

American Society of Interventional Pain Physicians®

"The Voice of Interventional Pain Management"

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Re: Public Comment for Proposed LCD - Peripheral Nerve Blocks and Procedures for Chronic Pain

Dear Medical Directors:

On behalf of the American Society of Interventional Pain Physicians (ASIPP) and 49 state societies of Interventional Pain Physicians — including Puerto Rico and the affiliated Texas Pain Society — we would like to thank you for publishing the Local Coverage Determinations (LCDs) on peripheral nerve blocks and procedures for chronic pain, and for providing us the opportunity to comment.

As you are aware, ASIPP maintains representation in Carrier Advisory Committees (CACs) across all states through our component societies and has a long history of contributing to evidence development and guideline formulation in collaboration with Medicare and interventional pain physicians to advance patient care.

Founded in 1998, ASIPP is a national, not-for-profit professional organization representing more than 4,500 interventional pain physicians and allied practitioners dedicated to promoting Safe, Appropriate, Fiscally Neutral, and Effective (SAFE) treatments for managing chronic pain. ASIPP members have contributed extensively to scientific literature, publishing numerous randomized controlled trials, observational studies, real-world analyses, systematic reviews, and clinical guidelines—establishing ASIPP as a global leader in chronic pain research and evidence-based practice.

Interventional pain management is defined as, “the discipline of medicine devoted to the diagnosis and treatment of pain related disorders principally with the application of interventional techniques in managing subacute, chronic, persistent, and intractable pain, independently or in conjunction with other modalities of treatment” (1).

Interventional pain management techniques are defined as, “minimally invasive procedures including, percutaneous precision needle placement, with placement of drugs in targeted areas or ablation of targeted nerves; and some surgical techniques such as laser or endoscopic discectomy, intrathecal infusion pumps and spinal cord stimulators, for the diagnosis and management of chronic, persistent or intractable pain” (2).

We would like to express our concern regarding the Local Coverage Determination (LCD) on peripheral nerve blocks and procedures for chronic pain, as it poses significant risks to patient care and effectively eliminates an entire specialty of peripheral nerve block and stimulation procedures based on the following:

- **Extremely restrictive evidence criteria** – The LCD applies overly stringent standards for evidence synthesis, exceeding even those used in Cochrane reviews, which are known to reject approximately 95% of available treatments. This approach disregards real-world clinical and practical data that reflect actual patient outcomes.
- **Impediment to peripheral nerve stimulation (PNS)** – The removal of peripheral nerve blocks also limits access to PNS, as diagnostic nerve blocks are a prerequisite for these procedures based on current clinical guidance (3).
- **Contradiction with federal policy direction** – The LCD conflicts with the Trump Administration’s stated efforts to address the difficulties physicians have faced over the past four years and to correct systemic deficiencies affecting patient care.
- **Reduced access to care** – The policy will likely exacerbate existing declines in utilization patterns and patient access already impacted by current regulations and the lingering effects of the COVID-19 pandemic.
- **Broader systemic impact** – Medicare coverage policies frequently influence Medicare Advantage plans, Medicaid programs, other government payers, and commercial insurers, all of which tend to adopt Medicare’s policies quickly—further magnifying the negative effects.
- **Inconsistency with the 21st Century Cures Act (2016)** – This policy contradicts the intent of the 21st Century Cures Act, which aimed to enhance access to care through transparent, evidence-based decision-making rather than impose additional restrictions.
- **Lack of uniform national application** – The LCD is not applied consistently across the United States, as Novitas and First Coast Service Options—covering multiple states—are not subject to the same policy.
- **Low utilization and minimal cost impact** – Available evidence shows extremely low utilization rates for most of the procedures targeted for non-coverage, with stable patterns observed over the past decade.
- **Potential for increased costs and procedural burden** – Eliminating coverage for these procedures will not result in meaningful cost savings; instead, it may lead to more frequent patient visits and increased use of alternative interventions, ultimately raising overall expenditures.

Effect on Independent Practices

This policy will have a devastating impact on independent medical practices. It is particularly concerning that, while CMS has publicly stated its commitment to supporting independent practices, the elimination of an entire specialty—peripheral nerve blocks and related procedures—will instead have a profoundly negative effect on their viability and sustainability.

As noted in the 2026 Physician Payment Schedule and Quality Payment Program, published on July 14, 2025, several proposals were introduced specifically to help preserve independent physician practices (4). The U.S. Department of Health and Human Services (HHS) Secretary, Robert F. Kennedy, Jr., stated:

“For the last four years, powerful interests have targeted independent medical practices. Thanks to Dr. Oz’s leadership, this rule modernizes CMS payment systems, eliminates perverse incentives, and uses better data to improve chronic care while protecting hometown doctors.”

The available data demonstrate extremely low utilization levels for most of the procedures affected by this policy. Moreover, these procedures do not represent a significant portion of overall Medicare expenditures.

Further emphasizing CMS’s stated mission, CMS Administrator Dr. Mehmet Oz added: “We’re modernizing Medicare, cutting waste, improving preventive access, rewarding results, and cracking down on abuse to protect Medicare for the next generation” (4).

However, this LCD—developed prior to the Trump Administration—directly contradicts the current CMS priorities and long-term vision. Physician practices are already under strain from multiple payment reductions, including:

- A 2.5% reduction in work RVUs for non–time-based services.
- A 4% to 6% reduction in PE relative value units (RVUs) for hospital-employed physicians, which translates to an overall 7% to 9% reimbursement decrease for independent physicians working in ASCs and hospitals.
- An additional 2.5% efficiency adjustment cut to work RVUs.
- A 50% reduction in PE RVUs for hospital-based physicians applied to independent physicians, resulting in further 4% to 6% cuts.

In addition, the creation of ASM involving low back pain management increases both administrative and clinical risk for pain physicians practicing in outpatient settings. Taken together, these changes already represent a substantial burden on independent practitioners, and the proposed LCD only exacerbates the crisis, running counter to the Administration’s focus and effectively adding insult to injury.

The 2024 comparative data for all interventional techniques reveal an ongoing, year-over-year decline in utilization. While some may interpret this as an indicator of improved quality, others rightly argue it reflects a systematic denial of access to care driven by restrictive coverage policies. The decline in services is presented in Table 1.

Table 1. 2000 to 2024 Utilization of IPM services by Traditional Medicare (TMC) beneficiaries.

