Boston Scientific
Advancing science for life™

THERASPHERE™
Y-90 Glass Microspheres

CONTROL FOR DURABLE OUTCOMES

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Y-90 Glass Microspheres

Designed for control to achieve durable patient outcomes, TheraSphere provides reproducible results for you and your referrers.

Proven, well-tolerated therapy since 1999 with more than 100,000 patient treatments globally

1999

TheraSphere receives **FDA HDE approval**

2011

Radiation segmentectomy: high-dose radiation delivered to ≤ 2 hepatic segments[1]

2016

PREMIERE: TheraSphere significantly prolongs TTP compared with cTACE[2]

2020

LEGACY confirms neoadjuvant or standalone treatment in HCC[3]

DOSISPHERE-01 personalized dosimetry approach improves OS[4]

2021

1st and only Y-90 therapy PMA-approved by FDA for HCC

BCLC Guidelines: LEGACY study led to inclusion of TARE for very early and early-stage unresectable HCC[5]

TARGET global real-world study confirms tumor absorbed dose is critical for predictable tumor response and OS in broad population.[6]

2022

RASER: Prospective study assessing radiation segmentectomy using TheraSphere[7]

TRACE: TheraSphere offers superior tumor control and survival compared with DEB-TACE*[8]

2024

Ochsner tumor dose analysis demonstrated reproducible outcomes with high dose and high RPM[9]

*The loading of doxuribicin to LC Beads is outside of the indication for use in the USA

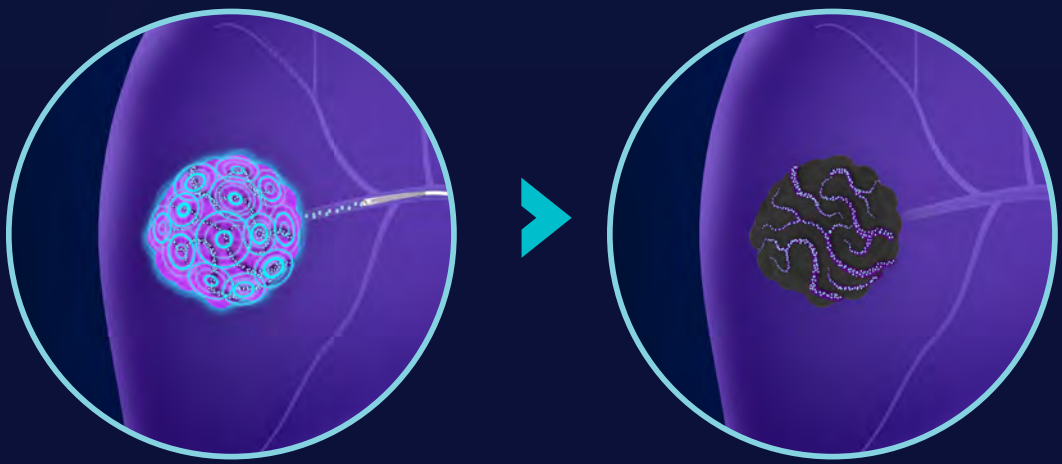
Targeted for control.

Unique, optimal design for tumor control.

TheraSphere is uniquely engineered to have unmatched radiation per microsphere (RPM) to maximize repetitive and cumulative radiation exposure to tumor cells.

This allows you to confidently destroy tumor cells with proven ablative dosing and drive complete pathological necrosis (CPN).[3,10] The flexibility of personalized dosing serves your treatment intent across various clinical scenarios.[11]

Targeted delivery with unmatched RPM helps achieve CPN: [10]

