**Contractor Information**

<table>
<thead>
<tr>
<th>Contractor Name</th>
<th>Contract Type</th>
<th>Contract Number</th>
<th>Jurisdiction</th>
<th>State(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>04111 - MAC A</td>
<td>J - H</td>
<td>Colorado</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>04112 - MAC B</td>
<td>J - H</td>
<td>Colorado</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>04211 - MAC A</td>
<td>J - H</td>
<td>New Mexico</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>04212 - MAC B</td>
<td>J - H</td>
<td>New Mexico</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>04311 - MAC A</td>
<td>J - H</td>
<td>Oklahoma</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>04312 - MAC B</td>
<td>J - H</td>
<td>Oklahoma</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>04411 - MAC A</td>
<td>J - H</td>
<td>Texas</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>04412 - MAC B</td>
<td>J - H</td>
<td>Texas</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>04911 - MAC A</td>
<td>J - H</td>
<td>Colorado</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>07101 - MAC A</td>
<td>J - H</td>
<td>Arkansas</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>07102 - MAC B</td>
<td>J - H</td>
<td>Arkansas</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>07201 - MAC A</td>
<td>J - H</td>
<td>Louisiana</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>07202 - MAC B</td>
<td>J - H</td>
<td>Louisiana</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>07301 - MAC A</td>
<td>J - H</td>
<td>Mississippi</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>07302 - MAC B</td>
<td>J - H</td>
<td>Mississippi</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>12101 - MAC A</td>
<td>J - L</td>
<td>Delaware</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>12102 - MAC B</td>
<td>J - L</td>
<td>Delaware</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>12201 - MAC A</td>
<td>J - L</td>
<td>District of Columbia</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>12202 - MAC B</td>
<td>J - L</td>
<td>District of Columbia</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>12301 - MAC A</td>
<td>J - L</td>
<td>Maryland</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>12302 - MAC B</td>
<td>J - L</td>
<td>Maryland</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>12401 - MAC A</td>
<td>J - L</td>
<td>New Jersey</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>12402 - MAC B</td>
<td>J - L</td>
<td>New Jersey</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>12501 - MAC A</td>
<td>J - L</td>
<td>Pennsylvania</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>12502 - MAC B</td>
<td>J - L</td>
<td>Pennsylvania</td>
</tr>
<tr>
<td>Novitas Solutions, Inc.</td>
<td>A and B MAC</td>
<td>12901 - MAC A</td>
<td>J - L</td>
<td>District of Columbia</td>
</tr>
</tbody>
</table>

Please Note: This is a Proposed/Draft policy. Proposed/Draft LCDs are works in progress that are available on the Medicare Coverage Database site for public review. Proposed/Draft LCDs are not necessarily a reflection of the current policies or practices of the contractor.
Proposed/Draft LCD Information

Document Information

ID
L34892

Proposed LCD ID
DL34892

Original ICD-9 LCD ID
L27512

Proposed LCD Title
Facet Joint Interventions for Pain Management

AMA CPT / ADA CDT / AHA NUBC Copyright Statement
CPT only copyright 2002-2018 American Medical Association. All Rights Reserved. CPT is a registered trademark of the American Medical Association. Applicable FARS/DFARS Apply to Government Use. Fee schedules, relative value units, conversion factors and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein.

The Code on Dental Procedures and Nomenclature (Code) is published in Current Dental Terminology (CDT). Copyright © American Dental Association. All rights reserved. CDT and CDT-2016 are trademarks of the American Dental Association.

UB-04 Manual. OFFICIAL UB-04 DATA SPECIFICATIONS MANUAL, 2014, is copyrighted by American Hospital Association (“AHA”), Chicago, Illinois. No portion of OFFICIAL UB-04 MANUAL may be reproduced, sorted in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior express, written consent of AHA.” Health Forum reserves the right to change the copyright notice from time to time upon written notice to Company.

CMS National Coverage Policy

This LCD supplements but does not replace, modify or supersede existing Medicare applicable National Coverage Determinations (NCDs) or payment policy rules and regulations for facet joint interventions. Federal statute and subsequent Medicare regulations regarding provision and payment for medical services are lengthy. They are not repeated in this LCD. Neither Medicare payment policy rules nor this LCD replace, modify or supersede applicable state statutes regarding medical practice or other health practice professions acts, definitions and/or scopes of practice. All providers who report services for Medicare payment must fully understand and follow all existing laws, regulations and rules for Medicare payment for facet joint interventions and must properly submit only valid claims for them. Please review and understand them and apply the medical necessity provisions in the policy within the context of the manual rules. Relevant CMS manual instructions and policies may be found in the following Internet-Only Manuals (IOMs) published on the CMS Web site:

IOM Citations:

Printed on 3/1/2018. Page 2 of 22
CMS IOM Publication 100-02, Medicare Benefit Policy Manual, Chapter 15, Section 50 Drugs and Biologicals
CMS IOM Publication 100-03, Medicare National Coverage Determinations (NCD) Manual, Chapter 1,
  o Part 1, Section 30.3 for Acupuncture
  o Part 2, Section 150.7 for Prolotherapy, Joint Sclerotherapy, and Ligamentous Injections with Sclerosing Agents
  o Part 4, Section 220.1 for Computed Tomography
CMS IOM Publication 100-04, Medicare Claims Processing Manual, Chapter 13, Sections 10.1 Billing Part B Radiology Services and Other Diagnostic Procedures, 20 Payment Conditions for Radiology Services, and 30 Computerized Axial Tomography (CT) Procedures

Social Security Act (Title XVIII) Standard References:

• Title XVIII of the Social Security Act, Section 1862(a)(1)(A) states that no Medicare payment shall be made for items or services which are not reasonable and necessary for the diagnosis or treatment of illness or injury.
• Title XVIII of the Social Security Act, Section 1862(a)(7). This section excludes routine physical examinations.
• Title XVIII of the Social Security Act, Section 1833(e) states that no payment shall be made to any provider for any claim that lacks the necessary information to process the claim.
• Title XVIII of the Social Security Act, Section 1862(a)(1)(D) states that no payment shall be made for any services that are considered investigational or experimental.

Coverage Guidance

Coverage Indications, Limitations, and/or Medical Necessity

Notice: It is not appropriate to bill Medicare for services that are not covered (as described by this entire LCD) as if they are covered. When billing for non-covered services, use the appropriate modifier.

Compliance with the provisions in this policy may be monitored and addressed through post payment data analysis and subsequent medical review audits.

History/Background and/or General Information

The spine is the most common source of chronic pain. Chronic spine pain poses a peculiar diagnostic and therapeutic challenge due to multiple pain sources, overlapping clinical features and nonspecific radiological findings. Facet joint interventions may be used in pain management for chronic neck and back pain arising from the paravertebral facet joints.

A paravertebral facet joint (also called zygapophysial joint or z-joint) represents the articulation of the posterior elements of one vertebra with its neighboring vertebra. The facet joint is noted at a specific level, by the vertebrae that form it (e.g., C4-5 or L2-3). There are two (2) facet joints, right and left, at each spinal level.

The facet joints have been shown to be capable of causing axial spinal pain and referred pain in the extremities. The pathology of the pain source is due to facet joints being richly innervated by the nerve fibers from the medial branch of the dorsal ramus of spinal nerves. Each facet has a dual nerve supply. One exception is at the C2–C3 zygapophysial joint, which has a singular nerve supply from the third occipital nerve (the superficial medial branch of C3 dorsal ramus).

"Facet joint syndrome" is a term referring to pain at the joint between two vertebrae in the spine. Clinical signs of facet syndrome include local paraspinal tenderness; pain that is brought about or increased on hyperextension, rotation, and lateral bending; low back stiffness; absence of neurologic deficit; absence of root tension signs (non-radiating below the knee, absence of paresthesia). Cervical facet pain is often characterized by chronic headaches, restricted motion and axial neck pain which may radiate sub-occipitally to the shoulders or mid-back.