Year	U.S. Population	≥ 65 years	Percent	Medicare	% to U.S.	MA	Traditional Medicare (TMC)	PCPY	IPM Services	PCPY	Rate (TMC)	PCY
Y2009	307,006	39,570	12.90%	45,801	14.9%	10,500	35,301	-2.0%	4,645,679	4.8%	13,160	6.9%
Y2010	308,746	40,268	13.00%	46,914	15.2%	11,000	35,914	1.7%	4,578,977	-1.4%	12,750	-3.1%
Y2011	311,583	41,370	13.28%	48,300	15.5%	11,700	36,600	1.9%	4,815,673	5.2%	13,158	3.2%
Y2012	313,874	43,144	13.75%	50,300	16.0%	12,800	37,500	2.5%	4,947,974	2.7%	13,195	0.3%
Y2013	316,129	44,704	14.14%	51,900	16.4%	14,100	37,800	0.8%	4,932,950	-0.3%	13,050	-1.1%
Y2014	318,892	46,179	14.48%	53,500	16.8%	15,400	38,100	0.8%	5,025,904	1.9%	13,191	1.1%
Y2015	320,897	47,734	14.88%	54,900	17.1%	16,400	38,500	1.0%	5,243,036	4.3%	13,618	3.2%
Y2016	323,127	49,244	15.24%	56,500	17.5%	17,200	39,300	2.1%	5,509,306	5.1%	14,019	2.9%
Y2017	326,625	51,055	15.63%	58,000	17.8%	18,500	39,500	0.5%	5,558,893	0.9%	14,073	0.4%
Y2018	327,167	52,423	16.02%	59,600	18.2%	20,000	39,600	0.3%	5,639,608	1.5%	14,241	1.2%
Y2019	328,293	54,074	16.47%	61,200	18.6%	21,900	39,300	-0.8%	5,736,488	1.7%	14,597	2.5%
Y2020	331,002	55,939	16.90%	62,600	18.9%	24,000	38,600	-1.8%	4,767,369	-16.9%	12,351	-15.4%
Y2021	332,049	55,885	16.83%	63,400	19.1%	26,400	37,000	-4.1%	4,776,040	0.2%	12,908	4.5%
Y2022	333,272	57,470	17.24%	64,700	19.4%	28,700	36,000	-2.7%	4,314,925	-9.7%	11,986	-7.1%
Y2023	334,915	59,300	17.71%	66,700	19.9%	30,900	35,800	-0.6%	4,176,435	-3.2%	11,666	-2.7%
Y2024	340,100	61,200	17.99%	67,600	19.9%	33,100	34,500	-3.6%	4,190,920	0.3%	12,148	4.1%
2000-2010												
Change	9.4%	14.8%		18.4%		76.3%	7.6%		211.6%		189.7%	
GM	0.9%	1.4%		1.7%		5.8%	0.7%		12.0%		11.2%	
2010-2019												
Change	6.3%	34.3%		30.5%		99.1%	9.4%		25.3%		14.5%	
GM	0.7%	3.3%		3.0%		8.0%	1.0%		2.5%		1.5%	
2019-2020												
Change	0.8%	3.4%		2.3%		9.6%	-1.8%		-16.9%		-15.4%	
2010-2020												
Change	7.2%	38.9%		33.4%		118.2%	7.5%		4.1%		-3.1%	
GM	0.7%	3.3%		2.9%		8.1%	0.7%		0.4%		-0.3%	
2019-2024												
Change	3.6%	13.2%		10.5%		51.1%	-12.2%		-26.9%		-16.8%	
GM	0.7%	2.5%		2.0%		8.6%	-2.6%		-6.1%		-3.6%	
2019-2020	0.8%	3.4%		2.3%		9.6%	-1.78%		-16.9%		-15.4%	
2020-2021	0.3%	-0.1%		1.3%		10.0%	-4.1%		0.2%		4.5%	
2021-2022	0.4%	2.8%		2.1%		8.7%	-2.7%		-9.7%		-7.1%	
2022-2023	0.5%	3.2%		3.1%		7.7%	-0.6%		-3.2%		-2.7%	
2023-2024	1.5%	3.2%		1.3%		7.1%	-3.6%		0.3%		4.1%	

As an example, the impact of the COVID-19 pandemic and subsequent policy changes on facet joint and epidural interventions has been substantial. Between 2019 and 2024, the procedure rate per 100,000 Medicare fee-for-service beneficiaries declined by 16.8%. This trend shows notable fluctuations: a 15% decrease from 2019 to 2020, a 4% increase from 2020 to 2021, a 7.1% decrease from 2021 to 2022, a 2.7% decrease from 2022 to 2023, and a 4.1% increase from 2023 to 2024.

Similarly, peripheral nerve blocks, as summarized in Table 2, have remained relatively stable compared to 2014. For allowed services, the overall change from 2010 to 2024 was only 2.5% per 100,000 Medicare beneficiaries. More specifically, among allowed codes, there was a 28% increase from 2014, but a notable decline has occurred since 2019. Conversely, for non-allowed codes, there was a 14% overall decrease from 2014 to 2024, equating to an average annual decline of 1.4% per 100,000 Medicare beneficiaries.

Table 2. Utilization Peripheral Nerve Blocks 2014 vs 2024 for Traditional Medicare Beneficiaries

			2014		2024		% of change from 2014 (services)		% of change from 2014 (Rate)	
Allowed Codes										
Group	CPT		Services	Rate	2024	Rate	Services	GM	Rate	Gm
1	20526	CARPAL TUNNEL	66,557	174.7	80,956	237.4	22%	2.0%	36%	3.1%
2	64400	TRIGEMINAL NERVE, EACH BRANCH	16,667	43.7	24,992	73.3	50%	4.1%	68%	5.3%
2	64600	DESTRUCTION BY NEUROLYTIC AGENT, TRIGEMINAL NERVE	747	2.0	448	1.3	-40%	-5.0%	-33%	-3.9%
2	64605	... SECOND AND THIRD DIVISION BRANCHES AT FORAMEN OVALE	98	0.3	103	0.3	5%	0.5%	17%	1.6%
2	64610	... DESTRUCTION BY NEUROLYTIC AGENT, TRIGEMINAL NERVE; 2 nd and 3 rd AT FORAMEN OVALE	412	1.1	304	0.9	-26%	-3.0%	-18%	-1.9%
3	64455	PLANTAR COMMON DIGITAL NERVE(S) (EG, MORTON'S NEUROMA)	59,348	155.8	58,511	171.6	-1%	-0.1%	10%	1.0%
Allowed Codes Total			143,829	377.5	165,314	484.8	15%	1.4%	28%	2.5%
Not Allowed Codes										
4	62281	INJECTION/INFUSION OF NEUROLYTIC SUBSTANCE; EPIDURAL C/T	571	1.5	41	0.1	-93%	-23.2%	-92%	-22.3%
4	64405	GREATER OCCIPITAL NERVE	74,221	194.8	74,688	219.0	1%	0.1%	12%	1.2%
4	64418	SUPRASCAPULAR NERVE	25,389	66.6	22,596	66.3	-11%	-1.2%	-1%	-0.1%
4	64430	PUDENDAL NERVE	2,380	6.2	3,330	9.8	40%	3.4%	56%	4.6%
4	64450	PERIPHERAL NERVE BLOCK	643,870	1,689.9	377,856	1,108.1	-41%	-5.2%	-34%	-4.1%
4	64505	SPHENOPALATINE GANGLION	7,046	18.5	4,729	13.9	-33%	-3.9%	-25%	-2.8%
4	64510	STELLATE GANGLION (CERVICAL SYMPATHETIC)	7,585	19.9	5,866	17.2	-23%	-2.5%	-14%	-1.5%
4	64632	DESTRUCTION BY NEUROLYTIC AGENT; PLANTAR COMMON DIGITAL NERVE	22,249	58.4	8,934	26.2	-60%	-8.7%	-55%	-7.7%
4	64640	DENERVATION (DESTRUCTION) OF THE PERIPHERAL NERVE	72,630	190.6	94,079	275.9	30%	2.6%	45%	3.8%
4	64999	UNLISTED PROCEDURE, NERVOUS SYSTEM	6,820	17.9	75,403	221.1	1006%	27.2%	1135%	28.6%
Not Allowed Codes Total			862,761	2,264.5	667,522	1,957.5	-23%	-2.5%	-14%	-1.4%

Consequently, we respectfully request to:

- Modify coverage policies to allow two diagnostic blocks followed by two radiofrequency neurotomy procedures per year, if clinically indicated, or four therapeutic nerve blocks.
- Treatment should only be performed if patients demonstrate at least 50% improvement in pain relief and/or functional status following the first and second diagnostic blocks, with comparative local anesthetic effect, consistent with established protocols for facet joint nerve blocks, which are supported by substantial evidence.

