Spinal Ultrasound

Number: 0628

Policy

*Please see amendment for Pennsylvania Medicaid at the end of this CPB.

Aetna considers ultrasound of the spine and para-spinal tissues medically necessary in newborns and infants for the following indications:

- Detection of sequelae of injury (e.g., hematoma after spinal tap or birth injury; post-traumatic leakage of cerebrospinal fluid; and sequelae of prior instrumentation, infection, or hemorrhage).
- Evaluation of suspected defects such as cord tethering, diastematomyelia, hydromyelia, and syringomyelia.
- Guidance for lumbar puncture.
- Lumbosacral stigmata known to be associated with spinal dysraphism.
- Post-operative assessment for cord retethering.
- Spectrum of caudal regression syndrome (e.g., anal atresia or stenosis; sacral agenesis).
- Visualization of fluid with characteristics of blood products within the spinal canal in neonates and infants with intracranial hemorrhage.

Aetna considers ultrasound of the spine and para-spinal tissues medically necessary when performed intra-operatively.
Aetna considers diagnostic ultrasound of the spine and paraspinal tissues experimental and investigational for evaluation of neuromusculoskeletal conditions and all other indications (e.g., evaluation of curve flexibility before surgical intervention for scoliosis, evaluation and management of spinal epidural abscess, in the practice of neuraxial (epidural and subarachnoid) blocks, and to assist in lumbar puncture (except in newborns and infants)) because its effectiveness for these indications has not been established.

Aetna considers the SonixGPS (a real-time ultrasound-guided spinal anesthesia system) experimental and investigational because its effectiveness has not been established.

**Background**

Spinal ultrasound is a noninvasive diagnostic imaging technique used to evaluate individuals for possible defects of the spinal column or spinal cord.

The ACR (1996) adopted the following statement on spinal ultrasound: “Over the past several years interest has developed in the use of ultrasound technology for the evaluation of the spine and paraspinal regions in adults. While diagnostic ultrasound is appropriately used 1) intraoperatively; 2) in the newborn and infants for the evaluation of the spinal cord and canal; and 3) for multiple musculoskeletal applications in adults, there is currently no documented scientific evidence of the efficacy of this modality in the evaluation of the paraspinal tissues and the spine in adults. Any claims or inferences that the use of spinal or paraspinal ultrasound is more advantageous or has a greater diagnostic accuracy than established procedures such as computed tomography (CT) or magnetic resonance imaging (MRI) cannot be made today based on recognized medical research.”

An AAN Report (1998) on spinal ultrasound for the evaluation of back pain and radicular disorders concluded: “Currently, no published peer reviewed literature supports the use of diagnostic ultrasound in the evaluation of patients with back pain or radicular symptoms. The procedure cannot be recommended for use in the clinical evaluation of such patients.”
The American Institute of Ultrasound Medicine (AIUM, 2002) made the following official statement: “There is insufficient evidence in the peer-reviewed medical literature establishing the value of non-operative spinal/paraspinal ultrasound in adults. Therefore, the AIUM states that, at this time, the use of non-operative spinal/paraspinal ultrasound in adults (for study of facet joints and capsules, nerve and fascial edema, and other subtle paraspinous abnormalities) for diagnostic evaluation, for evaluation of pain or radiculopathy syndromes, and for monitoring of therapy has no proven clinical utility. Non-operative spinal/paraspinal ultrasound in adults should be considered investigational. The AIUM urges investigators to perform proper double-blind research projects to evaluate the efficacy of these diagnostic spinal ultrasound examinations.”

Glotzbecker and colleagues (2009) noted that the risk of thrombo-embolic disease is well-studied for some orthopedic procedures. However, the incidence of post-operative thrombo-embolic disease is less well-defined in patients who have had spinal surgery. These investigators performed a systematic review on thrombo-embolic disease in spinal surgery. The Medline database was queried using the search terms deep venous thrombosis or DVT, pulmonary embolus, thromboembolic disease, and spinal or spine surgery. Abstracts of all identified articles were reviewed. Detailed information from eligible articles was extracted. Data were compiled and analyzed by simple summation methods when possible to stratify rates of DVT and/or pulmonary embolus for a given prophylaxis protocol, screening method, and type of spinal surgery. A total of 25 articles were eligible for full review. The risk of DVT ranged from 1.3 % to 31 %, varying between patient populations and methods of surveillance. Pooling data from the 25 studies, the overall rate of DVT was 2.1 %. The rate of DVT was influenced by prophylaxis method: no prophylaxis, 2.7 %; compression stockings (CS), 2.7 %; pneumatic sequential compression device (PSCD), 4.6 %; PSCD and CS, 1.3 %; chemical anti-coagulants, 0.6 %; and inferior vena cava filters with/without another method of prophylaxis, 22 %. The rate of DVT was also influenced by the method of diagnosis, ranging from 1 % to 12.3 %. The authors concluded that as risk of DVT after routine elective spinal surgery is fairly low, it seems
reasonable to use CS with PSCD as a primary method of prophylaxis. There is insufficient evidence to support or refute the use of chemical anti-coagulants in routine elective spinal surgery. Furthermore, there is insufficient evidence to suggest that screening patients undergoing elective spinal surgery with ultrasound or venogram is routinely warranted.

