Supplemental Table 1. A Sample Weight-Based Dosing for ^{99m}Tc-Sestamibi MPI Using a Dedicated Cardiac SPECT Scanner

Weight range	Rest dose (mCi)	Rest dose (MBq)	mSv	Stress dose (mCi)	Stress dose (MBq)	mSv	Total mSv (rest + stress)
<175 lbs	3.00	111.00	0.88	9.00	333.00	3.00	3.87
176-200 lbs	3.50	129.50	1.02	10.50	388.50	3.50	4.52
200-225 lbs	4.00	148.00	1.17	12.00	444.00	4.00	5.17
226-250 lbs	4.50	166.50	1.32	13.50	499.50	4.50	5.81
250-275 lbs	5.00	185.00	1.46	15.00	555.00	5.00	6.46
275-300 lbs	5.50	203.50	1.61	16.50	610.50	5.49	7.10
300-325 lbs	6.00	222.00	1.75	18.00	666.00	5.99	7.75
325-350 lbs	6.50	240.50	1.90	19.50	721.50	6.49	8.39
350-375 lbs	7.00	259.00	2.05	21.00	777.00	6.99	9.04
375-400 lbs	7.50	277.50	2.19	22.50	832.50	7.49	9.68
>400 lbs	25.00	925.00	7.31	25.00	925.00	8.33	15.63

Marcassa et al. (*1*) suggest a dose of 8 mBq/kg ^{99m}Tc radiotracers.

Supplemental Table 2. Advantages and Challenges of Stress-First (Stress-Only) MPI (*2,3*)

Advantages
1. Lower radiotracer dose per patient
2. Faster laboratory throughput for patient
3. Radiotracer cost savings
4. Reduced occupation radiation dose
5. Less workload for the laboratory
6. Helpful at times of ^{99m}Tc shortage
Challenges
1. Laboratory schedule is disrupted due to uncertainty of number of scans
2. Screening patients ahead of time
3. Not helpful in subjects with prior MI or intermediate- to high-risk disease
4. Availability of attenuation correction
5. Disruptive to physician schedule—need real-time scan interpretation
6. Definitive scan interpretation (normal or abnormal) is required
7. A lack of knowledge/experience on using stress-first imaging
8. Lower reimbursement, a disincentive
9. Transient ischemic dilation cannot be evaluated

Supplemental Table 3. Identifying Suitable Patients for Stress-First Imaging Based on Pretest Likelihood of CAD (*4*)

Age (Yrs)	Nonanginal pain		Atypical angina		Typical angina	
	Men	Women	Men	Women	Men	Women
30 to 39	4	2	34	12	76	26
40 to 49	13	3	51	22	87	55
50 to 59	20	7	65	31	93	73
60 to 69	27	14	72	51	94	86

Characterize chest pain using three questions. Is the pain (1) substernal (2) exertional (3) relieved by rest or nitroglycerin. Based on the responses, chest pain is characterized as nonanginal (1/3 questions answered yes), atypical angina (2/3 questions answered yes), or typical angina (if 3/3 questions are answered yes). Although the definitions vary, typically, a pretest probability of CAD of 1%–15% is considered low; 16%–85% is considered intermediate, and >85% is considered high-risk. Patients with an intermediate pretest likelihood (16%–85%) are considered appropriate for a stress-first MPI.

Supplemental Table 4. Approaches to Reducing Radiation Dose from CT in Hybrid MPI (*5*)

1. Use a very low-dose (10 mA, 120 kVP) and a fast-pitch CT scan for attenuation correction
2. Use a single CTAC study whenever possible
3. Limit the CT field of view to match the MPI field of view
4. Use advanced dose reduction techniques for calcium score or CT-based coronary angiography a. Heart rate control b. Limit scan range c. Prospective ECG-triggered axial/helical scan d. Increase scan pitch e. Adjust kV for BMI (80–120) f. Novel software (iterative reconstruction)
5. Use CTAC scan to evaluate for coronary calcification or use the gated calcium score CT scan for attenuation correction of MPI (minimize use of CTAC and calcium score)

Supplemental Table 5. Prognostic Value of Stress-Only SPECT MPI

First author	Modality	Year	Mean FU (months)	Age (yrs)	Number	Endpoint	Event rate/yr
Gal (*6*)	SPECT	1996	12.2	55±14	116	Cardiac death or non-fatal MI	0%
Gibson (*7*)	SPECT, AC	2002	26.4	52±13	729	Death, non-fatal MI, angiographic CAD	0.6%
Duvall(*8*)	SPECT, AC	2010	40	54±14	1,673	All-cause mortality	2.7%
Chang (*9*)	SPECT, AC	2010	57	60±13	8,034	All-cause mortality	2.5%
Ueyama (*10*)	SPECT	2012	41.7	67±10	726		1.57%*
Ferreira (*11*)	SPECT	2013	42.8	63±12	790	Composite end point	4%
Duvall (*12*)[ǂ]	SPECT, new SPECT	2012	23.3	65±13	716	All-cause mortality	5.7%
Mathur (*13*)	SPECT, AC	2013	25	54±12	1,383	Cardiac death or non-fatal MI	0.7%
Kaminek (*14*)	SPECT	2014	38.4	59±9	259	Cardiac death or non-fatal MI	0.6%

ǂ^{201}Thallium, all other studies ^{99m}Tc.

*All-cause mortality.

Composite = cardiac death or non-fatal MI, coronary revascularization.

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