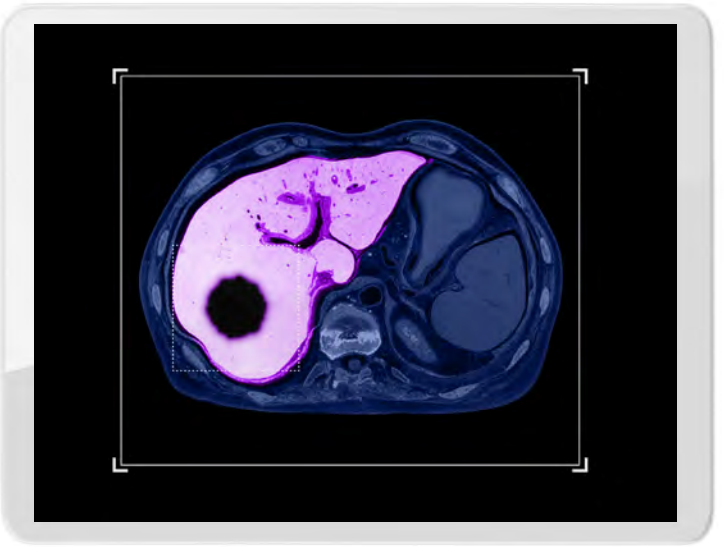


TheraSphere maximizes lethal hits to tumor DNA, leading to tumor cell death [9]

Durability leads to quality of life.

Tumor control yields durable outcomes and reproducible results.

Durable outcomes for your patient



LEGACY

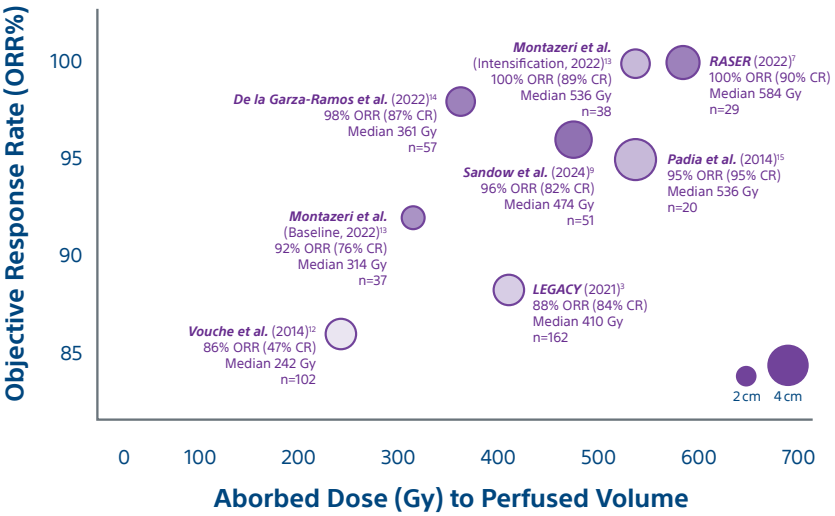
88% best overall response rate using localized mRECIST, with **76.1%** of patients exhibiting a DoR ≥6 months[3]

RASER

90% of patients achieved a sustained complete response with a median duration of **20.9 months (635 days)**[7]

Reproducible results widely published

Proven absorbed dose-response relationship with TheraSphere



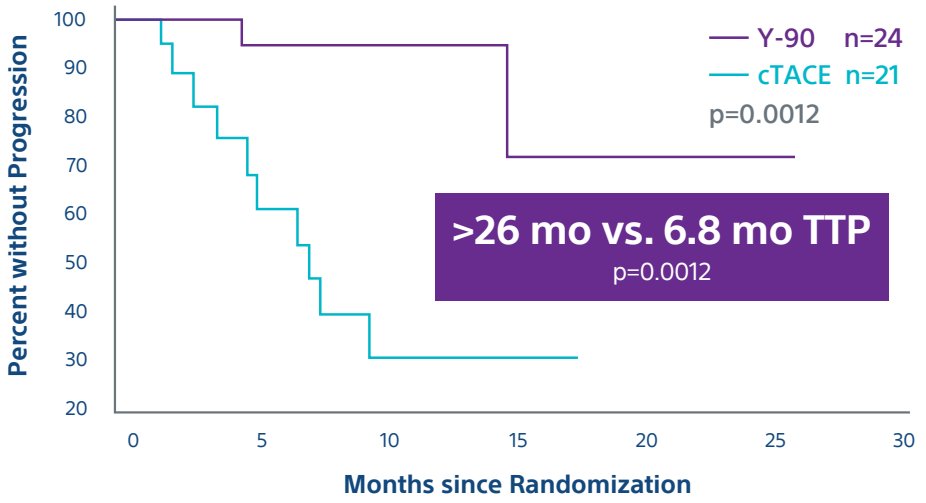
Reproducible results backed by international, multi-disciplinary Dosimetry Steering Committee recommendations.[11]

Quality of life creates long-term value.

