LOUISIANA BLUE

Surgical Treatment of Tarlov Cyst

Policy # 00961
Original Effective Date: 08/01/2026
Current Effective Date: 08/01/2026

Applies to all products administered or underwritten by Blue Cross and Blue Shield of Louisiana and its subsidiary, HMO Louisiana, Inc. (collectively referred to as the "Company"), unless otherwise provided in the applicable contract. Medical technology is constantly evolving, and we reserve the right to review and update Medical Policy periodically.

Investigational or experimental services are not covered. This includes any drug, device, procedure, or service provided under the investigational arm of a clinical trial or clinical study. These services are excluded from coverage under benefits.

Services Are Considered Investigational

Coverage is not available for investigational medical treatments or procedures, drugs, devices or biological products.

Based on review of available data, the Company considers surgical treatment of Tarlov cysts (perineural cyst, sacral perineural cyst, sacral meningeal cyst) to be **investigational.***

Policy Guidelines

Management of Tarlov Cysts

No societal endorsements were found for management of Tarlov cyst and no standard was found for categorizing cyst size; however, cysts over 2 cm might be considered large.

Background/Overview

Tarlov Cysts

First identified in 1938, Tarlov cysts (TC) are fluid-filled sacs between the perineurium (the protective sheath that surrounds a bundle of nerve fibers) and endoneurium (a layer of connective tissue around the myelin sheath of a peripheral nerve), arising near the dorsal root ganglion, and affecting the nerve roots of the spine. While commonly found in the sacral region, they can occur anywhere along the spine. They may also be known as sacral perineural cysts, perineural cysts, or sacral, lumbar, thoracic, or cervical nerve root cysts. TC are an uncommon spinal column disease that has been associated with a wide range of debilitating pain, neurological disturbances, and dysfunctions with the condition being often overlooked or ignored as incidental findings of no clinical significance, particularly in the presence of other comorbid spinal pathologies. TC may be valved or non-valved and can be distinguished from other spinal lesions by the presence of spinal nerve root fibers within the cyst wall or in the cyst cavity itself. The exact cause of TC is unknown, but it is thought they are caused by inflammatory processes within the nerve root sheath or that trauma injures the nerve root sheath, causing leakage of cerebrospinal fluid (CSF) into the area where a cyst forms. Some researchers believe that an abnormal congenital connection (communication) exists between the subarachnoid space, which contains CSF, and the area surrounding the affected nerves (perineural region). The connection may remain or eventually close, after allowing cerebrospinal fluid to leak

out and cause a cyst. As TC contain CSF, researchers have speculated that normal fluctuations in CSF pressure may lead to an increase in cyst size and a greater likelihood of developing symptoms. TC appear to be rare with women being at a higher risk of developing TC than men (7.01% vs. 4.05%). An estimated 4.27% of the global population has TC, while in the United States, it is estimated to be 3.82% of the population. Mostly asymptomatic, these cysts can present as chronic back pain in the sacral or coccyx area and individuals may have radiculopathy, leg weakness, bowel or bladder dysfunction, or sexual dysfunction. Furthermore, TC may cause neuropathic pain and may damage sensory and autonomic innervation of the penis/clitoris (via the dorsal nerve) and surrounding erogenous structures. TC is the leading cause of underrecognized pelvic syndrome known as persistent genital arousal disorder (i.e., PGAD). Approximately 15.6% of the cysts are symptomatic. Of note, inadequate knowledge due to the rarity of these cysts and gender bias by treating physicians has contributed to a significant delay or lack of treatment for individuals with TC.

Diagnosis
TC may be diagnosed through a detailed clinical history with identification of characteristic symptoms and a neurological examination. Diagnosis may be confirmed with either magnetic resonance imaging (MRI) or computed tomography (CT). A myelogram may also be used, with the dye allowing structures such as the nerve roots and spinal canal to be more clearly seen on x-ray. However, MRI without contrast is the preferred choice for image quality and patient safety. A comprehensive imaging panel consisting of a dedicated lumbar and sacral MRI is ideal as they are more sensitive imaging modalities than CT scans or routine lumbosacral MRIs. Furthermore, the sacral MRI should be performed in both the axial and sagittal plane with an emphasis on the field of view, matrix, slice thickness, and positioning to anatomic localization. It is important to differentiate the neck of the TC as "narrow- or wide-necked" with a high flow of CSF, as communication with the subarachnoid space can increase risk with any interventions in the sacral area. More specifically, a wide-necked cyst or a large communication pore with the subarachnoid space is contraindicated for percutaneous fibrin sealant injections as there is an increased possibility of fibrin sealant migration into the subarachnoid space. TCs usually appear as low-intensity intraspinal masses on T1-weighted and high-intensity on T2-weighted images, like CSF. About 1.5% of MRIs performed for low-back-pain reveal TCs, but as with herniated discs, not all are symptomatic at the time of imaging with most radiologists determining that TCs are incidental and lack clinical significance, and omit mention of TCs in their reports, obscuring the diagnosis. If MRI is inconclusive or fails to define this connectivity, CT myelography with delayed imaging is occasionally used to capture CSF filling from the spinal sac indicating a wide connection to subarachnoid space. CT is helpful to evaluate any bone erosion by the cysts, and axial and sagittal CT can assist with bone remodeling and plan interventions.

