THE NATIONAL
CHILDREN'S
STUDY
HEALTH GROWTH ENVIRONMENT

Physical Measures Child Anthropometry Instrument

Event: 6-, 12-, or 24-Month

Participant: Child

Domain: Physical Measures

Type of Document: Data Collection Instrument

Allowable Mode: In Person

Allowable Method: CAPI

Recruitment Groups: EH, PB, HI

Version: 1.0

Release: MDES 3.0

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Physical Measures Child Anthropometry Instrument

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(TIME_STAMP_AN_ST) PROGRAMMER INSTRUCTION:
- INSERT DATE/TIME STAMP

AN001/(ANTHRO_INTRO). Thank you for agreeing to participate in the National Children's Study. We will be measuring {C_FNAME/the child}'s weight and length as well as {his/her/their} head, waist, arm, and leg.

DATA COLLECTOR INSTRUCTIONS:
- EXPLAIN THE ANTHROPOMETRY PROTOCOL TO THE PARENT OR CAREGIVER.
- IF THE PARENT OR CAREGIVER REFUSED THE MEASUREMENTS, SELECT REFUSED. OTHERWISE, SELECT CONTINUE.

CONTINUE.. 1 **(RESP_REL)**
REFUSED.. -1

PROGRAMMER INSTRUCTIONS:
- IF **C_FNAME** COLLECTED DURING PREVIOUS INTEVIEW AND VALID RESPONSE PROVIDED, PRELOAD **C_FNAME**.
- OTHERWISE, IF **C_FNAME** NOT COLLECTED DURING PREVIOUS INTERVIEW OR VALID RESPONSE NOT PROVIDED, DISPLAY "the child".
- PRELOAD **CHILD_SEX** FROM MOST RECENT INTERVIEW:
  - o IF **CHILD_SEX** =1, DISPLAY "his".
  - o IF **CHILD_SEX** = 2, DISPLAY "her".

AN002/(AN_REF_REASON). I am sorry that you have chosen not to participate in this activity. Can you please tell me why?

DATA COLLECTOR INSTRUCTION:
- SELECT ALL THAT APPLY.

CONCERN ABOUT DISCOMFORT...1
CHILD TIRED/UNHAPPY...2
LANGUAGE ISSUE, SPANISH...3
LANGUAGE ISSUE, NON SPANISH.......................................4
PARTICIPANT ILL/ EMERGENCY...5
NO TIME..6
EQUIPMENT FAILURE...7
SAFETY EXCLUSION...8
PHYSICAL LIMITATION..9
TECHNICIAN ERROR...10
OTHER...-5
NONE GIVEN..-7

PROGRAMMER INSTRUCTIONS:
- IF RESPONSE CODE -7 SELECTED, DO NOT ALLOW SELECTION OF ADDITIONAL RESPONSE CODES AND GO TO **AN_END_REF.**

- IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 SELECTED OR JUST ONE OF 1 THROUGH 10, GO TO **AN_END_REF.**
- IF RESPONSE CODE -5 SELECTED OR IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 AND -5 SELECTED, GO TO **AN_REF_REASON_OTH**.

AN003/(AN_REF_REASON_OTH).

SPECIFY:_____

REFUSED...-1 **(AN_END_REF)**
DON'T KNOW..-2 **(AN_END_REF)**

PROGRAMMER INSTRUCTION:
- LIMIT FREE TEXT TO 255 CHARACTERS.

AN004/(AN_END_REF). That's fine. Thank you for your time.

PROGRAMMER INSTRUCTION:
- GO TO **TIME_STAMP_AN_ET.**

AN005/(RESP_REL). WHAT IS THE RELATIONSHIP OF THE PARENT OR CAREGIVER TO CHILD?

MOTHER...1 **(AN_WT_MEAS1)**
FATHER..2 **(AN_WT_MEAS1)**
OTHER...-5

AN010/(RESP_REL_OTH).

SPECIFY_____

PROGRAMMER INSTRUCTION:
- LIMIT TEXT TO 255 CHARACTERS.

AN015/(AN_WT_MEAS1). WEIGHT MEASUREMENT 1.

MEASURED WEIGHT................................__ __ __ . __ kg
EXCEEDS CAPACITY.................................-6 **(AN_RECUMB_LENGTH1)**
REFUSED..-1 **(AN_WT_REFUS_REASON)**
COULD NOT OBTAIN................................-2 **(AN_RECUMB_LENGTH1)**

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A (ANTHROPOMETRY EDIT RANGES) TO DETERMINE HARD AND SOFT EDITS:
  - IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED WEIGHT BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
  - IF MEASUREMENT IS < 1 OR > 199 KG, DISPLAY HARD EDIT.

AN020/(AN_WT_MEAS2). WEIGHT MEASUREMENT 2.

MEASURED WEIGHT...................................__ __ __ . __ kg
REFUSED...-1 **(AN_WT_REFUS_REASON)**
COULD NOT OBTAIN.................................-2

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A (ANTHROPOMETRY EDIT RANGES) TO DETERMINE HARD AND SOFT EDITS:
  - o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED WEIGHT BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
  - O IF MEASUREMENT IS < 1 OR > 199 KG, DISPLAY HARD EDIT.
- IF VALID MEASURES PROVIDED FOR **AN_WT_MEAS1** AND **AN_WT_MEAS2**, CALCULATE THE DIFFERENCE BETWEEN **AN_WT_MEAS1** AND **AN_WT_MEAS2**:
  - o IF **AN_WT_MEAS1** AND **AN_WT_MEAS2** DIFFER BY ≤ 0.3 KG, CALCULATE THE MEAN OF **AN_WT_MEAS1** AND **AN_WT_MEAS2**, SAVE AS **AN_WT_MEAS_MEAN**. **THEN** GO TO **AN_RECUMB_LENGTH1**.
  - o IF **AN_WT_MEAS1** AND **AN_WT_MEAS2** DIFFER BY > 0.3 KG, GO TO **AN_WT_MEAS3**.
  - o GO TO **AN_RECUMB_LENGTH1.**
- IF **AN_WT_MEAS2** = -1:
  - o SAVE **AN_WT_MEAS2** AS **AN_WT_MEAS_MEAN**.
  - o GO TO **AN_WT_REFUS_REASON**.
- IF **AN_WT_MEAS2** = -2:
  - o SAVE **AN_WT_MEAS2** AS **AN_WT_MEAS_MEAN** A
  - o GO TO **AN_RECUMB_LENGTH1.**