Facet joint interventions addressed in this policy include facet joint injections [intra-articular injections (IA) or medial branch nerve blocks (MBB)] and facet joint denervation to the cervical/thoracic and lumbar spinal regions. **This policy does not address sacral conditions, injections, or neurotomies.**

Facet Joint Injections (Diagnostic and Therapeutic)

Printed on 3/1/2018. Page 3 of 22
Facet injections, also known as facet blocks, may be given for diagnostic purposes to determine if the facet joint is the source of suspected spinal pain or for therapeutic purposes to treat facet pain that has been previously established. Imaging findings are of little value in diagnosing facet syndrome. It is usually a diagnosis of exclusion. Clinical signs alone cannot diagnose facet joint-mediated pain, but may be of value in selecting candidates for controlled diagnostic local anesthetic blocks. The response pattern to diagnostic facet joint injections has become the gold standard for diagnosing facet syndrome. Temporary or prolonged abolition of the spinal pain suggests that facet joints were the source of the symptoms.

The facet block procedure is an injection of a local anesthetic, with or without a steroid medication, either into the facet joint (intra-articular) or outside the joint space around the nerve supply to the joint (the medial branch nerve) known as medial branch block (MBB). Imaging guidance (fluoroscopy or CT per code descriptor) is used to assure accurate placement of the needle for the injection.

An anatomic spinal region for paravertebral facet joint block (diagnostic or therapeutic), is defined as cervical/thoracic (CPT codes 64490, 64491, 64492) or lumbar/sacral (CPT codes 64493, 64494, 64495) per the American Medical Association (AMA) Current Procedural Terminology (CPT) Manual.

**Facet Joint Denervation**

Paravertebral facet joint denervation is a therapeutic intervention used to provide both long-term pain relief and reduce the likelihood of recurrence of chronic neck or back pain confirmed as originating in the facet joint’s medial branch nerve.

There are various methods that may be used in performing facet joint denervation. Percutaneous radiofrequency (RF) ablation (rhizotomy) is a minimally invasive procedure done with imaging guidance (fluoroscopy or CT per code descriptor) and involves using energy in the radiofrequency range to cause necrosis of specific nerves (medial branches of the dorsal rami), preventing the neural transmission of pain. Conventional radiofrequency ablation (non-pulsed or continuous) applies thermal energy of typically 80 to 85 degrees Celsius. The terms radiofrequency ablation (RFA) and radiofrequency neurotomy are used interchangeably. Both terms refer to a procedure that destroys the functionality of the nerve using radiofrequency energy.

An anatomic spinal region for thermal facet joint denervation is defined as cervical/thoracic (CPT codes 64633 and 64634) or lumbar/sacral (CPT codes 64635 and 64636) per the AMA CPT Manual.

Non-thermal methods of denervation include chemical (chemodenervation), low-grade thermal energy (less than 80 degrees Celsius*), pulsed RF (PRF), cooled RF ablation, laser neurolysis, and cryoablation. Providers should refer to the applicable AMA CPT Manual to assist with proper reporting of these services.

*Note: Per the AMA CPT Manual (2018, page 416), “Do not report 64633, 64634, 64635, 64636 for non-thermal facet joint denervation including chemical, low-grade thermal energy (less than 80 degrees Celsius) or any form of pulsed radiofrequency. To appropriately report any of these modalities, use 64999.”

**Covered Indications**

1. **Facet Joint Interventions:**

   Facet Joint Interventions are considered medically reasonable and necessary for the diagnosis and treatment of chronic pain in patients who meet **ALL** of the following criteria:

   - Duration of pain of at least three (3) months
   - Pain is intermittent or continuous with average pain levels of 6 or greater on a scale of 0 to 10 [primary (index) pain], or functional disability
   - Documented failure to respond to conservative care such as nonsteroidal anti-inflammatory drugs (NSAIDS), acetaminophen, physical therapy (as tolerated) for a minimum of 6 weeks
   - History of pain that is predominantly axial and, with the possible exception of facet joint cysts, not associated with radiculopathy or neurogenic claudication
   - Physical examination with documented signs that the facet joint is the primary suspected source of pain
   - There is no non-facet pathology per clinical assessment or radiology studies that could explain the source of the patient’s pain, including but not limited to fracture, tumor, infection, or significant deformity

2. **Diagnostic Facet Joint Injections:**

   The primary indication of diagnostic facet joint injection(s) is to confirm a clinical suspicion of facet syndrome. Dual MBBs (a series of two MBBs) are necessary to diagnose facet pain to establish consistency of results due to
For the first diagnostic MBB to be considered medically reasonable and necessary, the patient must meet the criteria outlined under indications for facet joint interventions.

A second confirmatory MBB is considered medically reasonable and necessary when **ALL** of the following is met:

- The patient meets the criteria for the first diagnostic block; **AND**
- After the first diagnostic MBB, there must be a positive response of at least 80% relief of primary (index) pain (with the duration of relief being consistent with the agent used) and improved ability to perform previously painful movements, or a change in technique can be considered.

**Note:** Intraarticular facet block(s) are considered reasonable and necessary as a diagnostic test only if medial branch blocks cannot be performed due to specific documented anatomic restrictions. These restrictions must be clearly documented in the medical record and made available upon request.

### 3. Therapeutic Facet Joint Injections:

The first therapeutic facet joint injection is considered medically reasonable and necessary if the patient has had two (2) medically reasonable and necessary diagnostic MBBs with each one providing a minimum of 80% relief of primary (index) pain (with the duration of relief being consistent with the agent used) and improved ability to perform previously painful movements.

Subsequent therapeutic injections at the same anatomic site are considered medically reasonable and necessary when the patient has had at least 50% pain relief for at least three (3) months from the prior therapeutic injection. Repeat medically reasonable and necessary therapeutic injections at the same site of a previously treated facet joint may be done without additional diagnostic MBBs.

### 4. Facet Joint Denervation:

The thermal radiofrequency destruction of cervical, thoracic or lumbar paravertebral facet joint (median branch) nerves will be considered to be medically reasonable and necessary as follows:

- **Initial thermal RF ablation:**
  - After the patient has had at least two (2) medically reasonable and necessary diagnostic MBBs, with each one providing a minimum of 80% relief of primary (index) pain (with the duration of relief being consistent with the agent used) and improved ability to perform previously painful movements; **OR**
  - After the patient has had at least one (1) medically reasonable and necessary therapeutic injection that provided at least 50% pain relief for at least three (3) months.

- Repeat thermal facet joint RF ablation at the same anatomic site is considered medically reasonable and necessary provided the patient had a minimum of 50% improvement in pain for at least six (6) months.

**Limitations**

The following are considered not reasonable and necessary and therefore will be denied:

1. Facet joint interventions done without CT or fluoroscopic guidance are considered not reasonable and necessary. This includes facet joint interventions done without any guidance, performed under ultrasound guidance, or with Magnetic Resonance Imaging (MRI). Please refer to LCD L35094 Services That Are Not Reasonable and Necessary, for information on paravertebral facet injections with ultrasound guidance (Category III CPT Codes 0213T, 0214T, 0215T, 0216T, 0217T, and 0218T).
2. Intraarticular and extraarticular facet joint prolotherapy are considered not reasonable and necessary.
3. Non-thermal modalities for facet joint denervation including chemical, low grade thermal energy (less than 80 degrees Celsius), pulsed, cooled RF, laser, and cryoablation are considered not reasonable and necessary.
4. General anesthesia is considered not reasonable and necessary for facet joint interventions. Neither conscious sedation nor Monitored Anesthesia Care (MAC) is routinely necessary for facet joint interventions and are not routinely reimbursable. Individual consideration may be given on redetermination (appeal) for payment in rare unique circumstances if the medical necessity of sedation is unequivocal and clearly documented in the medical record. Please refer to LCD L35049 Monitored Anesthesia Care for additional information. Frequent reporting of these services together may trigger focused medical reviews.
5. It is not expected that patients will routinely present with pain in both cervical/thoracic and lumbar spinal regions. Therefore, the routine performance of facet joint interventions (both diagnostic and therapeutic) to both spinal regions may trigger focused medical review.

6. It is not routinely necessary for multiple blocks (e.g., epidural block, sympathetic block) to be provided to a patient on the same day as facet joint injections. Multiple blocks on same day could lead to improper or lack of diagnosis. If performed, the medical necessity of each injection [at the same or at different level(s)] must be clearly documented in the medical record. For example, performance of both paravertebral facet joint injection(s) and a transforaminal epidural injection (EI) at the same spinal level at the same encounter would not be expected unless a synovial cyst is compressing the nerve root. In this situation, EI may provide relief for the radicular pain while the facet cyst rupture allows nerve root decompression. For additional information on epidural injections, please refer to LCD L36920 Epidural Injections for Pain Management. Frequent reporting of multiple blocks on the same day may trigger focused medical review.

