	Clinical Protocol: Imaging	SUBDEPARTMENT: N/A
	POLICY NO.	ORIGINAL EFFECTIVE DATE: 12/01/2019
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TITLE OF POLICY: Cervical Spine		

PROTOCOL OVERVIEW

This Clinical Protocol advises on indications and guidelines on Cervical Spine Imaging.

INDICATIONS

- Plain X-rays
  - Indicated for ANY ONE of the following:
    - History or suspicion of malignancy
    - History of severe trauma in the past
    - Neuromotor deficit
    - Workers' compensation or litigation cases
    - Age >50 years
    - History suspicious for ankylosing spondylitis
    - No improvement after 4 to 6 weeks of conservative treatment
  - Not indicated for ANY ONE of the following:
    - Most acute whiplash injuries
    - Neck pain and mild to moderate, non-progressing or improving radicular symptoms of relatively short duration, i.e., 6 to 8 weeks
  - Types of plain x-rays to order
    - AP and lateral of cervical spine are appropriate as initial screening.
    - Oblique views to visualize neural foramina should not be done routinely, as they double the dose of radiation exposure.
    - Flexion and extension views are not necessary after acute injuries
    - Odontoid views generally are not indicated.
  - Do not over interpret the findings of a plain x-ray of the spine, whether positive or negative
- MRI, Cervical Spine
  - Indicated for ANY ONE of the following (generally starting with unenhanced, using enhanced to differentiate scar formation or for persistent radicular symptoms in presence of negative unenhanced study)
  - Urgently when ANY ONE of the following is suspected:
  - Evidence of cord compression due to presence of ANY ONE of the following:
    - Urinary incontinence or retention
    - Spasticity, hyperreflexia or clonus, gait disturbance
    - Incontinence of stool

        - Significant or progressive sensory or motor deficits, positive Babinski or Hoffman sign

    - Neoplasm in cervical spine due to presence of ANY ONE of the following:
        - New-onset back pain associated with history of neoplasm
        - Persistent or progressive back pain that fails conservative therapy

    - Suspected infection when the following are present:
        - Pain with suggestive imaging
        - Fever, elevated erythrocyte sedimentation rate, positive culture
        - Rapidly progressive weakness, history of spinal surgery or immunosuppression
    - Disk space infection
    - Osteomyelitis of the vertebrae when ANY ONE of the following is present:
        - Positive bone scan
        - Persistent neck pain and ANY ONE of the following:
            - ✓ Elevated sedimentation rate
            - ✓ Pain exacerbated by motion and relieved by rest
            - ✓ Localized tenderness over spine segment
    - Neck pain and ALL of the following:
        - Severe, disabling pain
        - Unresponsive to any comfort measures and conservative therapy
    - Trauma
    - Inflammatory or demyelinating process suspected
    - Less urgently for ANY ONE of the following:
    - Neurologic deficits of any type that either persist or slowly progress
    - Subacute or chronic neck or radicular pain and ALL of the following are present:
        - Fails to improve after at least 6 to 8 weeks or more of conservative treatment
        - After consultation with a musculoskeletal specialist
        - Surgical or invasive treatment is being considered.
    - Previous spine surgery, to differentiate between scar and bulging disk if ALL of the following are present:
        - Significant new symptoms, hemorrhage or hematoma, neurologic findings or pain
        - Surgical management is being considered
    - Cancer history for staging or post-treatment monitoring
    - Congenital spinal malformations

- CT scan, Cervical Spine
    - Indicated for ANY ONE of the following:
        - Inability to undergo magnetic resonance imaging examinations. See Imaging, MRI, Cervical Spine, Neck Pain, Arthritis, and Disk Disease.
        - Possibility of spine fractures
        - Evaluation of positioning of metal implants

- Myelogram Followed by CT
    - Indicated only if magnetic resonance imaging and plain CT are inadequate to define bone, soft tissue, and nerve anatomy

- Bone Scan
    - Indicated for ANY ONE of the following:
        - Suspected spondyloarthropathies, e.g., ankylosing spondylitis

- ✓ Suspected skeletal metastases due to the presence of ALL of the following:
- ✓ Known malignancy
- ✓ Neck pain
- ✓ No neuromotor deficits
- ✓ Initial plain x-ray

RECOMMENDED RECORDS

Please submit history and physical or progress notes that show the symptoms, exam findings, and any pertinent diagnostic tests that may have been done. (i.e. X-ray, ultrasound).

CITATION

MCG Care Guidelines 27th Edition, 2/28/2023 https://www.mcg.com/client-resources/news-item/mcg27th-edition-care-guidelines