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Advanced
Molecular Imaging

Enhancing success in myocardial blood flow procedures

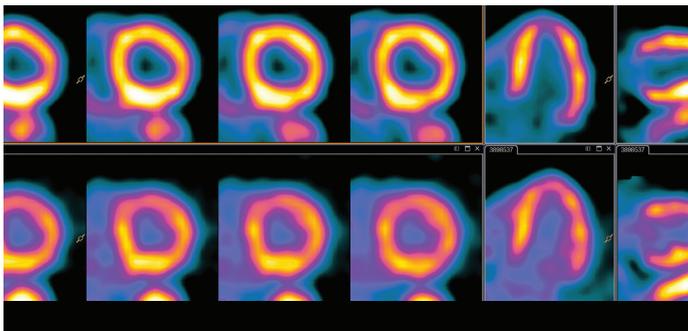
Philips Vereos Digital PET/CT

Overview

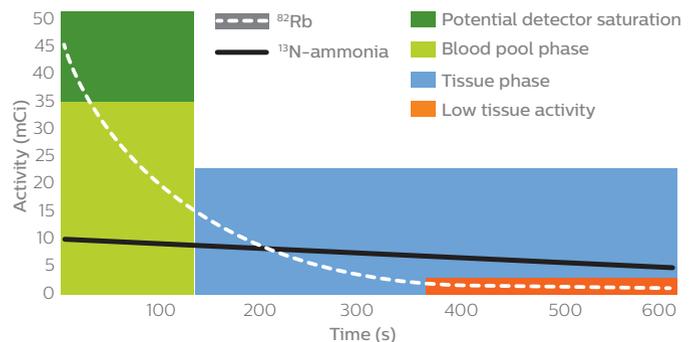
Myocardial blood flow (MBF) can be defined as the volume of blood transiting through tissue at a certain rate. As early as 2012, authors declared that it was time for the use of quantitative cardiac PET.¹ The technique has not yet enjoyed widespread use, despite indications of clinical utility. Vereos Digital PET/CT offers advances that can help lead to clinical adoption of quantitative cardiac PET.

The importance of MBF

While myocardial perfusion imaging (MPI) with SPECT and PET is well established, performance is limited by two fundamental drawbacks. Conventional MPI by SPECT and PET measures relative perfusion. Tracers available for SPECT MPI are inherently limited at high flow rates, limiting the precision and accuracy of MBF during stress. These drawbacks of SPECT, however, are addressed by PET, with its ability to quantify global and regional MBF in mL/min/g of tissue.²



The clinical utility of myocardial blood flow quantification suggests its value in more widespread use.



High-quality images for MPI interpretation rely on avoiding detector saturation during the blood pool first-pass uptake phase while also preserving sufficient activity in the tracer retention (tissue) phase.

Advantages of Vereos Digital PET/CT

Vereos Digital PET/CT delivers maximum count rate performance. Combine this with robust performance from high to low count rates, and the result is unmatched ability to perform MBF procedures. Philips IntelliSpace Portal adds quantitative analysis from major MPI application partners.

References

- 1 Sciagrà R. Quantitative cardiac positron emission tomography: the time is coming! *Scientifica*. Vol 2012, Article ID 948653. doi.org/10.6064/2012/948653. Accessed March 14, 2020.
- 2 Murthy VL, Bateman TM, Beanlands RS, et al. Clinical quantification of myocardial blood flow using PET: joint position paper of the SNMMI Cardiovascular Council and the ASNC. *J Nucl Med*. 2018 Feb;59(2):273-293. doi: 10.2967/jnumed.117.201368. Epub 2017 Dec 14. Accessed March 13, 2020.

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