FDG-PET Workshop 2021
Patient Preparation and Setup

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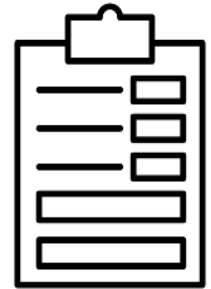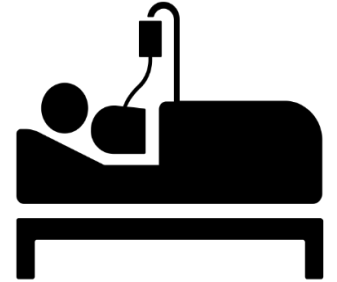Coma Science Group, GIGA-Consciousness, University of Liège, Belgium
Centre du Cerveau (C2), Centre Hospitalier Universitaire, Liège, Belgium
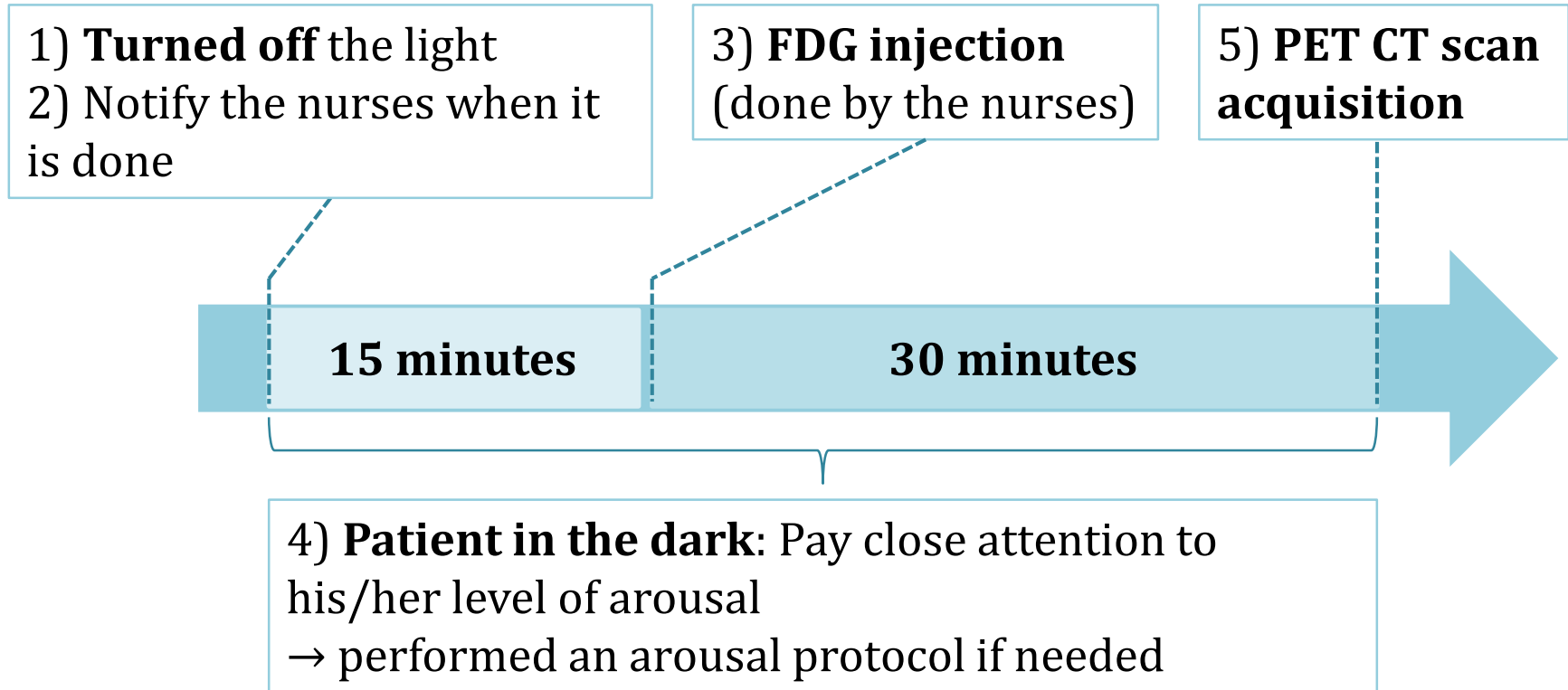
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Before the PET-CT scan

➢ Retrieve **patient information** to be sent to the nuclear medicine department :

- ▪ Weight

- ▪ Height

- ▪ Infections

- ▪ Diabetes

- ▪ Etiology

- ▪ Reason for the examination

Before the PET-CT scan

1) **Turned off** the light
2) Notify the nurses when it is done

3) **FDG injection** (done by the nurses)

5) **PET CT scan acquisition**

15 minutes

30 minutes

4) **Patient in the dark**: Pay close attention to his/her level of arousal
→ performed an arousal protocol if needed

Before the PET-CT scan

➢ If **chronic patient and/or outpatient** :

- ▪ Call the PET for the appointment

- ▪ Outpatient → Ask the nuclear medicine secretariat to:
  - • Book a room in the day hospital (in case of sedation)
  - • Organise the appointment with the anaesthetist on the morning of the scan.

