Obesity is a Leading Risk Factor for Many Cancers.

Obesity has been associated to increase the risk of thirteen different types of cancers (International Agency for Research on Cancers 2016).

Obesity contributes differently to different types of cancers.

Obesity is typically defined by Body Mass Index (BMI) of 30 kg/m² or higher.

BMI = weight (kg) / height (meter)²

The Multiethnic Cohort Study is one of the largest cohort studies in the world for cancer research, and the most ethnically diverse. This diversity has proven especially important for our research on obesity, body fat distribution and cancer risk.

We thank the participants for their extremely valuable contribution that enabled us to conduct these studies.

High-Risk Fat Amounts Differ by Race/Ethnicity at a Given BMI.

Body fat distribution can be substantially different between two people with the same levels of BMI, total body fat, and even abdominal fat (white area in this MRI image): people with "high-risk" fat distribution (left) stores relatively more intra-abdominal fat and less subcutaneous fat.

We invited a subset of the MEC participants for a whole-body imaging study of fat distribution. The intra-abdominal fat amounts differed by sex and ethnicity, and liver fat differed by ethnicity. Japanese Americans showed highest levels of the high-risk fat, followed by intermediate levels in Native Hawaiians, Whites and Latinos, and lowest levels in African Americans.

The risk of cancer associated with higher BMI (overweight or obese) compared to normal-weight BMI differed by race/ethnicity. The relative cancer risks increased more rapidly along the increasing BMI among Japanese Americans, Latinos and Native Hawaiians than in whites or blacks.