Minimal side effects in an outpatient procedure.

Durable outcomes are cost effective

Glass Y-90 treatment showed longer time to tumor progression than cTACE[2]



Fewer procedures positively impact patient lives

TheraSphere required fewer total procedures per patient on average when compared to TACE[16]

At 5 years, TARE is a cost-effective treatment compared to cTACE, **saving more than $15,779 per person.**[17]

Committed to your cause.

With TheraSphere resources you can:

- Reduce time between ordering and treatment with expedited delivery, arriving as early as next day
- Order personalized doses online through TheraSphere Now – a free cloud-based platform with real-time inventory visibility, delivery tracking and order management
- Get case support, dosimetry insights, product expertise and educational resources from experienced field teams
- Apply recommendations from the Dosimetry Steering Committee with Simplicit^{90}Y™ software
- Leverage patient education materials to help navigate the treatment journey with your patients

Visit **TheraSphere.com** to find resources or request to speak with a field consultant

To place an order for TheraSphere™ Y-90 Glass Microspheres,
please contact your TheraSphere consultant at
TherasphereCustomerSupport@bsci.com

or call Customer Service (US/CANADA): 1-866-363-3330.

Visit our website at www.therasphere.com

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TheraSphere™ Yttrium-90 Glass Microspheres

CAUTION: Federal (USA) law restricts this device to sale by or on order of a physician. **INDICATION FOR USE:** TheraSphere is indicated for use as selective internal radiation therapy (SIRT) for local tumor control of solitary tumors (1-8 cm in diameter), in patients with unresectable hepatocellular carcinoma (HCC), Child- Pugh Score A cirrhosis, well-compensated liver function, no macrovascular invasion, and good performance status. **CONTRAINDICATIONS:** TheraSphere is contraindicated in patients: whose Tc-99m macroaggregated albumin (MAA) hepatic arterial perfusion scintigraphy shows any deposition to the gastrointestinal tract that may not be corrected by angiographic techniques • who show shunting of blood to the lungs that could result in delivery of greater than 16.5 mCi (0.61 GBq) of Y-90 to the lungs. Radiation pneumonitis has been seen rarely in patients receiving doses to the lungs greater than 30 Gy in a single treatment. • in whom hepatic artery catheterization is contraindicated, such as patients with vascular abnormalities or bleeding diathesis • who have pulmonary insufficiency (conventionally defined by an arterial oxygen pressure (Pa,O2) of < 60 mmHg, or oxygen saturation (Sa,O2) of < 90%) or severe liver dysfunction, including hepatic encephalopathy, clinically evident ascites or treatment with diuretics for ascites • with portal vein thrombosis (PVT) Type 4 involvement and lack of Tc-99m MAA deposition on the PVT seen on the Tc-99m MAA imaging with >70% tumor replacement in the liver • with comorbidities or poor overall health (e.g., ECOG performance status rating > 2) which may make the patient a poor candidate for locoregional radiation treatment. • who are pregnant. **WARNINGS:** The following pre-treatment, high-risk factors (disease characteristics) have been associated with serious adverse events deemed possibly related to use of the device: infiltrative tumor type • tumor nodules too numerous to count • AST or ALT > 5 times ULN • bilirubin > 2 mg/dL • tumor volume > 50% combined with albumin < 3 g/dL. Keep the TheraSphere dose vial upright and stored in its lead pot before and during patient treatment, except as required for radiation measurement. Do not open the dose vial acrylic shield prior to patient treatment. Post-treatment, waste materials require caution to prevent contamination and beta shielding due to residual glass microspheres. **PRECAUTIONS:** GENERAL PRECAUTIONS: As in any intra-arterial procedure, aseptic technique should be practiced, and care should be taken to ensure minimum patient anesthesia exposure extraneous to therapeutic objective. • Consideration of patient comorbidities should be used when determining the type and volume of fluid to infuse via catheter to avoid electrolyte imbalance, fluid shift, and hyperglycemia. • It is important to avoid any aggressive arterial procedure that may lead to arterial spasm that impairs TheraSphere distribution into the perfused liver target volume which may lead to underdosing or non- target deposition of TheraSphere. PRECAUTION IN PATIENTS WITH IMPAIRED LIVER FUNCTION: No efficacy or safety data from the LEGACY study are available to support the use of the