AN025/(AN_WT_MEAS3). THIRD WEIGHT MEASUREMENT

MEASURED WEIGHT...................................__ __ __ . __ kg

REFUSED...-1 **(AN_WT_REFUS_REASON)**
COULD NOT OBTAIN.................................-2

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A (ANTHROPOMETRY EDIT RANGES) TO DETERMINE HARD AND SOFT EDITS:
  - o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED WEIGHT BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
  - O IF MEASUREMENT IS < 1 OR > 199 KG, DISPLAY HARD EDIT.
- IF VALID MEASURES PROVIDED FOR **AN_WT_MEAS1**, **AN_WT_MEAS2**, AND **AN_WT_STAND_MEAS3**:
  - o IF THE TWO OUTSIDE MEASUREMENTS ARE EQUIDISTANT FROM THE MIDDLE MEASURE, THEN SAVE THE MIDDLE MEASURE AS **AN_WT_MEAS_MEAN**.
  - o IF THE TWO OUTSIDE MEASUREMENTS ARE NOT EQUIDISTANT FROM THE MIDDLE MEASURE, CALCULATE THE MEAN OF THE TWO CLOSEST MEASUREMENTS OF **AN_WT_MEAS1, AN_WT_MEAS2,** AND **AN_WT_MEAS3** AND SAVE AS **AN_WT_MEAS_MEAN.**
  - o GO TO **AN_RECUMB_LENGTH1.**
- IF **AN_WT_MEAS3** = -1:

- o CALCULATE THE MEAN OF **AN_WT_MEAS1** AND **AN_WT_MEAS2**, AND SAVE AS **AN_WT_MEAS_MEAN**.
  - o GO TO **AN_WT_REFUS_REASON**.
- IF **AN_WT_MEAS3** = -2:
  - o CALCULATE THE MEAN OF **AN_WT_MEAS1** AND **AN_WT_MEAS2**, AND SAVE AS **AN_WT_MEAS_MEAN**.
  - o GO TO **AN_RECUMB_LENGTH1.**

AN026/(AN_WT_REFUS_REASON).

DATA COLLECTOR INSTRUCTIONS:
- ENTER REASON YOU COULD NOT OBTAIN THE WEIGHT MEASURE.
- SELECT ALL THAT APPLY.

```
CONCERN ABOUT DISCOMFORT..........................................1
CHILD TIRED/UNHAPPY................................................2
LANGUAGE ISSUE, SPANISH............................................3
LANGUAGE ISSUE, NON SPANISH.......................................4
PARTICIPANT ILL/ EMERGENCY.........................................5
NO TIME............................................................6
EQUIPMENT FAILURE..................................................7
SAFETY EXCLUSION...................................................8
PHYSICAL LIMITATION................................................9
TECHNICIAN ERROR..................................................10
OTHER.............................................................-5
NONE GIVEN........................................................-7
```

PROGRAMMER INSTRUCTIONS:
- IF RESPONSE CODE -7 SELECTED, DO NOT ALLOW SELECTION OF ADDITIONAL RESPONSE CODES AND GO TO **AN_RECUMB_LENGTH1.**
- IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 SELECTED OR JUST ONE RESPONSE OF 1 THROUGH 10 SELECTED, GO TO **AN_RECUMB_LENGTH1.**
- IF RESPONSE CODE -5 SELECTED OR IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 AND -5 SELECTED, GO TO **AN_WT_REFUS_REASON_OTH**.

AN018/(AN_WT_REFUS_REASON_OTH)
        SPECIFY _____

PROGRAMMER INSTRUCTIONS:
- LIMIT FREE TEXT TO 255 CHARACTERS.

AN030/(AN_RECUMB_LENGTH1). FIRST RECUMBENT LENGTH.

```
MEASURED RECUMBENT LENGTH..........__ __ __ . __ cm
EXCEEDS CAPACITY..................................-6
REFUSED...........................................-1 (AN_LENGTH_REFUS_REASON)
COULD NOT OBTAIN..................................-2
(AN_MEASUREMENT_WT_LENGTH_COM)
```

AN035/(AN_RECUMB_LENGTH2). SECOND RECUMBENT LENGTH.