Once a cyst is identified with imaging modalities, it is paramount to distinguish from other similar conditions, such as dural ectasia, meningeal diverticula, or lipoma of the filum terminale and establish that the symptoms arise from the immediate anatomic region of the cyst and that radicular signs and symptoms are in the appropriate distribution of cyst-bearing nerve roots, with accurate dermatomal charting to ensure appropriate clinical management. If symptoms are still deemed uncertain, it may be feasible to perform diagnostic assessments with local anesthetic blockades of the nerve root or by aspirating cyst fluid to identify whether and which TCs are causing debilitating pain or other

symptoms. Urodynamic testing and anorectal manometry can provide objective evaluation of bladder and bowel function.

Treatment
There is no specific accepted therapy for individuals with symptomatic TC. Treatment is directed toward the specific symptoms and may include conservative medical approaches including analgesic, anti-inflammatory, or neuropathic medications and physical therapy; minimally invasive image-guided percutaneous interventions; and/or various open and microsurgical approaches. More invasive interventions may be considered for symptomatic TC that are refractory to conservative treatment strategies. Asymptomatic TCs require no treatment, but rather cyst locations should be recorded and individuals educated on mitigating the risks of symptom onset, including lifestyle modifications.

The following key observations and recommendations are from Department of Medical Imaging, Toronto Western Hospital, University Health Network, based on their experience with over 1000 patient referrals and treatment experience with cyst aspiration-fibrin sealant injections of symptomatic Tarlov cysts and on a review of the literature:

1. "Tarlov cysts are an uncommon finding, prevalence estimates have often been based on incidental radiographic findings and inconsistent reporting particularly from lumbar rather than dedicated sacral MRIs and likely contribute to an underestimation of the prevalence of this spinal disease.
2. There is extensive evidence that sacral Tarlov cysts are associated with a diverse range of pain and neurological symptoms. Workups of patients, particularly for women presenting initially with low back pain or coccygodynial pain, should include a careful history, neurological examination, and when appropriate electrodiagnostic testing or urodynamic studies to conduct more comprehensive multidisciplinary investigations.
3. Imaging investigations for Tarlov cysts should include a lumbar spine MRI and a sacral MRI with axial and sagittal planes of the entire sacrum and when identified radiologically should be reported in a differential diagnosis and in the appropriate clinical context, considered a potential pain generator and contributor to neurological symptoms.
4. A range of strategies can be employed to determine if sacral cysts are causative or contributing agents of symptoms: Tarlov disease specific quality-of-life questionnaires, patient-completed dermatome maps, and diagnostic tests including percutaneous anesthetic injection into the cyst or cyst fluid aspiration with a two-needle technique. Fluid aspiration can also assess whether rapid cyst refilling occurs indicating a wide-necked cyst, a contraindication to fibrin sealant injection.
5. Sacral Tarlov cysts can cause peripheral nerve fiber neuropathy through sacral nerve root stretching or compression, and electrodiagnostic tests can detect nerve conduction abnormalities and nerve fiber neuropathy, potentially responsible for a range of commonly reported Tarlov related pain, paresthesia and, bowel/bladder dysfunctions. Early intervention for nerve fiber neuropathy is preferred to ensure better neurological outcomes. As patients with Tarlov cysts have often reported experiencing symptoms for years, there is a concern that long-standing nerve damage may be unrecoverable.
6. Both percutaneous and open surgical approaches have resulted in high rates of rapid symptomatic relief, but percutaneous interventions have several advantages over open

surgery. The cyst aspiration-fibrin injection is an uncomplicated technique performed as an outpatient procedure with rapid reductions in symptoms and recovery with no serious complications. In comparison, there is no consensus on the optimal surgical method, and surgeries are technically demanding. They also involve variable approaches with significantly higher complication rates, longer hospital stays, and recovery than percutaneous aspiration-fibrin sealant interventions."