device in patients with Child-Pugh score B or C cirrhosis. PRECAUTION IN VULNERABLE PATIENTS: No effectiveness or safety data are available to support the use of the device in children or breast- feeding women. ENDOCRINE DISRUPTION, CARCINOGENICITY, MUTAGENICITY, TOXICITY TO REPRODUCTION: Ideally the use of this radioactive device in women of childbearing capability should be performed during the first few (approximately 10) days following the onset of menses. RADIATION SAFETY: Radioactive products should be used only by healthcare professionals who are qualified by specific training in the safe use and handling of radionuclides and whose experience and training have been approved by the appropriate government agency authorized to license the use of radionuclides. • As in the use of any radioactive material, ensure minimum radiation exposure to the patient extraneous to the therapeutic objective, and to minimize radiation exposure to workers and others in contact with the patient. RELEASE AND POST-TREATMENT PRECAUTIONS: Post treatment patient care: use universal precautions for body fluid contact. Trace Y-90 may be detectible in blood and urine; handle with gloves and dispose as normal body fluids. The radiation field is expected to be less than 1 mrem/h (10 µSv/h) at 3 ft (1 m) from the patient's abdomen. Supplemental shielding and segregation of the patient are not required to maintain exposure to others below regulated limits. • Release instructions: The patient should follow good hygiene (e.g., proper hand washing). Caregivers, family, and others do not require restrictions on patient contact; however, they can minimize their radiation exposure by avoiding prolonged time (>12 hours per day) within 1 ft (0.3 m) of the patient's abdomen for the first week post therapy. Patients should be advised that radiation emitted from the patient may be detectible at security screening (e.g., international travel). • Special precautions post-administration: If the patient requires hospitalization, surgery, medical assessment or treatment regarding any part of their thorax or abdomen within first 2 weeks of treatment, the patient should advise the hospital and treating physician of the Y-90 TheraSphere implant. The physician should consult their radiation safety staff for handling and disposal of liver tissue. • Special liver tissue handling: Special liver tissue handling may be required for post-treatment surgery, explant, or transplant since the glass microspheres remain permanently implanted in the liver tissue. Disclosure of the treatment will be required if cremation is considered. **POTENTIAL ADVERSE EVENTS:** The use of this product leads to irradiation of both tumorous and normal liver tissue. As a result, patients with compromised liver function may be at greater risk of liver function impairment and hence could experience complications. Clinical side effects usually occur within the first 4 to 6 weeks after treatment. Based on clinical trial data, literature reviews and post market surveillance, adverse events potentially associated with treatment using Y-90 microspheres, including TheraSphere, may include the following: Allergic reaction • Altered liver function, acute or chronic • Anorexia • Anxiety • Ascites • Bile Duct injury • Bleeding/hemorrhage • Chills / rigors • Cholecystitis (inflammatory or infectious) • Colitis • Death • Dehydration • Diarrhea • Dizziness • Dyspnea • Edema (any location) • Electrolyte abnormalities • Elevated BUN/creatinine • Fall • Fatigue • Fever • Gastrointestinal bleeding / hemorrhage • Gastrointestinal ulcer or ulceration • Hepatic encephalopathy • Hepatorenal failure • Hiccups • Hypertension • Hypotension • Infection (any location) • Liver failure, acute or chronic • Lymphopenia • Malaise • Mood alteration • Muscle weakness • Nausea • Neutropenia • Pain (any location) • Pancreatitis • Platelet count abnormalities • Pleural effusion • Portal hypertension • Pre-existing chronic liver disease decompensation • Pulmonary edema • Pulmonary fibrosis • Radiation hepatitis • Radiation induced disease, acute • Radio Embolization Induced Liver Disease (REILD) • Sepsis • Supraventricular arrhythmia • Thrombosis (arterial or venous) • Tumor inflammation (including tumor edema) • Tumor-lysis syndrome • Vomiting • Weight loss. Complications related to the administration procedure itself may include: Allergic reaction: Arterial injury including vessel dissection • Aspiration pneumonia • Bruising/bleeding/hematoma at site • Constipation/abdominal distension • Fatigue • Flushing • Infection • Nausea • Nerve damage. PI-992004-AA.

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