

General Guidelines for PET Scans

Background: The anesthesiologist needs to be aware of the potential impact of anesthesia on the diagnostic quality of PET scans. These guidelines are an attempt to improve our quality of care and to eliminate avoidable cancellations. These guidelines apply to all PET/CT and PET/MRI scans. Thanks to Dr. Jaguru and Dr. Vasanaawala for their input.

The avoidance of certain anesthetics during the FDG uptake period only needs to be followed for PET CT BRAIN (Tumor OR Epilepsy) and PET MRI BRAIN (EPILEPSY ONLY, not Tumor). For all other PET scans with FDG we still need to check glucose but we can induce with whatever we want from the beginning. In fact for PET MRI (except for epilepsy) the patient will get the FDG injection and the MRI will start right away and occur during the FDG uptake period.

- All patients will need an IV placed in preop and a blood glucose check. (see blood glucose level guidelines for PET patients.)
- PO versed or IN dexmedetomidine may be administered if needed for IV placement. **Dexmedetomidine is ok to use during the FDG uptake period.**
- The anesthesiologist and RN will accompany the patient to nuclear medicine for the scan.
- In cases of difficult IV access where all attempts to place IV in preop are unsuccessful, it is acceptable to administer 50% N2O to facilitate PIV placement. **Concentrations above 50% N2O may alter FDG uptake. Sevoflurane is contraindicated as it interferes with FDG uptake.**
- Once IV is placed and patient is in nuclear medicine, FDG will be injected and patient will remain awake (versed or dexmedetomidine allowed) for the minimum 30 minute FDG uptake.
- **Propofol administration is contraindicated prior to the minimum of 30 minutes for FDG uptake, because propofol will interfere with FDG uptake.**
- After 30 minute FDG uptake, patient will have IV induction with propofol and scan will be completed.
- Patients should empty the bladder before and after PET scan.

MEDICATIONS TO AVOID DURING FDG UPTAKE PERIOD	MEDICATIONS THAT DO NOT INTERFERE WITH FDG UPTAKE
SEVOFLURANE	MIDAZOLAM
>50% NITROUS	DEXMEDETOMIDINE
PROPOFOL	<50% NITROUS
INSULIN	
GLUCOSE (because of the Insulin Response)	

Labs for PET Scan Patients in General

- **Check blood glucose in preop prior to leaving for scan**
- If contrast planned, also check creatinine
- Check glucose with blood from IV start if possible as these patients need IV induction anyway. (Sevo contraindicated- see above)
- The anesthesia NP should place order for glucose check if they are seeing patient. If not, then the anesthesiologist will need to place the order.
- Report glucose level to anesthesiologist if not within normal limits. Acceptable ranges as follows:
 - Neonates: 45 mg/dL – 149 mg/dL
 - Infants and older: 60 mg/dL – 149 mg/dL

***If blood glucose is ≥ 150 mg/dL nuclear medicine needs to be informed prior to proceeding as they prefer not to inject FDG in patients with glucose ≥ 150 mg/dL . If dextrose needs to be given in preop, nuclear medicine needs to be informed as this will likely result in cancellation. Dextrose administered after the 30-60 minute FDG uptake period, will not adversely affect the scan.**

Nuclear Medicine Main line : 650-721-5000

NPO Guidelines for PET Scan Patients

- Solids until midnight.
- Encourage clear apple juice or gatorade until 5 hours prior to ARRIVAL (still gives us some buffer in case they can go a bit early).
- Then water only until 2 hours before arrival.

When applicable:

- Stop formula and milk 6 hours prior to procedure
- Stop breast milk 4 hours prior to procedure

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