Instructions for use

The following coverage policy applies to health benefit plans administered by Cigna. Coverage policies are intended to provide guidance in interpreting certain standard Cigna benefit plans and are used by medical directors and other health care professionals in making medical necessity and other coverage determinations. Please note the terms of a customer’s particular benefit plan document may differ significantly from the standard benefit plans upon which these coverage policies are based. For example, a customer’s benefit plan document may contain a specific exclusion related to a topic addressed in a coverage policy.

In the event of a conflict, a customer’s benefit plan document always supersedes the information in the coverage policy. In the absence of federal or state coverage mandates, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of:

1. The terms of the applicable benefit plan document in effect on the date of service
2. Any applicable laws and regulations
3. Any relevant collateral source materials including coverage policies
4. The specific facts of the particular situation

Coverage policies relate exclusively to the administration of health benefit plans. Coverage policies are not recommendations for treatment and should never be used as treatment guidelines.

This evidence-based medical coverage policy has been developed by eviCore, Inc. Some information in this coverage policy may not apply to all benefit plans administered by Cigna.

These guidelines include procedures eviCore does not review for Cigna. Please refer to the Cigna CPT code list for the current list of high-tech imaging procedures that eviCore reviews for Cigna.

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### Abbreviations For Peripheral Nerve Disorders Imaging Guidelines

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>ALS</td>
<td>Amyotrophic Lateral Sclerosis</td>
</tr>
<tr>
<td>CIDP</td>
<td>Chronic Inflammatory Demyelinating Polyneuropathy</td>
</tr>
<tr>
<td>CNS</td>
<td>central nervous system</td>
</tr>
<tr>
<td>CPK</td>
<td>creatinine phosphokinase</td>
</tr>
<tr>
<td>CT</td>
<td>computed tomography</td>
</tr>
<tr>
<td>EMG</td>
<td>electromyogram</td>
</tr>
<tr>
<td>LEMS</td>
<td>Lambert-Eaton Myasthenic Syndrome</td>
</tr>
<tr>
<td>MG</td>
<td>myasthenia gravis</td>
</tr>
<tr>
<td>MRI</td>
<td>magnetic resonance imaging</td>
</tr>
<tr>
<td>MRN</td>
<td>magnetic resonance neurography</td>
</tr>
<tr>
<td>MRS</td>
<td>magnetic resonance spectroscopy</td>
</tr>
<tr>
<td>NCV</td>
<td>nerve conduction velocity</td>
</tr>
<tr>
<td>PET</td>
<td>positron emission tomography</td>
</tr>
<tr>
<td>PNS</td>
<td>peripheral nervous system</td>
</tr>
<tr>
<td>PNST</td>
<td>Peripheral Nerve Sheath Tumor</td>
</tr>
<tr>
<td>POEMS</td>
<td>Polyneuropathy, Organomegaly, Endocrinopathy, M-protein, Skin changes</td>
</tr>
<tr>
<td>TOS</td>
<td>Thoracic Outlet Syndrome</td>
</tr>
</tbody>
</table>
PN-1~General Guidelines

A current clinical evaluation (within 60 days) is required before advanced imaging can be considered. The clinical evaluation may include a relevant history and physical examination, including a neurological examination, appropriate laboratory studies, non-advanced imaging modalities, electromyography and nerve conduction (EMG/NCV) studies. Other meaningful contact (telephone call, electronic mail or messaging) by an established patient can substitute for a face-to-face clinical evaluation.

✔ MRI is, most often, preferable to CT.

Reference
## PN-2~Focal Neuropathy

<table>
<thead>
<tr>
<th>Focal Disorder</th>
<th>EMG/NCV Initially?</th>
<th>Advanced Imaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpal Tunnel Syndrome</td>
<td>YES</td>
<td>No established role</td>
</tr>
<tr>
<td></td>
<td></td>
<td>See also: MS-21<del>Wrist and SP-3</del>Cervical Radiculopathy</td>
</tr>
<tr>
<td>Ulnar Neuropathy</td>
<td>YES</td>
<td>For pre-op only: MRI of the elbow without contrast (CPT®73221) or MRI of the upper arm forearm without contrast (CPT®73218)</td>
</tr>
<tr>
<td>Radial Neuropathy</td>
<td>YES</td>
<td>• MRI of the upper arm or forearm without contrast (CPT®73218) in severe cases when surgery is being considered.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MRI of the upper arm or forearm without and with contrast (CPT®73220) if there is a suspicion of a nerve tumor such as a neuroma</td>
</tr>
<tr>
<td>Sciatic Neuropathy</td>
<td>YES</td>
<td>Pelvis CT without contrast (CPT®72192) or Pelvis CT with contrast (CPT®72193) or MRI pelvis without contrast (CPT®72195) in severe cases to determine if symptoms are from intraspinal nerve root compression or a peripheral lesion in the pelvis or hip</td>
</tr>
<tr>
<td>Femoral Neuropathy</td>
<td>NO</td>
<td>CT pelvis either with contrast (CPT®72193) or MRI pelvis without contrast (CPT®72195)</td>
</tr>
<tr>
<td>Meralgia Paresthetica</td>
<td>NO</td>
<td>Pelvis CT with contrast (CPT®72193) or pelvic MRI without contrast (CPT®72195) if all of the following apply:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• non-diagnostic ultrasound and recalcitrant to medical management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• involvement of the upper lumbar plexus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• preoperative study</td>
</tr>
</tbody>
</table>

