Sphenopalatine Ganglion Block Injections for Headache

Clinical Policy ID: CCP.1253

Recent review date: 5/2026

Next review date: 9/2027

Policy contains: Bupivacaine; botulinum toxin; cluster headache; migraine headache; trigeminal neuralgia; sphenopalatine ganglion block.

AmeriHealth Caritas Next has developed clinical policies to assist with making coverage determinations. AmeriHealth Caritas Next's clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of medically necessary, and the specific facts of the particular situation are considered, on a case by case basis, by AmeriHealth Caritas Next when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. AmeriHealth Caritas Next's clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. AmeriHealth Caritas Next's clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, AmeriHealth Caritas Next will update its clinical policies as necessary. AmeriHealth Caritas Next's clinical policies are not guarantees of payment.

Coverage policy

Sphenopalatine ganglion block injections for headache are investigational/not clinically proven and, therefore, not medically necessary.

Limitations

No limitations were identified during the writing of this policy.

Alternative covered services

- Sphenopalatine ganglion block neuro-stimulation
- Sphenopalatine ganglion block radiofrequency ablation

Background

The sphenopalatine ganglion is an extracranial, parasympathetic cluster of nerve cell bodies found in the pterygopalatine fossa (trench) in the skull, just behind the nose. The nerve cells are linked to the trigeminal nerve, the main nerve involved in headache, and thus the sphenopalatine ganglion has been the target of numerous treatments to block the source(s) of pain in patients with chronic headaches (Alexander, 2022).

A sphenopalatine ganglion block involves administering a local anesthetic into the sphenopalatine ganglion located behind the nasal cavity. It can be performed through transnasal, transoral, or transcutaneous approaches. The earliest treatments involved applying topical numbing medications on cotton swabs to the back of the nose. Three transnasal catheters are available to facilitate transnasal application in and around the sphenopalatine ganglion. They are SphenoCath® (Dolortech, LLC, Syracuse, Utah), Allevio® (CureMed Nordic, Gothenburg, Sweden), and Tx360® (Tian Medical, Libertyville, Illinois). A transoral approach involves passing a curved needle into the posterior portion of the hard palate. A transcutaneous infrazygomatic approach is the most invasive and involves either fluoroscopic or ultrasonographic guidance. Anesthetics used in a sphenopalatine ganglion block to control head pain include bupivacaine and lidocaine (Alexander, 2022).

Adverse effects of a sphenopalatine ganglion block are typically minor, local, and include epistaxis, transient anesthesia, or hypoesthesia of the root of the nose, pharynx, and palate and lacrimation of the ipsilateral eye. Major adverse effects are uncommon but can include infection and local or retroorbital hematoma (Alexander, 2022).

Findings

Guidelines

Few professional guidelines address sphenopalatine ganglion block injections for headache disorders, and those that do found low or insufficient quality evidence on which to base a recommendation. In the acute treatment of migraine for adults in the emergency department, the American Headache Society issued a Level U no recommendation for sphenopalatine ganglion blocks using 0.05% bupivacaine or 10% lidocaine, stating better quality comparative studies are needed in the emergency department setting (Robblee, 2026).

The American Academy of Pain Medicine issued a weak recommendation for intranasal sphenopalatine block injections as a means of preventing migraine headaches. The recommendation was based on the safety and efficacy results of one small, randomized controlled trial, which applied the block twice a week for six weeks. Between the intervention group and the placebo control group, there were no significant differences in outcomes or adverse effects, and the trial was considered low certainty evidence (Barad, 2022).

A Department of Veterans Affairs/Department of Defense clinical practice guideline found insufficient evidence to recommend for or against sphenopalatine ganglion block for the treatment of chronic migraine (Sico, 2024).

A multidisciplinary, international consensus guideline found insufficient evidence to recommend the routine use of sphenopalatine ganglion blocks (using a bilateral, intranasal approach) to treat postdural puncture headache (grade I; low level of certainty) (Uppal, 2024).

Evidence review

Despite the clearly delineated targeted area and resultant effectiveness of pain relief when blocked, the optimal blocking method/technique has yet to be determined. Clinicians have developed invasive as well as non-invasive techniques, but each one demonstrates varying rates and duration of pain reduction. While sphenopalatine ganglion block injections have shown some promise in reducing pain for chronic headache sufferers and patients with other conditions, the evidence is limited, and more studies are needed to better assess the efficacy of this technology (Mojica, 2017).