Tsui and Suresh (2010) presented a comprehensive review of the evidence pertaining to techniques described and outcomes evaluated for ultrasound imaging in pediatric neuraxial anesthesia. Neuraxial anesthesia pertains to local anesthetics placed around the nerves of the central nervous system, such as spinal anesthesia also called subarachnoid anesthesia and epidural anesthesia. These researchers described and illustrated the anatomy related to each block to serve as a foundation for better understanding the block techniques described. For neuraxial blockade, ultrasound may fairly reliably predict the depth to loss of resistance and can enable a dynamic view of the needle and catheter after entry into the spinal canal. Particularly, in young infants, direct visualization of the needle and catheter tip may be possible, whereas in older children surrogate markers including the displacement of dura mater by the injection of fluid may be necessary for confirming needle and catheter placement. The authors stated that more outcome-based, prospective, randomized, controlled trials are needed to prove the benefits of ultrasound when compared with conventional methods.

Perlas (2010) summarized the existing evidence behind the role of ultrasonography in neuraxial anesthesia techniques. A literature search of the MEDLINE, PubMed, ACP Journal Club databases, and the Cochrane Database of Systematic Reviews was performed using the term ultrasonography combined with each of the following: spinal, intrathecal, epidural, and lumbar puncture. Only studies related to regional anesthesia or acute pain practice were included. Case reports and letters to the editor were excluded. A total of 17 relevant studies were identified and included in this review. Neuraxial ultrasonography is a recent development in regional anesthesia practice. Most clinical studies to date come from a limited number of centers
and have been performed by very few and highly experienced operators. The existing evidence may be classified in 2 main content areas: (i) ultrasound-assisted neuraxial techniques and (ii) real-time ultrasound-guided neuraxial techniques. The author concluded that neuraxial ultrasonography has been recently introduced to regional anesthesia practice. The limited data available to date suggested that it is a useful adjunct to physical examination, allowing for a highly precise identification of regional landmarks and a precise estimation of epidural space depth, thus facilitating epidural catheter insertion. Moreover, they stated that further research is needed to conclusively establish its impact on procedure success and safety profile, especially in the adult non-obstetric population. This is in agreement with Tsui and Pillay (2010) who noted that although there is some evidence to support ultrasound for various outcomes in pediatric regional anesthesia, more randomized controlled studies with sufficient power are needed to further support these findings and to evaluate the potential for ultrasound to reduce complications for regional anesthesia in children.

Javanshir and colleagues (2010) reviewed the literature concerning size measurement of cervical muscles using real-time ultrasound imaging (RUSI) in patients with neck pain and in healthy populations. A literature search from 1996 to December 2009 making use of Science Direct and PubMed databases was conducted. Medical Subject Headings and other terms were as follows: ultrasonography, cervical, muscle, neck, size, pain, validity, reliability, neck pain, and healthy subjects. These researchers included studies using RUSI for assessing cervical paraspinal muscles both in healthy subjects as well as in patients with neck pain. They assessed muscles investigated and the reliability and validity of the method used. The literature search yielded 16 studies -- 12 (75 %) studies assessed the posterior muscles, whereas in the remaining 4 (25 %), the anterior muscles were studied. Three studies quantified the size of the muscles during contraction; 3 assessed the relationship between cross-sectional area, linear dimensions, and anthropometric variables; 1 evaluated the training-induced changes in muscle size; 1 assessed the differences in muscle shape and cross-sectional area.
of cervical multifidus between patients with chronic neck pain and controls; 8 studies looked at the reliability of using RUSI in patients with neck pain or healthy subjects; and 3 studies evaluated the validity of RUSI compared with magnetic resonance imaging. The authors concluded that this literature review has shown that there are insufficient studies for assessing neck muscles with RUSI. It seems that using constant landmarks, knowledge of anatomy and function of target muscle, and a proper definition of muscle borders can help to take a clear image. Standardized position of the subject, correct placement of the transducer, and using multiple RUSI for statistical analyses may improve results.