**Sciatic Neuropathy Notes:** 98% from lumbar radiculopathy, also trauma to the gluteal area with hematoma, injection palsy, hip or pelvic fractures, or hip replacement (arthroplasty) and rarely Piriformis Syndrome involves entrapment of the sciatic nerve at the sciatic notch in the pelvis by a tight piriformis muscle band

**Femoral Neuropathy Notes:** as a complication of pelvic surgery in women or those on anticoagulants with retroperitoneal bleeding

**Meralgia Paresthetica Notes:** sensory loss in the lateral femoral cutaneous nerve as it exits the pelvis under the inguinal ligament (lateral thigh without extension into lower leg)
**Peroneal Neuropathy**

**YES**

Knee MRI without contrast (CPT®73721) or MRI lower extremity other than joint without contrast (CPT®73718) in severe cases when surgery is considered

**Peroneal Neuropathy Notes**: foot drop which usually resolves unless L5 radiculopathy

<table>
<thead>
<tr>
<th>Tarsal Tunnel Syndrome</th>
<th>N/A</th>
<th>See: MS-27 Tarsal Tunnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Peripheral Mononeuropathies</td>
<td>N/A</td>
<td>MRI without or without and with contrast if preoperative</td>
</tr>
</tbody>
</table>

**References**

## PN-3~Poly Neuropathy

<table>
<thead>
<tr>
<th>Poly-Disorder</th>
<th>EMG/NCV Initially?</th>
<th>Advanced Imaging</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNS/CNS Crossover Syndromes</td>
<td>YES</td>
<td>MRI without and with contrast of brain or spinal cord if clinical findings point to abnormalities in those areas.</td>
<td>Guillain-Barré syndrome</td>
</tr>
<tr>
<td>AIDS Related Cytomegaloviral Neuropathy/Radiculopathy</td>
<td>YES</td>
<td>Lumbar spine MRI without and with contrast (CPT®72158) if suspected</td>
<td>urinary retention and a clinically confusing picture in the legs</td>
</tr>
<tr>
<td>Chronic Inflammatory Demyelinating Polyneuropathy (CIDP)</td>
<td>YES</td>
<td>Lumbar spine MRI without and with contrast (CPT®72158) if uncertain following EMG</td>
<td></td>
</tr>
<tr>
<td>Multifocal Motor Neuropathy</td>
<td>YES</td>
<td>MRI of the brachial plexus without and with contrast (CPT®71552 or CPT®73220) if uncertain following EMG</td>
<td></td>
</tr>
<tr>
<td>POEMS (Polyneuropathy, Organomegaly, Endocrinopathy, M-protein, Skin changes)</td>
<td>YES</td>
<td>Advanced imaging is for the non-neurological entities of this rare osteosclerotic plasmacytoma syndrome</td>
<td>See: <a href="#">ONC-25~Multiple Myeloma</a></td>
</tr>
<tr>
<td>Subacute Sensory Neuronopathy &amp; Other Paraneoplastic Demyelinating Neuropathies</td>
<td>YES</td>
<td>Advanced imaging guided by <a href="#">HD-22</a> for collagen vascular disorders</td>
<td>See: <a href="#">HD-22~Cerebral Vasculitis</a> (systemic lupus, Sjogren’s syndrome, Beçet’s disease, polyarteritis nodosa, Churg-Strauss syndrome, and Wegener’s granulomatosis)</td>
</tr>
</tbody>
</table>
References
Brachial plexus studies can be coded either as upper extremity other than joint MRI without or without and with contrast (CPT®73218 or CPT®73220), chest MRI without or without and with contrast (CPT®71550 or CPT®71552) or neck MRI without (CPT®70540) or without and with contrast (CPT®70543) (if upper trunk) after EMG/NCV examination for:

- Malignant infiltration (EMG not required)
- Radiation plexitis to r/o malignant infiltration
- Brachial plexitis (Parsonage-Turner Syndrome or painful brachial amyotrophy).
  - Self-limited syndrome characterized by initial shoulder region pain followed by weakness of specific muscles in a pattern which does not conform to involvement of a single root or distal peripheral nerve
  - Consider MRI of the cervical spine if radiculopathy.
    See: **SP-3 Cervical Radiculopathy**
- Traumatic injury
- Neurogenic Thoracic Outlet Syndrome (TOS) failed a 2 to 3 month trial of conservative management and are being considered for surgical treatment.
  See: **CH-32~Thoracic Outlet Syndrome**
- Preoperative study which requires evaluation of the brachial plexus