Conservative
For chronic pain associated with TC, non-steroidal anti-inflammatory drugs (NSAIDs) may be prescribed to treat nerve irritation and inflammation and medication for neuropathic pain (e.g., tricyclics, gabapentinoids, sodium channel blockers) may also be useful. Systemic corticosteroids can have a short-term benefit, although local injections are not indicated and repeated use can further exacerbate the pathophysiology of the cyst by weaking the walls leading to safety concerns. In some cases, oral acetazolamide may be prescribed to control CSF-induced hydrostatic pressure from the cysts but remains theoretical as there is no way to routinely monitor CSF pressure within TCs. Limited observational studies have reported that conservative management with physical therapy, anti-inflammatory medications, and drugs directed at neuropathic pain, fail to improve symptoms in as many as 75% of symptomatic cases.

Neuromodulation
A transcutaneous electrical nerve stimulator (TENS) and electroacupuncture are possible intervention modalities that may be used to relieve nerve pain, albeit little to no evidence for these treatments have been generated. TENS devices deliver electrical impulses through the skin to the cutaneous (surface) and afferent (deep) nerves to control pain. Unlike medications and topical ointments, TENS does not have any known side effects, other than skin irritation from the electrodes seen in some patients. For patients with moderately or severely disabling pain, tonic and high-frequency subthreshold spinal cord or nerve root stimulation and intrathecal drug delivery may be considered if surgery is not possible or has been ineffective.

Percutaneous
Minimally invasive percutaneous approaches to treating TCs involve aspirating or draining the CSF assisted with imaging modalities, such as CT or fluoroscopy, and are typically accompanied by an injection of fibrin gel. This non-surgical procedure uses a combination of substances that mimic blood clotting (i.e., fibrin glue) and after the cyst is drained, fibrin glue is used to seal or glue the cyst closed preventing it from filling with CSF again, however, results vary, and, in most cases, the cyst will eventually fill with CSF again, with symptoms returning within hours. Several cohort studies have reported results on this percutaneous intervention with high rates of symptom improvement greater than 70% after aspiration-fibrin sealant injection, albeit with varying definitions of treatment success with follow-up MRIs depicting that the cysts had disappeared or were substantially smaller in size. The largest cohort study (N=213) to date for any intervention performed for these cysts included a 5- to 10-year long-term follow-up where individuals underwent percutaneous cyst aspiration and fibrin-sealant injection for symptomatic sacral TCs and reported overall treatment success in 81.8% of patients at 1 year and 74% at 3 to 6 years. Treatment failures ranged from 14% to 25% with minor adverse events such as nausea, vomiting, low-grade fevers, cutaneous allergic reactions, headaches,

allergic reactions to fibrin sealant, transient sciatica, and CSF leaks. Recurrence is possible after fibrin sealant injection as the material can gradually break down over time allowing for cyst recurrence. In the aforementioned study, 36 individuals (~17%) experienced cyst recurrence.

Surgical
Large cysts may necessitate surgical intervention with the primary objective to relieve nerve compression and/or stimulation, stop bone erosion, and relieve symptoms. There is no consensus on the optimal surgical method for TCs, and there have been numerous evolving surgical techniques. Treatment considerations for these cases are complex and best treated on a case by-case basis depending on a variety of factors including the patient's health status, characteristics of the sacral cyst, and adverse impacts in the sacral region and elsewhere. Current techniques for treating symptomatic sacral TC involve sacral laminectomy or laminoplasty combined with cyst obliteration by fenestration, imbrication, resection, or cyst wrapping with dural graft material, and sometimes free or pedicled autologous tissue transposition to fill the void. One technique is to expose the region of the spine where the cyst is located by removal of the overlying vertebral bone. The cyst is then sliced open with one or more thin cuts (fenestrations) and drained of fluid. The cyst wall is collapsed, then reinforced and sutured closed or the cavity is filled with another substance such as fat or tissue adhesive to prevent it from refilling with CSF. In another procedure, following exposure and drainage of the cyst, a flap of nearby muscle tissue is used to fill the cyst to prevent refilling. Other surgical techniques may include decompressive laminectomy. Less common procedures include CSF shunting (lumboperitoneal, cystoperitoneal, or cyst to subcutaneous port shunting), epiduroscopy with laser fenestration, and endoscopic occlusion of cyst ostia; however, limited to no success has been demonstrated for these techniques. The majority of the evidence for surgical intervention in TC come from cohort studies where high rates of treatment success have been reported with complete or partial symptom resolution in greater than 80 percent of patients. Of note, surgical interventions in the sacral region are both surgically and technically demanding leading to increased risk of ectasia and CSF leakage and may damage nerve roots within or near the cyst, and it is difficult to repair any anatomy. Other challenges include cyst recurrence, occurrence or progression of cysts on other untreated nerve roots, epineural scarring, and necrosis of the free tissue transfer grafts used to fill voids. When pain is intractable, despite a variety of interventions, or when other neurological symptoms become severe (ie bowel and bladder dysfunction, severe paraesthesias,etc.), and the sacrum is eroding and remodeling, surgery may be the treatment of choice. There are a small number of physicians in the world who have surgical expertise in the treatment for TCs, and the short-term and long-term outcome of surgery is improving but variable in individual patients at this time. Surgical interventions are typically reserved for patients with more advanced disease (including multiple cysts or wide-neck communication with the subarachnoid space) or have failed percutaneous procedures, in whom remnants and scarring now contribute to symptoms and complicate later procedures.

