

# Neuromodulation Special Interest Group

American Society of Regional Anesthesia and Pain Medicine

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## Economics of Intrathecal Therapy

By Yeshvant A. Navalgund, MD  
President and CEO  
DNA Advanced Pain Treatment Center  
Greensburg, PA

### Background

Intrathecal (IT) drug delivery systems are an effective therapy for patients with refractory chronic pain, and, in the United States, the use of IT therapy to treat patients with chronic refractory pain has been continuously increasing.<sup>[1,2,3]</sup> The application of IT therapy has provided a valuable option for patients in whom oral or transdermal opioids are ineffective at reasonable doses or cause unacceptable side effects.<sup>[4,5]</sup> Compared to oral or parenteral routes for pain control, IT therapy uses significantly lower doses of opioids to directly deposit medications near the spinal cord receptors, bypassing the blood-brain barrier, which has led to markedly reduced adverse events.<sup>[2,6,7]</sup>

The main indications for IT therapy are cancer pain or non-cancer pain, with the majority of pumps placed for failed back surgery syndrome.<sup>[2,3,8]</sup> Currently, morphine and ziconotide are the only two agents approved by the Food and Drug Administration for IT analgesia; however, the use of other agents is common among pain practitioners.

Quality-of-life measures are improved while the overall healthcare utilization costs are decreased in selected patients with IT therapy when compared with conventional medical management.<sup>[9]</sup> While this therapy has historically been positioned as a salvage therapy, it is now being considered earlier in the treatment spectrum.<sup>[10]</sup>

### Cost of Therapy

Substantial costs associated with the IT drug delivery system arise at the time of surgical implantation, as well as at the time of revision (for reasons such as pump battery depletion, catheter replacement, device malfunction, infection, etc.). A recent retrospective study of 365 patients estimated median system longevity to be 5.4 years. Based on 2013 Medicare reimbursement rates, the median cost was \$10.46/day (this cost was only for the hardware and did not include medication and other costs). The range was \$4.08-\$2,973.10 per day, with the highest daily costs being associated with pumps that were prematurely explanted due to complications. Since a majority of the cost is incurred at inception of the therapy, cost savings are primarily achieved by increasing the longevity of the system, such that the high initial costs are averaged over a long pump lifespan.<sup>[9]</sup>

Regarding the cost of the IT medications, cost escalation with increasing dosage or polyanalgesics during course of therapy seems to be an unavoidable occurrence. Polyanalgesia, while more costly (dual-drug \$6.07/day, and triple therapies \$10.40/day vs monotherapy \$2.80/day), is justified based on its effectiveness in restoring pain control. Superior results are achieved when polyanalgesia is initiated early.<sup>[11]</sup>

Table 1 provides Healthcare Common Procedure Coding System (HCPCS) II Device and Drug Codes; Table 2 provides Current Procedural Terminology (CPT) Procedure Codes. Different amounts are paid depending on the place of service in which the physician rendered the services. “Facility” includes physician services rendered in hospitals and ambulatory surgery centers. Physician payments are generally lower in the “facility” setting because the facility is incurring the cost of some of the supplies and other materials. Physician payments are generally higher in the “office” setting because the physician incurs all costs there. For refills, analysis, and reprogramming, care should be taken to document the services provided (refill and/or reprogramming) and who provided those services (ancillary staff, mid-level provider, or physician) so that the appropriate billing codes are utilized.

**Table 1: HCPCS Device/Drug Codes**

Device/Drug	Code	Code Description
Programmable pump and catheter	E0783	Infusion pump system, implantable, programmable (includes all components)
Programmable pump only (replacement)	E0786	Implantable programmable infusion pump, replacement, does not include implantable catheter
Intraspinal implantable catheter only	E0785	Implantable intraspinal catheter used with implantable infusion pump, replacement
Preservative-free morphine sulfate sterile solution	J2274	Injection, morphine sulfate, preservative-free for epidural or intrathecal use, 10 mg
Anesthetic drug administered through IV	J7799	Not otherwise classified (NOC) drugs, other than inhalation drugs, administered through durable medical equipment (DME)
Refill kit	A4220	Refill kit for implantable infusion pump