MEASURED RECUMBENT LENGTH..........__ __ __ . __ cm
REFUSED..-1 **(AN_LENGTH_REFUS_REASON)**
COULD NOT OBTAIN.................................-2

PROGRAMMER INSTRUCTIONS:
- IF VALID MEASURES PROVIDED FOR **AN_RECUMB_LENGTH1** AND **AN_RECUMB_LENGTH2**, CALCULATE THE DIFFERENCE BETWEEN **AN_RECUMB_LENGTH1** AND **AN_RECUMB_LENGTH2**:
  - o IF **AN_RECUMB_LENGTH1** AND **AN_RECUMB_LENGTH2** DIFFER BY ≤ 1.0 CM, CALCULATE THE MEAN OF **AN_RECUMB_LENGTH1** AND **AN_RECUMB_LENGTH2**, SAVE AS **AN_RECUMB_LENGTH_MEAN,** AND THEN GO TO **AN_ABOVE_WAIST_ADJ_RECUMB.**
  - o IF **AN_RECUMB_LENGTH1** AND **AN_RECUMB_LENGTH2** DIFFER BY > 1.0 CM, GO TO **AN_RECUMB_LENGTH3.**
- IF **AN_RECUMB_LENGTH2** = -1:
  - o SAVE **AN_RECUMB_LENGTH1** AS **AN_RECUMB_LENGTH_MEAN**.
  - o GO TO **AN_LENGTH_REFUS_REASON**.
- IF **AN_RECUMB_LENGTH2** = -2:
  - o SAVE **AN_RECUMB_LENGTH1** AS **AN_RECUMB_LENGTH_MEAN**.
  - o GO TO **AN_ABOVE_WAIST_ADJ_RECUMB**.

AN040/(AN_RECUMB_LENGTH3). THIRD RECUMBENT LENGTH.

MEASURED RECUMBENT LENGTH..........__ __ __ . __ cm
REFUSED..-1 **(AN_LENGTH_REFUS_REASON)**
COULD NOT OBTAIN.................................-2

PROGRAMMER INSTRUCTIONS:
- IF VALID MEASURES PROVIDED FOR **AN_RECUMB_LENGTH1**, **AN_RECUMB_LENGTH2**, AND **AN_RECUMB_LENGTH_3:**
  - o IF THE TWO OUTSIDE MEASUREMENTS ARE EQUIDISTANT FROM THE MIDDLE MEASURE, THEN SAVE THE MIDDLE MEASURE AS **AN_RECUMB_LENGTH_MEAN**.
  - o IF THE TWO OUTSIDE MEASUREMENTS ARE NOT EQUIDISTANT FROM THE MIDDLE MEASURE, CALCULATE THE MEAN OF THE TWO CLOSEST MEASUREMENTS OF **AN_RECUMB_LENGTH1, AN_RECUMB_LENGTH2,** AND **AN_RECUMB_LENGTH3** AND SAVE AS **AN_RECUMB_LENGTH_MEAN**.
- IF **AN_RECUMB_LENGTH3** = -1:
  - o CALCULATE THE MEAN OF **AN_RECUMB_LENGTH1** AND **AN_RECUMB_LENGTH2**, AND SAVE AS **AN_RECUMB_LENGTH_MEAN**.
  - o GO TO **AN_LENGTH_REFUS_REASON.**
- OTHERWISE, IF **AN_RECUMB_LENGTH3** = -2:
  - o CALCULATE THE MEAN OF **AN_RECUMB_LENGTH1** AND **AN_RECUMB_LENGTH2**, AND SAVE AS **AN_RECUMB_LENGTH_MEAN**.
  - o GO TO **AN_ABOVE_WAIST_ADJ_RECUMB.**
- FOR **AN_ABOVE_WAIST_ADJUST_RECUMB** AND **AN_BELOW_WAIST_ADJUST_RECUMB** BELOW, DISPLAY HARD EDIT IF WAIST ADJUSTEMENT IS < 0 OR >15.2 CM.

AN045/(AN_ABOVE_WAIST_ADJ_RECUMB). ABOVE WAIST ADJUSTMENT (RECUMBENT).

DATA COLLECTOR INSTRUCTION:
- ENTER "0" IF NO ADJUSTMENT IS NEEDED.

ABOVE WAIST ADJUSTMENT....................__ __ __ . __ cm

AN050/(AN_BELOW_WAIST_ADJ_RECUMB). BELOW WAIST ADJUSTMENT (RECUMBENT).

DATA COLLECTOR INSTRUCTION:
- ENTER "0" IF NO ADJUSTMENT IS NEEDED.

BELOW WAIST ADJUSTMENT..................__ __ __ . __ cm

AN055/(AN_ADJ_RECUMB_LENGTH). ADJUSTED RECUMBENT LENGTH.

ADJUSTED RECUMBENT LENGTH............__ __ __ . __ cm

PROGRAMMER INSTRUCTION:
- SUBTRACT **AN_ABOVE_WAIST_ADJ_RECUMB** AND **AN_BELOW_WAIST_ADJ_RECUMB** FROM **AN_RECUMB_LENGTH_MEAN** AND SAVE AS **AN_ADJ_RECUMB_LENGTH.**
- IF VALID MEASURES PROVIDED FOR **AN_RECUMB_LENGTH1** AND **AN_RECUMB_LENGTH2,** GO TO **AN_MEASUREMENT_ WT_LENGTH_COM.**

AN056/(AN_LENGTH_REFUS_REASON).

DATA COLLECTOR INSTRUCTION:
- ENTER REASON FOR REFUSING THE LENGTH MEASURE(S).
- SELECT ALL THAT APPLY.

CONCERN ABOUT DISCOMFORT..1
CHILD TIRED/UNHAPPY..2
LANGUAGE ISSUE, SPANISH...3
LANGUAGE ISSUE, NON SPANISH.......................................4
PARTICIPANT ILL/ EMERGENCY...5
NO TIME..6
EQUIPMENT FAILURE...7
SAFETY EXCLUSION..8
PHYSICAL LIMITATION...9
TECHNICIAN ERROR..10
OTHER...-5
NONE GIVEN...-7

PROGRAMMER INSTRUCTIONS:
- IF RESPONSE CODE -7 SELECTED, DO NOT ALLOW SELECTION OF ADDITIONAL RESPONSE CODES AND GO TO **AN_MEASUREMENT_RECUM_LENGTH_COM.**

- IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 SELECTED OR JUST ONE RESPONSE OF 1 THROUGH 10 SELECTED, GO TO **AN_MEASUREMENT_RECUM_LENGTH_COM.**
- IF RESPONSE CODE -5 SELECTED OR IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 AND -5 SELECTED, GO TO **AN_LENGTH_REFUS_REASON_OTH.**

AN057/(AN_LENGTH_REFUS_REASON_OTH).