➢ **If patient from the intensive care unit (ICU) :**

- ▪ Should be put in the dark **in their room**

The patient must fast at least 4 hours before the examination !

Arousal protocol

➤ **Indication**

- Purpose: increase arousal
- If eye closure (repeatedly)
- If stops responding > 1 min

Protocole d'éveil

Arousal protocol

➤ **Intervention**

- Pressure stimulation to the muscles of the face, neck, shoulder, arm, hand, chest, back, leg, foot, and toes

- Roll the muscle 3 to 4 times

- Repeat to the contralateral side of the body

⚠ **Avoid deep pressure stimulation in case of injuries**

During the PET-CT scan

➢ We start with the CT scan (anatomical visualization) and then the measurement of the metabolic activity (12min).

➢During the FDG measurement: stay close to the patient to see if he/she does not move.

➢The nuclear medicine technician checks if the CT images are good.

→ If not, the acquisition must be repeated.

→ If the poor quality is due to patient movement : check with the anaesthetist if the patient need to be sedated

PET sheet

➤ Report demographic information (weight, height, etiology, gender…)

➤ Report **glycemia**

➤ Note the time the lights go out, the time of injection , the time of the PET-scan

➤ It is a possibility to do the EEG during glucose uptake

➤ Specify if there was anaesthesia :

If yes → note the dose + ask the anaesthetist if feeding can be resumed immediately or not

Importance of glycemia

➢ If glycemia levels are outside of the acceptable range (80-120 mg/dl)
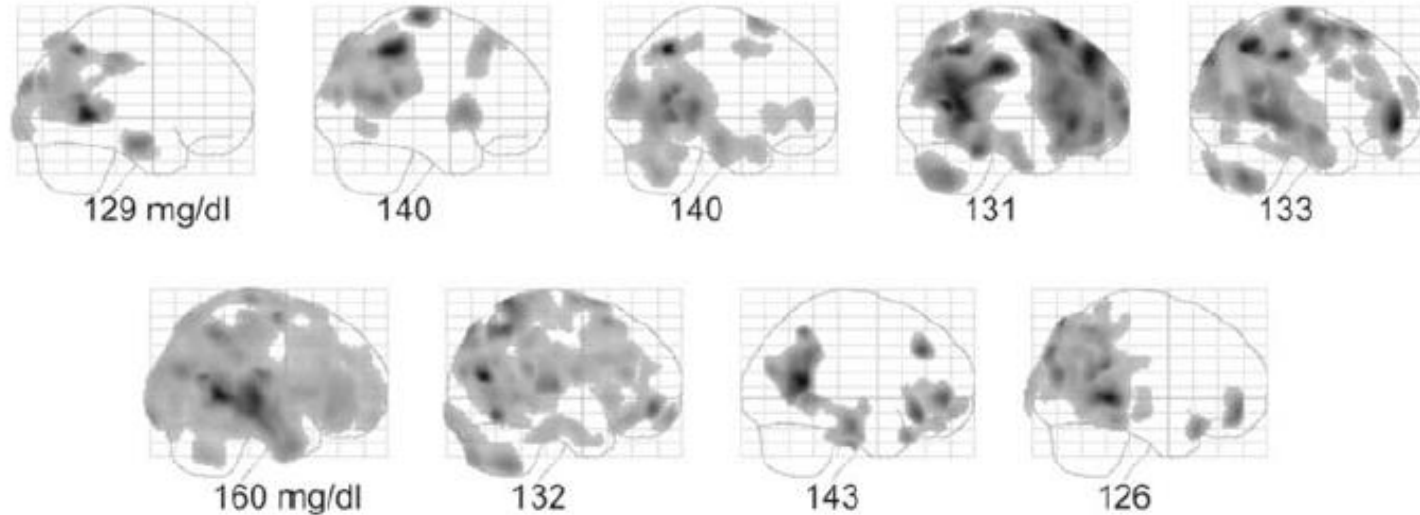
→ Results of the exam will not be reliable!

Figure 1: SPM analysis of 9 healthy subjects in mild hyperglycemic condition. *Grey areas = hypometabolic*

After the PET-CT scan

➢ Collect PET images for analysis.

➢ Put all the images and analyses in a specific folder for each patient (use an identification code to comply with the GDPR rules)

➢ Complete your database (demographic information, diagnosis before and after the PET scan, SUV values…)

➢ Write patient report including the SUV decrease value.

➢ Scan and store the numerical PET sheet in the patient's folder.

Thank you