FDA or Other Governmental Regulatory Approval

U.S. Food and Drug Administration (FDA)
Treatment for Tarlov cysts is a surgical or percutaneous procedure and, as such, is not subject to regulation by the U.S. Food and Drug Administration (FDA). To date, the FDA has not approved any neuromodulation devices for the indication of Tarlov cysts.

Rationale/Source

This medical policy was developed through consideration of peer-reviewed medical literature generally recognized by the relevant medical community, U.S. Food and Drug Administration approval status, nationally accepted standards of medical practice and accepted standards of medical practice in this community, technology evaluation centers, reference to regulations, other plan medical policies, and accredited national guidelines.

Description

Tarlov cysts (TC; perineural cyst, sacral perineural cyst, sacral meningeal cyst) are characterized as cerebrospinal fluid (CSF)-filled sacs that typically occur between the perineurium (the protective sheath that surrounds a bundle of nerve fibers) and endoneurium (a layer of connective tissue around the myelin sheath of a peripheral nerve), arising near the dorsal root ganglion but can be located anywhere along the spine and affect the nerve roots. TC are often asymptomatic; however, these cysts can present as chronic back pain in the sacral or coccyx area and individuals may have radiculopathy, leg weakness, bowel or bladder dysfunction, and/or sexual dysfunction. There is no specific, accepted therapy for individuals with symptomatic TC. Treatment is directed toward the specific symptoms and may include medication, surgery, or other techniques.

Summary of Evidence

For individuals with Tarlov cyst(s) (TC; perineural cyst, sacral perineural cyst, sacral meningeal cyst) who receive surgical interventions, the evidence includes nonrandomized cohort studies and a handful of case series. Relevant outcomes are cyst recurrence, symptoms, change in disease status, functional outcomes, treatment-related morbidity, and quality of life. No randomized controlled trials (RCTs) have been conducted to corroborate the effectiveness of these treatments. The evidence suggests that surgery interventions for symptomatic TC may be an effective option for partially or completely relieving symptoms. Data suggests that symptomatic TC treated with surgical interventions tend to have better long-term efficacy and success in terms of cyst resolution (no difference in recurrence of symptoms) than TC treated with percutaneous techniques; however, surgical interventions are associated with higher postprocedural complication rates. The effectiveness of surgery has not been compared in a prospective, head-to-head fashion with other treatment options; thus, well-designed comparative studies are needed to determine the most effective treatment. There is no evidence on which types of surgery are more effective and no evidence on when surgery is indicated. In future studies, the quality of life for patients with TC should be addressed and the results of surgery interventions should be compared with the natural course and long-term outcome of untreated cysts. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Supplemental Information

Practice Guidelines and Position Statements

Guidelines or position statements will be considered for inclusion in 'Supplemental Information' if they were issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to

guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

National Institute for Health and Care Excellence (NICE)
In 2007, NICE provided the following recommendation for treatment management of Tarlov cysts: "Current evidence on the safety and efficacy of therapeutic percutaneous image-guided aspiration of spinal cysts is very limited but is adequate to support the use of the procedure in the context of this rare condition, provided that normal arrangements are in place for clinical governance and audit."

