Tumor Treating Fields for Pancreatic Cancer

Clinical Policy ID: CCP.1568

Recent review date: 9/2026

Next review date: 1/2028

Policy contains: alternating electric fields; cancer; pancreas; tumor treating fields.

First Choice Next has developed clinical policies to assist with making coverage determinations. First Choice 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 First Choice 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. First Choice 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. First Choice Next's clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, First Choice Next will update its clinical policies as necessary. First Choice Next's clinical policies are not guarantees of payment.

Coverage policy

Tumor treating fields for treatment of unresectable, locally advanced pancreatic cancer is investigational/not clinically proven and, therefore, not medically necessary.

For any determinations of medical necessity for medications, refer to the applicable state-approved pharmacy policy.

Limitations

No limitations were identified during the writing of this policy.

Alternative covered services

Guideline-directed systemic therapy or chemoradiation

Background

Pancreatic adenocarcinoma arises from the pancreatic duct cells and is the most common type of pancreatic cancer. It is the fourth leading cause of cancer deaths in the United States. The 5-year survival rate ranges from

3% for those with distant metastases at diagnosis to 44% for those with locally confined disease at diagnosis (American Cancer Society, 2025).

Surgery, radiation therapy, and chemotherapy may extend survival or relieve symptoms, but seldom produce a cure. Surgical resection is the only curative option, but only 20% of pancreatic cancer is surgically resectable at the time of diagnosis. For metastatic or recurrent disease, chemotherapy with or without targeted drug therapy are a potential option. For management of locally advanced disease, treatment options include chemotherapy with or without targeted therapy, chemoradiation therapy, surgery, and palliative surgery. For tumors with local invasion (primarily vascular involvement) that preclude surgical intervention, there is a need for more effective and tolerable therapies, particularly for patients with poor prognostic factors (PDQ Adult Treatment Editorial Board, 2025).

Tumor treating fields (also called alternating electric fields) use low-energy, non-ionizing electrical fields to disrupt cancer cells' ability to grow and divide. Building on the success of tumor treating fields therapy for glioblastoma and non-small cell lung cancer, a new device was developed for locally advanced pancreatic cancer.

Optune Pax (Novocure GmbH, Baar, Switzerland) is a portable, wearable device that delivers tumor treating fields at 150 kHz to the abdomen by non-invasive, electrically-insulated transducer arrays connected to the device. The mechanism of action involves physically disrupting the special characteristics and geometrical shape of dividing cells during rapid cell division exhibited by cancer cells. The tumor treating fields do not affect normal adult cells that are not undergoing division or dividing very slowly. Optune Pax's treatment parameters are preset by the manufacturer (U.S. Food and Drug Administration, 2025).

The U.S. Food and Drug Administration (2026) approved Optune Pax for the treatment of adult patients with locally advanced pancreatic cancer, concomitant with gemcitabine and nab-paclitaxel. Optune Pax is contraindicated in patients with an electrical implant or sensitivity to the gels used for adhesion.

Findings

Guidelines

Neither the National Comprehensive Cancer Network (2026) nor the American Society of Clinical Oncology (Khorana, 2019) mentions tumor treating fields therapy as an option for potentially curable pancreatic adenocarcinoma.

The American Cancer Society (2026) states that Optune Pax can be used along with chemotherapy to treat some people with locally advanced pancreatic cancer, as it can interfere with the cells' ability to grow and spread.

Evidence review

The evidence supporting tumor treating fields therapy for pancreatic cancer is limited to the results of one clinical trial, which provided the basis for regulatory approval. In summary, for individuals with unresectable, locally advanced pancreatic cancer, the addition of tumor treating fields to chemotherapy is safe but offers modest gains in survival (approximately two months) and quality-adjusted life years.

PANOVA-3 is a manufacturer-sponsored, prospective, randomized controlled phase III trial (n = 571) that assessed the efficacy and safety of tumor treating fields, in combination with gemcitabine and nab-paclitaxel, for front line treatment of unresectable, locally advanced pancreatic adenocarcinoma. The primary end point was overall survival. Secondary end points included progression-free survival, local progression-free survival, pain-free survival, and overall response rate. Distant progression-free survival was analyzed post hoc. Results were reported as median (months) with 95% confidence intervals (Babiker, 2025; ClinicalTrials.gov identifier NCT03377491).