Place of Service (POS)

Medicare considers facet joint interventions reasonable and necessary when furnished in accordance with the accepted standards of medical practice, furnished in a setting appropriate to the patient’s medical needs and condition, meets but does not exceed the patient’s medical need, and when ordered and furnished by qualified personnel.

Facet joint intervention services must be performed in a place of service demonstrating the appropriate equipment (e.g., fluoroscopy, CT, medical emergency equipment). It is expected that all clinical staff maintain appropriate training to support their role as first responders to potential medical emergencies.

Provider Qualifications

The CMS Manual System, Publication 100-08, Medicare Program Integrity Manual, Chapter 13, Section 13.5.1 states that "reasonable and necessary" services are "ordered and/or furnished by qualified personnel."

Procedures listed and included in this LCD do not constitute anesthesia services. Evaluation, methods and techniques specified are not considered routine for surgical or perioperative anesthesia. Procedures to remedy pain secondary to inflammation of the medial branch nerve constitute surgical intervention of a diseased body part, for which evaluation, diagnosis and management must be established by a medical provider trained in the specific discipline.

Services will be considered medically reasonable and necessary only if both of the following criteria are met:

- All aspects of the procedure and its related care are within the scope of practice of the provider’s professional licensure; and
- All procedures are performed by appropriately trained providers in the appropriate setting. Patient safety and quality of care mandate that healthcare professionals who perform injections or ablative techniques for treatment of specific nerve maladies and dysfunction are appropriately trained and are competent to perform all aspects of these procedures safely and effectively. The core curriculum of any training program should include the performance and management of the procedures addressed in this policy with documentation of trainee competency assessment included by formal examination and case history document review.

*At a minimum, training must cover and develop an understanding of anatomy and drug pharmacodynamics and kinetics, proficiency in evaluation, diagnosis and management of diseases necessitating the procedures, technical performance of the procedure and performing and interpreting medically reasonable imaging modalities required for procedure performance (imaging technique, contrast material use, and image interpretation) as well as the evaluation, diagnosis and management of potential complications from the intervention. If a procedure requires facility credentialing or privilege approval when performed in an inpatient or outpatient hospital setting, the provider must possess those credentials in order to receive reimbursement for that procedure whether performed in a hospital facility or elsewhere. Only those settings with immediate availability of equivalent support services and personnel as those in a hospital will be considered appropriate for places of service for purposes of Medicare reimbursement.

Acceptable training or certification may be evidenced by any one of the following means:

1. Satisfactory completion of an Accreditation Council for Graduate Medical Education (ACGME) or American Osteopathic Association (AOA) accredited residency and/or fellowship program in a relevant specialty (e.g., Interventional Pain Management, Anesthesiology); or
2. Board certification in a relevant specialty by an American Board of Medical Specialties (ABMS) member board or equivalent AOA board; or

3. Satisfactory completion of an accredited non-physician practitioner educational program that provides substantially equal content and scope as those mentioned in bullets 1 or 2 above and includes the minimum requirements stated in the preceding paragraph (see * above), with trainee competency directly assessed by state licensure examination or certification examination by a nationally recognized accrediting agency and maintenance of a case log of procedures performed; or

4. Demonstration of satisfactory performance of the specific interventional pain management services in this policy on a regular basis over the five years immediately preceding implementation of this policy. Medicare considers an average of ten services per month to meet this requirement, and may be substantiated by Medicare or other payer claim history supported by patient medical records of appropriate care, procedural performance and outcomes.

Reimbursement for procedures utilizing imaging may be made to providers who meet training requirements for the procedures in this policy when permitted under relevant state professional practice acts. In addition, if applicable, all providers who seek Medicare payment for the procedures included in this policy must meet any applicable federal, state, or local licensing requirements and statutes for owning, operating, handling, or administering relevant ionizing radiation materials, equipment, and contrast.

Documentation of training and licensures must be made available to Medicare upon request.

For frequency limitations please refer to the Utilization Guidelines section below.

Notice: This LCD imposes frequency limitations as well as diagnosis limitations that support diagnosis to procedure code automated denials. However, services performed for any given diagnosis must meet all of the indications and limitations stated in this policy, the general requirements for medical necessity as stated in CMS payment policy manuals, any and all existing CMS national coverage determinations, and all Medicare payment rules.

As published in CMS IOM 100-08, Chapter 13, Section 13.5.1, in order to be covered under Medicare, a service shall be reasonable and necessary. When appropriate, contractors shall describe the circumstances under which the proposed LCD for the service is considered reasonable and necessary under Section 1862 (a)(1)(A). Contractors shall consider a service to be reasonable and necessary if the contractor determines that the service is:

- Safe and effective.
- Not experimental or investigational (exception: routine costs of qualifying clinical trial services with dates of service on or after September 19, 2000, that meet the requirements of the Clinical Trials NCD are considered reasonable and necessary).
- Appropriate, including the duration and frequency that is considered appropriate for the service, in terms of whether it is:
  - Furnished in accordance with accepted standards of medical practice for the diagnosis or treatment of the patient's condition or to improve the function of a malformed body member.
  - Furnished in a setting appropriate to the patient's medical needs and condition.
  - Ordered and furnished by qualified personnel.
  - One that meets, but does not exceed, the patient's medical needs.
  - At least as beneficial as an existing and available medically appropriate alternative.

The redetermination process may be utilized for consideration of services performed outside of the reasonable and necessary requirements in this LCD.

Summary of Evidence

• Indications: Facet joint interventions are applied in the cervical, thoracic, and lumbar regions. These include diagnostic, as well as therapeutic. Further, approaches include intraarticular injections, facet joint nerve blocks, conventional radiofrequency neurotomy, and pulsed radiofrequency neurotomy. The evidence is variable for each modality and for each region.
  - Diagnostic Facet Joint Nerve Blocks: Diagnostic facet joint injections may be performed either with an intraarticular approach or by blocking the facet joint nerves. However, the evidence is limited to poor for intraarticular injections, thus the evidence here described is based on diagnostic facet joint nerve blocks. The evidence for diagnostic accuracy of facet joint nerve blocks is good in the lumbar, thoracic, and cervical regions.
  - Common indications for diagnostic facet joint nerve blocks are as follows:
    - Somatic or nonradicular neck, mid back, upper back or low back and headache, upper extremity pain, chest wall pain or lower extremity pain of at least 3 months duration.
    - Moderate to severe pain causing functional disability.
    - Failure to respond to more conservative management, including physical therapy modalities with exercises, chiropractic management, and nonsteroidal anti-inflammatory agents.
    - Lack of evidence, either for discogenic or sacroiliac joint pain.
    - Lack of disc herniation or evidence of radiculitis.
  - Therapeutic Facet Joint Interventions: Therapeutic facet joint interventions are available for the cervical, thoracic, and lumbosacral regions. Therapeutic facet joint interventions include intraarticular injections, therapeutic facet joint nerve blocks, and radiofrequency neurotomy, either conventional or pulsed. The evidence is limited for these interventions. The evidence for intraarticular injections is limited for the cervical and thoracic regions and not available for the lumbar region. The evidence is fair to good for therapeutic facet joint nerve blocks, and fair for cervical and thoracic medial branch blocks. The evidence is good for radiofrequency neurotomy in the lumbosacral region, fair in the cervical region, and poor in the lumbar thoracic region. The evidence for pulsed radiofrequency is limited or not available.

Radiofrequency neurotomy is described as radiofrequency lesioning performed utilizing either a heat lesion or pulsed mode radiofrequency. A thermal radiofrequency neurotomy lesion for facet denervation is performed at 80° to 85°C. Clinically, a higher temperature allows for a larger lesion to be made. The size of the lesion is influenced by the vascularity of the surrounding tissue: the greater the vascularity of the tissue, the smaller the lesion. Overall, the mechanism of radiofrequency neurotomy is described as denaturing of the nerves. Consequently, with radiofrequency, the pain returns when the axons regenerate requiring repetition of the radiofrequency procedure. The pulsed mode radiofrequency is an application of a strong electric field to the tissue that surrounds the electrode and the temperature of the tissue surrounding the tip of the electrode does not exceed 42°C and heat is dissipated during the silent period.
  - Indications for therapeutic facet joint interventions are based on the diagnosis established with a positive response to controlled diagnostic blocks, either placebo or comparative local anesthetic blocks, with a criterion standard of 75% pain relief with ability to perform prior painful movements without significant pain.

