

Düsseldorf, Germany

Mini Course 3 (Technologists) - Interactive
Sunday, October 14, 17:00-18:00

Session Title

PET Patient Preparation: Artefacts and Pitfalls

Chairpersons

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Programme

17:00 - 18:00 Dennis Vriens (Leiden): PET Patient Preparation: Artefacts and Pitfalls

Educational Objectives

1. Describe briefly the physics of PET
2. Describe briefly the method of uptake of FDG
3. Describe the artefacts and pitfalls associated with FDG PET
4. Compare guidelines from different societies such as EANM, SNMMI,
5. Highlight the importance of dietary requirements for FDG PET and environmental conditions
6. Highlight the importance of refraining from strenuous activity before the PET scan
7. Highlight the importance of medication and which should be stopped before the PET scan
8. Mention any different method of patient preparation such as a Low Carbohydrate diet and why
9. Illustrate with case studies the most common or interesting patient examinations which demonstrate the above
10. Highlight the importance of performing a proper PET scan and if possible illustrate with false positives or negatives
11. Mention the challenges involved for the nuclear medicine physician when reporting PET scans with decreased image quality

Summary

Patient preparation plays a key role in the PET/CT examination. Many professionals are involved to ensure the correct patient preparation: the physician, the nurse, the technologist and all must and all must work together as a team. The factors that can invalidate the exam are several. The main nuclear medicine societies provide guidelines, helping the professionals to manage the artefacts and pitfalls which may arise due to incorrect patient preparation. These guidelines may differ between them and it's useful knowing how to manage these differences. The aspects and the consequences that a professional must know are linked the dietary requirements, patient physical effort and medications. This is in order to get a good diagnostic test or identify correctly the preparation-related issue. For example the patient cold exposure between the administration of the tracer and the acquisition can cause an intense uptake in brown adipose tissue or an inadequate hydration of the patient leads to an increase of the counting statistics of the background. The team must get an answer from the examination and don't lose the exam due to a wrong preparation before the beginning or worst after the acquisition.

Key Words

Patient preparation, FDG PET, low carbohydrate diet, strenuous activity

Take Home Message

Patient preparation has a key role in the PET/CT examination, each professional must play its role to ensure it.