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REPORT

RAND/UCLA Quality-of-Care Measures for Carpal Tunnel Syndrome

Appendix VI, Part B: Materials for Scoring Intraoperative Measures (Guidance Document)

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Intraoperative Quality Measures: Guidance Document

Instructions

The purpose of the Scoring Instructions is to provide basic information that can be used to determine how to score the quality measures and related variables. Because the Scoring Instructions are long, recording data for individual patients on it would use a lot of paper. Instead, data for individual patients can be recorded on the separate and much shorter Data Form. Thus, if the Scoring Instructions are analogous to a test you might take in school, the Data Form is analogous to the sheet on which you record your answers to test questions. The Guidance Document contains detailed definitions and instructions; abstractors should refer to that document before scoring the measures and variables the first time, if they encounter unusual situations, or if they have any detailed questions.

In these documents, questions are numbered as follows:

- Questions pertaining to section or subsection eligibility are indicated by an “E” after the question.
- Questions pertaining to individual measures are indicated by “M” after the question number.
  - “ME” means that the question pertains to eligibility for the measure.
  - “MC” means that the question addresses components of an individual measure.
  - “MA” means that the question addresses whether or not care adhered to the requirements of the measure.
- Additional variables that are not directly related to an individual measure are indicated by “V” after the question number.

Specific Guidance for Intra-operative Care Measures

IOC.01.E Surgical approach(es) used?
- Only endoscopic: only the endoscopic approach was attempted
- Only open: only the open approach was attempted
- Converted: An endoscopic approach was converted to an open approach during the operation
- Unclear/Missing: the approach used cannot be determined.

Measures that Apply to Both Endoscopic and Open Approaches

IOC.02.M Documentation of TCL release

- Transverse carpal ligament (TCL): a heavy band of fibers that runs from the hamate bone and the pisiform bone medially to the scaphoid bone and trapezium laterally,
and forms a fibrous sheath that contains carpal tunnel. Synonyms include flexor retinaculum, anterior annular ligament, and volar carpal ligament.

- Release of transverse carpal ligament: An explicit statement that the ligament was cut or transected, that it was released completely, completely divided, etc.
- Credit should not be given if the complete release is only implied.

**IOC.03.M Indications for primary open rather than endoscopic release**

- Mass lesion: A ganglion cyst, tumor, gouty tophus, rheumatoid nodule or other space-occupying mass within the carpal tunnel.

- A mass lesion that was documented or suspected before the operation, including any one of the following:
  - A member of the surgical team has documented that a mass lesion is suspected clinically or present on imaging tests,
  - An imaging test of the wrist performed during the prior six months documents a possible mass lesion,
  - The patient has a history of severe rheumatoid arthritis of the wrist on which surgery is being performed,
  - The patient has a history of tenosynovitis of the wrist on which surgery is being performed.

- Primary open approach or procedure: A carpal tunnel release surgery in which the skin overlying the carpal tunnel is opened to provide access to the carpal tunnel, rather than exploring the tunnel via an endoscope. To be primary, the entire procedure must be performed open (as opposed to being started endoscopically and converted to open).

- Members of the operating team include the operating surgeon as well as interns, residents, and attending physicians who themselves perform CTR; and nurse practitioners, physical therapists, physician assistants, occupational therapists, or hand therapists that practice in the operating surgeon’s clinic (if this can be determined).

- Imaging test: x-ray, CT (computed tomography), MRI (magnetic resonance imaging), or ultrasound of the study wrist

- Tenosynovitis is the inflammation of the fluid-filled sheath (called the synovium) that surrounds a tendon. Symptoms of tenosynovitis include pain, swelling, and difficulty moving the particular joint where the inflammation occurs.

- Severe rheumatoid arthritis: rheumatoid arthritis or rheumatoid changes on exam or x-ray described as severe during the year before carpal tunnel surgery.
Measures that Apply Only to Endoscopic Approach

IOC.04.M  Documentation of proximal transverse incision location in endoscopic release