• Frequency of Interventions:
  - In the diagnostic phase, a patient may receive 2 procedures at intervals of no sooner than 2 weeks or preferably 4 weeks, with careful judgment of response.
  - In the therapeutic phase (after the diagnostic phase is completed), the suggested frequency would be 2 – 3 months or longer between injections, provided that greater than or equal to 50% relief is obtained for 2 months.
  - If the interventional procedures are applied for different regions, they may be performed at intervals of no sooner than one week or preferably 2 weeks for most types of procedures.
  - It is suggested that therapeutic frequency remain at least a minimum of 2 months for each region; it is further suggested that all the regions be treated at the same time provided that all procedures can be performed safely.
  - In the treatment or therapeutic phase, the interventional procedures should be repeated only as necessary according to the medical necessity criteria, and it is suggested that these be limited to a maximum of 4 times for local anesthetic and steroid blocks over a period of one year, per region.
  - Under unusual circumstances with a recurrent injury or cervicogenic headache, procedures may be repeated 6 times a year after stabilization in the treatment phase.
  - For facet joint neurolysis, the suggested frequency would be 6 months or longer (maximum of 2 times per year) between each procedure, provided that 50% or greater relief is obtained for 4 months.
  - The therapeutic frequency for medial branch neurotomy should remain at intervals of at least 6 months per each region with multiple regions involved. It is further suggested that all regions be treated at the same time, provided all procedures are performed safely.
Management of Low Back Pain:
  • Diagnostic Lumbar Facet Joint Nerve Blocks
    ▪ The evidence for diagnostic lumbar facet joint nerve blocks is good with 75% to 100% pain relief as the criterion standard with controlled local anesthetic or placebo blocks.
    ▪ Diagnostic lumbar facet joint nerve blocks are recommended in patients with suspected facet joint pain.
  • Therapeutic Lumbar Facet Joint Interventions
    ▪ The evidence for lumbar conventional radiofrequency neurotomy is good, limited for pulsed radiofrequency neurotomy, fair to good for lumbar facet joint nerve blocks, and limited for intraarticular injections.
    ▪ Among the therapeutic facet joint interventions either conventional radiofrequency neurotomy or therapeutic facet joint nerve blocks are recommended after the appropriate diagnosis with controlled diagnostic lumbar facet joint blocks.

Management of Neck Pain
  • Diagnostic Cervical Facet Joint Nerve Blocks
    ▪ The evidence for diagnostic cervical facet joint nerve blocks is good with a criterion standard of 75% or greater relief with placebo or local anesthetic controlled diagnostic blocks.
    ▪ Diagnostic cervical facet joint nerve blocks are recommended for the diagnosis of cervical facet joint pain.
  • Therapeutic Cervical Facet Joint Interventions
    ▪ The evidence is fair for cervical radiofrequency neurotomy and cervical medial branch blocks, and limited for cervical intraarticular injections.
    ▪ Conventional radiofrequency neurotomy or therapeutic facet joint nerve blocks are recommended in managing chronic neck pain after the appropriate diagnosis from controlled diagnostic blocks.

Management of Thoracic Pain
  • Diagnostic Thoracic Facet or Zygapophysial Joint Nerve Blocks
    ▪ The evidence for diagnostic accuracy of thoracic facet joint nerve blocks is good with a criterion standard of at least 75% pain relief with placebo or local anesthetic controlled diagnostic blocks.
    ▪ The diagnostic thoracic facet or zygapophysial joint nerve blocks are recommended in the diagnosis of chronic thoracic pain.
  • Therapeutic Thoracic Facet or Zygapophysial Joint Nerve Blocks
    ▪ The evidence is fair for therapeutic thoracic facet or zygapophysial joint nerve blocks, limited for radiofrequency neurotomy, and none for thoracic intraarticular injections.
    ▪ Therapeutic thoracic facet or zygapophysial joint nerve blocks are recommended.
    ▪ However, radiofrequency neurotomy and conventional radiofrequency neurotomy may be performed based on emerging evidence.

The American Association of Neurological Surgeons (AANS) and the Congress of Neurological Surgeons (CNS) 2014 Guideline update for the performance of fusion procedures for degenerative disease of the lumbar spine. Part 13: injection therapies, low-back pain, and lumbar fusion. Lumbar intraarticular facet injections are not recommended for the treatment of chronic lower-back pain. The literature does suggest the use of lumbar medial nerve blocks for short-term relief of facet-mediated chronic lower-back pain without radiculopathy. Lumbar medial nerve ablation is suggested for 3–6 months of relief for chronic lower-back pain without radiculopathy. Diagnostic medial nerve blocks by the double-injection technique with an 80% improvement threshold are an option to predict a favorable response to medial nerve ablation for facet-mediated chronic lower-back pain without radiculopathy, but there is no evidence to support the use of diagnostic medial nerve blocks to predict the outcomes in these same patients with lumbar fusion. (Watters 2014)

The American Society of Anesthesiologists (ASA) Task Force on Chronic Pain Management and the American Society of Regional Anesthesia and Pain Medicine (ASRA) Practice Guidelines for Chronic Pain Management (2010) focus on the knowledge base, skills and range of interventions that are the essential elements of effective management of chronic pain and pain-related problems.

• Recommendations for joint blocks: Randomized controlled trials (RCT) report equivocal findings regarding the efficacy of facet joint steroid injections compared with facet saline injections regarding pain relief for patients with low back pain (LBP). However, studies with observational findings for facet joint injections indicate that pain scores are improved over baseline scores for assessment periods of 1-6 months.
  ▪ Intraarticular facet joint injections may be used for symptomatic relief of facet-mediated pain.
  ▪ Medial branch blocks may be used for the treatment of facet-mediated spine pain.
• Recommendations for Ablative Techniques: The Task Force notes that other treatment modalities should be attempted before consideration of the use of ablative techniques.
Chemical denervation: Chemical denervation (e.g., alcohol, phenol, or high-concentration local anesthetics) should not be used in the routine care of patients with chronic non-cancer pain.

Cryoablation: Cryoablation may be used in the care of selected patients (e.g., postthoracotomy pain syndrome, low back pain (medial branch), and peripheral nerve pain).

Radiofrequency ablation: Conventional (e.g., 80°C) or thermal (e.g., 67°C) radiofrequency ablation of the medial branch nerves to the facet joint should be performed for low back (medial branch) pain when previous diagnostic or therapeutic injections of the joint or medial branch nerve have provided temporary relief. Conventional radiofrequency ablation may be performed for neck pain. Conventional or thermal radiofrequency ablation of the dorsal root ganglion should not be routinely used for the treatment of lumbar radicular pain.

Evidence statements
- In people with low back pain there was clinical benefit for steroid injections compared with saline demonstrated in evidence from 1 study for both pain and function greater than 4 months (very low quality, n equal to 95), but no clinically important difference at equal to or less than 4 months.
- Clinical benefit for steroid compared to hyaluronans was seen in pain in the short term (very low quality; 1 study; n equal to 59) with no clinically important difference between treatments in any other outcome reported at either short or long term.
- There was no clinically important difference seen when a steroid injection was given in combination with biomechanical exercise compared to biomechanical exercise. Clinical benefit was seen however in pain at short and long term, but not in function, when injections of steroid and anaesthetic plus biomechanical exercise were compared to biomechanical exercise in a nonrandomised study (very low quality; n equal to 18).

Recommendations
- Do not offer spinal injections for managing low back pain. The Guideline Development Group (GDG) agreed that health related quality of life, pain severity, function and psychological distress were the outcomes that were critical for decision making. Responder criteria (greater than 30% improvement in pain or function), adverse events, and healthcare utilization were also considered as important. Evidence was reported for all of outcomes except for psychological distress and healthcare utilization. For image guided facet joint injections, evidence was only available for pain, function and responder criteria. There was no evidence for any of the other outcomes.

Summary - Image guided facet joint injections
- Overall the GDG agreed that there was no consistent good quality evidence to recommend the use of spinal injections for the management of low back pain. There was minimal evidence of benefit from injections, and reason to believe that there was a risk of harm, even if rare. The GDG consequently agreed that it was appropriate to recommend against the use of spinal injections for people with low back pain.

