**TITLE**: Body Composition Analysis in African Americans.

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**Background and Objective:**

AAs are disproportionately affected by obesity-related CVD. Visceral adipose tissue (VAT) is more likely than subcutaneous adipose tissue (SAT) to positively correlate with increased cardiometabolic risk/disease. The purpose of this study is to identify low-cost predictive anthropometric measures of obesity-related diseases by assessing the correlation of sagittal abdominal diameter (SAD) and CT measures of fat distribution in AAs.

**METHODS**: HIPPA-compliant, IRB-approved retrospective study, non-enhanced CT images of 150 AA during Exam2 of Jackson Heart Study. Waist circumference (WC) and SAD by DICOM viewer (OsiriX MD, v.9.0.2). Paraspinal muscle, VAT and SAT volumes from 24 consecutive 2.5mm slices centered at the L4/L5 intervertebral space were obtained using segmentation software (sliceOmatic, Tomovision, v.5.0). Fat compartment volumes (cm3) were correlated with SAD and WC. SAD was measured at the anterior superior iliac spine level. WC was measured at the iliac crest. WC and SAD were correlated to VAT and SAT using a regression model and coefficient of determination was calculated.

**RESULTS**: SAD and WC showed positive correlations with VAT and SAT. Interestingly, muscle volume played a role in correlation. With paraspinal volume of ≥150cm3 and <150cm3, SAD correlated best with visceral adipose tissue (R2=0.68/0.58). WC correlated best with subcutaneous adipose tissue in patients with ≥150 cm3 and <150cm3 of paraspinal muscle (R2=0.79/0.74).

**CONCLUSION**: Anthropometric measures can serve as a markers for regional distribution of body fat and may predict cardiometabolic risk.