SPECIFY:_____

REFUSED..-1
DON'T KNOW...-2

AN060/(AN_MEASUREMENT_ RECUM_LENGTH_COM).

DATA COLLECTION INSTRUCTION:
- SELECT ALL THAT APPLY.
- ENTER COMMENTS ABOUT WEIGHT AND LENGTH/HEIGHT MEASUREMENTS AND ABOVE/BELOW WAIST ADJUSTMENTS.

NONE…………………...…………………………………...1 **(AN_FEMUR_LENGTH)**
POSITION NOT STRAIGHT FOR LENGTH……………...…2 **(AN_FEMUR_LENGTH)**
MEDICAL APPLIANCE/CAST NOT REMOVED……..........3 **(AN_FEMUR_LENGTH)**
AMPUTATION – LEG………………………………….….....4 **(AN_FEMUR_LENGTH)**
AMPUTATION – ARM………....................................…........5 **(AN_FEMUR_LENGTH)**
OTHER..-5

PROGRAMMER INSTRUCTIONS:
- IF RESPONSE CODE OF 1 SELECTED, DO NOT ALLOW SELECTION OF ADDITIONAL RESPONSE CODES.
- IF ANY COMBINATION OF RESPONSE CODES 2 THROUGH 5 SELECTED OR JUST ONE OF THE RESPONSES 2 THROUGH 5 SELECTED, GO TO **AN_FEMUR_LENGTH.**
- IF RESPONSE CODE -5 SELECTED OR ANY COMBINATION OF 2 THROUGH 5 AND -5 SELECTED, GO TO **AN_MEASUREMENT_RECUMB_LENGTH_COM_OTH.**
- IF **AN_WT_MEAS1, AN_WT_MEAS2,** OR **AN_WT_MEAS3** = -2, DISPLAY "PLEASE ENTER THE REASON YOU COULD NOT OBTAIN THE WEIGHT MEASURE."
- IF **AN_RECUMB_LENGTH1, AN_RECUMB_LENGTH2,** OR **AN_RECUMB_LENGTH3** = -2, DISPLAY "PLEASE ENTER THE REASON YOU COULD NOT OBTAIN THE LENGTH MEASURE."

AN061/(AN_MEASUREMENT_RECUMB_LENGTH_COM_OTH).

SPECIFY _____

PROGRAMMER INSTRUCTIONS:
- LIMIT FREE TEXT TO 255 CHARACTERS.

AN065/(AN_ FEMUR_LENGTH). FEMUR LENGTH

MEASURED FEMUR LENGTH …………………. __ __ __ . __ cm.
REFUSED …..…………………………………………… -1 **(AN_WAIST_CIR1)**
COULD NOT OBTAIN ………………….……………….. -2 **(AN_WAIST_CIR1)**

AN070/(AN_MID_FEMUR_LENGTH).

PROGRAMMER INSTRUCTIONS:
- CREATE DERIVED VARIABLE **AN_MID_FEMUR_LENGTH** WHERE **AN_MID_FEMUR_LENGTH** = **AN_FEMUR_LENGTH**/2 AND STORE AND DISPLAY ON SCREEN AS **AN_FEMUR_LENGTH/2.**

AN075/(AN_THIGH_CIR1). THIGH CIRCUMFERENCE 1

MEASURED THIGH CIRCUMFERENCE …………………. __ __ __ . __ cm.
REFUSED …..…………………………………………… -1 **(AN_WAIST_CIR1)**
COULD NOT OBTAIN ………………….……………….. -2 **(AN_WAIST_CIR1)**

DATA COLLECTOR INSTRUCTION:
- TAKE THIGH CIRCUMFERENCE AT THE MIDPOINT OF FEMUR LENGTH.

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A TO DETERMINE HARD AND SOFT EDITS:
  - o IF PARTICIPANT IS 24 MONTHS OR OLDER BASED ON CALCULATION OF CHILD AGE USING **CHILD_DOB** AND **VISIT_DATE**, DISPLAY SOFT EDIT IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED THIGH CIRCUMFERENCE BASED ON AGE AND GENDER.
  - O IF MEASUREMENT IS <0 OR > 200 CM, DISPLAY HARD EDIT.

AN080/(AN_THIGH_CIR2). THIGH CIRCUMFERENCE 2

MEASURED THIGH CIRCUMFERENCE …………………. __ __ __ . __ cm.
REFUSED …..…………………………………………… -1
COULD NOT OBTAIN ………………….……………….. -2

DATA COLLECTOR INSTRUCTION:
- TAKE THIGH CIRCUMFERENCE AT THE MIDPOINT OF FEMUR LENGTH.

