



The Protector by Your Side

Fully automated dose preparation
and patient infusion in a single,
easy-to-use, mobile system.*

* PET Infusion System for the dose administration/delivery of ^{18}F -FDG or ^{18}F -NaF



Clear Direction.  From Diagnosis to Care.

MEDRAD® Intego
PET Infusion System

Safety Features, Accuracy, and Efficiency – All in One System

Using a fully shielded, mobile design, the system infuses accurate, repeatable, patient-specific doses from a multi-dose vial, all managed through a simple touchscreen.

Safety Features for Clinicians

- › Automated dose preparation and patient infusion enable hands-off operation and increased distance from the activity source
- › Tungsten and lead shielding reduce radiation exposure for clinicians
- › The MEDRAD® Intego PET Infusion System has been documented to reduce operator radiation exposure in PET procedures^{1,2,3,4}

Clinical Experience

Healthcare providers experienced reduced exposure of body and extremities compared to manual injection:

- › 38% whole-body and 94% extremities¹
- › 10-fold decrease in staff extremity and body doses during administration²
- › Average body exposure reduced from 1.4 millirem/patient to 0.57 millirem/patient (-59%).^{3*}

* When converting from a unit dose to the MEDRAD® Intego injection system.

1 Lecchi M, Lucignani G, Maioli C, Ignelzi G, Del Sole A. Validation of a new protocol for ¹⁸F-FDG infusion using an automatic combined dispenser and injector system. Eur J Nucl Med Mol Imaging. 2012;39(11):1720-1729.

2 Schlepman AR, Gerbaudo VH. Occupational radiation dosimetry assessment using an automated infusion device for positron-emitting radiotracers. J Nucl Med Technol. 2012;40(4):244-248.

3 Maimone S, Aloszka D, Nelson K, Pooley R. Methods to reduce nuclear medicine staff radiation exposure from 18FDG exams. J Nucl Med. 2012; 53:(Supplement 1)1519. 4 Medrad® Intego Operation Manual 86472953 Rev.F 2021.

Accuracy of Delivered Dose

High Accuracy of Delivered vs. Prescribed Dose

Dose preparation, patient infusion, and saline flush all combined into one system with highly accurate delivered vs. prescribed dose.

Ability to deliver 18F-FDG and 18F-NaF within $\pm 10\%$ of the prescribed dose and within $\pm 2\%$ of the measured dose, excluding Dose Calibrator calibration factor.⁴

Clinical Experience

2% difference between prescribed and delivered activity.^{5,6}

Delivered Dose vs. Prescribed Dose

EANM Variability Guidelines Compared to MEDRAD® Intego IRRIS Data



⁴ Medrad ® Intego Operation Manual 86472953 Rev.F 2021.

⁵ Sánchez RM, Vano E, Fernández JM, Ginjaume M, Carreras JL. Evaluation of an automated FDG dose infuser to PET-CT patients. Radiat Prot Dosimetry. 2015;165(1-4):457-460.

⁶ IRRIS Database – IRRIS – Intego Radiation Reduction Initiative & Survey. 2013. Data on file.

⁷ Boellaard R, O'Doherty MJ, Weber WA, et al. FDG PET and PET/CT: EANM procedure guidelines for tumour PET imaging: version 1.0. Eur J Nucl Med Mol Imaging. 2010;37(1):181-200.

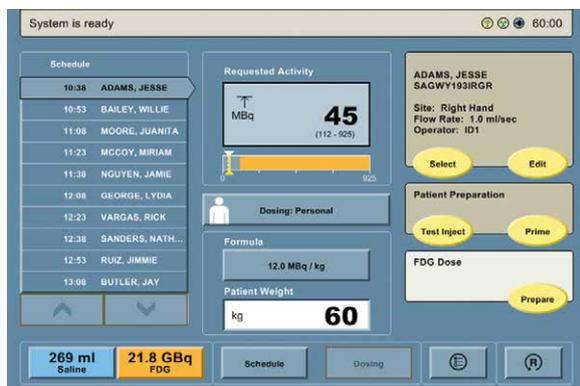
Personalized Patient Care

Delivering Personalized Patient Dose

Patient-specific dose calculation and precise administration with automated weight-based dosing from a simple touchscreen

Clinical Experience

43% median dose reduction ($p < 0.001$) for weight-based dosing vs. standard injections in a study of 24,716 FDG PET administrations with MEDRAD® Intego^{4,8}



In compliance with HIPAA regulations, the GUIs are fictitious examples only and do not contain any actual patient data.