Tumor treating fields combined with gemcitabine/nab-paclitaxel provided statistically significant but modest gains in overall survival, pain-free survival, and distant progression-free survival, with improvements measured in months. Progression-free survival, local progression-free survival, and overall response rate were not improved. Approximately 76.3% of participants experienced device-related skin adverse events, most of which were mild to moderate (Babiker, 2025).

Using data from the PANOVA-3 trial, Liu (2026) developed a three-state Markov model to compare the cost-effectiveness of chemotherapy with and without tumor treating fields. Analyses were conducted from both American and Chinese healthcare payer perspectives. From an American perspective, the combination of tumor treating fields and chemotherapy resulted in incremental lifetime costs of $147,766 and an incremental cost effectiveness ratio of $1,001,995 per quality-adjusted life year, reported in 2025 U.S. dollars. Both results exceeded willingness-to-pay thresholds set at $150,000 and $40,026 per quality-adjusted life year. Patients treated with tumor treating fields combined with chemotherapy would experience a mean survival of 1.332 life-years (15.984 months), representing an increase of 0.196 life-years (2.352 months) over those receiving chemotherapy alone. Device cost was the most influential parameter.

References

On 6/24/2026, 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: “tumor treating fields,” “pancreas,” and “pancreatic.” 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.

American Cancer Society. Cancer facts & figures 2025. Atlanta: American Cancer Society; 2025. https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2025/2025-cancer-facts-and-figures-acs.pdf. Published 2025.

American Cancer Society. Tumor treating fields (TTF) therapy for pancreatic cancer. https://www.cancer.org/cancer/types/pancreatic-cancer/treating/tumor-treating-fields.html. Last revised February 17, 2026.

Babiker HM, Picozzi V, Chandana SR, et al. Tumor treating fields with gemcitabine and nab-paclitaxel for locally advanced pancreatic adenocarcinoma: Randomized, open-label, pivotal phase III PANOVA-3 study. *J Clin Oncol*. 2025;43(21):2350-2360. Doi: 10.1200/JCO-25-00746.

ClinicalTrials.gov identifier NCT03377491. Effect of tumor treating fields (TTFields, 150 kHz) as front-line treatment of locally-advanced pancreatic adenocarcinoma concomitant with gemcitabine and nab-paclitaxel (PANOVA-3). https://clinicaltrials.gov/study/NCT03377491?term=NCT03377491&viewType=Card&rank=1. Last update posted January 21, 2026.

Khorana AA, McKernin SE, Berlin J, et al. Potentially curable pancreatic adenocarcinoma: ASCO clinical practice guideline update. *J Clin Oncol*. 2019;37(23):2082-2088. Doi: 10.1200/jco.19.00946.

Liu K, Zhu Y, Zeng M, Zhu H. Tumor treating field plus chemotherapy for locally advanced pancreatic adenocarcinoma: An international cost-effectiveness analysis. *Sci Rep*. 2026. Doi: 10.1038/s41598-026-54203-x.

National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines). Pancreatic adenocarcinoma. Version 2.2026. Published April 22, 2026.

PDQ Adult Treatment Editorial Board. PDQ pancreatic cancer treatment. Bethesda, MD: National Cancer Institute. National Cancer Institute website. https://www.cancer.gov/types/pancreatic/hp/pancreatic-treatment-pdq. Updated February 12, 2025.

U.S. Food and Drug Administration. Optune Pax premarket approval letter [P250034] to Novocure GmbH % Kristin Duggan. https://www.accessdata.fda.gov/cdrh_docs/pdf25/P250034A.pdf. Dated February 11, 2026.

U.S. Food and Drug Administration. Novocure. Optune Pax for locally advanced pancreatic cancer. Physician Instructions for Use. https://www.accessdata.fda.gov/cdrh_docs/pdf25/P250034D.pdf. Dated 2025.

Policy updates

Initial review date: 9/2026 and clinical policy effective date: 10/2026

Related codes

Below are the most commonly submitted codes for the service(s)/item(s) subject to this policy CCP.1568. This is not an exhaustive list of codes. Providers are expected to consult the appropriate coding manuals and bill accordingly.

Code	Code description
1025T	Alternating electric fields dosimetry and delivery-simulation modeling, creation and selection of patient-specific array layouts, and placement verification
A4555	Electrode/transducer for use with electrical stimulation device used for cancer treatment, replacement only
E0766	Electrical stimulation device used for cancer treatment, includes all accessories, any type