5221.6100 PARAMETERS FOR MEDICAL IMAGING.

Subpart 1. **General principles.** All medical imaging must comply with items A to E. Except for emergency evaluation of significant trauma, a health care provider must document in the medical record an appropriate history and physical examination, along with a review of any existing medical records and laboratory or imaging studies regarding the patient's condition, before ordering any imaging study.

A. Effective imaging. A health care provider should initially order the single most effective imaging study for diagnosing the suspected etiology of a patient's condition. No concurrent or additional imaging studies should be ordered until the results of the first study are known and reviewed by the treating health care provider. If the first imaging study is negative, no additional imaging is indicated except for repeat and alternative imaging allowed under items D and E.

B. Appropriate imaging. Imaging solely to rule out a diagnosis not seriously being considered as the etiology of the patient's condition is not indicated.

C. Routine imaging. Imaging on a routine basis is not indicated unless the information from the study is necessary to develop a treatment plan.

D. Repeat imaging. Repeat imaging, of the same views of the same body part with the same imaging modality is not indicated except as follows:

(1) to diagnose a suspected fracture or suspected dislocation;

(2) to monitor a therapy or treatment which is known to result in a change in imaging findings and imaging of these changes are necessary to determine the efficacy of the therapy or treatment; repeat imaging is not appropriate solely to determine the efficacy of physical therapy or chiropractic treatment;

(3) to follow up a surgical procedure;

(4) to diagnose a change in the patient's condition marked by new or altered physical findings;

(5) to evaluate a new episode of injury or exacerbation which in itself would warrant an imaging study; or

(6) when the treating health care provider and a radiologist from a different practice have reviewed a previous imaging study and agree that it is a technically inadequate study.

E. Alternative imaging.

(1) Persistence of a patient's subjective complaint or failure of the condition to respond to treatment are not legitimate indications for repeat imaging. In this instance

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an alternative imaging study may be indicated if another etiology of the patient's condition is suspected because of the failure of the condition to improve.

(2) Alternative imaging is not allowed to follow up negative findings unless there has been a change in the suspected etiology and the first imaging study is not an appropriate evaluation for the suspected etiology.

(3) Alternative imaging is allowed to follow up abnormal but inconclusive findings in another imaging study. An inconclusive finding is one that does not provide an adequate basis for accurate diagnosis.

Subp. 2. **Specific imaging procedures for low back pain.** Except for the emergency evaluation of significant trauma, a health care provider must document in the medical record an appropriate history and physical examination, along with a review of any existing medical records and laboratory or imaging studies regarding the patient's condition, before ordering any imaging study of the low back.

A. Computed tomography (CT) scanning is indicated any time that one of the following conditions is met:

(1) when cauda equina syndrome is suspected;

(2) for evaluation of progressive neurologic deficit; or

(3) when bony lesion is suspected on the basis of other tests or imaging procedures.

Except as specified in subitems (1) to (3), CT scanning is not indicated in the first eight weeks after an injury.

Computed tomography scanning is indicated after eight weeks if the patient continues with symptoms and physical findings after the course of initial nonsurgical care and if the patient's condition prevents the resumption of the regular activities of daily life including regular vocational activities.

B. Magnetic resonance imaging (MRI) scanning is indicated any time that one of the following conditions is met:

(1) when cauda equina syndrome is suspected;

(2) for evaluation of progressive neurologic deficit;

(3) when previous surgery to the lumbar spine has been performed and there is a need to differentiate scar due to previous surgery from disc herniation, tumor, or hemorrhage; or

(4) suspected discitis.

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Except as specified in subitems (1) to (4), MRI scanning is not indicated in the first eight weeks after an injury.

Magnetic resonance imaging scanning is indicated after eight weeks if the patient continues with symptoms and physical findings after the course of initial nonsurgical care and if the patient's condition prevents the resumption of the regular activities of daily life including regular vocational activities.

C. Myelography is indicated in the following circumstances:

(1) may be substituted for otherwise indicated CT scanning or MRI scanning in accordance with items A and B, if those imaging modalities are not locally available;

(2) in addition to CT scanning or MRI scanning, if there is progressive neurologic deficit and CT scanning or MRI scanning has been negative; or

(3) for preoperative evaluation in cases of surgical intervention, but only if CT scanning or MRI scanning have failed to provide a definite preoperative diagnosis.

