

The Role of PET Camera Emission as an Alternative Method for Radioactivity Spillage Measurement during PET/CT Study

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Keywords: ^{18}F -FDG; PET/CT; PET noise-equivalent-count

Introduction

PET images are subjected to artefactual degradation by many

PET NEC value. The use of PET camera emission could be suggested as an alternative method for the radioactivity counting should radioactive spillage occur on scanning table of PET/CT camera to ensure the personnel radiation exposure is kept at the lowest reasonable level.

Conclusion

Appropriate decontamination procedure, adequate time–point delay and the use of PET camera emission in quantifying the spillage area are essential in ensuring good PET image quality acquisition whilst minimizing inter personnel radiation burden during PET/CT examination.

The NMT2 then proceeded with the decontamination procedure. Wearing a full set of personal protective attire, he put down the absorbent papers, in a circular arrangement outside the spillage area. He moved all absorbent papers in-side the spillage area to avoid the radiation spillage spread to unaffected area. The utilised absorbent papers were then carefully removed and put onto the lead lined container. Steps were repeated using a Radiacwash. He sprayed it all over the spillage area before blotted dry. Radioactivity reading was taken and compared to the background reading. After the third time, the radioactivity reading had decreased. The NMT2 terminated the decontamination procedure to allow for the decay activity to take place. The radioactivity level was measured on the NMT2 using survey meter. Used personal protective attire were removed and put onto the lead line container prior from leaving the PET/CT room. The interval time of 30 minutes was allowed before next radioactivity readings were taken.

Following the post decontamination, the radioactivity reading was measured again and spillage images were also acquired PET camera. Table 2 shows the spillage image as acquired at time point two–30 minutes, with the PET NEC of 0 PROPCPPS unit (Table 2).

From our report, with the evidence from spillage image acquired at post decontamination, the interval time taken was rational. We anticipated that with the appropriate decontamination procedure, a time interval of 30 minutes is adequate for a PET/CT centre with high low routine PET/CT studies. Significantly, this incident shows that PET camera has the potential role to record down the radioactivity level via

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