OR

- Withdraw the LCD in its entirety

Evidentiary Content

This policy conflicts with the intent and spirit of the 21st Century Cures Act of 2016, which aimed to modernize the Local Coverage Determination (LCD) process and increase transparency. The Act was written in simple language to ensure open and participatory policy development. However, the current LCD process has diverged from this intent, making it difficult for physicians to participate meaningfully in LCD development and provide appropriate patient care. Open meetings often exclude many pain physicians and suffer from limited participation in Carrier Advisory Committee (CAC) meetings.

Under previous policies, the process would have been more inclusive. The primary goal of the 21st Century Cures Act was to improve care through transparency, but this LCD instead imposes overly strict regulations and, in this instance, seeks to eliminate an entire specialty.

According to the Medicare Program Integrity Manual, Chapter 13 – Local Coverage Determinations, evidentiary content should include:

“Available evidence of general acceptance by the medical community, such as published original research in peer-reviewed medical journals, systematic reviews and meta-analyses, evidence-based consensus statements, and clinical guidelines.”

The Manual does not mandate elimination of long-established, safe, clinically effective, and low-cost procedures.

The evidentiary assessment document for peripheral nerve blocks and procedures for chronic pain spans 55 pages and is extensive and comprehensive. While it meets criteria comparable to a Cochrane review, which typically excludes many types of care, Medicare serves a practical population, and coverage decisions have far-reaching implications—affecting Medicaid, commercial insurers, and ultimately the entire U.S. patient population.

The policy relies heavily on the GRADE certainty of evidence framework, including GRADE domains. However, many general physicians do not fully understand GRADE criteria, and the assessments often reflect personal biases or limited clinical knowledge rather than practical utility.

It is also important to acknowledge the ethical and practical challenges of conducting randomized controlled trials with placebo controls in the United States. Low utilization rates and the low-cost nature of these procedures further limit feasibility. Even when studies are performed domestically or internationally, evidence has been downgraded due to overly strict criteria, despite demonstrating reasonable effectiveness.

A major concern is that the elimination of these procedures may push patients toward more invasive, costly interventions, increased opioid or THC use, or, in worst-case scenarios, street drugs. For example:

- Stellate ganglion (cervical sympathetic) block (CPT 64510): Only 17.2 cases per 100,000 Medicare beneficiaries, yet highly effective for managing reflex sympathetic dystrophy.
- Pudendal nerve block (CPT 64430): Rarely performed, with 9.8 cases per 100,000 Medicare beneficiaries per year, but highly effective for chronic pelvic pain.

Overall, this policy will detrimentally impact physician practices and patient access, potentially causing pain physicians to abandon their practices.

Finally, some codes referenced in the assessment, such as CPT 64510 (stellate ganglion block, cervical sympathetic) and CPT 62281 (injection/infusion of neurolytic substance into the epidural space, cervical or thoracic region), may not strictly fit the definition of peripheral nerve blocks, raising additional concerns about the scope and rationale of this policy.

GEOGRAPHIC DISPARITY

This policy is introduced across all MACs except for Novitas and First Coast Services. As a result, Medicare recipients in certain states may have access to treatments available in other states, or, in the worst-case scenario, these states may adopt the final decisions of the current MACs without independent consideration.

NEED FOR DIAGNOSTIC BLOCKS PRIOR TO PERIPHERAL NERVE STIMULATION

For appropriate performance of peripheral nerve stimulation, it is essential that we provide appropriate diagnostic blocks prior to embarking on peripheral nerve blocks. Comprehensive evidence-based guidelines for implantable peripheral nerve stimulation in the management of chronic pain (3) provide a recommendation to perform diagnostic nerve blocks.

REASONABLE AND NECESSARY PROVISIONS IN LCDS

Medicare Program Integrity Manual, Chapter 13 - Local Coverage Determination describes reasonable and necessary provisions in LCDs in section 13.5.4.

An item or service may be covered by a contractor LCD if:

- It is reasonable and necessary under 1862(a)(1)(A) of The Act. Only reasonable and necessary provisions are considered part of the LCD.

Reasonable and Necessary

Contractors shall determine and describe in the LCD the circumstances under which the item or service is reasonable and necessary under 1862(a)(1)(A). Contractors shall determine if evidence exists to consider an item or 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 which meet the requirements of the Clinical Trials NCD are considered reasonable and necessary); and
- Appropriate, including the duration and frequency that is considered appropriate for the item or 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 need; and
 - At least as beneficial as an existing and available medically appropriate alternative.

Based on the available evidence presented in the proposed policy, all the procedures are reasonable and necessary, meeting criteria for safety and effectiveness. They are neither experimental nor investigational, and the duration and frequency of use are appropriate for the items or services.

Among the 14 procedures listed as non-covered in the proposed policy, three are tracking codes (0440T, 0441T, 0442T) describing cryoablation, and one code, CPT 64999, is an unlisted nervous system procedure code that is not covered by any payer, including Medicare. This leaves a total of 10 CPT codes relevant to peripheral nerve blocks.

Utilization patterns for these codes are variable. For example, CPT 62281 (injection/infusion of neurolytic substance into the epidural space, cervical or thoracic region) is not a peripheral nerve block. Its utilization is extremely low, with only 41 cases performed, corresponding to 0.1 per 100,000 Medicare beneficiaries. Therefore, this code should be removed from the list of peripheral nerve block procedures.

Greater Occipital Nerve Blocks - CPT 64405

This CPT code is frequently used for a variety of indications across multiple specialties. Based on 2024 Medicare fee-for-service data, the procedure is performed primarily by neurologists (36.6%), followed by advanced mid-level practitioners, including nurse practitioners and physician assistants (19.4%), and pain management physicians, who perform the procedure in 17.2% of patients (Table 3).

Table 3. Greater occipital nerve blocks utilization by specialty in 2024 in fee-for-service Medicare recipients.