The Work Loss Data Institute's clinical practice guideline on "Neck and upper back (acute & chronic)" (2011) listed diagnostic ultrasound as one of the interventions that was considered, but was not recommended.

The American Institute of Ultrasound in Medicine's practice guideline for the performance of an ultrasound examination of the neonatal spine (2012) states that this guideline has been developed to assist practitioners performing a sonographic examination of the neonatal and infant spine. In some cases, an additional or specialized examination may be necessary. While it is not possible to detect every abnormality, following this guideline will maximize the detection of abnormalities of the infant spine. Sonographic examination of the pediatric spinal canal is accomplished by scanning through the normally incompletely ossified posterior elements. Therefore, it is most successful in the newborn period and in early infancy. In infants older than 6 months, the examination can be very limited, although the level of termination of the cord may be identified. In experienced hands, ultrasound imaging of the infant spine has been shown to be an accurate and cost-effective examination that is comparable to magnetic resonance imaging for evaluating congenital or acquired abnormalities in the neonate and young infant.

The guideline lists the following indications for ultrasound examination of the neonatal spine:
- Detection of sequelae of injury (e.g., hematoma after spinal tap or birth injury; post-traumatic leakage of cerebrospinal fluid; and sequelae of prior instrumentation, infection, or hemorrhage).
- Evaluation of suspected defects such as cord tethering, diastematomyelia, hydromyelia, and syringomyelia.
- Guidance for lumbar puncture.
- Lumbosacral stigmata known to be associated with spinal dysraphism.
- Post-operative assessment for cord retethering.
- Spectrum of caudal regression syndrome (e.g., anal atresia or stenosis; sacral agenesis).
- Visualization of fluid with characteristics of blood products within the spinal canal in neonates and infants with intracranial hemorrhage.

Chin and Perlas (2011) stated that the use of ultrasound in lumbar plexus blockade has been described in the context of both pre-procedural imaging and real-time needle guidance; however, its clinical benefit in this setting has not yet been clearly established. These investigators noted that pre-procedural ultrasound imaging of the spine may reduce the technical difficulty of neuraxial blockade and also improve clinical efficacy. Similar benefits are expected in the setting of lumbar plexus blockade although there is currently no evidence to confirm this. Moreover, they stated that real-time ultrasound-guided neuraxial and lumbar plexus blockade are challenging techniques that need further validation.

In a randomized controlled trial (RCT), Arzola et al (2015) examined the impact of pre-procedural spinal ultrasound on the ease of insertion of labor epidurals by a group of trainees. These researchers hypothesized that the ultrasound-assisted technique would improve the ease of insertion when compared with the conventional palpation technique. A group of 17 2nd-year anesthesia residents and 5 anesthesia fellows underwent a training program in ultrasound assessment of the spine. Patients with easily palpable lumbar spines were randomized to either ultrasound or palpation group. Residents and fellows performed both the assessment (ultrasound or palpation) and the
epidural procedure. Primary outcome measures were ease of insertion of epidural catheter composed of the time taken to insert the epidural catheter, number of interspace levels attempted and number of needle passes; secondary outcome measures were total procedural time (assessment and insertion), 1st pass success rate, number of attempts needed to thread the epidural catheter, failure of epidural analgesia, and patient satisfaction. These investigators analyzed 128 epidural catheter insertions (residents 84, fellows 44). There was no difference in median (interquartile range, IQR) epidural insertion time between the ultrasound and palpation groups [174 (120 to 241) versus 180 (130 to 322.5) s, respectively; \( p = 0.14 \)]. The number of interspace levels attempted and needle passes were also similar in both groups. The total procedural time was longer in the ultrasound group. The authors concluded that the use of pre-procedural spinal ultrasound by a cohort of anesthesia trainees did not improve the ease of insertion of labor epidural catheters in patients with easily palpable lumbar spines, as compared with the traditional palpation technique based on anatomical landmarks.