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A (ANTHROPOMETRY EDIT RANGES) TO DETERMINE HARD AND SOFT EDITS:
  - o IF PARTICIPANT IS 24 MONTHS OR OLDER BASED ON CALCULATION OF CHILD AGE USING **CHILD_DOB** AND **VISIT_DATE**, DISPLAY SOFT EDIT IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED THIGH CIRCUMFERENCE BASED ON AGE AND GENDER.
  - O IF MEASUREMENT IS <0 OR > 200 CM, DISPLAY HARD EDIT.
- IF VALID MEASURES PROVIDED FOR **AN_THIGH_CIR1** AND **AN_THIGH_CIR2**, CALCULATE THE DIFFERENCE BETWEEN **AN_THIGH_CIR1** AND **AN_THIGH_CIR2**:

- o IF **AN_THIGH_CIR1** AND **AN_THIGH_CIR2** DIFFER BY ≤ 0.5 CM, CALCULATE THE MEAN OF **AN_THIGH_CIR1** AND **AN_THIGH_CIR2**, SAVE AS **AN_THIGH_CIR_MEAN**, AND THEN GO TO **AN_MEASUREMENT_THIGH_CIR_COM**.
  - o IF **AN_THIGH_CIR1** AND **AN_THIGH_CIR2** DIFFER BY > 0.5 CM, GO TO **AN_THIGH_CIR3.**
  - o GO TO **AN_MEASUREMENT_THIGH_CIR_COM.**
- IF **AN_THIGH_CIR2** = -1:
  - o SAVE **AN_THIGH_CIR1** AS **AN_THIGH_CIR_MEAN**.
  - o GO TO **AN_THIGH_CIRC_REFUS_REASON.**
- OTHERWISE, IF **AN_THIGH_CIR2** = -2:
  - o SAVE **AN_THIGH_CIR1** AS **AN_THIGH_CIR_MEAN**.
  - o GO TO **AN_MEASUREMENT_THIGH_CIR_COM.**

AN085/(AN_MID_THIGH_CIR3). THIGH CIRCUMFERENCE 3

MEASURED THIGH CIRCUMFERENCE …………………. __ __ __ . __ cm.
REFUSED …………………………………………………… -1
COULD NOT OBTAIN ………………………………... -2

DATA COLLECTOR INSTRUCTION:
- TAKE THIGH CIRCUMFERENCE AT THE MIDPOINT OF FEMUR LENGTH.

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A (ANTHROPOMETRY EDIT RANGES) TO DETERMINE HARD AND SOFT EDITS:
  - o IF PARTICIPANT IS 24 MONTHS OR OLDER BASED ON CALCULATION OF CHILD AGE USING **CHILD_DOB** AND **VISIT_DATE**, DISPLAY SOFT EDIT IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED THIGH CIRCUMFERENCE BASED ON AGE AND GENDER.
  - o IF MEASUREMENT IS <0 OR > 200 CM, DISPLAY HARD EDIT.
- IF VALID MEASURES PROVIDED FOR **AN_THIGH_CIR1**, **AN_THIGH_CIR2**, AND **AN_THIGH_CIR3**:
  - o IF THE TWO OUTSIDE MEASUREMENTS ARE EQUIDISTANT FROM THE MIDDLE MEASURE, THEN SAVE THE MIDDLE MEASURE AS **AN_THIGH_CIR_MEAN.**
  - o IF THE TWO OUTSIDE MEASUREMENTS ARE NOT EQUIDISTANT FROM THE MIDDLE MEASURE, CALCULATE THE MEAN OF THE TWO CLOSEST MEASUREMENTS OF **AN_THIGH_CIR1, AN_THIGH_CIR2,** AND **AN_THIGH_CIR3** AND SAVE THE VALUE AS **AN_THIGH_CIR_MEAN.**
  - o GO TO **AN_MEASUREMENT_THIGH_CIR_COM.**
- IF **AN_THIGH_CIR3** = -1:
  - o CALCULATE THE MEAN OF **AN_THIGH_CIR2** AND **AN_THIGH_CIR2**, AND SAVE AS **AN_THIGH_CIR_MEAN**.
  - o GO TO **AN_THIGH_CIRC_REFUS_REASON.**
- OTHERWISE, IF **AN_THIGH_CIR3** = -2:

        o   CALCULATE THE MEAN OF **AN_THIGH_CIR2** AND **AN_THIGH_CIR2**, AND SAVE AS **AN_THIGH_CIR_MEAN**.
        o   GO TO **AN_MEASUREMENT_THIGH_CIR_COM.**

AN086/(AN_THIGH_CIRC_REFUS_REASON).

DATA COLLECTOR INSTRUCTION:
- SELECT ALL THAT APPLY.
- ENTER REASON FOR REFUSING THE CIRCUMFERENCE MEASURE.

CONCERN ABOUT DISCOMFORT...1
CHILD TIRED/UNHAPPY..2
LANGUAGE ISSUE, SPANISH..3
LANGUAGE ISSUE, NON SPANISH.......................................4
PARTICIPANT ILL/ EMERGENCY...5
NO TIME..6
EQUIPMENT FAILURE..7
SAFETY EXCLUSION..8
PHYSICAL LIMITATION...9
TECHNICIAN ERROR..10
OTHER...-5
NONE GIVEN...-7

PROGRAMMER INSTRUCTIONS:
- IF RESPONSE CODE -7 SELECTED, DO NOT ALLOW SELECTION OF ADDITIONAL RESPONSE CODES AND GO TO **AN_MEASUREMENT_THIGH_CIR_COM.**
- IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 SELECTED OR JUST ONE RESPONSE OF 1 THROUGH 10 SELECTED, GO TO **AN_MEASUREMENT_THIGH_CIR_COM.**
- IF RESPONSE CODE -5 SELECTED OR IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 AND -5 SELECTED, GO TO **AN_THIGH_CIRC_REFUS_REASON_OTH.**

AN087/(AN_THIGH_CIRC_REFUS_REASON_OTH).

SPECIFY:_____

REFUSED...-1
DON'T KNOW...-2

AN090/(AN_MEASUREMENT_THIGH_CIR_COM).

DATA COLLECTION INSTRUCTION:
- SELECT ALL THAT APPLY.
- ENTER COMMENTS ABOUT FEMUR LENGTH AND THIGH CIRCUMFERENCE MEASUREMENTS.