Specialty Group	Services	Percent
Anesthesiology - 05	7175	9.6%
Pain Management - 09 and 72	12848	17.2%
PM&R - 25	6252	8.4%
Neurology - 13	27309	36.6%
Psychiatry - 26	108	0.1%
Neurosurgery - 14	254	0.3%
Orthopedic Surgery - 20	151	0.2%
General Surgery- 02	24	0.0%
Interventional Radiology - 94	55	0.1%
Diagnostic Radiology - 30	238	0.3%
Family Practice- 08	1700	2.3%
General Practice - 01	449	0.6%
Internal Medicine - 11	619	0.8%
Rheumatology - 66	239	0.3%
Osteopathic - 12	65	0.1%
Emergency Medicine - 93	357	0.5%
Others	2110	2.8%
CRNA	183	0.2%
NP	9439	12.6%
PA	5113	6.8%
Total	74688	100.0%

The literature on occipital nerve blocks is substantial, with multiple systematic reviews (5-9) conducted under various conditions. Of particular relevance is the systematic review by Evans et al (5), which included 12 randomized controlled trials with a total of 586 patients. This review examined patients with occipital neuralgia, occipital headache, cervicogenic headache, occipital migraine, or migraine associated with tenderness or pain in the occipital scalp, using injection therapies. Procedures were performed under fluoroscopic guidance or with nerve stimulation, and sham controls were included in some studies. Two studies utilized ultrasound guidance. As shown in Table B of the policy, the interventions reduced headache frequency. While the studies had multiple limitations and the Medicare analysis rated the certainty of evidence as low, many of these disadvantages can be mitigated by applying strict criteria—specifically, two diagnostic blocks followed by therapeutic blocks.

Other systematic reviews have also addressed patients with cluster headaches, chronic migraine headaches, and chronic migraine. Headache is a highly prevalent condition. In the Medicare population in 2024, a total of 74,688 occipital nerve block procedures were performed, corresponding to an annual rate of 208 per 100,000 beneficiaries. With stricter application of criteria while maintaining coverage, the number of procedures could be substantially reduced.

Additionally, diagnostic blocks are necessary prior to implantable devices for patients with severe, intractable headaches (3).

Suprascapular Nerve Block, CPT 64418

Suprascapular nerve block is used in patients with shoulder pain who have not responded to intra-articular injections or surgical interventions. These blocks are also required prior to suprascapular nerve or other peripheral nerve implantation procedures.

Utilization data for 2024 indicate that a total of 22,596 procedures were performed, corresponding to 66.3 per 100,000 Medicare beneficiaries.

It is well recognized that performing randomized placebo-controlled trials for a longstanding and clinically effective procedure is extremely difficult. It is also important to recognize the role of diagnostic blocks prior to peripheral nerve stimulation and their prognostic implications (3).

Suprascapular nerve block (SSNB) is an established treatment for chronic shoulder pain, including pain related to rotator cuff tears, glenohumeral osteoarthritis, and adhesive capsulitis (10). The suprascapular nerve provides approximately 70% of the sensory innervation to the shoulder joint, so blocking this nerve can relieve shoulder pain without the systemic effects of opioids or steroids. SSNB has been used for many years, and its effectiveness is supported by multiple studies.

A systematic review concluded that SSNB is an effective analgesic option for chronic shoulder pain, providing significant pain reduction at three months compared to standard care (11). In that review, patients receiving SSNB, particularly when combined with corticosteroids, experienced an average improvement of more than 50% in pain scores at three months (11). Another meta-analysis found that SSNB provides clinically meaningful relief for shoulder pain conditions, with a standardized mean difference of approximately 2.37 in pain improvement (12).

In some comparisons, SSNB has been shown to be more effective than intra-articular steroid injections, with one analysis reporting superior pain relief at 3–4 weeks versus glenohumeral steroid injection (SMD ~0.63, $p < 0.05$) (13). Beyond short-term pain relief, SSNB can improve shoulder range of motion and facilitate rehabilitation by allowing patients to participate in physical therapy with less discomfort.

Patients with severe shoulder arthritis who are poor surgical candidates, due to age or comorbidities, often rely on periodic SSNB or pulsed radiofrequency of the suprascapular nerve to maintain shoulder function and reduce opioid use. Increasing evidence also supports radiofrequency ablation of the suprascapular nerve for longer-lasting pain relief, with studies demonstrating significant improvements in pain and disability scores for three to six months or longer in degenerative shoulder conditions.

Given that SSNB is low-risk, relatively easy to perform, and cost-effective as an outpatient procedure, it is clearly a reasonable and necessary treatment option. Denying coverage for suprascapular nerve blocks or ablations would contradict both clinical evidence and standard practice in pain management.

Stellate Ganglion Blocks (cervical sympathetic), CPT 64510

The stellate ganglion is not a single peripheral nerve but a collection of nerve cell bodies (a ganglion) that is part of the sympathetic division of the autonomic nervous system. A nerve consists of bundles of nerve fibers, whereas a ganglion is a cluster of nerve cell bodies.

Stellate ganglion block (SGB) is a sympathetic nerve block performed at the cervical sympathetic chain. It is a well-established treatment for Complex Regional Pain Syndrome (CRPS) of the upper extremity, a debilitating neuropathic pain condition. SGB has shown potential benefits in conditions such as hot flashes and PTSD. For CRPS specifically, SGB is often one of the few interventions that provides relief when standard analgesics and therapies are insufficient.

A 2024 systematic review and meta-analysis of 12 randomized trials including 422 patients examined the effect of SGB for CRPS and reported significant decreases in pain scores (VAS and numeric rating scales) among patients receiving stellate blocks (14). While the authors noted heterogeneity and some limitations in study quality, the overall trend favored pain reduction with SGB (14,15). These findings are consistent with decades of clinical experience in which many CRPS patients achieve meaningful, if sometimes temporary, pain relief and improved limb function following a series of stellate ganglion blocks.

SGB is a relatively low-risk procedure, with adverse events typically minor and self-limited, such as transient hoarseness or Horner's syndrome (16). Given the severe and refractory nature of CRPS pain, even partial relief from SGB can be highly valuable to reduce opioid use or avoid more invasive surgical sympathectomy.

Beyond CRPS, SGB has been investigated for postherpetic neuralgia of the face and head, with one small trial showing improved pain when combined with shockwave therapy (17). In a sham-controlled trial for PTSD, SGB significantly improved symptom scores compared to placebo (18). These findings highlight the physiologic effects and potential clinical benefits of SGB in selected neurologic conditions.

Importantly, no national specialty society considers SGB investigational. On the contrary, SGB for CRPS is standard practice, and the U.S. Department of Defense has studied SGB for PTSD as an innovative therapy (18,19). While additional research is always beneficial, there is sufficient evidence and clinical consensus that stellate ganglion blocks are a reasonable and necessary treatment for appropriately selected patients. Medicare coverage for SGB should be maintained, particularly for CRPS and related neuropathic pain conditions, with the option to apply stricter criteria regarding inclusion and frequency if needed.

Pudendal nerve block, CPT 64430

Pudendal nerve block is an important but relatively uncommon procedure, performed at a rate of 9.8 per 100,000 Medicare beneficiaries per year. Among these, approximately 44% are performed by anesthesiologists and pain management specialists, while various other practitioners perform about 30% (Table 4).

Table 4. Pudendal nerve blocks utilization by specialty in 2024 in fee-for-service Medicare recipients.