**Table 2: CPT Procedure Codes**

Procedure	Code	Code Description	2015 Medicare National Average <sup>A</sup>	
			Physician Office	Facility
Trial <sup>B,C</sup>	62311	Injection(s), of diagnostic or therapeutic substance(s) (including anesthetic, antispasmodic, opioid, steroid, other solution), not including neurolytic substances, including needle or catheter placement, includes contrast for localization when performed, epidural or subarachnoid; lumbar or sacral (caudal)	\$225	\$92
	62319	Injection(s), including indwelling catheter placement, continuous infusion or intermittent bolus, of diagnostic or therapeutic substance(s) (including anesthetic, antispasmodic, opioid, steroid, other solution), not including neurolytic substances, includes contrast for localization when performed, epidural or subarachnoid; lumbar or sacral (caudal)	\$170	\$99
Implantation or Revision of Catheter	62350	Implantation, revision, or repositioning of tunneled intrathecal or epidural catheter, for long-term medication administration via an external pump or implantable reservoir/infusion/pump; <i>without laminectomy</i>	N/A	\$401
	62351	Implantation, revision, or repositioning of tunneled intrathecal or epidural catheter, for long-term medication administration via an external pump or implantable reservoir/infusion/pump; <i>with laminectomy</i>	N/A	\$899
Implantation, or Replacement of Pump	62362	Implantation or replacement of device for intrathecal or epidural drug infusion; programmable pump, including preparation of pump, with or without programming	N/A	\$415
Removal of Catheter or Pump	62355	Removal of previously implanted intrathecal or epidural catheter	N/A	\$280
	62365	Removal of subcutaneous reservoir or pump previously implanted for intrathecal or epidural infusion	N/A	\$309
Fluoroscopy for Catheter Placement and Injection	77003 or 77003-26	Fluoroscopic guidance and localization of needle or catheter tip for spine or paraspinous diagnostic or therapeutic injection procedures (epidural or subarachnoid)	\$86	\$86
Drug <sup>D</sup>	J2274	Injection, morphine sulfate, preservative-free for epidural or intrathecal use, 10 mg	ASP+6%	—
Follow-up Refill/Analysis/	62367	Electronic analysis of programmable, implanted pump for intrathecal or epidural drug infusion (includes evaluation of reservoir status, alarm status, drug prescription status); <i>without reprogramming or refill</i>	\$41	\$26

Reprogramming <sup>E</sup>	62368	Electronic analysis of programmable, implanted pump for intrathecal or epidural drug infusion (includes evaluation of reservoir status, alarm status, drug prescription status); <i>with reprogramming</i>	\$57	\$36
	62369	Electronic analysis of programmable, implanted pump for intrathecal or epidural drug infusion (includes evaluation of reservoir status, alarm status, drug prescription status); <i>with reprogramming and refill</i>	\$123	—
	62370	Electronic analysis of programmable, implanted pump for intrathecal or epidural drug infusion (includes evaluation of reservoir status, alarm status, drug prescription status); <i>with reprogramming and refill (requiring skill of a physician or other qualified health care professional)</i> <sup>F</sup>	\$129	\$48
	95990	Refilling and maintenance of implantable pump or reservoir for drug delivery, spinal (intrathecal, epidural) or brain (intraventricular), includes electronic analysis of pump, when performed	\$91	—
	95991	Refilling and maintenance of implantable pump or reservoir for drug delivery, spinal (intrathecal, epidural) or brain (intraventricular), includes electronic analysis of pump, when performed; <i>requiring skill of a physician or other qualified health care professional</i>	\$122	\$40
Catheter Dye Study	61070	Puncture of shunt tubing or reservoir for aspiration or injection procedure	N/A	\$60
Evaluation and Management	99211- 99215	Office or other outpatient visit	\$20 - \$146	\$9 - \$112

A: Medicare national average payment is determined by multiplying the sum of the three RVUs by the conversion factor. The conversion factor for CY 2015 is \$35.7547 through March 31, 2015 in accordance with the CMS-1612-FC, Center for Medicare & Medicaid Services PFS Relative Value File (January release) <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/physicianFeeSched/Downloads/CY2015-PFS-FR-RVU.zip>. Published December 30, 2014. Note: Any applicable coinsurance, deductible and other amounts that are Patient Obligations are included in the payment amount shown. Also, final physician payment is adjusted by the Geographic Practice Cost Indices (GPCI).

B: Per the CPT Manual, CPT code 62311 is used for needle injection or when a catheter is placed to administer one or more injections on a single calendar day. CPT code 62319 is used when the catheter is left in place to deliver the agent continuously or intermittently for more than a single calendar day. Both CPT codes (62311 and 62319) include temporary catheter placement.

C: CMS has published that reporting CPT code 77003 is prohibited because 62311 and 62319 are already valued to include fluoroscopic guidance. Center of Medicare and Medicaid Services. Medicare Program; Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2015 Final Rule; 79 Fed Reg. 67579. <https://Federalregister.gov/a/2014-26183>. Published November 13, 2014.

D: Reimbursement for intrathecal drugs vary considerably based on State specific provider guidelines.

E: The Refill/Analysis & Reprogramming codes are only used for follow-up services-these codes are not to be used at the time of implantation.

F: Code 62369 is assigned when the pump is interrogated, reprogrammed and refilled by ancillary staff, eg: nurse under physician supervision in the office. As defined for 2014, code 62370 is used when the pump is interrogated, reprogrammed, and refilled by a physician or “other qualified health care professional.” The AMA defines “other qualified health care professional” as an individual who performs professional services within the scope of practice and is able to bill their services independently, eg. nurse practitioner. However, because payer interpretations for use of code 62370 may vary, check with the individual payer on the types of practitioners who may assign and bill 62370 vs. 62369.

## References

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