

## Technologist: Professional & Educational Practices

## Technologist Posters

# Impact of an integrated dose infusion system on the PET/CT imaging process

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### Abstract No. 2078

**Objectives:** Measure changes in cost, labor and other potential process and medical care changes resulting from use of the MEDRAD Intego(TM) integrated dose infusion system.

**Methods:** Eleven relevant performance measures were tracked by work sampling techniques in a two-scanner department performing about 25 daily patient examinations. Sample baseline conventional dose administration practices were recorded. Error log analysis and process re-engineering facilitated training and optimization of the new process. After optimization, sample examinations were compared. Staffing patterns during the allocated time for sampling focused on two of the five technical staff. About 50 cycles were recorded for most measures, for a confidence level of about 0.9. The study was not designed to compare radiation exposure rates to staff.

**Results:** The integrated system merged the dose determination and verification steps, and patient administration, serving up to two patients in parallel. Time savings for the sample included change in an infusion segment index from 11.22(SD5.56) min to 6.43(SD 1.04) min, and set up and verification savings projected to 25.7 min daily. Variability from the prescribed dose to the patient was virtually eliminated. Technologist distance travelled was reduced by 14.6%, potentially more with minor architectural changes. The repeated lifting of a 10kg dose box was eliminated. Incidental supply costs increased 6x to \$11.93 per patient. Dose extravasation rates remained zero.

**Conclusions:** An integrated dose system improved pace and accuracy in a busy clinical PET department. Staff time, physical labor, and distractions were saved.

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