Specialty Name	Services	%	
Anesthesiology - 05	673	20.2%	
IPM - 09	216	6.5%	
Pain Management - 72	590	17.7%	44.4%
PM&R - 25	261	7.8%	
Neurology - 13	19	0.6%	
Psychiatry - 26	4	0.1%	
Orthopedic Surgery - 20	2	0.1%	
General Surgery- 02	5	0.2%	
Interventional Radiology - 94	128	3.8%	
Diagnostic Radiology - 30	175	5.3%	
Family Practice- 08	33	1.0%	
General Practice - 01	58	1.7%	
Internal Medicine - 11	3	0.1%	
Rheumatology - 66	1	0.0%	
Emergency Medicine - 93	3	0.1%	
Others	1001	30.1%	30.10%
CRNA	6	0.2%	
NP	145	4.4%	
PA	7	0.2%	
Total	3330	100.0%	

In terms of evidence, the pudendal nerve block is a well-established diagnostic and therapeutic intervention for chronic pelvic pain, particularly pudendal neuralgia caused by entrapment or irritation of the pudendal nerve. Patients with pudendal neuralgia—both women and men—often experience severe genital, perineal, or anorectal pain that is positional and disabling. Pudendal nerve blocks are widely considered a first-line approach for both diagnosis and treatment of this condition (20).

These blocks are valuable because they can provide targeted relief for a condition that often requires high-dose systemic analgesics. By directly anesthetizing the affected nerve, pudendal blocks minimize systemic side effects and improve function. Many patients achieve significant pain reduction and functional improvement from a series of blocks, and some experience long-term relief, particularly when corticosteroids are included or when blocks are followed by decompression surgery. Published case series have demonstrated sustained pain relief lasting several months after pudendal nerve blocks in patients with chronic pelvic pain (21).

Pudendal nerve blocks are also considered safe and low-risk when performed under imaging guidance. The procedure is typically performed in an outpatient setting and can be repeated as needed.

The proposed LCD's exclusion of coverage for pudendal nerve blocks contradicts current clinical practice in interventional pain management and the recommendations of pelvic pain specialists. Denying coverage would leave patients with pudendal neuralgia—a small but severely affected group—with no reasonable interventional options aside from more invasive and costly procedures such as hypogastric plexus blocks, spinal cord stimulation, or surgery.

Stricter inclusion and frequency criteria may be applied, but maintaining coverage for pudendal nerve blocks is essential to ensure access to an effective and appropriate treatment option.

Peripheral Nerve Block, CPT 64450

Peripheral nerve block (CPT 64450) is the most frequently performed procedure across multiple anatomical regions. In 2024, a total of 377,856 procedures were performed, corresponding to a rate of 1,108 per 100,000 Medicare beneficiaries. Because this procedure can be applied to various peripheral nerves, studying its overall effectiveness is challenging due to the wide range of clinical indications and target sites.

Importantly, peripheral nerve blocks are often used as diagnostic or prognostic tools prior to proceeding with peripheral nerve stimulation implants.

Utilization data show that only 28% of these procedures are performed by pain management specialists, while physician assistants, nurse practitioners, and certified registered nurse anesthetists collectively account for 39% of the total procedures (Table 5).

Table 5. Peripheral nerve blocks utilization by specialty in 2024 in fee-for-service Medicare recipients.

Specialty Name	Services	%	
Anesthesiology - 05	76,488	20.2%	
IPM - 09	9,367	2.5%	
Pain Management - 72	19,756	5.2%	28.0%
PM&R - 25	17,454	4.6%	
Neurology - 13	16,431	4.3%	
Psychiatry - 26	55	0.0%	
Neurosurgery - 14	190	0.1%	
Orthopedic Surgery - 20	3,912	1.0%	
General Surgery- 02	190	0.1%	
Interventional Radiology - 94	131	0.0%	
Diagnostic Radiology - 30	669	0.2%	
Family Practice- 08	14,891	3.9%	
General Practice - 01	581	0.2%	
Internal Medicine - 11	11,281	3.0%	
Rheumatology - 66	251	0.1%	
Osteopathic - 12	296	0.1%	
Emergency Medicine - 93	2,833	0.7%	
Others	55,894	14.8%	
CRNA	15,053	4.0%	
NP	127,381	33.7%	
PA	4,752	1.3%	39.0%
	377,856	100.0%	

Sphenopalatine Ganglion Block, CPT 64505

Sphenopalatine ganglion block is performed occasionally for the treatment of headaches and facial pain. In 2024, a total of 4,729 procedures were performed, corresponding to a rate of 13.9 per 100,000 Medicare beneficiaries.

Although the literature is limited, the existing evidence supports its complementary role in managing certain headache and facial pain syndromes. Given that this procedure is low cost and low utilization, it remains an important therapeutic option for select patients. Any potential overuse can be effectively managed through appropriate clinical guidelines and utilization criteria rather than removal of coverage.

Genicular Nerve Neurolysis, CPT 64624

The current policy proposes eliminating coverage for genicular nerve radiofrequency ablation (RFA), though it does not explicitly remove coverage for genicular nerve blocks. If genicular nerve blocks continue to be approved—though currently not reimbursed—it would be appropriate. However, we strongly urge Medicare to extend coverage to include genicular nerve RFA. Despite non-coverage in several jurisdictions, 26,637 procedures were still performed in 2024, with an annual rate of 74.2 per 100,000 Medicare beneficiaries.

Genicular nerve block and ablation target the articular branches (genicular nerves) that innervate the knee to treat chronic knee pain—most commonly due to osteoarthritis (OA) or persistent pain following total knee arthroplasty. In recent years, genicular nerve RFA has become a well-established, minimally invasive option for managing knee OA pain, especially for patients who cannot undergo or wish to delay knee replacement surgery. This treatment is supported by multiple high-quality studies, including randomized controlled trials and systematic reviews.

For instance, Davis et al (22) conducted a double-blind RCT showing that cooled RFA of genicular nerves provided significantly greater pain relief and functional improvement at six months compared to intra-articular steroid injection. A 2022 randomized trial also found that genicular RFA resulted in superior pain reduction, better knee function, and increased quadriceps strength compared with a sham control in patients with chronic OA knee pain (23). Furthermore, a 2021 systematic review concluded that genicular RFA effectively reduces knee pain in most osteoarthritis patients (moderate-certainty evidence) and improves quality of life (24).

Genicular RFA has also been incorporated into contemporary knee OA treatment algorithms as a safe, cost-effective option when conservative measures (e.g., physical therapy, medications, intra-articular injections) fail. A 2022 cost-effectiveness analysis demonstrated that cooled genicular RFA provided meaningful QALY gains at a cost well below accepted willingness-to-pay thresholds, particularly compared to repeated hyaluronan injections (25). The procedure can provide 6–12 months of pain relief from a single outpatient session, reducing reliance on opioids and potentially delaying or avoiding surgery. In clinical practice, many elderly patients with chronic knee arthritis have been able to reduce or discontinue opioid use following successful genicular RFA (26).

Diagnostic genicular nerve blocks also play a key role in patient selection for RFA, as a positive response predicts procedural success. These blocks confirm the pain source and help ensure appropriate targeting.