D. Computed tomography myelography is indicated in the following circumstances:

(1) the patient's condition is predominantly sciatica, and there has been previous surgery to the lumbar spine, and tumor is suspected;

(2) the patient's condition is predominantly sciatica and there has been previous surgery to the lumbar spine and MRI scanning is equivocal;

(3) when spinal stenosis is suspected and the CT or MRI scanning is equivocal;

(4) in addition to CT scanning or MRI scanning, if there is progressive neurologic deficit and CT scanning or MRI scanning has been negative; or

(5) for preoperative evaluation in cases of surgical intervention, but only if CT scanning or MRI scanning have failed to provide a definite preoperative diagnosis.

E. Intravenous enhanced CT scanning is indicated only if there has been previous surgery to the lumbar spine, and the imaging study is being used to differentiate scar due to previous surgery from disc herniation or tumor, but only if intrathecal contrast for CT-myelography is contraindicated and MRI scanning is not available or is also contraindicated.

F. Gadolinium enhanced MRI scanning is indicated when:

(1) there has been previous surgery to the lumbar spine, and the imaging study is being used to differentiate scar due to previous surgery from disc herniation or tumor;

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(2) hemorrhage is suspected;

(3) tumor or vascular malformation is suspected;

(4) infection or inflammatory disease is suspected; or

(5) unenhanced MRI scanning was equivocal.

G. Discography is indicated when:

(1) all of the following are present:

(a) back pain is the predominant complaint;

(b) the patient has failed to improve with initial nonsurgical management;

(c) other imaging has not established a diagnosis; and

(d) lumbar fusion surgery is being considered as a therapy; or

(2) there has been previous surgery to the lumbar spine, and pseudoarthrosis, recurrent disc herniation, annular tear, or internal disc disruption is suspected.

H. Computed tomography discography is indicated when:

(1) sciatica is the predominant complaint and lateral disc herniation is suspected; or

(2) if appropriately performed discography is equivocal or paradoxical, with a normal X-ray pattern but a positive pain response, and an annular tear or intra-annular injection is suspected.

I. Nuclear isotope imaging (including technicium, indium, and gallium scans) are not indicated unless tumor, stress fracture, infection, avascular necrosis, or inflammatory lesion is suspected on the basis of history, physical examination findings, laboratory studies, or the results of other imaging studies.

J. Thermography is not indicated for the diagnosis of any of the clinical categories of low back conditions in part 5221.6200, subpart 1, item A.

K. Anterior-posterior (AP) and lateral X-rays of the lumbosacral spine are limited by subitems (1) and (2).

(1) They are indicated in the following circumstances:

(a) when there is a history of significant acute trauma as the precipitating event of the patient's condition, and fracture, dislocation, or fracture dislocation is suspected;

(b) when the history, signs, symptoms, or laboratory studies indicate possible tumor, infection, or inflammatory lesion;

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(c) for postoperative follow-up of lumbar fusion surgery;

(d) when the patient is more than 50 years of age;

(e) before beginning a course of treatment with spinal adjustment or manipulation; or

(f) eight weeks after an injury if the patient continues with symptoms and physical findings after the course of initial nonsurgical care and if the patient's condition prevents the resumption of the regular activities of daily life including regular vocational activities.

(2) They are not indicated in the following circumstances:

(a) to verify progress during initial nonsurgical treatment; or

(b) to evaluate a successful initial nonsurgical treatment program.

L. Oblique X-rays of the lumbosacral spine are limited by subitems (1) and (2).

(1) They are indicated in the following circumstances:

(a) to follow up abnormalities detected on anterior-posterior or lateral X-ray;

(b) for postoperative follow-up of lumbar fusion surgery; or

(c) to follow up spondylolysis or spondylolisthesis not adequately diagnosed by other indicated imaging procedures.

(2) They are not indicated as part of a package of X-rays including anterior-posterior and lateral X-rays of the lumbosacral spine.

M. Electronic X-ray analysis of plain radiographs and diagnostic ultrasound of the lumbar spine are not indicated for diagnosis of any of the low back conditions in part 5221.6200, subpart 1, item A.

Statutory Authority: *MS s 176.103; 176.83*

History: *19 SR 1412; 35 SR 138*

Published Electronically: *August 16, 2010*

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