Radiofrequency denervation for facet joint pain

Evidence Statements
Radiofrequency denervation compared with placebo/sham for low back pain

- Evidence from 4 studies demonstrated clinical benefit in pain for radiofrequency denervation compared to placebo/sham at both the short and long term follow-ups of less than and greater than 4 months (low to moderate quality, n equal to 160). In contrast there was no difference in function between treatments at any time point. Conflicting evidence from 1 study for quality of life at less than 4 months follow-up showed clinical benefit for radiofrequency denervation compared to placebo/sham for the SF-36 domains of general health and vitality. Radiofrequency denervation was inferior to sham for the domains of mental health, pain and social function. There was no difference between treatments for the domain physical function (low quality, n equal to 81). Evidence from a single study reporting adverse events at less than 4 months follow-up demonstrated an increase in adverse effects for radiofrequency denervation in terms of the number of patients with moderate or severe treatment related pain (low quality, n equal to 79). There was no difference in other adverse events (change of sensibility and loss of motor function) at short term follow-up when radiofrequency denervation was compared to placebo/sham in the same study (very low quality). Additionally when compared with placebo/sham, benefit for radiofrequency denervation in responders to pain reduction measured by global perceived effect was demonstrated by 2 studies at both the less than and greater than 4 months follow-up time points although this was not seen for pain reduction measured by visual analog scale (VAS) at less than 4 months reported by a single study (low quality, n equal to 111).

Radiofrequency denervation versus medial branch block

- Evidence from a single study demonstrated clinical benefit in terms of pain for radiofrequency denervation compared to medial branch blocks at both the short and long term follow-ups of less than and greater than 4 months (very low quality, n equal to 100).

• Recommendations
  - Consider referral for assessment for radiofrequency denervation for people with chronic low back pain when:
    - non-surgical treatment has not worked for them and
    - the main source of pain is thought to come from structures supplied by the medial branch nerve and
    - they have moderate or severe levels of localized back pain (rated as 5 or more on a visual analogue scale, or equivalent) at the time of referral.
  - Only perform radiofrequency denervation in people with chronic low back pain after a positive response to a diagnostic medial branch block.
  - Do not offer imaging for people with low back pain with specific facet joint pain as a prerequisite for radiofrequency denervation.
  - The GDG agreed that the features identified by the consensus group might be helpful in identifying those patients who may benefit from a radiofrequency denervation.
    - The features include: Increased pain unilaterally or bilaterally on lumbar para-spinal palpation
    - Increased back pain on 1 or more of the following:
      - extension (more than flexion)
      - rotation
      - extension/side flexion
      - extension/rotation AND
    - No radicular symptoms AND
    - No sacroiliac joint pain elicited using a provocation test.
  - Radiofrequency denervation is a technically demanding procedure and should only be performed by appropriately trained clinicians.
Research recommendation

The lumbar facet joints are pairs of joints that stabilize and guide motion in the spine. These joints and periarticular structures are well innervated by the medial branches of the dorsal rami. The prevalence of pain thought to be arising from the facet joints and periarticular structures in heterogeneous populations using local anaesthetic nerve blockade (medial branch block), where 75–100% pain relief is used as a criterion standard, is thought to be 25–40%. (Manchikanti, 2000).

The current guidance recommends that for people with low back pain who have failed to respond to conservative management, local anaesthetic medial branch nerve blockade to determine the presence or absence of a pain arising from the facet joints and periarticular structures may be offered. Those who experience significant but short term relief may then be offered a neurodestructive procedure called ‘radiofrequency denervation’ in an attempt to achieve longer term pain relief.

Radiofrequency denervation has evolved as a treatment for spinal pain over the last 40 years and is a minimally invasive and percutaneous procedure performed under local anaesthesia or light intravenous sedation. Radiofrequency energy is delivered along an insulated needle in contact with the target nerves. This focused electrical energy heats and denatures the nerve. This process may allow axons to regenerate with time requiring the repetition of the radiofrequency procedure.

The duration of pain relief following radiofrequency denervation is uncertain. Data from randomised controlled trials suggests relief is maintained for at least 6–12 months but no study has reported longer term outcomes. Pain relief for more than 2 years would not be an unreasonable clinical expectation. The de novo economic model undertaken for this guideline for radiofrequency denervation suggested that the treatment is likely to be cost effective provided the duration of effect exceeds 16 months.

If radiofrequency denervation is repeated, we do not know whether the outcomes and duration of these outcomes are similar to the initial treatment. If repeated radiofrequency denervation is to be offered, we need to be more certain that this intervention is both effective and cost effective.

The North American Spine Society (NASS) Evidence-Based Clinical Guidelines for Multidisciplinary Spine Care: Diagnosis and Treatment of Degenerative Lumbar Spondylolisthesis 2nd Edition (2014) reports that there is insufficient evidence to make a recommendation for or against the use of injections for the treatment of degenerative lumbar spondylolisthesis. Grade of Recommendation: I (Insufficient Evidence). This guideline summarized a study by Klessinger (2012), a retrospective case-series study of 40 patients to determine if radiofrequency neurotomy is an effective treatment option for patients with low back pain and degenerative spondylolisthesis. An electronic medical record system was used to identify all patients in a single spine center with a positive MRI diagnosis of degenerative spondylolisthesis who had received lumbar radiofrequency neurotomy during a 3-year period. Most of the patients (82.1%) were tested before the neurotomy with controlled medial branch blocks; the other patients only had single medial branch blocks before radiofrequency neurotomy. A radiofrequency neurotomy was only considered after positive testing (at least 80% pain relief). Injections were performed with fluoroscopic visualization using bupivacaine (0.25%). Patients had a mean age of 67.8 years, were mostly women, had Grade 1 or 2 spondylolisthesis according to Meyerding grades, and included in the analysis only if they had at least 3 months treatment follow-up. The authors did not utilize a validated outcome measurement tool to evaluate treatment success. According to their criteria, treatment response was considered positive if at least a 50% reduction in pain was achieved. A pain reduction of at least 50% and satisfying results for the patients in the radiofrequency group for a minimum of 3 months was achieved in 26 patients (65%). Eight of these patients had a minimum of 50% pain relief; 18 had a minimum of 80%. Eleven patients did not respond to radiofrequency neurotomy. In addition, 3 patients with a positive response to radiofrequency neurotomy, but with pain relief lasting only one month, were treated as negative successes. All patients with pain relief of 3 months had continuing pain relief at a mean follow-up of 18.6 months. This study provides level IV therapeutic evidence that degenerative facet joints represent one possible pain generator in patients with degenerative spondylolisthesis. Radiofrequency neurotomy may lead to pain reduction in a subset of patients with degenerative spondylolisthesis who have symptomatic facet joint pain diagnosed by controlled medial branch nerve blocks.

Agency for Healthcare Research and Quality (AHRQ) Technology Assessment Program: Pain Management Injection Therapies for Low Back Pain (2015). For this technology assessment, the authors used predefined criteria, and selected randomized trials of patients with lumbosacral radiculopathy, spinal stenosis, nonradicular back pain, or chronic postsurgical back pain that compared effectiveness or harms of epidural, facet joint, or sacroiliac corticosteroid injections versus placebo or other interventions. Also included were randomized trials that compared different injection techniques and large (sample sizes greater than 1000) observational studies of back injections that reported harms. Seventy-eight randomized trials of epidural injections, 13 trials of facet joint injections, and one trial of sacroiliac injections were included. Limited evidence suggested that epidural corticosteroid injections are not effective for spinal stenosis or nonradicular back pain and that facet joint corticosteroid injections are not effective for presumed facet joint pain. There was insufficient evidence to evaluate effectiveness of sacroiliac joint corticosteroid injections. (Chou et al. 2015)

Manchikanti et al. (2016) completed a study to investigate the diagnostic validity and therapeutic value of lumbar facet joint interventions in managing chronic low back pain. The review process applied systematic evidence-based assessment methodology of controlled trials of diagnostic validity and randomized controlled trials of therapeutic efficacy. Inclusion criteria encompassed all facet joint interventions performed in a controlled fashion.