Given the strong evidence base and established clinical utility, it would be both illogical and detrimental to patient care to remove coverage for genicular nerve blocks and RFA. ASIPP strongly supports continued coverage of genicular nerve block, cryoneurolysis, and radiofrequency neurotomy for managing chronic knee pain (23,26). These interventions provide meaningful pain relief and improved function for thousands of Medicare beneficiaries.

Neurolysis of Plantar Common Digital Nerve, CPT 64632

This procedure is performed infrequently, with a total of 8,934 procedures in 2024, representing an annual rate of 26.2 per 100,000 Medicare beneficiaries. It is primarily performed by podiatrists rather than interventional pain physicians.

Expanding or maintaining coverage for this procedure could enhance patient care by ensuring access under an appropriate coverage policy.

Neurolysis of Other Peripheral Nerve or Branch, CPT 64640

This procedure is similar in description to the peripheral nerve block. In 2024, it was performed a total of 94,079 times, corresponding to an annual rate of 276 per 100,000 Medicare beneficiaries.

For peripheral nerve denervation (destruction) (CPT 64640), 25.8% of procedures were performed by anesthesiology, pain physicians and PMR, while certified registered nurse anesthetists, nurse practitioners, and physician assistants collectively performed 21.3%, and orthopedic surgeons performed 17.3% (Table 6).

Table 6. Denervation (destruction) of the peripheral nerve utilization by specialty in 2024 in fee-for-service Medicare recipients.

Specialty Name	Services		
Anesthesiology - 05	11,781	12.5%	
IPM - 09	4,229	4.5%	
Pain Management - 72	9,923	10.5%	
PM&R - 25	8,286	8.8%	25.8%
Neurology - 13	1,611	1.7%	
Psychiatry - 26	1	0.0%	
Neurosurgery - 14	19	0.0%	
Orthopedic Surgery - 20	16,256	17.3%	
General Surgery- 02	305	0.3%	
Interventional Radiology - 94	90	0.1%	
Diagnostic Radiology - 30	831	0.9%	
Family Practice- 08	3,693	3.9%	
General Practice - 01	106	0.1%	
Internal Medicine - 11	459	0.5%	
Rheumatology - 66	580	0.6%	
Osteopathic - 12	91	0.1%	
Emergency Medicine - 93	606	0.6%	
Others	15,179	16.1%	
CRNA	2,088	2.2%	
NP	6,372	6.8%	
PA	11,573	12.3%	21.3%
Total	94,079	100.0%	

Unlisted Procedure Nervous System, CPT 64999

It is highly unusual for this unlisted procedure code to be reimbursed. Nevertheless, data indicate that it was billed 75,403 times in 2024, corresponding to an annual rate of 221 per 100,000 Medicare beneficiaries. The need for an unlisted code may be limited if appropriate, established treatment codes are already available.

The policy identifies several procedures for non-coverage that do not have specific CPT codes, including thoracic nerve block, thoracic nerve denervation, genicular nerve blocks, digital nerve block, posterior tibial nerve or tarsal tunnel nerve block, ulnar nerve block, and denervation of the trigeminal nerve for any diagnosis other than trigeminal neuralgia, as well as other peripheral nerve blocks or denervation not otherwise listed. Because these procedures lack specific codes, no discussion or requests regarding coverage are provided in the policy.

If these unlisted procedures are to be included, they should be covered under the same framework we have consistently recommended: two diagnostic blocks followed by radiofrequency ablation, or four therapeutic nerve blocks.

Chronic Pain and Opioid Epidemic

Opioids

Opioids are commonly used in clinical practice for the management of chronic pain. As outlined in ASIPP's opioid guidelines (27), numerous reviews have examined opioid use, overuse, abuse, and associated adverse outcomes, including opioid-related mortality. Manchikanti et al (27,28) described the emergence of a fourth wave of opioid-related deaths, building on the three waves previously identified by the CDC, beginning in 2016. This fourth wave has continued to expand due to multiple factors, including misapplication of the 2016 CDC guidelines, increased availability of illicit drugs, spillover effects from the COVID-19 pandemic, and policies that have restricted access to interventional procedures for chronic pain management (Fig. 1) (27-30).

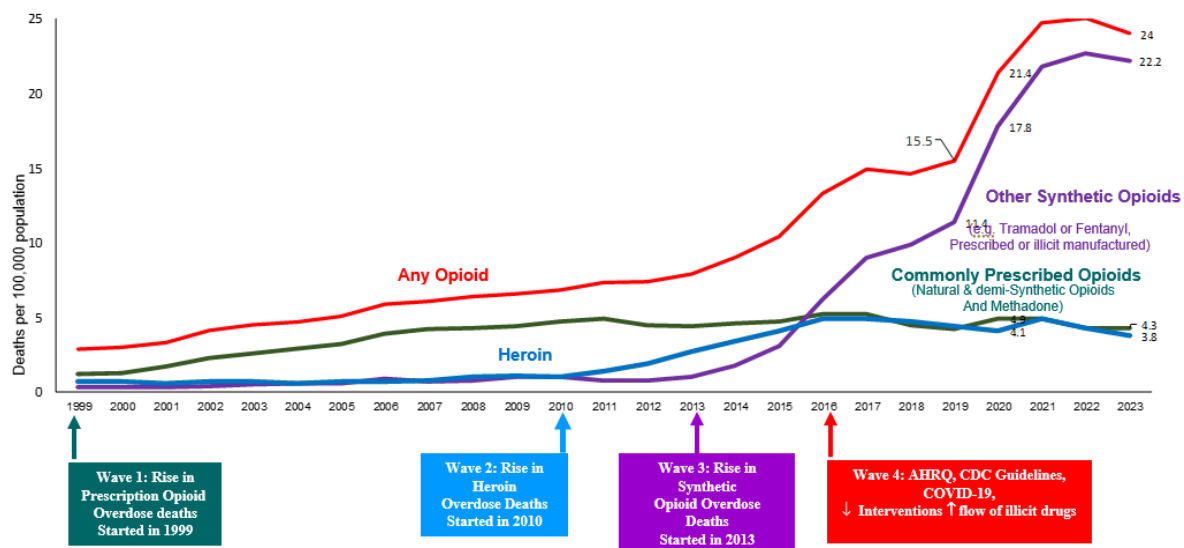


Fig. 1. Four waves of rise in opioid overdose deaths.

Redrawn and modified from CDC figure.

The overall trends at the time of this publication are as follows (30):

- Decline in 2024: Provisional CDC data indicate an unprecedented 27% one-year drop in overdose deaths in the U.S. in 2024 compared to 2023. This follows a 4% decline in opioid overdose deaths from 2022 to 2023.
- Declines across drug types: The reduction includes declines across all major categories of drug use, including opioids, the primary cause of most overdose deaths over the past decade.
- Fentanyl remains a concern: Synthetic opioids, primarily fentanyl, continue to be the most frequently involved substances in overdose deaths, although deaths involving them decreased by approximately 37% between 2023 and 2024.

- Long-term perspective: Despite recent improvements, the number of opioid overdose deaths in 2023 was still nearly 10 times higher than in 1999. More than 645,000 people have died from opioid overdoses since the epidemic began.

