

La Chapelle-sur-Erdre, 18 April 2024

## Press release

### LEMER PAX SIGNS A PARTNERSHIP FOR DISTRIBUTING ICU MEDICAL'S PLUM 360™ PUMP FOR THE FRENCH NUCLEAR MEDICINE MARKET

On 1 January 2024, Lemer Pax, world leader in innovation in the field of radiation protection, and ICU Medical, world leader in infusion systems, infusion consumables and intensive care products, signed a partnership for distributing the Plum 360™ pump for the French Nuclear Medicine market. This collaboration is part of the marketing of Theranojet<sup>®ARA</sup>, Lemer Pax's new secure shielded injection system for theranostic products, co-developed and patented with the Paris region university hospitals (AP-HP).

A fast-growing discipline, RadioPharmaceutical Therapy (RPT) uses the physical properties of atoms to fight cancer cells from inside the body. The recent revolution lies in the formidable potential offered by the development of new isotopes associated with new molecules capable of targeting several types of cancer.

However, despite the extremely promising clinical results, the administration of these new molecules, labelled with <sup>177</sup>Lu for example, with <sup>177</sup>Lu-DOTATATE for treating inoperable neuroendocrine tumours, as well as <sup>177</sup>Lu-PSMA-617 for specific prostate indications, **entails an external contamination and radiation exposure risk for medical staff.**

The Lemer Pax teams wanted to support these developments by offering healthcare professionals a way of improving the management of these personalised, targeted treatments, intended to be administered intravenously, with a reliable, easy-to-use and ultra-safe solution – **Theranojet<sup>®ARA</sup>** – tailored to these new treatments and equipped with the Plum 360™ pump from the American company ICU Medical.

## The Plum 360™ infusion pump from ICU Medical

ICU Medical's Plum 360™ **dual-channel** infusion pump is a particularly fitting solution for the constraints of treatments requiring slow, precise intravenous administration, and has already proven effective and reliable in hospital oncology and intensive care departments.

The fully programmable pump is wholly adapted to complex infusion protocols, offering alternating and simultaneous modes of operation, using bags and/or syringes. Unique on the market, the Plum 360™ pump is one of the only infusion pumps to offer a fully effective dual channel, enabling two products to be administered alternately or simultaneously via a single tube.

Its incorporation into the Theranojet®<sup>ARA</sup> shielded system dedicated to the world of nuclear medicine, and more specifically into the administration of radiopharmaceutical products, makes perfect sense, as it addresses the problems encountered with the "Phlebo" method, which has been the predominant method used until now. Using the Plum 360™ pump means you can control the volume concentration of the product by controlling the injection rate, and also make administration safer by using alarms to reduce the risk of occlusion.

Thanks to the high position of the vial fitted with its vial shield, and the kinetics enabling the vial to be turned over (patented by the Paris region university hospitals), the Plum 360™ infusion pump can inject the radiopharmaceutical drug in full by rinsing the vial completely, thereby recovering all the residual activity and transferring it to the patient.

Equipped with pressure sensors and an air bubble detector, the Plum 360™ pump guarantees complete patient safety, preventing any **risk of injection in the event of extravasation** and air bubble injection. The cartridge-equipped kit also incorporates a bubble trap to reduce air detection alarms. This minimises the radiation exposure of the medical teams around the device during treatment administration.

Drawing on its expertise in radiation protection and medical devices, Lemer Pax will provide specific maintenance for Theranojet®<sup>ARA</sup>.

*"The unique capabilities of the Plum 360™ infusion system can help reduce the risk of medication errors, simplify infusion set-up and provide peace of mind for nursing staff. For the 7<sup>th</sup> year running, the Plum 360™ pump has won the Best in KLAS award as "the world's top-performing pump", in particular for its "dual-channel" design*

*Plum 360™ presentation document (P-22-4788-R2-EMEA-FR)*

## **The ergonomic, ultra-safe Theranojet®ARA injection system dedicated to therapy.**

The result of a successful collaboration between Beaujon Hospital (part of the AP-HP network) and Lemer Pax, Theranojet®ARA is an innovative, patented device for the radiation protected intravenous administration of radiopharmaceutical drugs for RadioPharmaceutical Therapy (RPT), labelled in particular with <sup>177</sup>Lu.