Evidence supporting the use of therapeutic intra-articular facet joint injections for patients with suspected facet joint pain is sparse [Vekaria et al. (2016)]. The authors conducted a systematic review, including a narrative synthesis to determine if intra-articular facet joint injections with active drug are more effective in reducing back pain and back pain-related disability than a sham procedure or a placebo/inactive injection. The authors also evaluated if intra-articular facet joint injections with active drug or placebo/inactive injection are more effective in reducing back pain and back pain-related disability than conservative treatment. Electronic databases were searched through April 2015. Data were screened and single extraction with independent verification and risk of bias assessment was performed. A total of 391 records were screened, and six trials were included. The trials included were small (range 18-109 participants) and overall in terms of pain and disability outcomes most were inconclusive. Only two of the trials report any significant between-group differences in pain or disability outcomes. The authors addressed limitations and flaws in these trials that were clinically diverse and precluded any meta-analysis. A number of methodological issues were identified. The positive results are interpreted with caution, and suggest that there is a need for further high-quality work in this area. Further randomized controlled trials of higher methodological standard comparing facet joint injection with a sham/placebo control or conservative treatment are needed from which to base any conclusion on the effectiveness of facet joints in improving pain and disability outcomes.

A systematic review by Boswell et al. (2015) evaluated the diagnostic accuracy of spinal facet joint nerve blocks in chronic spinal pain. A methodological quality assessment of included studies was performed using Quality Appraisal of Reliability Studies (QAREL). Studies must have been performed utilizing controlled local anesthetic blocks. The criterion standard must have been at least 50% pain relief from baseline scores and the ability to perform previously painful movements. The available evidence is Level I for lumbar facet joint nerve blocks with the inclusion of a total of 17 studies with dual diagnostic blocks, with at least 75% pain relief with an average prevalence of 16% to 41% and false-positive rates of 25% to 44%. The evidence for diagnosis of cervical facet joint pain with cervical facet joint nerve blocks is Level II based on a total of 11 controlled diagnostic accuracy studies, with significant variability among the prevalence in a heterogenous population with internal inconsistency. The prevalence rates ranged from 36% to 67% with at least 80% pain relief as the criterion standard and a false-positive rate of 27% to 63%. The level of evidence for the diagnostic accuracy of thoracic facet joint nerve blocks is Level II with 80% or higher pain relief as the criterion standard and a false-positive rate of 27% to 63%. The level of evidence for the diagnostic validity of facet joint nerve blocks, and moderate evidence for therapeutic radiofrequency neurotomy and therapeutic facet joint nerve blocks in managing chronic low back pain.

Manchikanti et al. (2015) noted that prior systematic reviews assessing the effectiveness of various therapeutic facet joint interventions have shown there to be variable evidence based on the region and the modality of treatment utilized. Overall, the evidence ranges from limited to moderate. The therapeutic spinal facet joint interventions generally used for the treatment of axial spinal pain of facet joint origin are intraarticular facet joint injections, facet joint nerve blocks, and radiofrequency neurotomy. Despite interventional procedures being common as treatment strategies for facet joint pathology, there is a paucity of literature investigating these therapeutic approaches. A systematic review was conducted using the available literature on lumbar, cervical, and thoracic facet joint interventions in managing chronic spinal pain. The primary outcome measure was pain relief (short-term relief equal to up to 6 months and long-term greater than 6 months). Secondary outcome measures were improvement in functional status, psychological status, return to work, and reduction in opioid intake consumption. A total of 21 randomized controlled trials meeting appropriate inclusion criteria were assessed in this evaluation. A total of 5 observational studies were assessed. The authors concluded that based
Leggett et al. (2014) conducted a systematic review to determine the efficacy of RFA for chronic low back pain associated with lumbar facet joints, sacroiliac joints, discogenic low back pain and the coccyx. Included articles were sham-controlled randomized controlled trials (RCTs), assessed the efficacy of RFA, reported at least one month of follow-up and included participants who had experienced back pain for at least three months. The present systematic review retrieved 1063 abstracts. Eleven sham-controlled RCTs were included: three studies involving discogenic back pain; six studies involving lumbar facet joint pain; and two studies involving sacroiliac joint pain. No studies were identified assessing the coccyx. The evidence supports RFA as an efficacious treatment for lumbar facet joint and sacroiliac joint pain, with five of six and both of the RCTs demonstrating statistically significant pain reductions, respectively. The evidence supporting RFA for the treatment of discogenic pain is mixed. Future studies should examine the clinical significance of the achieved pain reduction and the long-term efficacy of RFA.

Manchikanti et al. (2010) noted that the presence of lumbar facet joint pain has been overwhelmingly supported and the accuracy of controlled diagnostic blocks has been demonstrated in multiple studies and confirmed in systematic reviews. However, controversy surrounds the following related issues: placebo control, the amount of relief (50% versus 80%), single block versus double block, and placebo or comparative control. In an observational report of an outcome study compared the accuracy of controlled diagnostic blocks in managing lumbar facet joint pain at the end of 2 years, with 2 different criteria (50% or 80% relief) and single block versus double block. Two previous studies were compared, the first with one hundred fifty-two patients at the end of a 2-year follow-up period when diagnosis was made with double blocks and at least 80% relief. The second study had one hundred ten patients undergoing lumbar facet joint nerve blocks with positive criteria of at least 50% relief and follow-up of 2 years. The authors concluded that controlled diagnostic lumbar facet joint nerve blocks are valid utilizing the criteria of 80% pain relief and the ability to perform previously painful movements, with a sustained diagnosis of lumbar facet joint pain in at least 89.5% of the patients at the end of a 2-year follow-up. In contrast, the diagnosis was sustained in 51% of the patients with 50% relief at the end of 2 years. Thus, inappropriate diagnostic criteria will increase the prevalence of facet joint pain substantially, leading to inappropriate and unnecessary treatment.

Manchikanti et al. (2010) conducted a double-blind randomized controlled trial of therapeutic facet joint nerve blocks to determine the clinical effectiveness with or without steroids in managing chronic low back pain of facet origin. One hundred twenty patients were equally randomized to receive either a local anesthetic only (group I) or a local anesthetic mixed with a steroid (group II). The inclusion criteria was based upon a positive response to diagnostic controlled, comparative local anesthetic lumbar facet joint blocks. Outcomes were measured at baseline, 3, 6, 12, 18 and 24 months post-treatment with the Numeric Rating Scale (NRS), the Oswestry Disability Index 2.0 (ODI), work status, and opioid intake. Significant pain relief (greater than or equal to 50%) and functional improvement of greater than or equal to 40% were observed in 85% in Group 1, and 90% in Group II, at 2-year follow-up. The authors found therapeutic lumbar facet joint blocks, with or without adding steroids to the treatment, may provide a management option for chronic function-limiting low back pain of facet joint origin.

Pampati et al. (2009) studied the accuracy of controlled diagnostic blocks in managing lumbar facet joint pain at the end of 2 years. The accuracy of controlled diagnostic blocks in diagnosing lumbar facet joint pain has been demonstrated in multiple studies and confirmed in systematic reviews. Controlled diagnostic studies have shown an overall prevalence of lumbar facet joint pain in 31% of the patients with chronic low back pain without disc displacement or radiculitis, with an overall false-positive rate of 30% using a single diagnostic block. The study design was an observational report of outcomes assessment including 152 patients diagnosed with lumbar facet joint pain using controlled diagnostic blocks. The inclusion criteria was based on a positive response to diagnostic controlled comparative local anesthetic lumbar facet joint blocks. The treatment included therapeutic lumbar facet joint nerve blocks. The outcome measures were sustained diagnosis of lumbar facet joint pain at the end of one year and 2 years based on pain relief and functional status improvement. Results showed at the end of one year 93% of the patients and at the end of 2 years 89.5% of the patients were considered to have lumbar facet joint pain. The authors concluded that controlled diagnostic lumbar facet joint nerve blocks are valid utilizing the criteria of 80% pain relief and the ability to perform previously painful movements, with sustained diagnosis of lumbar facet joint pain in at least 89.5% of the patients at the end of a 2-year follow-up period.

Byrd et al. (2008) introduces pulsed radiofrequency (PRF) as a novel therapeutic modality with many potential applications in pain management. A variation of conventional continuous radiofrequency (CRF), which has been in use since the mid-1970s, PRF offers the advantage of pain control without the tissue destruction and painful sequelae associated with CRF. This theoretical benefit of PRF is especially alluring in cases of neuropathic pain in which CRF is relatively contraindicated. There are few studies exploring the efficacy of PRF in treating pain. Additionally, most reports are retrospective in nature and involve only small patient cohorts. The bulk of PRF
research has been conducted in patients with axial low back pain; however, in recent years, PRF has been studied in a wider range of conditions. The authors conclude the emergence of PRF technology represents a promising step toward treating complicated pain conditions. As the evidence in support of PRF accumulates, it is likely that its potential to be applied more broadly will also increase. Further evaluation, however, will determine whether PRF falls by the wayside as another “ballyhooed intervention” or persists as a legitimate therapeutic tool.