U.S. Preventive Services Task Force Recommendations
Not applicable

Medicare National Coverage
There is no national coverage determination. In the absence of a national coverage determination, coverage decisions are left to the discretion of local Medicare carriers.

Ongoing and Unpublished Clinical Trials
Some currently unpublished trials that might influence this review are listed in Table 1.

Table 1. Summary of Key Trials

NCT No.	Trial Name	Planned Enrollment	Completion Date
Ongoing			
NCT06756984	A Prospective Cohort Study on the Long-Term Outcomes and Prognostic Factors of Different Surgical Techniques for the Treatment of Sacral Tarlov Cysts	150	Dec 2026

NCT: national clinical trial.

References

1. Murphy K, Nasralla M, Pron G, et al. Management of Tarlov cysts: an uncommon but potentially serious spinal column disease-review of the literature and experience with over 1000 referrals. Neuroradiology. Jan 2024; 66(1): 1-30. PMID 37828278
2. Oaklander AL, Sharma S, Kessler K, et al. Persistent genital arousal disorder: a special sense neuropathy. Pain Rep. 2020; 5(1): e801. PMID 32072096
3. Lim Y, Selbi W. Tarlov Cyst. [Updated 2023 Jun 12]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK582154/
4. Paredes Mogica JA, Feigenbaum F, Pilitsis JG, et al. Sacral Tarlov perineurial cysts: a systematic review of treatment options. J Neurosurg Spine. Mar 01 2024; 40(3): 375-388. PMID 38100766

5. Boukobza M, Roussel A, Fernandez-Rodriguez P, et al. Giant multiple and bilateral presacral Tarlov cysts mimicking adnexal mass - imaging features. Int Med Case Rep J. 2018; 11: 181-184. PMID 30174464
6. Vargas MI, Delattre BMA, Boto J, et al. Advanced magnetic resonance imaging (MRI) techniques of the spine and spinal cord in children and adults. Insights Imaging. Aug 2018; 9(4): 549-557. PMID 29858818
7. Murphy K, Oaklander AL, Elias G, et al. Treatment of 213 Patients with Symptomatic Tarlov Cysts by CT-Guided Percutaneous Injection of Fibrin Sealant. AJNR Am J Neuroradiol. Feb 2016; 37(2): 373-9. PMID 26405086
8. Hiers RH, Long D, North RB, et al. Hiding in plain sight: a case of Tarlov perineural cysts. J Pain. Sep 2010; 11(9): 833-7. PMID 20800797
9. Jiang W, Hu Z, Hao J. Management of Symptomatic Tarlov Cysts: A Retrospective Observational Study. Pain Physician. Jul 2017; 20(5): E653-E660. PMID 28727710
10. Patel MR, Louie W, Rachlin J. Percutaneous fibrin glue therapy of meningeal cysts of the sacral spine. AJR Am J Roentgenol. Feb 1997; 168(2): 367-70. PMID 9016209
11. Jiang W, Qiu Q, Hao J, et al. Percutaneous fibrin gel injection under C-arm fluoroscopy guidance: a new minimally invasive choice for symptomatic sacral perineural cysts. PLoS One. 2015; 10(2): e0118254. PMID 25706639
12. On J, Polania Gutierrez JJ, Plaza-Lloret M, et al. Spinal Cord Stimulation for the Treatment of Refractory Pain From Tarlov Cysts: A Case Report. Cureus. Jan 2023; 15(1): e33928. PMID 36819355
13. Feigenbaum F, Parks SE, Chapple KM. Prospective Validation of a Quality-of-Life Measure for Women Undergoing Surgical Intervention for Symptomatic Sacral Tarlov Cysts: The Tarlov Cyst Quality of Life Scale. World Neurosurg. Sep 2022; 165: e276-e281. PMID 35700862
14. Kameda-Smith MM, Fathalla Z, Ibrahim N, et al. A systematic review of the efficacy of surgical intervention in the management of symptomatic Tarlov cysts: a meta-analysis. Br J Neurosurg. Feb 2024; 38(1): 49-60. PMID 33754918
15. Sharma M, SirDeshpande P, Ugiliweneza B, et al. A systematic comparative outcome analysis of surgical versus percutaneous techniques in the management of symptomatic sacral perineural (Tarlov) cysts: a meta-analysis. J Neurosurg Spine. May 01 2019; 30(5): 623-634. PMID 30738394
16. Dowsett LE, Clement F, Coward S, et al. Effectiveness of Surgical Treatment for Tarlov Cysts: A Systematic Review of Published Literature. Clin Spine Surg. Nov 2018; 31(9): 377-384. PMID 28902742
17. Arnold PM, Teuber J. Marfan syndrome and symptomatic sacral cyst: report of two cases. J Spinal Cord Med. Sep 2013; 36(5): 499-503. PMID 23941798
18. Asamoto S, Fukui Y, Nishiyama M, et al. Diagnosis and surgical strategy for sacral meningeal cysts with check-valve mechanism: technical note. Acta Neurochir (Wien). Feb 2013; 155(2): 309-13. PMID 23160631
19. Burke JF, Thawani JP, Berger I, et al. Microsurgical treatment of sacral perineural (Tarlov) cysts: case series and review of the literature. J Neurosurg Spine. May 2016; 24(5): 700-7. PMID 26745352
20. Cantore G, Bistazzoni S, Esposito V, et al. Sacral Tarlov cyst: surgical treatment by clipping. World Neurosurg. Feb 2013; 79(2): 381-9. PMID 22735629