NONE…………………………………………….....................1
MEASUREMENT TAKEN OVER THICK CLOTHING........2
MEASUREMENT TAKEN ON LEFT THIGH 3
MEDICAL APPLIANCE/CAST NOT REMOVED…….........4

AMPUTATION – LEG………………………………….........5
OTHER...-5

PROGRAMMER INSTRUCTIONS:
- IF RESPONSE CODE 1 SELECTED, DO NOT ALLOW SELECTION OF ADDITIONAL RESPONSE CODES AND GO TO **AN_WAIST_CIR1**.
- IF ANY COMBINATION OF RESPONSE CODES 2 THROUGH 3 SELECTED, GO TO **AN_WAIST_CIR1.**
- IF RESPONSE CODE -5 SELECTED OR IF ANY COMBINATION OF RESPONSE CODES 2 THROUGH 3 AND -5 SELECTED, GO TO **AN_MEASUREMENT_THIGH_CIR_OTH**.
- IF **AN_MID_THIGH_CIR1, AN_MID_THIGH_CIR2,** OR **AN_MID_THIGH_CIR3** = -2, DISPLAY "PLEASE ENTER THE REASON YOU COULD NOT OBTAIN THE MID THIGH CIRCUMFERENCE MEASURE."

AN095/(AN_MEASUREMENT_THIGH_CIR_COM_OTH). DATA COLLECTOR MEASUREMENT COMMENTS

SPECIFY _____

PROGRAMMER INSTRUCTION:
- LIMIT FREE TEXT TO 255 CHARACTERS.

AN100/(AN_WAIST_CIR1). WAIST CIRCUMFERENCE 1

MEASURED WAIST CIRCUMFERENCE …………………………… __ __ __ . __ cm.
REFUSED..-1 **(AN_WAIST_CIRC_REFUS_REASON)**
COULD NOT OBTAIN..................... -2 **(AN_MEASUREMENT_WAIST_CIR_COM)**

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A (ANTHROPOMETRY EDIT RANGES) TO DETERMINE HARD AND SOFT EDITS:
  - IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED WAIST CIRCUMFERENCE BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
  - IF MEASUREMENT IS <0 OR > 200 CM, DISPLAY HARD EDIT.

AN105/(AN_WAIST_CIR2). WAIST CIRCUMFERENCE 2

MEASURED WAIST CIRCUMFERENCE …………………………… __ __ __ . __ cm.
REFUSED..-1 **(AN_WAIST_CIRC_REFUS_REASON)**
COULD NOT OBTAIN..................... -2 **(AN_MEASUREMENT_WAIST_CIR_COM)**

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A (ANTHROPOMETRY EDIT RANGES) TO DETERMINE HARD AND SOFT EDITS:
  - IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED WAIST CIRCUMFERENCE BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
  - IF MEASUREMENT IS <0 OR > 200 CM, DISPLAY HARD EDIT.

- IF VALID MEASURES PROVIDED FOR **AN_WAIST_CIR1** AND **AN_WAIST_CIR2**, CALCULATE THE DIFFERENCE BETWEEN **AN_WAIST_CIR1** AND **AN_WAIST_CIR2**:
    - o IF **AN_WAIST_CIR1** AND **AN_WAIST_CIR2** DIFFER BY ≤ 1.0 CM, CALCULATE THE MEAN OF **AN_WAIST_CIR1** AND **AN_WAIST_CIR2,** SAVE AS **AN_WAIST_CIR_MEAN**, AND THEN GO TO **AN_MEASUREMENT_WAIST_CIR_COM**.
    - o IF **AN_WAIST_CIR1** AND **AN_WAIST_CIR2** DIFFER BY > 1.0 CM, GO TO **AN_WAIST_CIR3.**
- IF **AN_WAIST_CIR2** = -1:
    - o SAVE **AN_WAIST_CIR1** AS **AN_WAIST_CIR_MEAN**
    - o GO TO **AN_WAIST_CIRC_REFUS_REASON.**
- IF **AN_WAIST_CIR2** = -2:
    - o SAVE **AN_WAIST_CIR1** AS **AN_WAIST_CIR_MEAN**
    - o GO TO **AN_MEASUREMENT_WAIST_CIR_COM**

AN110/(AN_WAIST_CIR3). WAIST CIRCUMFERENCE 3

MEASURED WAIST CIRCUMFERENCE ………………………… __ __ __ . __ cm.
REFUSED .... -1
COULD NOT OBTAIN...................... -2 **(AN_MEASUREMENT_WAIST_CIR_COM)**

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A (ANTHROPOMETRY EDIT RANGES) TO DETERMINE HARD AND SOFT EDITS:
    - o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED WAIST CIRCUMFERENCE BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
    - o IF MEASUREMENT IS <0 OR > 200 CM, DISPLAY HARD EDIT.
- IF VALID MEASURES PROVIDED FOR **AN_WAIST_CIR1**, **AN_WAIST_CIR2**, AND **AN_WAIST_CIR3**:
    - o IF THE TWO OUTSIDE MEASUREMENTS ARE EQUIDISTANT FROM THE MIDDLE MEASURE, THEN SAVE THE MIDDLE MEASURE AS **AN_WAIST_CIR_MEAN.**
    - o IF THE TWO OUTSIDE MEASUREMENTS ARE NOT EQUIDISTANT FROM THE MIDDLE MEASURE, CALCULATE THE MEAN OF THE TWO CLOSEST MEASUREMENTS OF **AN_WAIST_CIR1, AN_WAIST_CIR2,** AND **AN_WAIST_CIR3** AND SAVE THE VALUE AS **AN_WAIST_CIR_MEAN.**
    - o GO TO **AN_MEASUREMENT_WAIST_CIR_COM.**
- IF **AN_WAIST_CIR3** = -1:
    - o CALCULATE THE MEAN OF **AN_WAIST_CIR1** AND **AN_WAIST_CIR2**, AND SAVE AS **AN_WAIST_CIR_MEAN**.
    - o GO TO **AN_WAIST_CIRC_REFUS_REASON.**
- IF **AN_WAIST_CIR3** = -2:
    - o CALCULATE THE MEAN OF **AN_WAIST_CIR1** AND **AN_WAIST_CIR2**, AND SAVE AS **AN_WAIST_CIR_MEAN**.
    - o GO TO **AN_MEASUREMENT_WAIST_CIR_COM**

AN111/(AN_WAIST_CIRC_REFUS_REASON).

