

## MESA Core Resources:

### **MESA:**

Historical data from the MESA Study can be accessed through application to the MESA Steering Committee. This can be facilitated by ADCC faculty members or other MESA investigators. The MESA Study is a multi-site study of cardiovascular health in a diverse cohort including African Americans, Chinese, Hispanic, and White participants (n=6,418). The study overview and protocol can be found here: <https://www.mesa-nhlbi.org/aboutMESAOverviewProtocol.aspx>

### ***Historical data available:***

	MESA Parent Study					
	Exam 1 Jul00 -Aug02 (24 months) N=6814	Exam 2 Sep02- Feb04 (18 Months) N=6232	Exam 3 Mar04- Sep05 (18 Months) N=5939	Exam 4 Sep05- May07 (21 Months) N=5704	Exam 5 Apr10- Dec11 (21 Months) N=4651	Exam 6 Sept16- Feb18 (18 Months) N=4000
Questionnaires						
Personal Hx (education, income, wealth, occupation, smoking, and alcohol intake)	X	X	X	X	X	X
Medical Hx (prevalent and incident CVD events, diabetes, dementia etc.)	X	X	X	X	X	X
Medications (type and dosage)	X	X	X	X	X	X
Family Hx (CVD, stroke, diabetes, cancer and others)		X				
Sleep (X=questionnaire, A=PSG, actigraphy)		X		X	A <sub>2500</sub>	
Residential/neighborhood		X				
Psycho-Social (information on social support, depression, and neighborhood environment)	X	X	X	X	X	
Occupation/employment	X	X	X			
Physical Activity (e.g. household chores, caregiving, walking, dancing, conditioning – rated low, medium, & high-level activities during past month)	X	X	X		X	X
Food Frequency (types and quantities)	X				X	
Procedures/Assessments						
Anthropometry (weight, height, waist and hip circumferences, total body fat and fat free mass from body composition scale.)	X	X	X	X	X	X
Phlebotomy collection (lipids, NMR, lipoprotein subclasses, CBC, insulin, glucose, HbA1c, creatinine, cystatin-C, etc.)	X Insulin <sub>6788</sub>	X HbA1c <sub>6142</sub>	X insulin <sub>1965</sub>	X	X Insulin <sub>4162</sub> HbA1c <sub>4558</sub>	X
Urine collection (microalbuminuria)	X	X	X		X	
Genotyping (APOE, SNPs)				X		
Monocyte-derived epigenetics (miRNA)					A <sub>1500</sub>	X
Blood Pressure	X	X	X	X	X	X
Ankle Brachial Index (ABI)	X		X		X	
Electrocardiogram (ECG)	X <sub>6765</sub>				X <sub>4625</sub>	
Arterial Wave Form and velocity (PWV)	X <sub>6335</sub>				A <sub>4130</sub>	
Retinal Photography		X <sub>6080</sub>			X <sub>4350</sub>	
Vision/Refraction		X <sub>6080</sub>			X <sub>4350</sub>	
US Endothelial Function (FMD)	X <sub>3500</sub>					
US Carotid intima media thickness	X <sub>6725</sub>	X <sub>2955</sub>	X <sub>2805</sub>	A <sub>1360</sub>	A <sub>3200</sub>	
US Carotid Distensibility	X <sub>6530</sub>					
MRI Cardiac (volume, function, PWV)	X <sub>5000</sub>	X <sub>650</sub>		X <sub>1350</sub>	X <sub>3000</sub>	
MRI Carotid		X <sub>1000</sub>				
CT Coronary (chest)	X <sub>6814</sub>	X <sub>2955</sub>	X <sub>2805</sub>	A <sub>1405</sub>	A <sub>3200</sub>	
CT Aortic (abdomen)		X <sub>1000</sub>	X <sub>1000</sub>			
Spirometry				X <sub>3600</sub>	A <sub>3600</sub>	
Arrhythmia Monitoring (ZIO <sup>®</sup> Patch)						A <sub>1500</sub>

X = MESA Classic Cohort (total number available unless specified); Abbreviations: A = Ancillary Study procedure, US = Ultrasound, PWV = pulse wave velocity, Hx – history, FMD – flow mediated dilation. Counts provided above reflect existing data. Some variation in the number available for a specific analysis is expected.

Cognitive function was assessed at Exam 5. Tests included were the Cognitive Abilities Screening Instrument (CASI), Digit Symbol Coding, and Digit Span.

***Prospective data:***

The Wake Forest site of the MESA Study will prospectively collect cognitive data on a subset of the total sample including n~540 participants (45% African American, and 55% White) beginning in September 2016. Cognitive evaluations will include the National Alzheimer's Coordinating Center's (NACC) Uniform Data Set (UDS), a comprehensive neuropsychological battery.

Cognitive tests include the Montreal Cognitive Assessment (MoCA), Craft Story Recall Immediate, Benson Complex Figure Copy, Number Span Forward, Number Span Backward, Category Fluency (Animals, Vegetables), the Trail Making Test Parts A & B, Craft Story Recall Delayed, Benson Complex Figure Recall, the Multilingual Naming Test (MINT), and Verbal Fluency (F & L). Assessments include the Clinical Dementia Rating (CDR), Neuropsychiatric Inventory Questionnaire (NPI-Q), Geriatric Depression Scale (GDS), Functional Assessment Questionnaire (FAQ), neurological exam, clinician judgement of symptoms, and diagnoses. Demographic information is collected along with information about medications, family history, and health history.

Additional cognitive tests include the Alzheimer's Disease Cooperative Study- Preclinical Alzheimer Cognitive Composite (ADCS-PACC) which comprises the Mini Mental State Exam (MMSE), the Free and Cued Selective Reminding Test (FCSRT) total recall score, Delayed Recall score from the Logical Memory IIa subtest of the Wechsler Memory Scale, and the Digit Symbol Substitution Test from the Wechsler Adult Intelligence Scale-Revised.

Ongoing studies will collect repeated MRIs and amyloid PET imaging. CSF will be collected on a sub-sample of participants (~40%) at two time points, and participants will be asked to join our brain donation program.