21. Caspar W, Papavero L, Nabhan A, et al. Microsurgical excision of symptomatic sacral perineurial cysts: a study of 15 cases. Surg Neurol. Feb 2003; 59(2): 101-5; discussion 105-6. PMID 12648906
22. Chu W, Chen X, Wen Z, et al. Microsurgical sealing for symptomatic sacral Tarlov cysts: a series of 265 cases. J Neurosurg Spine. Dec 01 2022; 37(6): 905-913. PMID 35901733
23. Elsawaf A, Awad TE, Fesal SS. Surgical excision of symptomatic sacral perineurial Tarlov cyst: case series and review of the literature. Eur Spine J. Nov 2016; 25(11): 3385-3392. PMID 27154168
24. Feigenbaum F, Boone K. Persistent Genital Arousal Disorder Caused by Spinal Meningeal Cysts in the Sacrum: Successful Neurosurgical Treatment. Obstet Gynecol. Oct 2015; 126(4): 839-843. PMID 26348167
25. Fletcher-Sandersjöö A, Mirza S, Burström G, et al. Management of perineural (Tarlov) cysts: a population-based cohort study and algorithm for the selection of surgical candidates. Acta Neurochir (Wien). Sep 2019; 161(9): 1909-1915. PMID 31270612
26. Galarza M, Chaban G, Gazzeri R, et al. Functional recovery following resection of large Tarlov cyst malformation: a multicentre longitudinal cohort study. Acta Neurochir (Wien). Oct 2021; 163(10): 2769-2776. PMID 33761006
27. Guo D, Shu K, Chen R, et al. Microsurgical treatment of symptomatic sacral perineurial cysts. Neurosurgery. Jun 2007; 60(6): 1059-65; discussion 1065-6. PMID 17538380
28. Huang Q, Li J, Zhou Q, et al. Management of Symptomatic Sacral Perineural Cysts: A New Surgical Method. World Neurosurg. Nov 2022; 167: e978-e989. PMID 36058485
29. Kunz U, Mauer UM, Waldbaur H. Lumbosacral extradural arachnoid cysts: diagnostic and indication for surgery. Eur Spine J. 1999; 8(3): 218-22. PMID 10413348
30. Langdown AJ, Grundy JR, Birch NC. The clinical relevance of Tarlov cysts. J Spinal Disord Tech. Feb 2005; 18(1): 29-33. PMID 15687849
31. Lee JY, Impekoven P, Stenzel W, et al. CT-guided percutaneous aspiration of Tarlov cyst as a useful diagnostic procedure prior to operative intervention. Acta Neurochir (Wien). Jul 2004; 146(7): 667-70. PMID 15197609
32. Medani K, Lawandy S, Schrot R, et al. Surgical management of symptomatic Tarlov cysts: cyst fenestration and nerve root imbrication-a single institutional experience. J Spine Surg. Dec 2019; 5(4): 496-503. PMID 32043000
33. Mummaneni PV, Pitts LH, McCormack BM, et al. Microsurgical treatment of symptomatic sacral Tarlov cysts. Neurosurgery. Jul 2000; 47(1): 74-8; discussion 78-9. PMID 10917349
34. Neulen A, Kantelhardt SR, Pilgram-Pastor SM, et al. Microsurgical fenestration of perineural cysts to the thecal sac at the level of the distal dural sleeve. Acta Neurochir (Wien). Jul 2011; 153(7): 1427-34; discussion 1434. PMID 21562735
35. Park HJ, Kim IS, Lee SW, et al. Two cases of symptomatic perineural cysts (tarlov cysts) in one family: a case report. J Korean Neurosurg Soc. Sep 2008; 44(3): 174-7. PMID 19096672
36. Potts MB, McGrath MH, Chin CT, et al. Microsurgical Fenestration and Paraspinal Muscle Pedicle Flaps for the Treatment of Symptomatic Sacral Tarlov Cysts. World Neurosurg. Feb 2016; 86: 233-42. PMID 26423931
37. Rasmussen MM, Clemmensen D, Karabeqovic S, et al. A novel microsurgical method for the treatment of spinal nerve root cysts. Dan Med J. Dec 2012; 59(12): A4539. PMID 23290283

