



APPENDIX AVAILABLE ON THE HEI WEB SITE

Research Report 178

National Particle Component Toxicity (NPACT) Initiative Report on Cardiovascular Effects

Sverre Vedal et al.

Section 1: NPACT Epidemiologic Study of Components of Fine Particulate Matter and Cardiovascular Disease in the MESA and WHI-OS Cohorts

Appendix O. CAC QA/QC

Note: Appendices that are available only on the Web have been assigned letter identifiers that differ from the lettering in the original Investigators' Report. HEI has not changed the content of these documents, only their identifiers.

Appendix O was originally Appendix N

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This document was reviewed by the HEI NPACT Review Panel
but did not undergo the HEI scientific editing and production process.

Appendix N: CAC QA/QC

Computed Tomography Reread QC (All Exams)

CT QC Analysis (All Exams)

Eric Johnson

17 July 2007

All crosstabulations, correlations and technical error measurements use all applicable data, while the descriptive statistic tables for continuous data use only those records which have positive Agatston scores for both the original and QC reads.

Exam 1

		QC AGATSTON > 0		
		.00	1.00	
AGAT	.00	231	5	236
STON	1.00	23	655	678
Total		254	660	914

	N	Mean	sd	Min	25	Median	75	Max
Agat, Matched	655	280.96	549.23	1.56	24.30	96.27	284.60	6110.53
Agat, QC	655	288.97	573.57	1.56	25.23	100.86	290.20	6510.55
QC - Original	655	8.01	54.32	-598.93	0.00	0.00	1.94	490.95
Agat. Rel. Dif.	655	0.02	0.21	-1.92	0.00	0.00	0.01	1.76

Correlations	Pearson	ICC	Technical Error	TEM%	N	95% LCL	95% UCL
Agatston Score	0.996	0.998	Agatston Score	16.37%	914	12.27%	20.42%
[inter-reader]	0.997	0.998	[inter-reader]	15.91%	527	10.77%	21.17%
[intra-reader]	0.995	0.997	[intra-reader]	16.93%	387	10.55%	22.77%

Exam 2

	QC AGATSTON > 0		
	.00	1.00	
AGAT STON > 0	50	4	54
Total	3	172	175
	53	176	229

	N	Mean	sd	Min	25	Median	75	Max
Agat, Matched	172	423.38	895.11	1.56	37.23	116.20	445.62	7037.94
Agat, QC	172	422.26	871.89	1.56	39.92	119.55	455.75	6380.22
QC - Original	172	-1.12	69.11	-657.72	0.00	0.00	0.90	186.13

Correlations	Pearson	ICC	Technical Error	TEM%	N	95% LCL	95% UCL
Agatston Score	0.997	0.999	Agatston Score	13.30%	229	5.95%	18.94%
[inter-reader]	0.996	0.997	[inter-reader]	18.06%	135	7.68%	23.91%
[intra-reader]	>0.999	>0.999	[intra-reader]	4.38%	94	2.22%	7.94%

Exam 3

		QC AGATSTON > 0		
		.00	1.00	
AGAT	.00	47	0	47
STON	1.00	3	159	162
> 0				
Total		50	159	209

	N	Mean	sd	Min	25	Median	75	Max
Agat, Matched	159	436.44	706.25	1.56	28.50	133.57	524.79	4809.31
Agat, QC	159	427.66	684.41	1.56	28.50	133.57	494.89	4296.84
QC - Original	159	-8.78	65.14	-512.47	0.00	0.00	0.00	109.82
Agat. Rel. Dif.	159	-0.01	0.11	-0.78	0.00	0.00	0.00	0.32

Correlations	Pearson	ICC	Technical Error	TEM%	N	95% LCL	95% UCL
Agatston Score	0.996	0.998	Agatston Score	12.29%	209	6.22%	17.33%
[inter-reader]	0.995	0.997	[inter-reader]	13.76%	112	6.64%	19.17%
[intra-reader]	0.999	>0.999	[intra-reader]	5.31%	97	0.76%	10.93%

