



Minimally Invasive Cancer Treatment

New Hope for Liver
Tumors — Without Surgery



NORTH STAR
VASCULAR & INTERVENTIONAL

Understanding Liver Cancer

Tumors in the liver can be:

- Primary (starting in the liver)
- Secondary (metastatic — spread from another part of the body)

The most common sources of metastatic liver tumors include:

- Colon and rectum
- Breast
- Esophagus, stomach, pancreas
- Lung, kidney, and skin

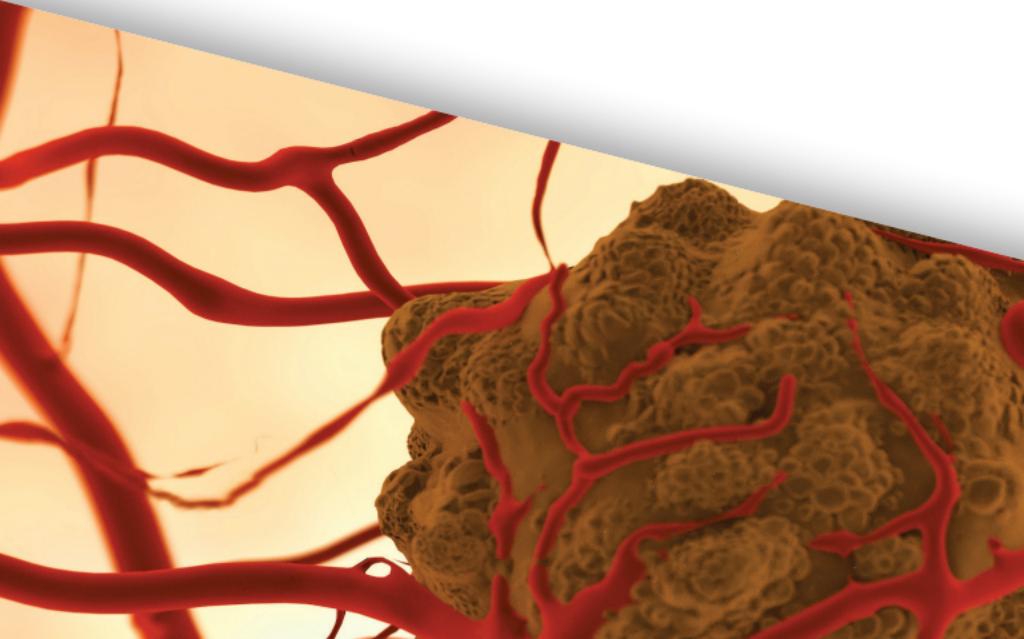
These tumors may grow silently for months or years before detection.

Is Surgery an Option?

Surgical removal offers the best chance of cure—but it's not always possible:

- Tumors may be too large
- Cancer may involve major blood vessels or vital structures
- Many small tumors may be scattered throughout the liver

As a result, surgery is not an option for over two-thirds of patients with primary liver cancer, and 90% of patients with metastatic liver tumors.



Minimally Invasive Treatment Options at NSVI

When surgery isn't possible, North Star Vascular & Interventional (NSVI) offers precise, image-guided procedures that deliver treatment from inside the body—without open surgery.

These procedures are performed by specially trained interventional radiologists using real-time imaging and advanced endovascular techniques.

Our Treatment Options Include:

Embolization

Blocks the tumor's blood supply to starve it of nutrients.

Radioembolization (Y-90)

Delivers targeted radioactive microscopic beads to attack the tumor from within.

Chemoembolization

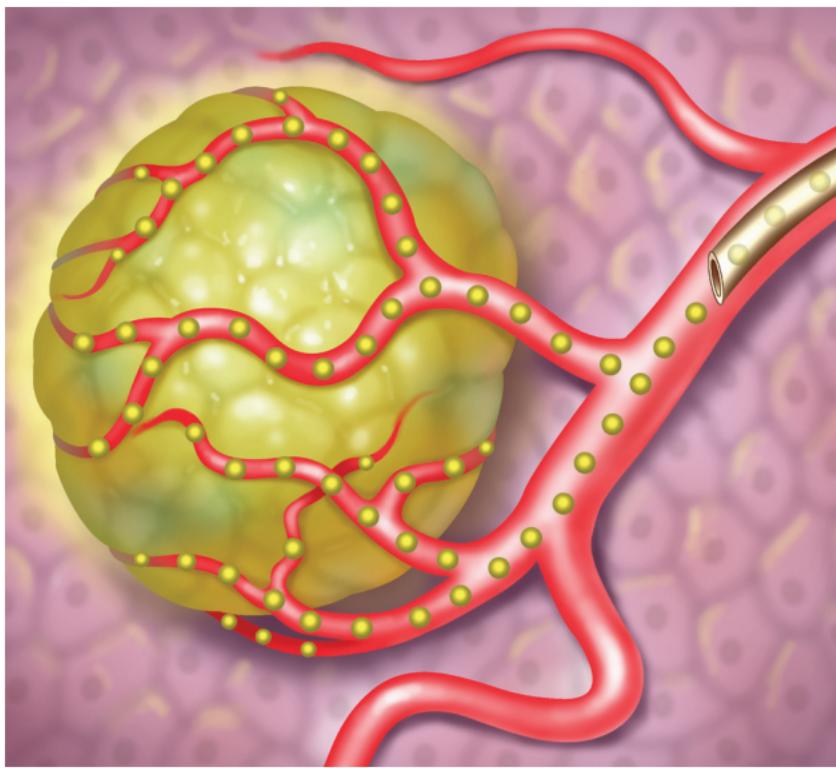
Combines embolization with chemotherapy—microparticles coated with chemotherapy are delivered directly to the tumor site.

Ablation Therapies

A thin needle, called a probe, is carefully guided through the skin into the tumor using imaging. It then releases energy—like heat or cold—to destroy the cancer cells.

These techniques are precise and target only the tumor, minimizing harm to healthy tissue.





IR-Guided Biopsies

Some tumors are difficult to reach with standard biopsies. Our radiologists use real-time imaging to:

- Guide a needle precisely to the tumor
- Obtain an accurate tissue sample
- Avoid the need for open surgical biopsy

Port Placement for Chemotherapy

Ports make chemotherapy treatments more manageable. Using real-time imaging, our specialists:

- Insert a soft tube into a vein connected to a small port
- Place the port under the skin in the chest for easy access
- Help reduce discomfort from repeated IVs

Our Outpatient Advantage

All interventional oncology procedures—including Y-90—are performed in our convenient outpatient center in Minneapolis:

- No hospital admission
- Easier access
- Lower infection risk
- Quicker recovery
- More affordable care



Why Choose North Star Vascular & Interventional?

- Pioneers in interventional oncology
- Among the first in the U.S. to perform many of these techniques
- Have trained hundreds of physicians worldwide
- Over a decade of experience using Y-90 and advanced embolization techniques
- Procedures performed in our state-of-the-art outpatient center

You'll receive:

- Personalized, minimally invasive care
- Reduced risk of complications
- Lower overall costs compared to hospital-based treatment
- A more comfortable, patient-centered environment

To learn more, visit NorthStarIR.com



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