



Date: November 5, 2025

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Sent via email

Subject: Transarterial Radioembolization (TARE)/Selective Internal Radiation Therapy (SIRT) for the Treatment of Malignant Cancers of the Liver (for Louisiana Only) UnitedHealthcare Community Plan Medical Policy (CS060LA)

Dear Dr. Docimo and Dr. Wilson,

On behalf of representatives of the Society of Interventional Radiology (SIR), we would like to highlight the clinical significance of yttrium-90 (Y90) radioembolization in treating patients with liver-dominant metastatic disease from primary tumors such as breast, prostate, lung, and pancreatic cancers. Although data are limited to non-randomized studies, extensive clinical experience and published literature, including multiple meta-analyses, systematic reviews, and prospective and multicenter retrospective studies, demonstrate the effectiveness and safety of transarterial radioembolization (TARE). This supports its use in this patient population to improve survival and quality of life.

Efficacy of Y90 Radioembolization in Metastatic Liver Tumors

Medical literature shows numerous studies in metastatic cancer indicating that Y90 radioembolization achieves high response rates of 95% to 98% within treated liver tumors. We are not aware of any therapy in oncology that has such high response rates coupled with a very small complication rate. It is clear from all published peer-reviewed reports for metastatic cancers that survival and quality of life are governed by tumor control in the liver. The treatment is low-risk, low-toxicity, and has been effective across multiple tumor types.

Breast Cancer Liver Metastases and Therapeutic Outcomes

In patients with untreated breast cancer liver metastases, overall survival (OS) ranges from 4 to 8 months. Surgical resection is associated with excellent response rates, but the number of patients who are eligible for resection is small. The use of systemic chemotherapy remains the standard of care. However, reported response rates with chemotherapeutic treatments for breast cancer liver metastases vary widely, from a very low 11.6% to 83%, depending on the specific regimen and patient population. TARE represents a valid therapeutic option in chemotherapy-refractory patients or in patients in whom chemotherapy is deemed unfeasible. Radioembolization with Yttrium 90 represents a valid treatment

option without prohibitive toxicity and with good results in terms of overall survival (OS) and overall disease control (ODC).

Systematic Review: Lalenis et al. (2025)

SIR would like to highlight a 2025 systematic review by Lalenis et al. on the efficacy of liver-directed therapies for breast cancer-related liver metastasis that included 14 studies in the TARE group (two prospective and 12 retrospective) involving 601 patients. At three months, the median overall disease control rate was 78.9% (range 46.7–96%), while the median OS was 11.9 months (range 4.9–35.4 months). The study concluded that locoregional therapies are effective in the treatment of liver metastases in patients with breast cancer and may help reduce tumor burden, alleviate symptoms, and extend local disease control and overall survival.

Meta-Analysis: Liu et al. (2022)

In a 2022 meta-analysis, Liu et al. assessed the efficacy of yttrium-90 selective internal radiation therapy (SIRT) in treating patients with breast cancer with hepatic metastasis. Twenty-four studies, comprising of 412 patients, were included. The results suggest that SIRT is feasible for treating breast cancer with hepatic metastasis recalcitrant to other therapies, and showed the tumor control rates 73-97% which are similar to results shown for primary liver cancer. There were no life-threatening adverse effects reported.

Systematic Review: Rivera et al. (2021)

Rivera et al. (2021) conducted a systematic review of the literature comparing hepatic resection, radiofrequency ablation (RFA), transarterial chemoembolization, radioembolization, and hepatic arterial infusion (HAI). There were 51 overall studies included, 10 of which were regarding TARE in 380 total patients. Regarding TARE, majority of patients had good response or stabilization of the disease (9 showed complete response, 143 had a partial response, 139 had disease stabilize) with only 44 out of 380 patients had disease progression. Eight studies provided mean OS of 11.5 months.

TARE in Pancreatic Cancer Liver Metastases

Growing data exists for the treatment of liver-dominant metastatic disease from pancreatic primary cancer. Pancreatic adenocarcinoma typically metastasizes to the liver via hematogenous spread. Most patients present with unresectable disease. In patients on chemotherapy with controlled extrahepatic disease and progression of the disease in the liver, Y90 radioembolization plays a unique role in improving outcomes. A 2022 systematic review by Alexander HC et al. included 8 studies with 145 patients and demonstrated disease control rate of 69% at 3 months and median OS from TARE 3.7-9 months. Additional recent prospective/ combination therapy studies support acceptable safety and improved progression free and overall survival of 7-8.7 months from TARE or 21.8 months from liver-met diagnosis.

TARE in Lung Cancer Liver Metastases

Several recent studies have also supported use of TARE in metastatic lung cancer. A most recent 2025 study by Alexander et al concluded that TARE is safe for treatment of lung cancer metastases to the liver. Median overall survival (OS) for non-small cell lung cancer was 8.3 (95% CI: 6.3-16.4) months; small cell lung cancer 4.1 (95% CI: 1.9-6.6) months; and lung carcinoid 43.5 (95% CI: 7.8-61.4) months.

Additional earlier studies support safety and effectiveness in reducing or stabilizing multiple liver metastases from lung cancer.

TARE in Prostate Cancer Liver Metastases

Prostate cancer most commonly metastasizes to bone and lymph nodes with only 10% of patients developing liver metastases, indicating aggressive, androgen receptor-independent biology (e.g. neuroendocrine differentiation). Liver metastases are associated with poor prognosis with median survival <8 months despite systemic therapy. In liver-dominant disease, TARE provides local control, improved quality of life, delayed hepatic failure, and improved survival. A 2022 study by Bibok et al. demonstrated median overall survival was 27.2 months from the time of TARE, 32.1 months from the diagnosis of liver metastases, and 108.1 months from initial cancer diagnosis. All existing literature supports safety and efficacy of TARE as salvage therapy in patients with prostate cancer and liver-dominant disease that is resistant to systemic therapy. This initial success prompted ongoing prospective trials and registries that focus on combination therapies involving liver-directed treatment with Y90.

Summary and Policy Recommendation

Y90 radioembolization in liver-dominant metastatic disease from breast, prostate, pancreatic, and lung primary cancers plays a significant niche role in selected patients. TARE safety and proven improved survival are compatible with or higher than most available systemic treatments. The treatment provides the only valid option for these patients who are refractory to systemic treatments and are not surgical candidates.

Given these findings, we urge you to consider updating your commercial coverage criteria to permit locoregional intra-arterial Y90 radioembolization for select patients with chemorefractory, unresectable, liver-dominant metastatic disease from breast, pancreatic, prostate, and lung primary tumors as a conjunctive palliative treatment to improve survival and quality of life. As such, an update to your commercial policy would ensure equitable patient access to care regardless of plan type.

SIR appreciates the opportunity to provide meaningful feedback on the UnitedHealthcare Community Plans policy for transarterial radioembolization (TARE)/selective internal radiation therapy (SIRT) for the treatment of liver metastases. If you have any questions, please do not hesitate to contact SIR's Senior Manager of Health Policy and Economics, Ashley Maleki, at amaleki@sirweb.org or (703) 844-0378.

Sincerely,



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President, Society of Interventional Radiology

Cc: Eve Lee, MBA, CAE
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