Exam 4

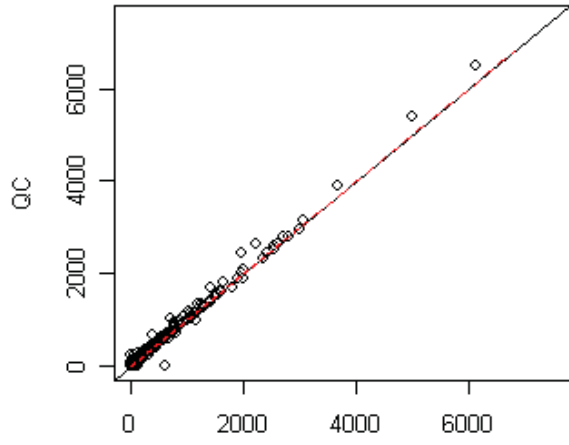
		QC AGATSTON > 0		
		.00	1.00	
AGAT	.00	29	0	29
STON	1.00	1	84	85
> 0				
Total		30	84	114

The one discordant pair has an original AGATSTON value of 2.34.

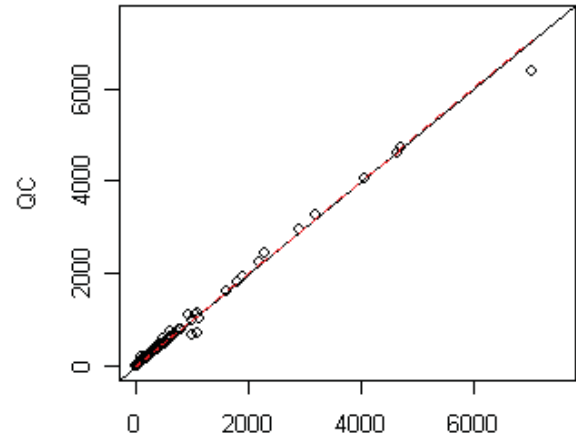
	N	Mean	sd	Min	25	Median	75	Max
Agatston Matched	84	344.91	723.46	1.95	34.12	95.80	279.80	4224.95
Agatston QC	84	340.65	697.72	1.95	33.65	100.86	263.44	4045.96
QC - Original	84	-4.26	42.96	-221.04	0.00	0.00	0.00	175.62
Agat. Rel. Dif.	84	-0.01	0.20	-1.44	0.00	0.00	0.00	0.79

Correlations	Pearson	ICC	Technical Error	TEM%	N	95% LCL	95% UCL
Agatston Score	>0.999	>0.999	Agatston Score	10.31%	114	6.06%	14.68%
[inter-reader]	>0.999	>0.999	[inter-reader]	13.26%	55	8.89%	22.20%
[intra-reader]	>0.999	>0.999	[intra-reader]	1.04%	59	0.51%	1.97%

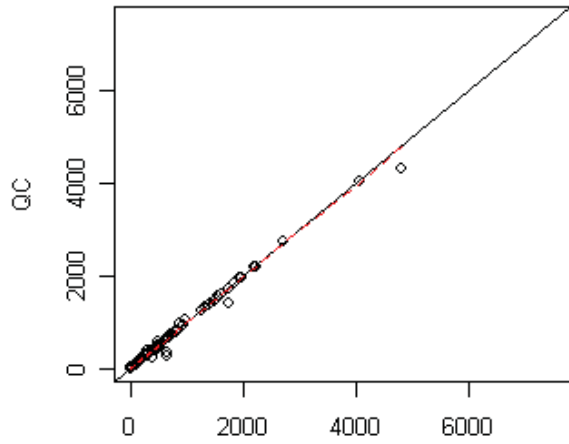
Agatston Scatterplots



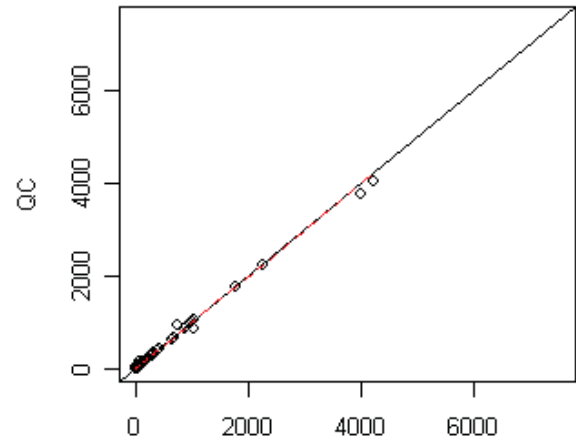
Original Exam 1



Original Exam 2



Original Exam 3



Original Exam 4