

STUDY OF OSTEOPOROTIC FRACTURES (V4)

Body Composition Measurement by QDR 2000 Body Composition Cohort

I. WHOLE BODY SCANS WITH THE BODY COMPOSITION STEP PHANTOM

1. Introduction:

Whole body composition by the QDR 2000 allows determination of the soft tissue composition of the entire body. Analysis of fat mass, lean mass, and % fat mass can be reported for the entire body as well as separately for the head, arms, trunk, pelvis, and legs.

2. Subject preparation

Due to the sensitivity of the soft tissue analysis, the subject should wear only a cloth or paper hospital gown for the scan. Alternatively, the participant may wear light clothing such as a tee shirt and sweat pants and still be scanned successfully. We prefer that the hospital gown be used in as many cases as possible.

Double check that the participant has no removable metal objects on her body, such as zippers, snaps, belts, underwire bras, jewelry, keys, etc. The participant must remove her shoes.

Double check that the participant's entire body is within the scan limit lines.

3. Measurement

Measurements should be made by examiners certified in Hologic whole body scanning techniques.

The protocol to be followed is outlined in Chapter 5 of the QDR 2000 Operator's Manual. Basically, the protocol as designed for the FIT study should be followed except that in SOF, the Array (or fan beam) mode of scanning will be used instead of the single beam (or pencil beam) mode. This mode greatly reduces the scanning time: total scan time 5 minutes 20 seconds.

A second key difference between FIT and SOF is that SOF is most concerned with the measures of soft tissue, percents fat and lean mass compared with FIT where bone is the most important. Keep this in mind when performing the analysis.

4. Analysis and data management

Analysis of the scan should be performed at the clinic. Procedures for analysis of body composition start on page 18 of Chapter 5. Keep in mind that SOF is more interested in the soft tissue measures, hence in some cases, bone measures may have to be sacrificed for accurate soft tissue measures.

Send copies of the archived scans on floppies along with printouts of both the first and second soft tissues reports (examples pages 5-25 and 5-26 of Hologic manual) to Tajalli Spencer at the SOF Coordinating Center. Keep a set of backup floppies at the clinic. Tajalli will review the analysis of the scans and make corrections here at the coordinating center as necessary.