Perlas et al (2016) examined the evidence for pre-procedural neuraxial ultrasound as an adjunct to lumbar spinal and epidural anesthesia in adults. These investigators searched Medline, Embase, and Cochrane Central Register of Controlled Trials databases from inception to June 30, 2014, for RCTs and cohort studies that reported data answering 1 or more of the following 3 questions: (i) Does ultrasound accurately identify a given lumbar intervertebral space? (ii) Does ultrasound accurately predict the needle insertion depth required to reach the epidural or intrathecal space? And (iii) Does ultrasound improve the safety and effectiveness of spinal or lumbar epidural anesthesia? A total of 31 clinical trials and 1 meta-analysis were included in this review. Data from 8 studies indicated that neuraxial ultrasound can identify a given lumbar intervertebral space more accurately than by landmark palpation alone; 13 studies reported an excellent correlation between ultrasound-measured depth and needle insertion depth to the epidural or intrathecal space. The mean difference between the 2 measurements was within 3 mm in most studies; 13 RCTs, 5 cohort studies, and 1 meta-analysis
reported data on safety and effectiveness outcomes. Results consistently showed that ultrasound resulted in increased success and ease of performance. Ultrasound appeared to reduce the risk of traumatic procedures but there was otherwise insufficient evidence to conclude if it significantly improves safety. The authors concluded that there is significant evidence supporting the role of neuraxial ultrasound in improving the precision and effectiveness of neuraxial anesthetic techniques. Moreover, the authors noted they know that neuraxial ultrasound is a useful complement to clinical examination when performing lumbar central neuraxial blocks. It provides anatomical information including the depth of the epidural space, the identity of a given intervertebral level, and the location of the midline and interspinous/interlaminar spaces. This information can be used to successfully guide subsequent needle insertion. Since 2010, new data from RCTs and 1 meta-analysis suggested that neuraxial ultrasound increases the success and reduces the technical difficulty of lumbar central neuraxial blocks. They stated that findings from the meta-analysis suggested that neuraxial ultrasound reduces the risk of traumatic procedures, and thus may possibly contribute to the safety of lumbar central neuraxial blocks.

*The SonixGPS:*

Wong and colleagues (2013) stated that the SonixGPS is an electromagnetic needle tracking system for ultrasound-guided needle intervention. Both current and predicted needle tip position are displayed on the ultrasound screen in real-time, facilitating needle-beam alignment and guidance to the target. This case report illustrated the use of the SonixGPS system for successful performance of real-time ultrasound-guided spinal anesthesia in a patient with difficult spinal anatomy. A 67-year old male was admitted to the authors’ hospital to undergo revision of total right hip arthroplasty. His 4 previous arthroplasties for hip revision were performed under general anesthesia because he had undergone L3 to L5 instrumentation for spinal stenosis. The L4 to L5 interspace was viewed with the patient in the left lateral decubitus position. A 19-G 80-mm proprietary needle (Ultrasonix Medical Corp, Richmond, BC,
Canada) was inserted and directed through the para-spinal muscles to the ligamentum flavum in plane to the ultrasound beam. A 120-mm 25-G Whitacre spinal needle was then inserted through the introducer needle in a conventional fashion. Successful dural puncture was achieved on the second attempt, as indicated by a flow of clear cerebrospinal fluid. The patient tolerated the procedure well, and the spinal anesthetic was adequate for the duration of the surgery. The authors concluded that the SonixGPS is a novel technology that can reduce the technical difficulty of real-time ultrasound-guided neuraxial blockade. It may also have applications in other advanced ultrasound-guided regional anesthesia techniques where needle-beam alignment is critical.

Brinkman et al (2013) noted that the SonixGPS is a novel needle tracking system that has recently been approved in Canada for ultrasound-guided needle interventions. It allows optimization of needle-beam alignment by providing a real-time display of current and predicted needle tip position. Currently, there is limited evidence on the effectiveness of this technique for performance of real-time spinal anesthesia. This case-series reported performance of the SonixGPS system for real-time ultrasound-guided spinal anesthesia in elective patients scheduled for joint arthroplasty. In this single-center case-series study, a total of 20 American Society of Anesthesiologists' class I to II patients scheduled for lower limb joint arthroplasty were recruited to undergo real-time ultrasound-guided spinal anesthesia with the SonixGPS after written informed consent. The primary outcome for this clinical cases-series was the success rate of spinal anesthesia, and the main secondary outcome was time required to perform spinal anesthesia. Successful spinal anesthesia for joint arthroplasty was achieved in 18/20 patients, and 17 of these required only a single skin puncture. In 7/20 (35 %) patients, dural puncture was achieved on the first needle pass, and in 11/20 (55 %) patients, dural puncture was achieved with 2 or 3 needle re-directions. Median (range) time taken to perform the block was 8 (5 to 14) mins. The study procedure was aborted in 2 cases because the clinical protocol dictated using a standard approach if spinal anesthesia was unsuccessful after 3 ultrasound-guided insertion attempts. These 2 cases were classified as
failures. No complications, including paresthesia, were observed during the procedure. All patients with successful spinal anesthesia found the technique acceptable and were willing to undergo a repeat procedure if deemed necessary. The authors concluded that the findings of this case-series study showed that real-time ultrasound-guided spinal anesthesia with the SonixGPS system is possible within an acceptable time frame. It proved effective with a low rate of failure and a low rate of complications. They stated that their clinical experience suggested that a randomized trial is needed to compare the SonixGPS with a standard block technique.