The advantages of the Theranojet®ARA shielded injection system include:

- Radiation protection for staff

Using Theranojet®ARA during these various treatments has shown a **significant reduction in staff exposure to ionising radiation**, at every stage of handling the radiopharmaceutical drug (from preparation to administration, including unloading and waste management).

This is because the device incorporates a number of radioprotective components that are effective from the moment the vial is prepared, such as the shielded vial connection device, which is secure and easy to use and protects nursing staff's hands and fingers when the adaptor is being fitted to the vial.

The upper protection, positioned between the vial shield and the Plum 360™ infusion pump, ensures the safety of personnel throughout the injection. It is transparent, thanks to the use of organic lead glass, guaranteeing the visibility of the tubing and the retention area.

The lead lower protection, covering half the pump, also guarantees protection for personnel, from preparation right through to the end of administration.

*" For a department like ours, which carries out a lot of RadioPharmaceutical Therapy (RPT) treatments, Theranojet<sup>®ARA</sup> is a valuable ally in limiting our exposure to ionising radiation and reducing the risk of contamination of equipment and premises. "*

*The teams in the Nuclear Medicine Department at Beaujon Hospital (part of the AP-HP network)*

Using the Plum 360™ infusion pump significantly reduces medical staff exposure to ionising radiation, by allowing the dual channels to operate simultaneously, thereby reducing the activity concentration present in the tubing thanks to the dilution of the radiopharmaceutical product.

**By incorporating all these solutions, it has been possible to reduce tenfold the level of exposure to ionising radiation at a distance of around 60 cm from the device, for the duration of the treatment, compared with the method used to date at Beaujon Hospital (part of the AP-HP network).**

- Safe treatment, from vial packaging to patient injection

During preparation and packaging of the vial, the presence of a shielded component facilitating and securing the connection of the "Spike" type vial adaptor (dedicated consumable) to the vial in the preparation hot cell, guarantees better protection for staff from ionising radiation, while limiting the risks of contamination. Using this adaptor, both for preparation and disposal, avoids the risk of pricking, unlike the use of needles, which require greater precautions.

More generally, the fluidic architecture of Theranojet<sup>®ARA</sup> has been designed to provide users with the maximum possible protection against the risks of contamination. The incorporation of several secure connectors in the consumables means that the entire solution remains inside the kits at all times, even during disconnection.

- Easy to use

Theranojet<sup>®ARA</sup> is easy to handle and move around as it is lightweight and has 4 swivel wheels. Using its two side handles for guidance, it can be moved effortlessly to the various injection cubicles. Nursing staff are fully operational from the moment they start using and injecting the device as it is quick and easy to grasp, with intuitive settings. Its composition, which includes removable containment trays, enables disinfection and decontamination to be carried out quickly and easily if required, without damaging the components of the shielded injection

system.

Finally, keeping pace with developments in the nuclear medicine sector, the Theranojet<sup>®ARA</sup> shielded injection system has been specially designed to also enable the future administration of new innovative radiopharmaceutical drugs, making this system one of the safest solutions on the market today ... and in the future.

## LEMER PAX

### **Innovative and collaborative radiation protection is our core business**

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Initially designer and manufacturer, we have become a supplier of global solutions combining all the skills required along the entire value chain of a Radiopharmacy and Nuclear Medicine service when it comes to radiation protection. From the production of radiopharmaceuticals, shipment, control, fractionation and patient administration to the management of effluents and contamination, Lemer Pax applies its know-how to the entire life cycle of a Nuclear Medicine service in order to protect what's most important: Life!

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## ICU MEDICAL

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ICU Medical, Inc (Nasdaq: ICUI) provides clinically essential products and solutions that connect patients and caregivers through innovative, life-enhancing technology and services that deliver significant clinical value. The organisation's strong portfolio includes medical administration systems and consumables for infusion therapy, emergency medicine, general and regional anaesthesia, home care, NICU/PICU, oncology, pain management and respiratory care.

More information about ICU Medical, Inc. can be found at [www.icumed.com](http://www.icumed.com)

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