

# 2021 Postoperative Pain Management

This information is shared for educational purposes only and based upon available information consistent with American Medical Association, Centers for Medicare and Medicaid Service (CMS) and/or professional society decisions about postoperative analgesia. AtriCure believes this information to be correct, but encourages healthcare providers to check with their payers with any questions about coding, coverage and/or reimbursement for postoperative analgesia.

## U.S. Food and Drug Administration Regulatory Clearance

For Adult Patients: AtriCure's cryoICE® and cryoSPHERE™ cryoablation probes are sterile, single use devices intended for use performed by freezing target tissues, creating an inflammatory response (cryonecrosis) for temporarily block pain by ablating peripheral nerves.

For Adolescent Patients: The cryoICE and cryoSPHERE cryoablation probes are intended for use to temporarily block pain by ablating intercostal nerves under direct visualization in adolescent patients of at least 12 years of age (FDA 510K: K200697, 2021).

## Physician's Professional Fee

The cryoICE and cryoSPHERE cryoablation probes may be requested by a Cardiac and/or Thoracic Surgeon, when performing open and endoscopic procedures, such as, but not limited to the following considerations:

CPT™ <sup>1</sup>	Description	Work RVUs	Total Facility RVUs	2021 CMS Payment
<b>Primary Surgical Procedures may include, but not limited to:</b>				
21743	Reconstructive repair of pectus excavatum or carinatum; minimally invasive approach (Nuss), with thoracoscopy	Contractor priced		
21811	Open treatment of rib fracture(s) with internal fixation, includes thoracoscopic visualization when performed, unilateral; 1-3 ribs	10.79	17.52	\$568
21812	Open treatment of rib fracture(s) with internal fixation, includes thoracoscopic visualization when performed, unilateral; 4-6 ribs	13.00	21.24	\$688
21813	Open treatment of rib fracture(s) with internal fixation, includes thoracoscopic visualization when performed, unilateral; 7 or more ribs	17.61	29.11	\$943
32480	Removal of lung, other than pneumonectomy; single lobe (lobectomy)	25.82	43.55	\$1,411
32505	Thoracotomy; with therapeutic wedge resection (eg, mass, nodule), initial	15.75	27.43	\$889
32663	Thoracoscopy, surgical; with lobectomy (single lobe)	24.64	41.15	\$1,334
32666	Thoracoscopy, surgical with therapeutic wedge resection (eg, mass, nodule), initial unilateral	14.50	25.63	\$831

Per the American Medical Association's CPT Education and Information Services, CPT 64999 should be reported when cryotherapy/cryoablation/cryoanalgesia/cryoneuromodulation is performed. When reporting an unlisted code to describe a procedure or service, it is necessary to submit supporting documentation, such as an operative report, along with a claim that provides an adequate description of the nature, extent, and need for the procedure, as well as the time, effort and equipment necessary to provide the service.

64999	Unlisted procedure, nervous system	Contractor priced		
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## References

<sup>1</sup>American Medical Association CPT 2021 Professional Edition. CPT is trademark of American Medical Association.

### Facility Technical Component

The patient's medical record should contain documentation describing the need for post-operative pain control (G00-G99). Coding & reimbursement based upon the physician's documentation may include:

ICD-10	Diagnosis	ICD-10	PCS
G89.12	Acute post-thoracotomy pain	01580ZZ	Destruction of Thoracic Nerve, Open Approach
G89.18	Other acute post procedural pain	01584ZZ	Destruction of Thoracic Nerve, Percutaneous Endoscopic Approach

The primary surgical procedure determines the clinically relevant Medicare Severity Diagnosis Related Group (MS-DRG) or Ambulatory Payment Classification (APC). The cryoICE probe is a single use disposable patient care item used in the Operating Room and may be included in a range of cardiothoracic procedures grouped to the following MS-DRGs, such as, but not limited to:

MS-DRG <sup>3</sup>	Description	Weights	Geometric mean LOS	Arithmetic mean LOS	2021 CMS Payment
163	Major chest procedure with MCC	4.9596	9.1	11.7	\$29,565
164	Major chest procedure with CC	2.6358	4.4	5.4	\$15,713
165	Major chest procedure with w/o CC/MCC	1.9086	2.6	3.1	\$11,378
166	Other respiratory system O.R. procedures with MCC	3.7897	8.0	10.6	\$22,591
167	Other respiratory system O.R. procedures with CC	1.8610	3.8	5.0	\$11,094
168	Other respiratory system O.R. procedures without CC/MCC	1.3694	2.1	2.6	\$8,163

### Peer Reviewed Literature

Aiken et al. Intercostal nerve cryoablation is associated with lower hospital cost during minimally invasive Nuss procedure for pectus excavatum. *J Pediatr Surg* (2020). doi: 10.1016/j.jpedsurg.2020.10.009. Epub ahead of print. PMID: 33199059.

Bucerius, et al. Pain is significantly reduced by cryoablation therapy in patients with lateral minithoracotomy. *Ann Thor Surg* 70.3 (2000): 1100-1104.

Dekonenko et al. Postoperative pain control modalities for pectus excavatum repair: A prospective observational study of cryoablation compared to results of a randomized trial of epidural vs patient-controlled analgesia. *J Pediatr Surg* 55.8 (2020): 1444-1447.

Kim, et al. Use of transthoracic cryoanalgesia during the Nuss procedure. *J Thor Card Surg* 151.3 (2016): 887-888

Keller, et al. Intercostal nerve cryoablation versus thoracic epidural catheters for postoperative analgesia following pectus excavatum repair: Preliminary outcomes in twenty-six cryoablation patients. *J Ped Surg* 51.12 (2016): 2033-2038.

Graves, et al. Intraoperative cryoanalgesia for managing pain after the Nuss procedure. *J Ped Surg* 52.6 (2017): 920-924.

Morikawa, et al. Cryoanalgesia in Patients Undergoing Nuss Repair of Pectus Excavatum: Technique Modification and Early Results. *J Lap Adv Surg Tech* 28.9 (2018): 1148-1151.

### References

<sup>2</sup> ICD-10-CM Official Guidelines for Coding and Reporting FY 2021, Chapter 6: Diseases of the Nervous System (G00-G99).

<sup>3</sup> Optum 360. DRG Expert 2021.

**For additional information** about the medical necessity of postoperative analgesia, such as peer-reviewed literature and payer policies, please speak with your AtriCure sales professional; call AtriCure's HelpLine at 1 (888) 347-6403 or contact us online at [www.AtriCure.com/Health-Economics-and-Reimbursement](http://www.AtriCure.com/Health-Economics-and-Reimbursement).

### ATRICURE, INC.

7555 Innovation Way  
Mason, Ohio 45040 USA  
[www.AtriCure.com](http://www.AtriCure.com)