There continues to be substantial debate about the relationship between opioid overdoses and prescription opioid pain relievers, as well as the terminology used to describe this relationship (27-29). The connection between opioid overdoses, opioid treatment admissions, and prescription opioid pain relievers in the United States from 2010 to 2019 has been analyzed in detail (29). As shown in Fig. 2, the relationships among total opioid doses, accidental opioid deaths, prescription opioid deaths, opioid treatment admissions, and annual prescription sales (measured in morphine milligram equivalents, or MME, per capita) are either weak or significantly inverse (31).

Eliminating coverage for peripheral nerve blocks would likely worsen the crisis by reducing access to interventional alternatives and increasing reliance on opioids.

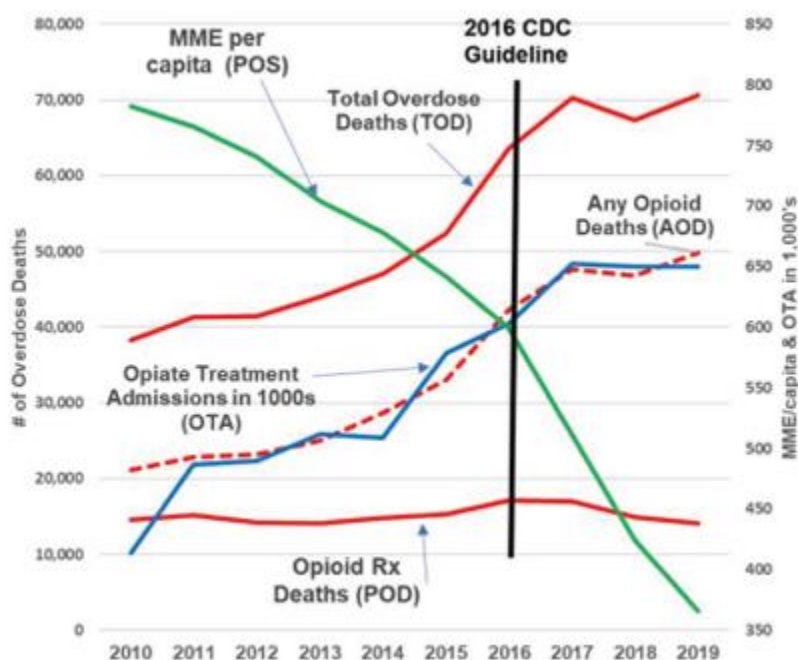


Fig. 2. 2010–2019 update.

AOD = any opioid overdose death; POD = prescription opioid deaths; POS = prescription opioid sales; OTA = opioid treatment admissions; TOD= total overdose deaths; MME= morphine milligram equivalents

The green line represents opioid prescribing (POS, MME/capita); the red lines are opioid deaths (POD, AOD, and TOD); the blue line represents opioid addiction (OTA). Over the past decade, as the green line (prescription opioids) declined by +50%, prescription opioid deaths remained flat while opioid addiction, any opioid and total overdose deaths continued increasing “exponentially” (31).

Source: Aubry L, Carr BT. Overdose, opioid treatment admissions and prescription opioid pain reliever relationships: United States, 2010-2019. *Front Pain Res (Lausanne)* 2022; 3:884674 (29).

Consequently, it is essential that patients have access to effective non-opioid pain management options. Interventional procedures, such as nerve blocks and radiofrequency ablation (RFA), provide targeted pain relief while minimizing the need for opioids. ASIPP has long advocated for broader access to these treatments as a strategy to reduce opioid use and improve patient outcomes (32). Many nerve block and ablation procedures can deliver significant pain relief, enhance function, and provide prolonged analgesia, thereby reducing or delaying reliance on opioid medications (26,33).

If Medicare denies coverage for these interventions, patients with refractory pain may be left with limited options, often restricted to systemic medications—including opioids—or major surgical procedures, which carry higher risks, greater costs, and less favorable outcomes for the Medicare population. Many of these interventions are minimally invasive outpatient procedures that have demonstrated cost-effectiveness or long-term cost savings by preventing more expensive interventions. For instance, cooled radiofrequency ablation of the genicular nerves for knee osteoarthritis has been shown to be cost-effective, well below the typical \$100,000 per QALY threshold (25).

Denying coverage for these treatments would not only compromise patient care and safety but could also increase overall healthcare expenditures due to higher rates of opioid-related complications, surgeries, and hospitalizations.

SUMMARY AND REQUEST

As outlined above, ASIPP opposes the current LCD for peripheral nerve blocks and procedures for chronic pain. We again emphasize the options we consider appropriate:

- Modify coverage policies to allow two diagnostic blocks followed by two radiofrequency neurotomy procedures per year, if clinically indicated, or four therapeutic nerve blocks.
 - Treatment should only be performed if patients demonstrate at least 50% improvement in pain relief and/or functional status following the first and second diagnostic blocks, with comparative local anesthetic effect, consistent with established protocols for facet joint nerve blocks, which are supported by substantial evidence.

OR

- Withdraw the LCD in its entirety

ASIPP strongly opposes the proposed LCD that would deny coverage for peripheral nerve blocks and ablation procedures for chronic pain. We believe these interventions are medically reasonable and necessary for appropriately selected patients, with substantial support from the medical literature, including real-world evidence (34). These procedures are not experimental; many have been used for decades and are endorsed in established practice parameters. Eliminating coverage would undermine pain management and increase reliance on opioids—an outcome that the healthcare system and patients cannot afford during the ongoing opioid crisis. Maintaining coverage, by contrast, supports a patient-centered, multimodal approach to chronic pain that prioritizes functional improvement and opioid-sparing strategies, consistent with HHS’s National Pain Strategy and the CDC’s recommendations for non-opioid therapies.

ASIPP welcomes the opportunity to work with CMS to establish reasonable coverage criteria, such as requiring documentation of medical necessity and appropriate patient selection for each procedure, rather than implementing a blanket denial.

Thank you for considering these comments. We are confident that, through collaboration, Medicare coverage policies can reflect current medical evidence and continue to support the best interests of patients suffering from chronic pain.

