th>Six to Eleven Bullets</th>
<th>Twelve or more Bullets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Focused</td>
<td>Expanded Problem Focused</td>
<td>Detailed</td>
</tr>
<tr>
<td>Comprehensive</td>
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</tbody>
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