Posijet®
AUTOMATIC DISPENSING AND INFUSION SYSTEM

THE ONLY SAFE WAY FOR
FDG HANDLING

ALARA principle
As Low As Reasonably Achievable
The increase of PET Molecular Imaging practice using F18 as well as the new coming radioisotopes increases the exposure of the Medical and Technical staff to high radiation. More than ever it is essential to secure the staff and the patient during PET procedures.

RADIOPROTECTION

Posijet® is the only efficient and innovative Medical Device for the measurement and the dispensing of 511 keV radiotracers. This shielded screen of 1.40 m height provides the complete protection against radiation.

Radiation exposure of operator whole body is reduced by more than 98%

For example: At its maximum activity (2 Ci) there is less than 25 µSv/hr at 5 cm from the surface of the cart.
Posijet® is intended to provide accurate doses of FDG to patients and to secure injection procedures.

This system complies with most of FDG suppliers containers in the market which avoids the transfer of the vial from one container to another.

The system offers to the operators a secured and user-friendly way of working: This unit **automatically incomes the daily patient database** from the hospital Network to provide through the touch screen an instant access to patient data. This **avoids any waste of time of manual data capture.**

Of course the Posijet® is flexible and the operator can perform any changes or adjustment directly by the touch screen if there are any last minute changes (add-on patient, adjust the patient weight, activity to be injected, ...).
SAFETY

Posijet® is very easy to use, no special training is needed to be able to utilize it, the operator has only to follow the steps indicated on the touch screen and validates the procedure step by step to get to the preparation and to perform the injection of FDG. No error is possible, the system is perfectly secured and under control.

Posijet picks up and measures automatically the dose of FDG needed for each patient from the multidose vial, based on the patient database information. The dose calibrator as a capacity to measure a wide range of activity with a great accuracy (98% of the measured dose). Each prepared dose is diluted with saline solution and is still measured continuously until the injection. The system automatically generates and saves the patient and QC report either in the hospital patient database (data backup) or by printing it for a complete traceability.

The Posijet® is automatic but the injection is still manual so the operator can keep the control of the injection to the patient, in case it is needed to slow down or to stop the injection for any reason.

As the injection is done manually, there is no use contraindication. For example, the Posijet® can be used on paediatric procedures.
Posijet® is a closed system that respects perfectly the sterility of the FDG by using two sterile Sets. The first set is made for the mother solution and the second one is for each individual patient.

The Mother Solution set, once in place gets plugged together, in totally airtight way and remains that way during the whole process of injections.
STERILITY

The patient Administration Set is sterile, as a filter 0.22 µ and bubble sensor. At the patient end there is also a non return valve to avoid any ascent from the patient. This system ensures the radiopharmaceutical to be injected is aseptic conditions.
Posijet® is mobile and works on batteries to ensure an autonomy of over 12 hours unplugged. Operators can use it as a complete mobile unit during the all day for an easy transfer from the hot lab to the injection rooms and also during the patient's injection.

Its size permits to move it to any place and pass all entry doors. The height of 1m40 is intended to protect the whole body of the staff from radiation and allows the operator to stand by the patient during the injection.
## GENERAL DATA

<table>
<thead>
<tr>
<th><strong>Dimensions</strong></th>
<th>wide 60 cm x deep 95 cm x high 160 cm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight</strong></td>
<td>380 kg</td>
</tr>
<tr>
<td><strong>Batteries autonomy</strong></td>
<td>over 14 hours</td>
</tr>
<tr>
<td><strong>Contraindications</strong></td>
<td>No contraindications</td>
</tr>
<tr>
<td><strong>Flexibility</strong></td>
<td>Compliant with all FDG market available containers and vials</td>
</tr>
<tr>
<td><strong>Mother solution vial maximum activity required for shielding effectiveness (&gt; 98%)</strong></td>
<td>2 000 mCi MAX</td>
</tr>
<tr>
<td><strong>Average time spent to load and prepare the mother solution vial for the injections</strong></td>
<td>7 mn</td>
</tr>
<tr>
<td><strong>Average time needed for 1 patient injection</strong></td>
<td>4 mn</td>
</tr>
<tr>
<td><strong>How many operators needed to ensure the injections during 1 year to comply with the annual dosimetry of &lt; 20 mSv/year (calculated on a basis of 1 vial at its MAX activity per day)</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Prescribed dose accuracy</strong></td>
<td>Ability to deliver FDG within ± 5% of the prescribed dose</td>
</tr>
<tr>
<td><strong>Dose calibrator accuracy</strong></td>
<td>± 1%</td>
</tr>
<tr>
<td><strong>Minimum volume required in a vial</strong></td>
<td>0,2 ml</td>
</tr>
<tr>
<td><strong>Maximum volume required in a vial</strong></td>
<td>30 ml</td>
</tr>
<tr>
<td><strong>Dose rate at 5 cm of the cart surface at its maximum activity</strong></td>
<td>less than 25 µSv/hr</td>
</tr>
<tr>
<td><strong>Patient data : Possibility to get connected to the Hospital Network to acquire daily patient worklist</strong></td>
<td>Yes, compliant with all main market PACS</td>
</tr>
<tr>
<td><strong>Database backup</strong></td>
<td>Yes, compliant with all main market PACS</td>
</tr>
<tr>
<td><strong>CE Marking</strong></td>
<td>* CE Marking Medical Device Class 2 B in compliance with the European Regulation (3.2 - 11)</td>
</tr>
</tbody>
</table>
TESTIMONIALS

“The rapid development of the Positron Emission Tomography, currently with the F-18-FDG but shortly with other radioisotopes such as Gallium-68 and rubidium-82, increases the exposure of the medical and technical staff members due to the injected activities and the annihilation photon energy. Therefore it is important to reduce this exposure by optimizing all procedures of radiation protection. The POSIJET will significantly contribute to this optimized radiation protection which should secure the staff members in charge of PET examinations.”

Prof. Jean François CHATAL
Chairman of Nuclear Medicine Tomorrow Previous head of Nuclear Medicine Department University Hospital and cancer Centre Scientific adviser for ARRONAX cyclotron Nantes, France.

“I think the project is of high interest due the increasing use of F-18 FDG. The strength of POSIJET would be a significant reduction in radiation burden/exposure to staff members...Every single detail of the administration/injection process has been taken into account, the whole injection procedure is safer (control of radioactivity injected). “

Prof. Dr. Richard P. Baum
Chairman and Director, Dept. of Nuclear Medicine / Center for PET/CT Zentralklinik Bad Berka Germany

“I have known this group and this company for at least 3 years and it’s a very great pleasure working with them. I think POSIJET is a great product and I think it has a great future and we will be working together for its promotion”

Dr Matthew THAKUR
Director of Radiopharmaceutical Research and Professor of Radiology and Radiation Oncology at Thomas Jefferson University (TJU) Medical College and past President of the Society of Nuclear Medicine
Posijet® Automatic dispensing and infusion system  Equipped Sites
(information updated end 2011)

France
North Hospital of Marseille
C.I.N, Annecy
Hospital J. Monod, Le Havre
Hospital Catherine de Sienne, Nantes
CHU Mulhouse
CHU Angers

Belgium
U.Z. of Brussels

Norway
University Hospital of Tromsoe

Switzerland
CHU Genève
CHUV Lausanne

Portugal
CHU, Coimbra
Institute CUF, Porto

Italy
PESCARA Hospital

Australia
Moorabbin Hospital, Melbourne

Kingdom of Saudi Arabia
King Faysal Hospital
King Fahad Hospital, Damman

Marrocco
Hospital of Rabat

Israel
Hadassah Hospital, Jerusalem