What is this research about? What is the goal of this study?

This research is about the prevention of osteoporosis (porous and fragile bones). After the age of 50, one in two women will develop osteoporosis. By comparison, one in four men will go on to develop osteoporosis after the age of 50.

Females between the ages of 9 and 12 will experience rapid changes in growth and development. During this period, both soft tissue (i.e. fat and muscle) and bone are constantly changing as part of physical maturation. Previous studies have suggested that changes in soft tissue, especially increases in body fat, may negatively affect bone development in young girls. The goal of this study is to determine how changes in body fat affect the way bones develop by looking at the role body fat plays in regulating the body’s blood sugar and inflammation, which are both important in bone development.

What types of measurements will be required for the study?

Your daughter will be measured for height (both sitting and standing), weight, and arm and leg lengths. Additionally, your daughter will have a whole body DXA scan and pQCT scan which will allow us to look at her soft tissue and bone development (see below). Your daughter will also have blood drawn to measure blood sugar, insulin (a hormone that helps regulate blood sugar), cholesterol, and a marker of inflammation known as C-reactive protein. Your daughter will need to fast for 8 hours before giving her blood sample (usually done first thing in the morning). She will also be asked to wear an accelerometer, a small device like a pedometer which will measure her activity levels for a week.

DXA (or DEXA) Scan
The DXA scanner, seen at left, is used to measure body composition and bone density. Body composition includes fat, muscle, and bone and will be useful in charting your daughter’s growth and development.

pQCT Scan
The pQCT (peripheral quantitative computed tomography), seen at the right, is used to gather data on bone development, density, strength, and shape of the arm and leg bones. The pQCT also provides information about muscle. Your daughter may choose to watch a movie during this measurement.
Once my daughter is enrolled, how will I know when to schedule her for measurements?

You will be mailed a packet that provides you with all the measurement information and a number to call to arrange appointment times that are convenient for you and your daughter.

When do you offer measurement appointments?

Because the blood draws must be completed after an 8 hour fast, they are completed in the morning. These appointments will be available mornings Mon-Fri with times as early as 7:15am. During this visit, you may also choose to complete the bone measurements and if you do we will provide a light breakfast for your daughter. Otherwise, you may opt to leave and return another time for the bone measurements. We do our best to accommodate everyone’s busy schedules, including late afternoon and Saturday appointments for bone measurement.

Where is the Body Composition Laboratory located?

The Body Composition Laboratory is located at the UofA South Campus, Abrams Building, 3950 S. Country Club Blvd.

Can I be present during the measurements?

Yes. You are welcome to stay in the lab during measurements and can be present with your daughter during all measurements.

I understand that my daughter will be filling out questionnaires. What do these questionnaires cover?

When will my daughter be filling out these questionnaires?

Part of the measurement process includes filling out questionnaires that will help us assess physical activity, diet, and maturation. Physical activity is assessed using a questionnaire that requires your daughter to recall activities she did participated in over the previous year. Your daughter’s diet will be assessed by a survey that asks about the types of food she eats and how often she eats these foods.

How many times will my daughter be measured?

All girls will be measured once. Some girls will be asked to return in 2 years to be measured a second time. Those girls will be contacted at a later date.

Will my daughter be compensated for being in the study?

Your daughter will be paid for participating in this study.

Who should I contact if I have other questions about this study?

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