

PHACS Adolescent Master Protocol  
Participant Summary

**Title:** Differences in Body Fat Distribution in HIV-infected versus HIV-uninfected Children

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**Study Description:** Children with HIV may not gain body fat in a normal way. We worry about too much fat gain around the belly button. This type of gain may increase the chance of having an early heart attack or stroke. Children in the PHACS Adolescent Master Protocol (AMP) have a body composition test called a DEXA. Body fat is measured through DEXA scans of the entire body, the arms and legs, and the belly. Using this DEXA, we looked for differences in body fat in children with and without HIV. In children with HIV, we looked to see if there were differences in body fat in those with high or low CD4 count, detectable HIV virus and certain medications. We also looked at other factors that could cause fat accumulation including age, sexual maturation, race, and sex.

**Study Population:** We obtained DEXAs on 303 children with HIV and 115 children without HIV. Children with HIV were older, more frequently African American and more advanced in sexual maturation.

**Results:** Children with HIV had a lower body mass index. (Body mass index is for a type of measure of overall body fat). HIV-infected children had median CD4s of 698 cell/mm<sup>3</sup>. Slightly less than half of these children had almost undetectable viral loads. Most of the children were on HAART. Children with HIV had lower total body fat, lower fat in the legs and arms, and higher belly fat than the children without HIV. Children on protease inhibitors for longer had higher belly fat. Current CD4 and viral load did not affect body fat.

**Conclusions:** Loss of fat in the arms and legs and increased belly fat were observed in children with HIV. Changes in fat may be related to long-term use of protease inhibitors. These changes in body fat may increase the chance of heart problems as children with HIV age.

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