Birkenmaier et al. (2007) conducted a prospective clinical case series to examine the effects of medial branch cryodeneration (cryoablation) in the treatment of lumbar facet joint pain. Patient selection was based on medical history, physical examination and positive medial branch blocks. Percutaneous medial branch cryodeneration was performed using a Lloyd Neurostat 2000. Target parameters were LBP (by means of VAS, limitation of activity (McNab) and overall satisfaction). A total of 50 patients were recruited, and 46 completed the study. The follow-up time was 1 year. At 6 weeks, 33 patients (72%) were pain free or had a significant reduction of LBP; 13 (28%) had no or little improvement. Including failures mean LBP decreased significantly from 7.7 (VAS) before cryodeneration to 3.2 at 6 weeks, 3.3 at 3 months, 3.0 at 6 months and 4.2 at 12 months. However, the authors noted that at the 12 month follow-up period the failure rate rose to 43%.

Manchikanti et al. (2006) conducted a randomized, double-blind, placebo-controlled study on the effect of sedation on diagnostic validity of facet joint nerve blocks in population with involvement in cervical and lumbar regions. Outcomes were assessed at baseline and after the administration of 1 of 3 solutions (Group I, sodium chloride solution; Group II, midazolam; or Group III, fentanyl). The results were overall, 50% of the patients were relaxed or sedated in the placebo group, while 100% of the patients in the midazolam and fentanyl groups were relaxed or sedated. As many as 10% of the patients reported significant relief (greater than or equal to 80%) with the ability to perform prior painful movements. The authors concluded that perioperative administration of sodium chloride, midazolam, or fentanyl can confound results in the diagnosis of combined cervical and lumbar facet joint pain. False-positive results with placebo or sedation may be seen in a small proportion of patients.

**Analysis of Evidence (Rationale for Determination)**

Facet joint injection techniques are used in the diagnosis and/or treatment of chronic neck and back pain. Questions remain about the etiology of facet joint syndrome, the prognostic validity of diagnostic nerve blocks, standard outcome measures, the role of the placebo effect in treatment success, and the radiofrequency denervation technique. The evidence of clinical efficacy and utility of therapeutic facet joint injections has not been well-established in the medical literature, which is replete with non-comparable and inadequately designed studies. This is a concern given the steroid dosages administered.

Studies utilizing controlled dual diagnostic lumbar facet joint nerve blocks with criteria of 80% pain relief and the ability to perform previously painful movements, have demonstrated improvement in the ability to obtain an appropriate and sustained diagnosis of facet joint pain. This methodology is promising to substantially reduce inappropriate and unnecessary treatment. Evidence-based guidelines from the AANS and CNS support the use of double-injection technique with an 80% improvement threshold as an option to predict a favorable response to medial nerve ablation for facet-mediated chronic lower-back pain without radiculopathy.

There are limited studies on facet joint interventions in the cervical and thoracic region. Evidence-based guidelines from ASIPP for the cervical region indicate that evidence is good for diagnostic blocks and fair for therapeutic interventions. The evidence for the thoracic region is good for diagnostic blocks, fair for therapeutic thoracic facet blocks, and limited for radiofrequency neurotomy.

The clinical studies of RFA for chronic low back pain have significant methodological limitations that can affect interpretation of the data. Few randomized controlled or comparative trials of RFA with adequate sample size and follow-up duration have been published; the preponderance of the evidence is derived from small randomized controlled trials, and prospective uncontrolled studies, case series, and retrospective chart analyses. Uncertainties regarding several aspects of RFA for spinal pain necessitate additional research. The validation of radiofrequency for chronic spinal pain management relies upon the resolution of these technical issues, as well as issues regarding patient selection and long-term efficacy.

Several alternatives to percutaneous radiofrequency denervation have been proposed, including pulsed radiofrequency, cryoablation, laser ablation, and chemical ablation, in which a neurolytic substance (e.g., alcohol, phenol, glycerol) is injected into the affected nerve root. An alternative method of denervation using an endoscopic approach (i.e., endoscopic dorsal ramus rhizotomy) has also been proposed. There is insufficient evidence in the published medical literature to determine the safety and efficacy of these emerging alternative
Synopsis of Changes

DL34892 Facet Joint Interventions for Pain Management is a consolidation of existing LCDs in JH and JL. The addition of facet joint denervation is new for JH and JL.

Associated Information

Documentation Requirements

1. All documentation must be maintained in the patient's medical record and made available to the contractor upon request.
2. Every page of the record must be legible and include appropriate patient identification information (e.g., complete name, dates of service(s)). The documentation must include the legible signature of the physician or non-physician practitioner responsible for and providing the care to the patient.
3. The submitted medical record must support the use of the selected ICD-10-CM code(s). The submitted CPT/HCPCS code must describe the service performed.
4. The medical record documentation must support the medical necessity of the services as directed in this policy.
5. Pre-procedural documentation must include a complete initial evaluation including history and an appropriately focused musculoskeletal and neurological physical examination and all potential contributing pain generators. There should be a summary of pertinent diagnostic tests or procedures justifying the possible presence of facet joint pain. Prior to any facet joint interventions, a baseline identification of the patient’s index pain, intensity of pain (via a visual analog scale or numeric pain rating), and any functional deficits must be documented (if they exist). A hard (plain radiograph with conventional film or specialized paper) or digital copy image or images which adequately document the needle position and contrast medium flow (excluding RF ablations and those cases in which using contrast is contra-indicated, such as patients with documented contrast allergies), must be retained and submitted if requested.
6. Required elements of the procedure note include a description of the techniques employed, nerves injected and sites(s) of injections, drugs and doses with volumes and concentrations as well as pre and post-procedural pain assessments. With RF neurotomy, electrode position, cannula size, lesion parameters, and electrical stimulation parameters and findings must be specified and documented.
7. If a diagnostic MBB cannot be performed due to anatomic restrictions requiring the use of an intraarticular diagnostic facet block technique, the specific restrictions must be clearly documented in the medical record.
8. For procedures that require utilization of conscious sedation or MAC, the medical record documentation must support the medical necessity of sedation.
9. If multiple blocks (e.g., epidural block, sympathetic block) are provided to a patient on the same day as facet joint injections, the medical necessity of each injection [at the same or at different level(s)] must be clearly documented in the medical record.

Utilization Guidelines

In accordance with CMS Ruling 95-1 (V), utilization of these services should be consistent with locally acceptable standards of practice.

A maximum of five (5) facet joint intervention sessions inclusive of medial branch blocks, intraarticular injections, facet cyst rupture, and thermal RF ablations may be reimbursed per rolling twelve (12) month year per spinal region (i.e. five (5) in the cervical/thoracic spine and five (5) in the lumbar spine).

- Facet joint injections (diagnostic or therapeutic) are limited to three (3) levels (unilateral or bilateral) per anatomic region per session.
• No more than two (2) thermal RF ablation **sessions** may be reimbursed per spinal region per rolling 12 month year (i.e. two (2) in the cervical/thoracic spine and two (2) in the lumbar spine), involving no more than five (5) levels (unilateral or bilateral) per anatomic region per session. Repeat thermal RF ablation at the same anatomic site (same side (R/L or Bilateral) and spinal level) must be performed at a minimum of six (6) months from a prior treatment at that site.

**Definitions:**

1. **Session** - A "session" is defined as all injections/blocks/thermal RF ablation procedures **performed on one day**.
2. **Rolling 12 month year** - All time intervals are determined on a rolling basis. For example, the limitation of coverage to five sessions in a year refers to a rolling twelve (12) month period. The year begins with the first session and completes one year later. The next rolling year begins with the first session after completion of the preceding rolling year.

Sources of Information

Contractor is not responsible for the continued viability of websites listed.