Niazi and colleagues (2014) noted that real-time ultrasound-guided neuraxial blockade remains a largely experimental technique. SonixGPS® is a new needle tracking system that displays needle tip position on the ultrasound screen. In a feasibility study, these researchers investigated if this novel technology might aid performance of real-time ultrasound-guided spinal anesthesia. A total of 20 patients with body mass index (BMI) less than 35 kg/m(2) undergoing elective total joint arthroplasty under spinal anesthesia were recruited. Patients with previous back surgery and spinal abnormalities were excluded. Following a pre-procedural ultrasound scan, a 17-G proprietary needle-sensor assembly was inserted in-plane to the transducer in 4 patients and out-of-plane in 16 patients. In both approaches, the trajectory of insertion was adjusted in real-time until the needle tip lay just superficial to the ligamentum flavum-dura mater complex. At this point, a 25-G 120 mm Whitacre spinal needle was inserted through the 17-G SonixGPS® needle. Successful dural puncture was confirmed by backflow of cerebrospinal fluid from the spinal needle. An overall success rate of 14/20 (70 %) was seen with 2 failures (50 %) and 4 failures (25 %) in the in-plane and out-of-plane groups, respectively. Dural puncture was successful on the first skin puncture in 71 % of patients and in a single needle pass in 57 % of patients. The median total procedure time was 16.4 and 11.1 mins in the in-plane and out-of-plane groups, respectively. The authors concluded that the SonixGPS® system simplified real-time ultrasound-guided spinal anesthesia to a large extent, especially the out-of-plane approach. Nevertheless, it remains a complex
A multi-step procedure that requires time, specialized equipment, and a working knowledge of spinal sonoanatomy.

McVicar et al (2015) stated that ultrasound-guided needle placement is a widely used technical skill that can be challenging to learn. The SonixGPS is a novel ultrasound needle-tracking system that has the potential to improve performance over traditional ultrasound systems. These researchers examined if the use of the SonixGPS ultrasound system improves performance of novice practitioners in ultrasound-guided needle placement compared with conventional ultrasound in the out-of-plane approach on a simulation model. A total of 26 medical students without previous ultrasound experience were randomized into 2 groups. Each group performed 30 simulated ultrasound nerve blocks on a porcine meat tissue simulation (phantom) model. Both groups used the SonixGPS ultrasound; however, the study group had the needle-tracking system activated, whereas the control group did not. The participants were assessed for success rate, technical aspects of block performance, and certain behaviors that could compromise the quality of the block. Learning curves were developed to assess competence. The needle guidance group reached competence more often. This group had fewer attempts and quality-compromising behaviors than did those using conventional ultrasound. The authors concluded that use of the SonixGPS ultrasound needle guidance system improved the performance of technical needling skills of novice trainees in an ex-vivo model. They stated that the place of this technology in the wider education of ultrasound-guided regional anesthesia remains to be established.

*Evaluation of Curve Flexibility Before Surgical Intervention for Scoliosis:*

In a pilot study, Zheng and colleagues (2017) examined the use of ultrasound imaging to evaluate the spinal curve flexibility of scoliotic surgical candidates; a total of 15 patients were enrolled in this study. Pre-operative radiographs and ultrasound images in both standing and bending positions were acquired. The post-operative standing radiographs were obtained 1 week after
surgery; 2 raters measured the ultrasound images twice, 1 week apart. A curve correction index (CI) was developed to estimate the curve flexibility. The CI from the pre-operative bending radiograph, ultrasound and post-operative radiograph were 0.51 ± 0.18; R1: 0.74 ± 0.08 versus R2: 0.72 ± 0.09 and 0.60 ± 0.10, respectively. The correlation of CI between ultrasound and post-operative radiography was slightly higher than the pre-operative bending and post-operative radiography. The authors concluded that the findings of this pilot study showed that the bending ultrasound method is a promising supplemental tool to assess curve flexibility before surgical intervention for sciotic surgical candidates. These preliminary findings need to be validated by well-designed studies.