38. Sen RK, Goyal T, Tripathy SK, et al. Tarlov cysts: a report of two cases. J Orthop Surg (Hong Kong). Apr 2012; 20(1): 87-9. PMID 22535818
39. Seo DH, Yoon KW, Lee SK, et al. Microsurgical excision of symptomatic sacral perineurial cyst with sacral recapping laminectomy : a case report in technical aspects. J Korean Neurosurg Soc. Feb 2014; 55(2): 110-3. PMID 24653808
40. Sharma M, Velho V, Mally R, et al. Symptomatic lumbosacral perineural cysts: A report of three cases and review of literature. Asian J Neurosurg. 2015; 10(3): 222-5. PMID 26396612
41. Smith ZA, Li Z, Raphael D, et al. Sacral laminoplasty and cystic fenestration in the treatment of symptomatic sacral perineural (Tarlov) cysts: Technical case report. Surg Neurol Int. 2011; 2: 129. PMID 22059124
42. Sun J, Wang Z, Li Z, et al. Reconstruction of nerve root sheaths for sacral extradural spinal meningeal cysts with spinal nerve root fibers. Sci China Life Sci. Nov 2013; 56(11): 1007-13. PMID 24008383
43. Sun JJ, Wang ZY, Liu B, et al. Neck transfixion for sacral extradural spinal meningeal cysts without spinal nerve root fibers. Eur Spine J. Jun 2016; 25(6): 1945-52. PMID 25047654
44. Tanaka M, Nakahara S, Ito Y, et al. Surgical results of sacral perineural (Tarlov) cysts. Acta Med Okayama. Feb 2006; 60(1): 65-70. PMID 16508691
45. Voyadzis JM, Bhargava P, Henderson FC. Tarlov cysts: a study of 10 cases with review of the literature. J Neurosurg. Jul 2001; 95(1 Suppl): 25-32. PMID 11453427
46. Weigel R, Polemikos M, Uksul N, et al. Tarlov cysts: long-term follow-up after microsurgical inverted plication and sacroplasty. Eur Spine J. Nov 2016; 25(11): 3403-3410. PMID 27554352
47. Xu J, Sun Y, Huang X, et al. Management of symptomatic sacral perineural cysts. PLoS One. 2012; 7(6): e39958. PMID 22768183
48. Yucesoy K, Yilmaz M, Kaptan H, et al. A novel surgical technique for treatment of symptomatic Tarlov cysts. Br J Neurosurg. Apr 2023; 37(2): 188-192. PMID 34931571
49. Abdi D, Huttunen J, Leinonen V, et al. Operative Treatment of Tarlov Cysts - Outcomes and Predictors of Improvement after Surgery: A Series of 97 Consecutive Patients and a Systematic Review of Literature. Global Spine J. Mar 2025; 15(2): 1041-1048. PMID 38069780
50. Feigenbaum F, Parks SE, Martin MP, et al. Health-Related Quality-of-Life Outcomes in Surgical Patients With Sacral Tarlov Cysts: A 2-Year Prospective Study. Neurosurgery. Sep 19 2025. PMID 40970698
51. Kikuchi M, Takai K, Isoo A, et al. Myelographic CT, A Check-Valve Mechanism, and Microsurgical Treatment of Sacral Perineural Tarlov Cysts. World Neurosurg. Apr 2020; 136: e322-e327. PMID 31931233
52. Tsujino M, Suzuki A, Terai H, et al. Diagnosis and Treatment of Symptomatic Multiple Sacral Perineural Cysts-Technical Note. Spine Surg Relat Res. Jan 27 2025; 9(1): 93-99. PMID 39935979
53. Xie J, Zhang S, Wang S, et al. Hydrostatic pressure mechanism and surgical efficacy of Tarlov cysts. Neurocirugia (Engl Ed). Nov 24 2025: 500733. PMID 41297700
54. Yuan W, Wu C, Wang Y, et al. Microsurgical reinforced radiculoplasty for the treatment of postoperative recurrent sacral Tarlov cysts. Neurosurg Rev. Feb 19 2025; 48(1): 248. PMID 39969680