**Bibliography**


Printed on 3/1/2018. Page 17 of 22


Novitas Solutions, Inc. JL LCD L34892 Paravertebral Facet and Sacroiliac Joint Injections

Novitas Solutions, Inc. JH LCD L34974, Facet Joint Injections

Novitas Solutions, Inc. LCD L35049 Monitored Anesthesia Care

Novitas Solutions, Inc. LCD L35094, Services That Are Not Reasonable and Necessary

Novitas Solutions, Inc. LCD L36920 Epidural Injections for Pain Management

Other Contractor's Policies
First Coast Service Options, Inc. LCD L33814 Destruction of Paravertebral Facet Joint Nerve(s)

First Coast Service Options, Inc. LCD 33930 Paravertebral Facet Joint Blocks

Noridian Healthcare Solutions, LLC. LCD L34993 Facet Joint Injections, Medial Branch Blocks, and Facet Joint Radiofrequency Neurotomy

Wisconsin Physicians Service Insurance Corporation LCD L35996 Facet Joint Injections, Medial Branch Blocks, and Facet Joint Radiofrequency Neurotomy

Contractor Medical Directors

**Open Meetings/Part B MAC Contractor Advisory Committee (CAC) Meetings**

<table>
<thead>
<tr>
<th>Meeting Date</th>
<th>Meeting Type</th>
<th>Meeting State(s)</th>
<th>Meeting Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/01/2018</td>
<td>Open Meeting</td>
<td>• Arkansas</td>
<td>The open meeting is a joint meeting for both JL and JH. The meeting will be held at the Mechanicsburg office of Novitas Solutions, Inc. at 2020 Technology Parkway, Mechanicsburg, PA 17050.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Colorado</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Delaware</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• District of</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Columbia</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Louisiana</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Maryland</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Mississippi</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• New Jersey</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• New Mexico</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Oklahoma</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Pennsylvania</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Texas</td>
<td></td>
</tr>
</tbody>
</table>

Comment Period Start Date
01/18/2018

Comment Period End Date
03/08/2018

Released to Final LCD Date
Please Note: This is not the LCD Effective Date.
N/A

Printed on 3/1/2018. Page 19 of 22
Automated Edits to Enforce Reasonable & Necessary Requirements

Creation of Uniform LCDs Within a MAC Jurisdiction

Proposed Contact
Novitas Solutions Medical Policy Department
Union Trust Building Suite 600
501 Grant Street
Pittsburgh, PA 15219-4407
DraftLCDComments@novitas-solutions.com Back to Top

Coding Information

Bill Type Codes:
Contractors may specify Bill Types to help providers identify those Bill Types typically used to report this service. Absence of a Bill Type does not guarantee that the policy does not apply to that Bill Type. Complete absence of all Bill Types indicates that coverage is not influenced by Bill Type and the policy should be assumed to apply equally to all claims.

012x Hospital Inpatient (Medicare Part B only)
013x Hospital Outpatient
071x Clinic - Rural Health
073x Clinic - Freestanding
083x Ambulatory Surgery Center
085x Critical Access Hospital

Revenue Codes:
Contractors may specify Revenue Codes to help providers identify those Revenue Codes typically used to report this service. In most instances Revenue Codes are purely advisory. Unless specified in the policy, services reported under other Revenue Codes are equally subject to this coverage determination. Complete absence of all Revenue Codes indicates that coverage is not influenced by Revenue Code and the policy should be assumed to apply equally to all Revenue Codes.

Note: The contractor has identified the Bill Type and Revenue Codes applicable for use with the CPT/HCPCS codes included in this LCD. Providers are reminded that not all CPT/HCPCS codes listed can be billed with all Bill Type and/or Revenue Codes listed. CPT/HCPCS codes are required to be billed with specific Bill Type and Revenue Codes. Providers are encouraged to refer to the CMS Internet-Only Manual (IOM) Pub. 100-04, Medicare Claims Processing Manual, for further guidance.

032X Radiology - Diagnostic - General Classification
045X Emergency Room - General Classification
049X Ambulatory Surgical Care - General Classification
051X Clinic - General Classification
052X Freestanding Clinic - General Classification

CPT/HCPCS Codes

Group 1 Paragraph:

Note: Providers are reminded to refer to the long descriptors of the CPT codes in their CPT book.
**Group 1 Codes:**
64490  Inj paravert f jnt c/t 1 lev
64491  Inj paravert f jnt c/t 2 lev
64492  Inj paravert f jnt c/t 3 lev
64493  Inj paravert f jnt l/s 1 lev
64494  Inj paravert f jnt l/s 2 lev
64495  Inj paravert f jnt l/s 3 lev
64633  Destroy cerv/thor facet jnt
64634  Destroy c/th facet jnt addl
64635  Destroy lumb/sac facet jnt
64636  Destroy l/s facet jnt addl

**Group 2 Paragraph:**

The following CPT/HCPCS codes are non-covered.

*Note: CPT code 64999 is non-covered when used to report non-thermal facet joint denervation including chemical, low grade thermal energy (less than 80 degrees Celsius), cooled RF, or any form of pulsed radiofrequency.

**Group 2 Codes:**
64999  Nervous system surgery

ICD-10 Codes that Support Medical Necessity

**Group 1 Paragraph:**

It is the provider’s responsibility to select codes carried out to the highest level of specificity and selected from the ICD-10-CM code book appropriate to the year in which the service is rendered for the claim(s) submitted.

Medicare is establishing the following limited coverage for CPT codes 64490, 64491, 64492, 64493, 64494, 64495, 64633, 64634, 64635, and 64636:

**Covered for:**

**Group 1 Codes:**

<table>
<thead>
<tr>
<th>ICD-10 Codes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M47.12</td>
<td>Other spondylosis with myelopathy, cervical region</td>
</tr>
<tr>
<td>M47.13</td>
<td>Other spondylosis with myelopathy, cervicothoracic region</td>
</tr>
<tr>
<td>M47.14</td>
<td>Other spondylosis with myelopathy, thoracic region</td>
</tr>
<tr>
<td>M47.15</td>
<td>Other spondylosis with myelopathy, thoracolumbar region</td>
</tr>
<tr>
<td>M47.16</td>
<td>Other spondylosis with myelopathy, lumbar region</td>
</tr>
<tr>
<td>M47.812</td>
<td>Spondylosis without myelopathy or radiculopathy, cervical region</td>
</tr>
<tr>
<td>M47.813</td>
<td>Spondylosis without myelopathy or radiculopathy, cervicothoracic region</td>
</tr>
<tr>
<td>M47.814</td>
<td>Spondylosis without myelopathy or radiculopathy, thoracic region</td>
</tr>
<tr>
<td>M47.815</td>
<td>Spondylosis without myelopathy or radiculopathy, thoracolumbar region</td>
</tr>
<tr>
<td>M47.816</td>
<td>Spondylosis without myelopathy or radiculopathy, lumbar region</td>
</tr>
<tr>
<td>M47.817</td>
<td>Spondylosis without myelopathy or radiculopathy, lumbosacral region</td>
</tr>
<tr>
<td>M47.892</td>
<td>Other spondylosis, cervical region</td>
</tr>
<tr>
<td>M47.893</td>
<td>Other spondylosis, cervicothoracic region</td>
</tr>
<tr>
<td>M47.894</td>
<td>Other spondylosis, thoracic region</td>
</tr>
<tr>
<td>M47.895</td>
<td>Other spondylosis, thoracolumbar region</td>
</tr>
<tr>
<td>M47.896</td>
<td>Other spondylosis, lumbar region</td>
</tr>
<tr>
<td>M47.897</td>
<td>Other spondylosis, lumbosacral region</td>
</tr>
<tr>
<td>M71.30*</td>
<td>Other bursal cyst, unspecified site</td>
</tr>
</tbody>
</table>

**Group 1 Medical Necessity ICD-10 Codes Asterisk Explanation:**
**Note:** ICD-10 Code M71.30 is allowed for facet cyst rupture procedures only.

ICD-10 Codes that DO NOT Support Medical Necessity

**Group 1 Paragraph:** All those not listed under the “ICD-10 Codes that Support Medical Necessity” section of this policy.

**Group 1 Codes:**

<table>
<thead>
<tr>
<th>ICD-10 Codes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>XX000</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

ICD-10 Additional Information [Back to Top]

---

**Associated Documents**

Attachments N/A

Related Local Coverage Documents N/A

Related National Coverage Documents N/A [Back to Top]

---

**Keywords**

N/A [Back to Top] Read the [LCD Disclaimer](#)