Supplemental Table 1. PET system specifications

PET System	Detector crystal material	Reconstruction algorithm	Filter type	Cutoff (mm)	PGC
Biograph mCT PET-CT-40‡	LSO	3D OSEM-PSF	Gaussian	8	Yes
Biograph TruePoint PET-CT-16‡	LSO	3D OSEM-PSF	Gaussian	8	Yes
Biograph PET-CT-16	LSO	3D OSEM	Gaussian	12	Yes
ECAT Accel Scintron PET‡	LSO	2D OSEM 3D OSEM	Hann	8	Yes
Discovery 690 PET-VCT-64	LBS	3D OSEM	Hann	8	Yes
Discovery IQ (5 ring) PET-CT-16*	BGO	3D OSEM	Hann	8	Yes
Discovery 600 PET-CT-16	BGO	3D OSEM	Hann	8	Yes
Discovery RX PET-CT-16	LYSO	3D FORE-FBP	Hann	12	No
Discovery STE-VCT-16	BGO	3D FORE-FBP	Hann	12	No
Gemini TF PET-CT-16	LGSO	3D RAMLA	Normal	NA	No

LSO = lutetium oxyorthosilicate; LBS = lutetium-based scintillator; BGO = bismuth germanium oxide; LYSO = lutetium yttrium oxyorthosilicate; LGSO = lutetium gadolinium oxyorthosilicate; FORE = Fourier rebinning; FBP = filtered back projection; IR = iterative reconstruction; RAMLA = row-action maximum likelihood algorithm; OSEM = ordered subset expectation maximization; PSF = point spread function; NA = not applicable; PGC = prompt-gamma correction. ‡ Rb-82 was infused using the CardioGen-82® elution system on these cameras (50 mL/min 'bolus'), whereas the RUBY-FILL® elution system (30s 'square-wave' with saline push) was used on the others. * N-13-ammonia was used on this camera; Rb-82 was used on all others.

Supplemental Table 2. Patient demographics

PET System	Patient Weight (kg)	Patient Age (years)	Patient Sex (male)
Discovery 690	90.0 ± 12.1	57.3 ± 11.5	8
Discovery 600	74.6 ± 9.0‡	70.8 ± 7.9	11
Scintron 3D	82.7 ± 16.7*	74.9 ± 10.3*	12

‡: $p < 0.05$ compared to Discovery 690 population
*: $p < 0.05$ compared to Discovery 690 and 600 populations

Supplemental Figure 1. Patients underwent low-dose (10 MBq/kg) rest Rb-82 PET MBF imaging after fasting for 4 hours and abstaining from caffeine and theophylline-containing medications for 12 hours prior to the test. Anti-anginal medications (β-blockers, calcium antagonists, and nitrates) were withheld on the morning of the study. Illustrated here are the rest and stress MBF imaging protocol timelines for patient studies performed on **(A)** the Discovery 690 and 600 PET-CT systems and **(B)** the Scintron PET-only system. The CTAC images were fast (<2s) helical, low-dose (<0.4 mSv) scans obtained at normal end-expiration. PET-CTAC alignment was verified and corrected, if necessary, prior to image reconstruction using the vendor attenuation correction quality control (ACQC) program. From the list-mode data, static and dynamic images were reconstructed using manufacturer-provided iterative algorithms with all corrections enabled and 8mm Hann post-filtering. Static tracer uptake images were reconstructed using 2-6 min list-mode data. Dynamic images were reconstructed into 14 time frames (9 x 10s, 3 x 30s, 1 x 60s, 1 x 120s) on the Discovery 690 and 600 cameras, and 25 time frames (12 x 5s, 6 x 10s, 3 x 20s, 3 x 30s, 1 x 90s) on the Scintron scanner, according to local clinical practice.