- The “proximal transverse incision”:
  - Endoscopic carpal tunnel release surgery can be accomplished via one incision (a single-portal approach) or two (a two-portal approach).
    - If only one incision is present, then the “proximal transverse incision” refers to the single incision.
    - If two incisions are present, then the “proximal transverse incision” refers to the proximal incision, i.e., the one that is closer to the elbow.
    - Although the term includes the phrase “transverse,” this may be implied rather than stated in the notes.
  - The incision needs to be located in a specific spot so as to avoid injury to the palmar cutaneous branch of the median nerve (a nerve that exits the median nerve above the carpal tunnel, travels over the transverse carpal ligament, and innervates the palm). This type of injury is a major complication of carpal tunnel release.
  - To pass the measure, there should be some explicit documentation about the location of the incision AND that documentation must indicate that the incision is in a correct location. The documentation can be either verbal or pictoral (i.e., a drawing).
  - The correct location of this incision is toward the ulnar side of the wrist ulnar to a specific tendon, the palmaris longus tendon.
    - The palmaris longus tendon may be called just the “palmaris longus.”
  - The palmaris longus is absent in a sizeable percentage of people. If the notes indicate that the palmaris longus is absent, then the correct location of the incision is ulnar to an imaginary line from the radial aspect of the ring finger.
  - Radial aspect of ring finger: Imagine an invisible line extending from the radial side of the 4th/ring finger toward the elbow. Relative to that line, the incision should be located on the ulnar side.
  - Ulnar: The side of the wrist/hand closer to the 5th finger (pinkie) and farther from the 1st finger (thumb).
  - Radial: The side of the wrist/hand closer to the thumb and farther from the pinkie.
IOC.05.M Identification of deep surface of TCL in endoscopic release

1. Transverse carpal ligament: A heavy band of fibers which runs from the hamate bone and pisiform bone medially to the scaphoid bone and trapezium laterally, and forms a fibrous sheath that contains the carpal tunnel. Synonyms include flexor retinaculum, “roof of the carpal tunnel”, and anterior annular ligament.

2. Identification of the deep surface of the transverse carpal ligament: Some statement in the operative report that the deep surface or underside of the ligament was visualized, seen, documented, etc.

3. The operative note must state that the surface was seen BEFORE transection, or the sentence stating that the deep surface was visualized should precede the sentence describing the transection in the report.

Measures that Apply Only to Open Approach

IOC.06.M Limit superficial epineurotomy to specific indications

1. Superficial epineurotomy: A longitudinal incision of the epineurium surrounding the median nerve in the region of the carpal canal.

2. Specific injury or scarring of the median nerve: Any injury, damage, or scarring of the median nerve that was documented in the medical record during the six months before surgery or in the operative report. A constricting band of epineurium is one example.

3. The epineurium is the outermost layer of connective tissue surrounding a peripheral nerve. It includes the blood vessels supplying the nerve. It consists of adipose tissue and fibrocollagenous tissues.

IOC.07.M Limit internal neurolysis to specific indications

1. Internal neurolysis: Manipulation of the epineurium that involves separating the fascicles within the median nerve in the region of the carpal tunnel. This can involve splitting the epineurium and gently teasing apart the fascicles of the nerve but other techniques have been described.

2. Specific injury or scarring of the median nerve: Any injury, damage, or scarring of the median nerve that was documented in the medical record during the six months before surgery or in the operative report. Fibrosis of the epineurium of the fascicles is one example.

3. The epineurium is the outermost layer of connective tissue surrounding a peripheral nerve. It includes the blood vessels supplying the nerve. It consists of adipose tissue and fibrocollagenous tissues.
• A small bundle of nerve fibers, enclosed by the perineurium, is called a funiculus; if the nerve is of small size, it may consist only of a single funiculus; but if large, the funiculi are collected together into larger bundles or nerve fascicles, which are bound together in a common membranous covering.

IOC.08.M  **Limit flexor tenosynovectomy to specific indications**

• Flexor tenosynovectomy: Removal or excision of the fibrous sheath overlying the flexor tendons that run through the carpal tunnel. This is to be distinguished from synovectomy, which is removal or excision of the synovium (the lining of the joint capsule).

• Severe proliferative tenosynovitis: Any mention in the medical records from before surgery or in the operative report that the patient has, in the wrist on which surgery is performed, tenosynovitis, gout, gouty tophi, tophaceous material, pseudogout, rheumatoid arthritis, rheumatoid nodules, or infection.
  
  o Although the indicator states that the tenosynovitis should be severe and proliferative, even when it is, it may not be described as such in the medical record documents and, therefore, such phrasing is not required.

• Tenosynovitis is the inflammation of the fluid-filled sheath (called the synovium) that surrounds a tendon. Symptoms of tenosynovitis include pain, swelling, and difficulty moving the particular joint where the inflammation occurs.

IOC.09.M  **Avoidance of TCL repair**

• Repair of the transverse carpal ligament (TCL): A procedure in which the transverse carpal ligament is reconstructed such that it closes over the median nerve and flexor tendons again. Synonyms may include “suturing the ligament back together,” and similar phrases.