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REFERENCES

1. The National Uniform Claims Committee. Specialty Designation for Interventional Pain Management-09.
<http://www.cms.hhs.gov/transmittals/Downloads/r1779b3.pdf>
2. Medicare Payment Advisory Commission. Report to the Congress: Paying for interventional pain services in ambulatory settings. Washington, DC: MedPAC. December 2001.
<https://permanent.fdlp.gov/lps21261/dec2001PainManagement.pdf>
3. Manchikanti L, Sanapati MR, Soin A, et al. Comprehensive evidence-based guidelines for implantable peripheral nerve stimulation (PNS) in the management of chronic pain: From the American Society of Interventional Pain Physicians (ASIPP). *Pain Physician* 2024; 27:S115-S191.
4. Centers for Medicare & Medicaid Services. Press Release – CMS proposes physician payment rule to significantly cut spending waste, enhance quality measures, and improve chronic disease management for people with Medicare. July 14, 2025. Accessed 7/28/2025.
<https://www.cms.gov/newsroom/press-releases/cms-proposes-physician-payment-rule-significantly-cut-spending-waste-enhance-quality-measures-and>
5. Evans AG, Joseph KS, Samouil MM, et al. Nerve blocks for occipital headaches: A systematic review and meta-analysis. *J Anaesthesiol Clin Pharmacol* 2023; 39:170-180.
6. Velásquez-Rimachi V, Chachaima-Mar J, Cárdenas-Baltazar EC, et al. Greater occipital nerve block for chronic migraine patients: A meta-analysis. *Acta Neurol Scand* 2022; 146:101-114.
7. Ornello R, Lambro G, Caponnetto V, et al. Efficacy and safety of greater occipital nerve block for the treatment of cluster headache: a systematic review and meta-analysis. *Expert Rev Neurother* 2020; 20:1157-1167.
8. Shauly O, Gould DJ, Sahai-Srivastava S, Patel KM. Greater occipital nerve block for the treatment of chronic migraine headaches: A systematic review and meta-analysis. *Plast Reconstr Surg* 2019; 144:943-952.
9. Zhang H, Yang X, Lin Y, Chen L, Ye H. The efficacy of greater occipital nerve block for the treatment of migraine: A systematic review and meta-analysis. *Clin Neurol Neurosurg* 2018; 165:129-133.
10. Zhou AK, Dura DO, Nandra S, Metcalfe A, Chaudhury S. Image-guided versus landmark-guided suprascapular nerve block for shoulder pain in rotator cuff tears: a systematic review. *JSES Reviews, Reports, and Techniques* 2026; 6:100583.
11. Scattergood SD, Hassan A, Williams M. Does a Suprascapular nerve block reduce chronic shoulder pain at 3 months compared to standard non-operative care? A systematic review. *Eur J Orthop Surg Traumatol* 2025; 35:162.
12. Batten TJ, Evans JP, Burden EG, Mak WK, White W, Smith CD. Suprascapular nerve blockage for painful shoulder pathology - a systematic review and meta-analysis of treatment techniques. *Ann R Coll Surg Engl* 2023; 105:589-598.
13. Harley JD, Austin CN, Harrison AK, Saltzman BM, Rao AJ. Intra-articular corticosteroid injection vs. suprascapular nerve block for adhesive capsulitis: A systematic review and meta-analysis of level I randomized controlled trials. *J Shoulder Elbow Surg* 2025; S1058-2746:00513-0.
14. Tian Y, Hu Y, Hu T, et al. Stellate Ganglion Block Therapy for Complex Regional Pain Syndrome: A Systematic Review and Meta-Analysis. *Pain Physician* 2024; 27:175-184.
15. O'Connell NE, Wand BM, Gibson W, Carr DB, Birklein F, Stanton TR. Local anaesthetic sympathetic blockade for complex regional pain syndrome. *Cochrane Database Syst Rev* 2016; 7:CD004598.
16. Wang C, Yuan F, Cai L, Lu H, Chen G, Zhou J. Ultrasound-guided stellate ganglion block combined with extracorporeal shock wave therapy on postherpetic neuralgia. *J Healthc Eng* 2022; 2022:9808994.
17. Andersen GØ, Milosevic S, Jensen MM, et al. Coccydynia-The Efficacy of Available Treatment Options: A Systematic Review. *Global Spine J* 2022; 12:1611-1623.

18. Rae Olmsted KL, Bartoszek M, Mulvaney S, et al. Effect of stellate ganglion block treatment on posttraumatic stress disorder symptoms: A randomized clinical trial. *JAMA Psychiatry* 2020; 77:130-138. Erratum in: *JAMA Psychiatry* 2020; 77:218. Erratum in: *JAMA Psychiatry* 2020; 77:982.
19. Gharibo C, Day M, Aydin SM, et al. Diagnostic guidance for chronic complex regional pain syndrome type I and Type II from the American Society of Interventional Physicians (ASIPP). *Pain Physician* 2025; 28:E287-E327.
20. Ghanavatian S, Leslie SW, Derian A. Pudendal nerve block. [Updated 2024 Sep 2]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK551518/>
21. Kalava A, Crowley M, Parsonis G, Wiegand L. Efficacy of pudendal nerve blocks and ultrasound-guided superior hypogastric plexus blocks for the management of refractory interstitial cystitis: A case series. *Cureus* 2023; 15:e37709.
22. Davis T, Loudermilk E, Depalma M, et al. Prospective, multicenter, randomized, crossover clinical trial comparing the safety and effectiveness of cooled radiofrequency ablation with corticosteroid injection in the management of knee pain from osteoarthritis. *Reg Anesth Pain Med* 2018; 43:84-91.
23. Makkar JK Dr, Warriar G Dr, Ghai B Dr, et al. Effect of radiofrequency ablation of genicular nerves on the isokinetic muscle strength of knee joint in patients with osteoarthritis knee: A randomized double-blind sham controlled clinical trial. *Pain Med* 2024;pnae077.
24. Karm MH, Kwon HJ, Kim CS, Kim DH, Shin JW, Choi SS. Cooled radiofrequency ablation of genicular nerves for knee osteoarthritis. *Korean J Pain* 2024; 37:13-25.
25. Desai MJ, Bentley A, Keck WA. Cooled radiofrequency ablation of the genicular nerves for chronic pain due to osteoarthritis of the knee: A cost-effectiveness analysis compared with intra-articular hyaluronan injections based on trial data. *BMC Musculoskelet Disord* 2022; 23:491.
26. Ma Y, Chen YS, Liu B, Sima L. Ultrasound-guided radiofrequency ablation for chronic osteoarthritis knee pain in the elderly: a randomized controlled trial. *Pain Physician* 2024; 27:121-128.
27. Manchikanti L, Kaye AM, Knezevic NN, et al. Comprehensive, evidence-based, consensus guidelines for prescription of opioids for chronic non-cancer pain from the American Society of Interventional Pain Physicians (ASIPP). *Pain Physician* 2023; 26:S7-S126.
28. Manchikanti L, Singh VM, Staats PS, et al. Fourth wave of opioid (illicit drug) overdose deaths and diminishing access to prescription opioids and interventional techniques: Cause and effect. *Pain Physician* 2022; 25:97-124.
29. Aubry L, Carr BT. Overdose, opioid treatment admissions and prescription opioid pain reliever relationships: United States, 2010-2019. *Front Pain Res (Lausanne)* 2022; 3:884674.
30. Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System. Drug Overdose Deaths. Accessed 7/23/2025. <https://www.cdc.gov/nchs/nvss/drug-overdose-deaths.htm>
31. Haegerich T. The opioid overdose epidemic in the United States NCIPC/ CDC Research Priorities. 2018.
32. Letter to Member of the U.S. House of Representatives regarding, "Addressing the Opioid Crisis" from the American Society of Interventional Pain Physicians. February 22, 2018.
33. Juškys R, Šustickas G. Effectiveness of treatment of occipital neuralgia using the nerve block technique: A prospective analysis of 44 patients. *Acta Med Litu* 2018; 25:53-60.
34. U.S. Department of Health and Human Services. Pain Management Best Practices Inter-Agency Task Force. Final Report on Pain Management Best Practices: Updates, Gaps, Inconsistencies, and Recommendations. May 9, 2019. Accessed 7/31/2025. <https://www.hhs.gov/sites/default/files/pmtf-final-report-2019-05-23.pdf>