Clinician Information Leaflet

Fibroblast Activation Protein Imaging & Therapy (FAPI)

Tc-99m FAPI SPECT/CT & Lu-177 FAPI Therapy

Now available at Umhlanga Molecular Imaging & Therapy Centers of Excellence

Netcare Umhlanga & Hibiscus Hospitals, South Africa

Nuclear Medicine Department

Background

Fibroblast Activation Protein (FAP) is expressed in cancer-associated fibroblasts within tumour stroma. Radiolabelled FAPI tracers enable:

- **Imaging** with Tc-99m FAPI (SPECT/CT).
- **Targeted radionuclide therapy** with Lu-177 FAPI.

This theranostic approach allows **"see what you treat"** for precision oncology.

Diagnostic – Tc-99m FAPI SPECT/CT

- **Procedure:** IV injection of Tc-99m FAPI; imaging on dual-head SPECT/CT.
- **Advantages:**
    - High tumour-to-background contrast.
    - Useful in low FDG-avidity tumours.
    - Readily available with Tc-99m kits.
- **Clinical applications (current evidence):**
    - Pancreatic adenocarcinoma, cholangiocarcinoma.
    - Gastric (diffuse, mucinous, signet-ring).
    - Colorectal cancers.
    - Ovarian & peritoneal carcinomatosis.
    - Breast.
    - Thyroid cancer (undifferentiated/ dedifferentiated).
    - Sarcoma.
    - Lung & head/neck cancers.
- **Radiation dose:** comparable to conventional bone scan.

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Nuclear Medicine Center of Excellence

Therapeutic – Lu-177 FAPI Therapy

- **Patient selection:** Positive uptake on FAPI imaging.
- **Administration:** IV infusion in controlled hospital environment.
- **Treatment cycles:** Typically every 6–8 weeks, individualized per patient.
- **Potential indications:** Advanced solid tumours refractory to standard therapy, especially pancreas, biliary tract, gastric, colorectal, ovarian.
- **Safety/side effects:**
    - Mild: fatigue, nausea, transient cytopenia.
    - Rare: renal/hepatic toxicity (monitor renal/hepatic function).
- **Dosimetry:** High tumour retention, rapid clearance from most normal organs.

Why Choose FAPI?

- Superior lesion detection in challenging tumours.
- Better staging and treatment planning.
- Expands treatment options for advanced cancer patients.

Referral Information

We contact patients directly for scheduling & preparation.

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