55. Zhu J, Li L, Wang X, et al. Analysis of predictive factors for the efficacy of reinforced radiculoplasty in symptomatic sacral Tarlov cysts. Neurosurg Rev. Jul 14 2025; 48(1): 564. PMID 40653586
56. National Institute for Health and Care Excellence (NICE). NICE Guidance, Therapeutic percutaneous image-guided aspiration of spinal cysts. Updated August 1, 2007. ISBN: 978-1-4731-6252-5.

Policy History

Original Effective Date: 08/01/2026
Current Effective Date: 08/01/2026
05/07/2026 Medical Policy Committee review
05/13/2026 Medical Policy Implementation Committee review
06/18/2026 Medical Quality Management Committee approval. New policy
Next Scheduled Review Date: 05/2027

Coding

The five character codes included in the Louisiana Blue Medical Policy Coverage Guidelines are obtained from Current Procedural Terminology (CPT®)‡, copyright 2025 by the American Medical Association (AMA). CPT is developed by the AMA as a listing of descriptive terms and five character identifying codes and modifiers for reporting medical services and procedures performed by physician.

The responsibility for the content of Louisiana Blue Medical Policy Coverage Guidelines is with Louisiana Blue and no endorsement by the AMA is intended or should be implied. The AMA disclaims responsibility for any consequences or liability attributable or related to any use, nonuse or interpretation of information contained in Louisiana Blue Medical Policy Coverage Guidelines. 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. Any use of CPT outside of Louisiana Blue Medical Policy Coverage Guidelines should refer to the most current Current Procedural Terminology which contains the complete and most current listing of CPT codes and descriptive terms. Applicable FARS/DFARS apply.

Policy # 00961
Original Effective Date: 08/01/2026
Current Effective Date: 08/01/2026

Codes used to identify services associated with this policy may include (but may not be limited to) the following:

Code Type	Code
CPT	63265, 63266, 63267, 63268, 63270, 63271, 63272, 63273, 64999
HCPCS	N/A
ICD-10 Diagnosis	G96.191

*Investigational – A medical treatment, procedure, drug, device, or biological product is Investigational if the effectiveness has not been clearly tested and it has not been incorporated into standard medical practice. Any determination we make that a medical treatment, procedure, drug, device, or biological product is Investigational will be based on a consideration of the following:

A. Whether the medical treatment, procedure, drug, device, or biological product can be lawfully marketed without approval of the U.S. Food and Drug Administration (FDA) and whether such approval has been granted at the time the medical treatment, procedure, drug, device, or biological product is sought to be furnished; or
B. Whether the medical treatment, procedure, drug, device, or biological product requires further studies or clinical trials to determine its maximum tolerated dose, toxicity, safety, effectiveness, or effectiveness as compared with the standard means of treatment or diagnosis, must improve health outcomes, according to the consensus of opinion among experts as shown by reliable evidence, including:
    1. Consultation with technology evaluation center(s);
    2. Credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community; or
    3. Reference to federal regulations.

‡ Indicated trademarks are the registered trademarks of their respective owners.

NOTICE: If the Patient's health insurance contract contains language that differs from the BCBSLA Medical Policy definition noted above, the definition in the health insurance contract will be relied upon for specific coverage determinations.

NOTICE: Medical Policies are scientific based opinions, provided solely for coverage and informational purposes. Medical Policies should not be construed to suggest that the Company recommends, advocates, requires, encourages, or discourages any particular treatment, procedure, or service, or any particular course of treatment, procedure, or service.

NOTICE: Federal and State law, as well as contract language, including definitions and specific contract provisions/exclusions, take precedence over Medical Policy and must be considered first in determining eligibility for coverage.

NOTICE: If an authorization for an ongoing course of treatment has been provided to a member and the member changes from one health plan to another health plan (e.g., a member moves from carrier

A to Louisiana Blue), Louisiana Blue may honor the previous health plan's authorization for the same service under the same type of in-network benefit for a 90-day transition period. Documentation of the authorization for the ongoing course of treatment from the previous health plan must be provided to us by the member or their provider and the services provided for the course of treatment must otherwise be a covered service under the Louisiana Blue health plan. This provision does not apply to medications covered under the plan's pharmacy benefit.