_Evaluation and Management of Spinal Epidural Abscess:_

DeFroda and associates (2016) noted that spinal epidural abscess (SEA) is an uncommon and potentially catastrophic condition; it often presents a diagnostic challenge, as the "classic triad" of fever, spinal pain, and neurological deficit is evident in only a minority of patients. When diagnosis is delayed, irreversible neurological damage may ensue. To minimize morbidity, an appropriate level of suspicion and an understanding of the diagnostic evaluation are essential. Infection should be suspected in patients presenting with axial pain, fever, or elevated inflammatory markers. Although patients with no known risk factors can develop SEA, clinical concern should be heightened in the presence of diabetes, intravenous drug use, chronic renal failure, immunosuppressant therapy, or a recent invasive spine procedure. The authors stated that when the clinical profile is consistent with the diagnosis of SEA, gadolinium-enhanced MRI of the spinal column should be obtained on an emergent basis to delineate the location and neural compressive effect of the abscess. Spinal ultrasonography was not mentioned as a management tool.

Chima-Melton and colleagues (2017) stated that SEA is a rare but serious cause of back pain in the critical care setting; it occurs most commonly in adults in their 5th and 6th decades of life. Risk factors include diabetes mellitus, alcoholism, AIDS or other
immunocompromised states, cancer, intravenous drug use, trauma and spinal surgery. The clinical presentation can be non-specific but the classical triad includes back pain, fever and neurological deficits; MRI with gadolinium is the diagnostic imaging modality of choice. These investigators reported a case of SEA in a 63-year old man with type II diabetes who presented with severe low back pain (LBP). He was found to have SEA likely secondary to a hip joint injection. The diagnosis was delayed due an earlier non-gadolinium-enhanced MRI of the spine showing no epidural abscess. The authors concluded that this case emphasized the need for the definitive diagnostic study, MRI with gadolinium, in patients whose SEA is high on the list of differential diagnoses. Spinal ultrasonography was not mentioned as a management tool.

Furthermore, an UpToDate review on “Spinal epidural abscess” (Sexton and Sampson, 2017) does not mention spinal ultrasonography as a management tool.

### CPT Codes / HCPCS Codes / ICD-10 Codes

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<th>Information in the [brackets] below has been added for clarification purposes. Codes requiring a 7th character are represented by “+”:</th>
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<tr>
<td><strong>CPT codes covered if selection criteria are met:</strong></td>
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<td><strong>Other CPT codes related to the CPB:</strong></td>
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HCPCS codes not covered for indications listed in the CPB:

**SonixGPS:**

No specific code

**ICD-10 codes covered if selection criteria are met:**

G96.0    Cerebrospinal fluid leak [post-trauma]
G97.51   Postprocedural hemorrhage of a nervous system organ or structure following a nervous system procedure [following lumbar puncture]
G97.61   Postprocedural hematoma of a nervous system organ or structure following a nervous system procedure
G97.63   Postprocedural seroma of a nervous system organ or structure following a nervous system procedure
P10.0 - P10.3, P10.8    Subdural and cerebral hemorrhage [due to birth trauma]
- P10.9
P11.5    Birth injury to spine and spinal cord
P52.0 - P52.22    Intracranial nontraumatic hemorrhage of newborn [grades 1 through 4]
P52.3    Unspecified intraventricular (nontraumatic) hemorrhage of newborn
P52.5    Subarachnoid (nontraumatic) hemorrhage of newborn
Q05.0 - Q05.9    Spina bifida
Q06.0 - Q06.9    Other congenital malformations of spinal cord
Q07.01 - Q07.03    Arnold-Chiari syndrome with spina bifida
Q42.2    Congenital absence, atresia and stenosis of anus with fistula
Q42.3    Congenital absence, atresia and stenosis of anus without fistula
Q76.49    Other congenital malformations of spine, not associated with scoliosis [sacrum]

**ICD-10 codes not covered for indications listed in the CPB:**
The above policy is based on the following references:


7. Dick EA, de Bruijn R. Ultrasound of the spinal cord in


44. Perlas A, Chaparro LE, Chin KJ. Lumbar neuraxial ultrasound


47. Sexton DJ, Sampson JH. Spinal epidural abscess. UpToDate Inc., Waltham, MA. Last reviewed April ,2017.

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Amendment to
Aetna Clinical Policy Bulletin Number: 0628 Spinal Ultrasound

There are no amendments for Medicaid.