DATA COLLECTOR INSTRUCTION:
- SELECT ALL THAT APPLY.
- ENTER REASON FOR REFUSING THE CIRCUMFERENCE MEASURE.

CONCERN ABOUT DISCOMFORT...1
CHILD TIRED/UNHAPPY..2
LANGUAGE ISSUE, SPANISH..3
LANGUAGE ISSUE, NON SPANISH......................................4
PARTICIPANT ILL/ EMERGENCY..5
NO TIME...6
EQUIPMENT FAILURE...7
SAFETY EXCLUSION...8
PHYSICAL LIMITATION..9
TECHNICIAN ERROR...10
OTHER..-5
NONE GIVEN..-7

PROGRAMMER INSTRUCTIONS:
- IF RESPONSE CODE -7 SELECTED, DO NOT ALLOW SELECTION OF ADDITIONAL RESPONSE CODES AND GO TO **AN_MEASUREMENT_WAIST_CIR_COM.**
- IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 SELECTED OR JUST ONE RESPONSE OF 1 THROUGH 10 SELECTED, GO TO **AN_MEASUREMENT_WAIST_CIR_COM.**
- IF RESPONSE CODE -5 SELECTED OR IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 AND -5 SELECTED, GO TO **AN_WAIST_CIRC_REFUS_REASON_OTH.**

AN112/(AN_WAIST_CIRC_REFUS_REASON_OTH).

SPECIFY:_____

REFUSED..-1
DON'T KNOW...-2

PROGRAMMER INSTRUCTION:
- LIMIT FREE TEXT TO 255 CHARACTERS.

AN115/(AN_MEASUREMENT_WAIST_CIR_COM).

DATA COLLECTOR INSTRUCTIONS:
- SELECT ALL THAT APPLY
- ENTER COMMENTS ABOUT WAIST CIRCUMFERENCE MEASUREMENTS.

NONE……………………………………………….................1
MEASUREMENT TAKEN OVER THICK CLOTHING........2
MEDICAL APPLIANCE/CAST NOT REMOVED……........3
OTHER...-5

PROGRAMMER INSTRUCTIONS:

- IF RESPONSE CODE 1 SELECTED, DO NOT ALLOW SELECTION OF ADDITIONAL RESPONSE CODES AND GO TO **AN_HEAD_CIR1**.
- IF RESPONSE CODE 2 SELECTED, GO TO **AN_HEAD_CIR1.**
- OTHERWISE, IF RESPONSE CODE -5 SELECTED OR IF RESPONSE CODES 2 AND -5 SELECTED, GO TO **AN_MEASUREMENT_WAIST_CIR_OTH**.
- IF **AN_WAIST_CIR1, AN_WAIST_CIR2,** OR **AN_WAIST_CIR3** = -2, DISPLAY "PLEASE ENTER THE REASON YOU COULD NOT OBTAIN THE WAIST CIRCUMFERENCE MEASURE."

AN120/(AN_MEASUREMENT_WAIST_CIR_COM_OTH). DATA COLLECTOR
MEASUREMENT COMMENTS

SPECIFY _____

PROGRAMMER INSTRUCTION:
- LIMIT FREE TEXT TO 255 CHARACTERS.

AN125/(AN_HEAD_CIR1). HEAD CIRCUMFERENCE 1

MEASURED HEAD CIRCUMFERENCE …………………………… __ __ __ . __ cm.
REFUSED …………………………………………………… -1
(AN_HEAD_CIRC_REFUS_REASON)
COULD NOT OBTAIN ………………………………….. -2
(AN_HEAD_CIRC_REFUS_REASON)

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A (ANTHROPOMETRY EDIT RANGES) TO DETERMINE HARD AND SOFT EDITS:
    o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED HEAD CIRCUMFERENCE BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
    O IF MEASUREMENT IS < 0 OR > 70 CM, DISPLAY HARD EDIT.

AN130/(AN_HEAD_CIR2). HEAD CIRCUMFERENCE 2

MEASURED HEAD CIRCUMFERENCE …………………………… __ __ __ . __ cm.
REFUSED …………………………………………………… -1
COULD NOT OBTAIN ………………………………….. -2

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A (ANTHROPOMETRY EDIT RANGES) TO DETERMINE HARD AND SOFT EDITS:
    o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED HEAD CIRCUMFERENCE BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
    O IF MEASUREMENT IS < 0 OR > 70 CM, DISPLAY HARD EDIT.
- IF VALID MEASURES PROVIDED FOR **AN_HEAD_CIR1** AND **AN_HEAD_CIR2**, CALCULATE THE DIFFERENCE BETWEEN **AN_HEAD_CIR1** AND **AN_HEAD_CIR2**:

o IF **AN_HEAD_CIR1** AND **AN_HEAD_CIR2** DIFFER BY ≤ 0.3 CM, CALCULATE THE MEAN OF **AN_HEAD_CIR1** AND **AN_HEAD_CIR2**, SAVE AS **AN_HEAD_CIR_MEAN**, AND GO TO **AN_ HUMERUS_LENGTH**.

