



## 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 P. CIMT QA/QC (Right Common Carotid)

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 P was originally Appendix O

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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 O: CIMT QA/QC (Right common carotid)

Participants were examined supine with the head rotated 45° towards the left side. Imaging was done parallel to the right common carotid artery with the jugular vein above (or at 45° from the vertical if the internal jugular vein was not present). The image was centered on a 10 mm segment of the right common carotid artery at least 5 mm below (caudad to) the right common carotid artery bulb. A matrix array probe (M12L, General Electric, Milwaukee, WI) was used, with the frequency set at 13 MHz. Images acquired for 20 s at 32 frames-per-second were digitized and automated inter-adventitial diameter measurements (near wall inter-adventitial interface to far wall inter-adventitial interface) made. The end-diastolic diameter was obtained from the smallest diameter of the inter-adventitial diameter-versus-time curve. Images selected at end-diastole were used for measurements of the mean far wall common carotid IMT.

The reproducibility of the measurements was assessed by replicate readings of the same series of images on 139 participants giving an overall intra-class correlation coefficient (ICC) of 0.990 (95% CI; 0.987, 0.993). The intra-reader ICC was 0.997 (95% CI 0.991, 0.999) while the inter-reader ICC (Figure A) was 0.989 (95% CI 0.985, 0.993).

from: Polak JF, Wong Q, Johnson WC, Bluemke DA, Harrington A, O'Leary DH, Yanez ND. 2011. Associations of cardiovascular risk factors, carotid intima-media thickness and left ventricular mass with inter-adventitial diameters of the common carotid artery: the Multi-Ethnic Study of Atherosclerosis (MESA). *Atherosclerosis* 218:344-9.

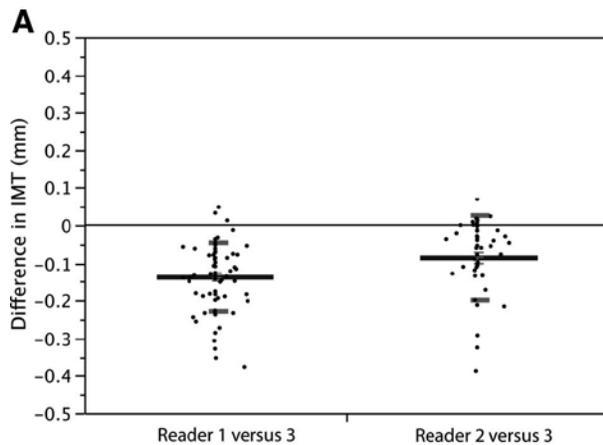


Figure A. Paired differences between readers for manual-traced intima-media thickness (IMT) values. Readers 1 and 2 (inter-reader) are compared to reader 3 (from Polak JF et al. 2011).