On-line Table 1: VR data obtained from a subset of ROI voxels[a]

	WML	Penumbra (0–2 mm)	Penumbra (2–4 mm)	NAWM
Mean No. of voxels in ROIs (SD)	774 (883)	2919 (2371)	6087 (4412)	228,761 (38,395)
Mean No. of voxels for VR	229 (322)	1075 (1253)	2258 (2736)	131,654 (66,139)
No. of voxels for VR above 20th percentile of all ROIs	223	377	425	456
No. with >20% of ROI voxels used for VR calculation	260	324	361	399
No. of ROIs with No. of voxels for VR above 20th percentile of all ROIs and with >20% of ROI voxels used for VR calculation (%)	187 (40)	315 (68)	358 (77)	399 (86)

[a] Twentieth percentile, corresponding to a total of 123 activated voxels, was calculated from all 4 ROIs from all subjects. The majority of voxels below this threshold were in WMLs. The majority of subjects have either a low number of voxels used for VR calculation or a low percentage of total voxels contributing to the VR calculation.

On-line Table 2: Ordinary least-squares modeling for associations between imaging parameters and number of cardiovascular risk factors (RF_{score}), adjusting for site, age, sex, and race[a]

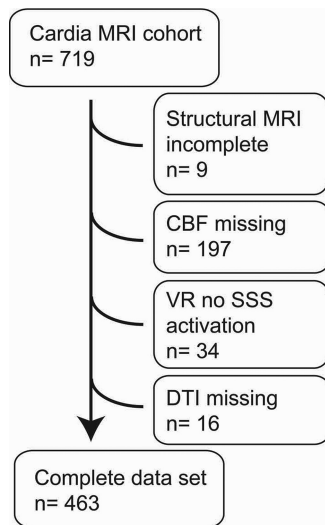|	WML			Penumbra (0–2 mm)			Penumbra (2–4 mm)		
	Coefficient	SE	P Value	Coefficient	SE	P Value	Coefficient	SE	P Value
T1	−0.0009	0.021	NS	0.47	0.019	NS	0.053	0.015	NS
T2	0.034	0.021	NS	0.12	0.016	NS	0.0062	0.011	NS
FLAIR	0.012	0.015	NS	0.0098	0.06	NS	0.086	0.00	NS
CBF	−0.15	0.48	.0003	−0.13	0.042	.042	−0.012	0.040	.002
FA	0.0155	0.047	NS	0.0043	0.34	NS	0.039	0.32	NS
MD	0.032	0.050	NS	0.012	0.033	NS	0.0003	0.026	NS
VR	−0.014	0.061	NS	0.046	0.047	NS	0.073	0.040	.07

Note:—NS indicates not significant; SE, standard error.
[a] Only CBF shows significant associations with the RF_{score}. Values are coefficient ± SE with unadjusted P values.
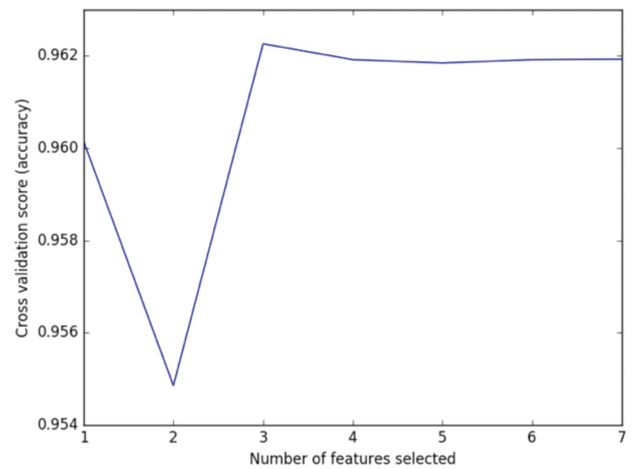
On-line Table 3: Ordinary least-squares modeling for associations between imaging parameters and individual cardiovascular risk factors[a]

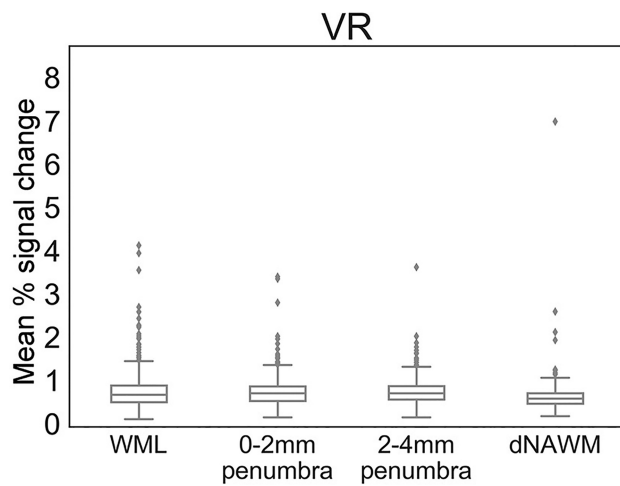|	Smoking			BMI			Sedentary		
	Coefficient	SE	P Value	Coefficient	SE	P Value	Coefficient	SE	P Value
WML									
T1							−0.0422	0.021	.045
T2							0.0523	0.02	.013
CBF	−0.2343	0.097	.016	−0.124	0.05	.013			
VR	−0.2606	0.123	.034						
Penumbra (0–2 mm)									
T1	0.0829	0.038	.028						
CBF				−0.1327	0.043	.002			
MD	−0.1367	0.068	.044						
Penumbra (2–4 mm)									
T1	0.0723	0.029	.014						
CBF				−0.1398	0.041	.001			
MD	−0.1331	0.052	.011						
VR							0.0948	0.04	.018

[a] Models were adjusted for site, age, sex, and race. Associations between all imaging parameters (T1, T2, FLAIR, MD, FA, CBF, and VR) and six cardiovascular risk factors (hypertension, hypercholesterolemia, diabetes, BMI, sedentary behavior, and smoking history) were evaluated, but only significant parameters from the models are shown. Coefficients for all other parameters and risk factors were not significant and are not shown.

ON-LINE FIG 3. Cross-validation scores as a function of number of features selected.

ON-LINE FIG 1. Only subjects with all MR imaging parameters available are included for analysis. CBF data from 1 CARDIA study site were technically inadequate and could not be processed, leading to the largest exclusion of subjects.

ON-LINE FIG 2. Boxplots of mean percentage change of vascular reactivity for each region, with outliers included.