⁴ Medrad® Intego Operation Manual 86472953 Rev.F 2021.

⁸ Angelo Del Sole et al., "Variability of [18F]FDG administered activities among patients undergoing PET examinations: an international multicenter survey," *Radiat Prot Dosimetry* 168, no. 3 (Mar 2016): 337-42.

Driving Operational Efficiency

Efficiency and Workflow Benefits for PET Departments

- Non-value-added steps eliminated with automated dose preparation, administration, and documentation
- Schedule flexibility provided to respond to patients who arrive late or require unexpected prep time with dose-on-demand functionality from a multi-dose vial
- Processes and workflow streamlined with USB connectivity to HIS/RIS/NMIS, mobility, and full battery operation

MEDRAD® Intego Goes Wireless with MEDRAD® Intego Connect⁴

- Time and steps saved through wireless PET schedule import
- Automated infusion records and radiation dose tracking with wireless export of infusion records and radiation dose to PACS
- Consistent and accurate quality records provided, potentially facilitating communication with patients and referring physicians

Clinical Experience

“Improved pace and accuracy in a busy clinical PET department. Staff time, physical labor, and distractions were saved.”⁹



* Absorbed radiation dose is calculated using ICRP 106 (from software version 18) for ¹⁸F-FDG and NUREG/CR-6345 for ¹⁸F-NaF. In compliance with HIPAA regulations, patient cases included in the GUIs are fictitious examples only and do not contain any actual patient data. Import and export functionalities and RADIMETRICS® are sold as separate options. Output could also be sent to other destinations configured for reading DICOM.

⁴ Medrad® Intego Operation Manual 86472953 Rev.F 2021.

⁹ Yalcin A, Rico F, Eikman E, Kuykendall C, Rotondi W, Berman C. Impact of an integrated dose infusion system on the PET/CT imaging process. Journal of Nuclear Medicine. 2010; 51:(Supplement 2)2078.

A PET Infusion System With the Precision, Flexibility, Safety Features, Efficiency, and Reliability That Matter ... to Your Next Patient

After-Sales Service

- › **Bayer Equipment Service** is built on optimizing uptime, maximizing value, reducing risk, and keeping Bayer devices performing at peak efficiency.

Ordering Information

Item description	Catalog #
MEDRAD® Intego PET Infusion System	INT SYS 200
Source Administration Set (SAS)	INT CSS
Patient Administration Set (PAS)	INT CPS
MEDRAD® Intego Connect	SW - WLIST, SW - IRPACS and SW - RDPACS



Technical Specifications

Description	Specification
Weight	355 kg
Dimensions	50.8 cm wide 82.5 cm deep 127.5 cm high (with POC-615 display)
Maximum radioactivity	27.75 GBq for shielding effectiveness / 25.9 GBq for dose preparation
Concentration range	12.3–3,700 MBq/mL
Saline test injection range	5–30 mL
Additional saline flush range	0–30 mL
Dose range	37–925 MBq
Dose accuracy	±2% of the measured dose
Flow rate	0.5 mL/sec or 1.0 mL/sec
System driving speed	0.4–0.67 m/s
System radiation profile	<ul style="list-style-type: none"> › Peak rate equal to or less than 0.014 mSv/hr at 30 cm from any surface of the cart with 27.75 GBq in the vial › Peak rate equal to or less than 0.001 mSv/hr at 30. cm from the surface in the operator position with 27.75 GBq in the vial

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All patient data that appear in this document are fictitious. No actual patient information is shown.

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More information on
radiology.bayer.dk
radiology.bayer.se
radiology.bayer.no

Bayer AB - Sverige
Berzelius väg 35
Box 606
SE-169 26 Solna
Tel: +46 85 80 223 00

Bayer A/S - Danmark
Arne Jacobsens Allé 13
DK-2300 København S
Tel: +45 38 16 16 16

Bayer AS - Norge
Drammensveien 288
Postboks 193
NO-1325 Lysaker
Tel: +47 22 06 57 10

Bayer Oy
Pansiontie 47
FI-20210 Turku
Tel: +358 20 785 2001