For various head pain conditions, positive effects were generally small and based on very few studies but of short duration, and repetitive block procedures may be needed. Lidocaine and bupivacaine were the most common anesthetics used alone or in combination with medications such as epinephrine, triamcinolone, and dexamethasone. Some studies used imaging guidance for needle placement. Side effects are typically local with numbness and stinging at the root of the nose and palate, numbness or lacrimation of ipsilateral eye, bitter taste,

and numbness of the throat. There is also the risk of bleeding, infection, and epistaxis with needle injection techniques (Ho, 2017).

The highest level of evidence supports sphenopalatine ganglion block for reducing analgesics use after endoscopic sinus surgery, using a needle injection with a transnasal or palatal approach (grade 1B, six small controlled trials with narrow confidence intervals). There was one individual cohort study or low-quality randomized controlled trial (grade 2B) supporting each of the following conditions: cluster headache using a topical swab; second-division trigeminal neuralgia using lidocaine spray; and migraine using the Tx360 transnasal catheter. There was one individual case-control study (grade 3B) supporting a reduction in pain associated with removal of nasal packing after surgery. All received B level recommendations reflecting support from consistent level 2 or 3 studies or extrapolations from level 1 studies. Head-to-head comparative studies are needed to compare the efficacy among different blocking strategies (Ho, 2017).

In 2024, we updated the references which warranted no policy changes.

In 2025, we updated the references which warranted no policy changes.

In 2026, we updated the references and made no policy changes.

References

On March 20, 2026, we searched PubMed and the databases of the Cochrane Library, the U.K. National Health Services Centre for Reviews and Dissemination, the Agency for Healthcare Research and Quality, and the Centers for Medicare & Medicaid Services. Search terms were “headache disorders” (MeSH), “sphenopalatine ganglion,” “Meckel's ganglion,” “nasal ganglion,” “sphenopalatine ganglion injection,” and “sphenopalatine ganglion block injection.” We included the best available evidence according to established evidence hierarchies (typically systematic reviews, meta-analyses, and full economic analyses, where available) and professional guidelines based on such evidence and clinical expertise.

Alexander CE, Dua A. Sphenopalatine ganglion block. *StatPearls [Internet]*. Treasure Island, (FL): StatPearls Publishing; 2026 Jan-. https://www.ncbi.nlm.nih.gov/books/NBK557751/. Last updated November 16, 2022.

Barad M, Ailani J, Hakim SM, Kissoon NR, Schuster NM. Percutaneous interventional strategies for migraine prevention: A systematic review and practice guideline. *Pain Med*. 2022;23(1):164-188. Doi: 10.1093/pm/pnab236.

Ho KWD, Przkora R, Kumar S. Sphenopalatine ganglion: Block, radiofrequency ablation and neurostimulation — a systematic review. *J Headache Pain*. 2017;18(1):118. Doi: 10.1186/s10194-017-0826-y.

Mojica J, Bi M, Ng A. Sphenopalatine ganglion block in the management of chronic headaches. *Curr Pain Headache Rep*. 2017;21(6):27. Doi: 10.1007/s11916-017-0626-8.

Robblee J, Minen MT, Friedman BW, Cortel-LeBlanc MA, Cortel-LeBlanc A, Orr SL. 2025 guideline update to acute treatment of migraine for adults in the emergency department: The American Headache Society evidence assessment of parenteral pharmacotherapies. *Headache*. 2026;66(1):53-76. Doi: 10.1111/head.70016.

Sico JJ, Antonovich NM, Ballard-Hernandez J, et al. 2023 U.S. Department of Veterans Affairs and U.S. Department of Defense clinical practice guideline for the management of headache. *Ann Intern Med*. 2024;177(12):1675-1694. Doi: 10.7326/annals-24-00551.

Uppal V, Russell R, Sondekoppam RV, et al. Evidence-based clinical practice guidelines on postdural puncture headache: A consensus report from a multisociety international working group. *Reg Anesth Pain Med*. 2024;49(7):471-501. Doi: 10.1136/rapm-2023-104817.

Policy updates

7/2016: initial review date and clinical policy effective date: 10/2016

6/2017: Policy references updated.

5/2018: Policy references updated.

6/2019: Policy references updated. Policy Name changed to CCP.1253.

5/2020: We did not identify any new relevant publications.

5/2021: Policy references updated.

5/2022: Policy references updated.

5/2023: Policy references updated.

5/2024: Policy references updated.

5/2025: Policy references updated.

5/2026: Policy references updated.

Related codes

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy CCP.1253. This is not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and bill accordingly.

Code	Code description
64505	Injection, anesthetic agent; sphenopalatine ganglion