**References**

The following studies can be considered: MRI Pelvis without and with contrast with fat suppression imaging (CPT®72197) OR MRI Abdomen and Pelvis without and with contrast with fat suppression imaging (CPT®74183 and CPT®72197) OR if MRI is not available, CT Pelvis with contrast (CPT®72193) OR CT Abdomen and Pelvis with contrast (CPT®74177) can be considered after EMG/NCV based on whether the upper lumbar plexus (abdominal retroperitoneal space) or the lumbosacral plexus (pelvis), respectively, is involved based on:
- Malignant infiltration (EMG not required)
- Radiation plexopathy to r/o malignant infiltration
- Traumatic injury

Reference
PN-6.1 Neuromuscular Disease

✓ Myasthenia Gravis (MG) is associated with thymic disease and can undergo:
  o Chest CT with contrast (CPT®71260) after an established diagnosis of MG
    ▪ Can be repeated if initial CT previously negative and now symptoms of chest
      mass, rising anti-striated muscle antibody titers, or need for preoperative
      evaluation (clinical presentation, electro-diagnostic studies, and antibody titers).

✓ Lambert–Eaton myasthenic syndrome (LEMS) is associated with small cell lung
  cancer and can undergo:
  o Chest CT with contrast (CPT®71260) with a suspected diagnosis (CXR, symptoms
    of lung mass, clinical presentation, electro-diagnostic studies, and antibody titers).
    ▪ Can be repeated if initial CT previously negative after 3 months with persistent
      suspicion

✓ Stiff man syndrome is associated with small cell lung cancer and breast cancer
  o Chest CT with contrast (CPT®71260) if Stiff Man Syndrome is suspected based on
    clinical findings

PN-6.2 Inflammatory Muscle Diseases

✓ MRI and ultrasound increasingly are being used in the evaluation of muscle disease. MRI
  may be helpful in demonstrating abnormalities in muscles that are difficult to examine or
  not clinically weak, and MRI also can help distinguish between different types of muscle
  disease. MRI also is useful in determining sites for muscle biopsy.

✓ MRI without contrast (CPT®73218/CPT®73718) or MRI without and with contrast
  (CPT®73220/CPT®73720 for:
    o Additional evaluation of myopathy or myositis (based on clinical exam and
      adjunct testing with EMG/NCV and labs
    o To plan muscle biopsy
    o Treatment monitoring

✓ All cases with dermatomyositis and polymyositis can undergo search for occult
  neoplasm (see ONC – 30.3 Paraneoplastic Syndromes):
  o Initially with Chest CT with contrast (CPT®71260) for lung cancer and pelvic
    ultrasound (in women) (CPT®76856 or CPT®76857 and/or CPT®76830
    [transvaginal]) for ovarian cancer should be done initially
  o Abdomen and pelvis CT with contrast (CPT®74177) if the above fail to make a
    diagnosis
PN-6.3 Gaucher Disease (Storage Disorders)

See AB-11~Gaucher Disease in the Abdomen Imaging Guidelines.

See PEDPN-4~Gaucher Disease in the Pediatric PND Imaging Guidelines

References
PN-7~Newer Imaging Techniques

See: HD-24.5 Magnetic Resonance Neurography (MRN)
PN-8~Amyotrophic Lateral Sclerosis (ALS)

- MRI of the brain, cervical, thoracic, and lumbar spine most often without contrast, but may be without and with contrast with menigeal symptoms.
  - Can be considered when ALS is suspected (combination of upper and lower motor neuron findings) to establish a diagnosis.
  - Repeat imaging can be evaluated based on the appropriate Spine Imaging Guidelines.

References
PN-9~Peripheral Nerve Sheath Tumors (PNST)

✓ Tumors (Schwannomas or Neurofibromas) that arise from Schwann cells or other connective tissue of the nerve are located anywhere in the body and can undergo advanced imaging when suspected, which may include:
  o MRI brain without and with contrast (CPT® 70553)
  o Cervical, thoracic, and lumbar spine MRI without and with contrast (CPT®72156, CPT®72157, and CPT®72158) if paraspinal neurofibroma is found any spine level or multiple simplex perineural neurofibromas
  o Follow-up imaging is not needed unless:
      ▪ New symptoms or neurological findings
      ▪ Malignant transformation (5%) is known or suspected; includes a metastatic work-up CT chest and abdomen with contrast (CPT®71260 and CPT®74160)

✓ See: PACONC-2.3 Neurofibromatosis, Type 1

References