DR TARR. INTERVENTIONAL RADIOLOGY · BRISBANE & IPSWICH

PATIENT FACTSHEET

INTERVENTIONAL ONCOLOGY · LIVER CANCER TREATMENTS

Liver Cancer Treatments: Y-90 SIRT & Ablation

Interventional oncology delivers treatment directly to liver tumours, radiation from inside the tumour's own blood supply, or heat through a fine needle, while sparing the healthy liver around it.

AT A GLANCE

Anaesthesia **Sedation (SIRT) or general (ablation)**	**Hospital stay** **Day case to one night**	**Approach** **Y-90 SIRT or thermal ablation**
Pathway **MDT review, then treatment**	**Repeatable** **Yes, combinable with other therapy**	**Cost** **Agreed in writing up front**

Targeted treatment, as part of your cancer team

These procedures are used for hepatocellular carcinoma (HCC, primary liver cancer) and for cancers that have spread to the liver, such as colorectal cancer. They are locoregional treatments: instead of treating the whole body, they attack the tumour directly. Decisions are made through multidisciplinary team (MDT) discussion. Dr Tarr works alongside your oncologist, hepatologist and surgeon so that each treatment fits your overall plan, whether the goal is curative intent, control, downstaging to surgery, or bridging to transplant.

Y-90 SIRT: radiation from the inside

Liver tumours feed almost exclusively from the hepatic artery, while healthy liver feeds mainly from the portal vein. SIRT (selective internal radiation therapy) exploits that difference. Millions of microscopic beads loaded with radioactive yttrium-90 are delivered through a catheter into the artery feeding the tumour. The beads lodge in the tumour's vessels and irradiate it from within over the following days, with a radiation dose far higher than external beam therapy could safely deliver, while the surrounding liver is largely spared.

1. **Work-up and mapping.** A planning angiogram and scan map your liver's blood supply, measure lung shunting and calculate your personalised dose.
2. **Treatment day (1 to 2 weeks later).** The Y-90 microspheres are delivered through a pinhole in the wrist or groin under sedation, usually a day case or one night in hospital.
3. **Follow-up imaging.** Scans over the following months track the tumour's response, reviewed with your MDT.

Thermal ablation: destroying small tumours

For small tumours (typically up to about 3 cm), a fine needle electrode is placed directly into the tumour through the skin under CT or ultrasound guidance, and the tumour is destroyed

with heat (microwave or radiofrequency energy). For well-selected small HCC, ablation can be used with curative intent, and in suitable cases outcomes approach surgical resection, through a needle, under a short general anaesthetic, usually with a single night in hospital.

Who these treatments suit

- HCC not suitable for surgical resection, or as a bridge to liver transplant
- Small HCC suitable for curative-intent ablation
- Liver-dominant metastases (for example colorectal) alongside systemic therapy
- Tumours recurring after previous surgery or other treatment
- Patients whose liver function or general health makes surgery too risky

Results and risks, honestly

Outcomes depend heavily on tumour type, size, number and liver function, which is why every case goes through MDT review and why Dr Tarr will give you a realistic, individual picture rather than generic statistics. Broadly: ablation of small HCC achieves high rates of complete tumour destruction; SIRT achieves disease control in the majority of well-selected patients and can shrink tumours enough to make surgery or transplant possible. After SIRT, fatigue, nausea and abdominal discomfort for days to a couple of weeks are common; uncommon risks include stomach ulceration or liver injury, minimised by careful mapping. After ablation, pain at the site and a day or two of feeling washed out are usual; uncommon risks include bleeding or injury to nearby structures. Radiation precautions after Y-90 are minimal and explained clearly before you go home.

Common questions

Is SIRT a type of chemotherapy? No. SIRT is internal radiation, radioactive microbeads delivered into the tumour's blood supply. It is often used alongside chemotherapy or immunotherapy, and the timing is coordinated with your oncologist.

Will I be radioactive afterwards? The Y-90 radiation is almost entirely absorbed within the tumour and fades over about two weeks. You will be given simple, short-lived precautions (mainly around very close prolonged contact) before discharge; for most patients life continues normally from day one.

Is ablation ever curative for liver cancer? For small HCC in a suitable position, ablation achieves complete tumour destruction in a high proportion of cases and is recognised in international guidelines as a curative-intent option. Suitability is confirmed on imaging and at MDT.

APPOINTMENTS & REFERRALS
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For GPs: refer by naming **Dr Gregory Tarr** (Medical Objects: "Dr Gregory Tarr"). Every consultation covers all of the patient's options, not just this one.

Fees for interventional oncology depend on your treatment plan and health fund. You will receive written informed financial consent before any treatment is booked.

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