o IF **AN_HEAD_CIR1** AND **AN_HEAD_CIR2** DIFFER BY > 0.3 CM, GO TO **AN_HEAD_CIR3.**

- IF **AN_HEAD_CIR2** = -1:
  - o SAVE **AN_HEAD_CIR1** AS **AN_HEAD_CIR_MEAN**.
  - o GO TO **AN_HEAD_CIRC_REFUS_REASON.**
- IF **AN_HEAD_CIR2** = -2:
  - o SAVE **AN_HEAD_CIR1** AS **AN_HEAD_CIR_MEAN**.
  - o GO TO **AN_HUMERUS_LENGTH.**

AN135/(AN_HEAD_CIR3). HEAD CIRCUMFERENCE 3

MEASURED HEAD CIRCUMFERENCE …………………………… __ __ __ . __ cm.
REFUSED ………………………………………………… -1
COULD NOT OBTAIN …………………………………….. -2

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A (ANTHROPOMETRY EDIT RANGES) TO DETERMINE HARD AND SOFT EDITS:
  - o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED HEAD CIRCUMFERENCE BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
  - o IF MEASUREMENT IS < 0 OR > 70 CM, DISPLAY HARD EDIT.
- IF VALID MEASURES PROVIDED FOR **AN_HEAD_CIR1**, **AN_HEAD_CIR2**, AND **AN_HEAD_CIR3**:
  - o IF THE TWO OUTSIDE MEASUREMENTS ARE EQUIDISTANT FROM THE MIDDLE MEASURE, THEN SAVE THE MIDDLE MEASURE AS **AN_HEAD_CIR_MEAN.**
  - o IF THE TWO OUTSIDE MEASUREMENTS ARE NOT EQUIDISTANT FROM THE MIDDLE MEASURE, CALCULATE THE MEAN OF THE TWO CLOSEST MEASUREMENTS OF **AN_HEAD_CIR1, AN_HEAD_CIR2,** AND **AN_HEAD_CIR3** AND SAVE THE VALUE AS **AN_HEAD_CIR_MEAN.**
  - o GO TO **AN_HUMERUS_LENGTH.**
- IF **AN_HEAD_CIR3** = -1:
  - o CALCULATE THE MEAN OF **AN_HEAD_CIR1** AND **AN_HEAD_CIR2**, AND SAVE AS **AN_HEAD_CIR_MEAN**.
  - o GO TO **AN_HEAD_CIRC_REFUS_REASON.**
- OTHERWISE, IF **AN_HEAD_CIR3** = -2:
  - o CALCULATE THE MEAN OF **AN_HEAD_CIR1** AND **AN_HEAD_CIR2**, AND SAVE AS **AN_HEAD_CIR_MEAN**.
  - o GO TO **AN_HUMERUS_LENGTH.**
- FOR **AN_HUMERUS_LENGTH** BELOW, GO TO APPENDIX A (ANTHROPOMETRY EDIT RANGES) TO DETERMINE HARD AND SOFT EDITS:
  - o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED HUMERUS LENGTH BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.

o   IF MEASUREMENT IS <0 OR > 80 CM, DISPLAY HARD EDIT.

AN136/(AN_HEAD_CIRC_REFUS_REASON).

DATA COLLECTOR INSTRUCTION:
- SELECT ALL THAT APPLY.
- ENTER REASON FOR REFUSING THE CIRCUMFERENCE MEASURE.

```
CONCERN ABOUT DISCOMFORT.......................................1
CHILD TIRED/UNHAPPY......................................................2
LANGUAGE ISSUE, SPANISH...............................................3
LANGUAGE ISSUE, NON SPANISH.......................................4
PARTICIPANT ILL/ EMERGENCY...........................................5
NO TIME............................................................................6
EQUIPMENT FAILURE.........................................................7
SAFETY EXCLUSION...........................................................8
PHYSICAL LIMITATION........................................................9
TECHNICIAN ERROR...........................................................10
OTHER..............................................................................-5
NONE GIVEN.....................................................................-7
```

PROGRAMMER INSTRUCTIONS:
- IF RESPONSE CODE -7 SELECTED, DO NOT ALLOW SELECTION OF ADDITIONAL RESPONSE CODES AND GO TO **AN_HUMERUS_LENGTH.**
- IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 SELECTED OR JUST ONE RESPONSE OF 1 THROUGH 10 SELECTED, GO TO **AN_HUMERUS_LENGTH.**
- IF RESPONSE CODE -5 SELECTED OR IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 AND -5 SELECTED, GO TO **AN_HEAD_CIRC_REFUS_REASON_OTH.**

AN137/(AN_HEAD_CIRC_REFUS_REASON_OTH).

```
SPECIFY:_____
```

```
REFUSED............................................................................-1
DON'T KNOW.......................................................................-2
```

PROGRAMMER INSTRUCTION:
- LIMIT FREE TEXT TO 255 CHARACTERS.

AN140/(AN_HUMERUS_LENGTH). HUMERUS LENGTH

```
MEASURED HUMERUS LENGTH ……………………… __ __ __ . __ cm.
REFUSED……………………………………………………-1
(AN_HUM_LENGTH_REFUS_REASON)
COULD NOT OBTAIN ……………………………….. -2 (AN_ULNAR_LENGTH)
```

AN145/(AN_MID_HUMERUS_LENGTH).

PROGRAMMER INSTRUCTION:

- CREATE DERIVED VARIABLE, **AN_MID_HUMERUS_LENGTH**, WHERE MID HUMERUS LENGTH = **AN_HUMERUS_LENGTH**/2 AND STORE AND DISPLAY ON SCREEN AS **AN_MID_HUMERUS_LENGTH.**

AN136/(AN_HUM_LENGTH_REFUS_REASON). ENTER REASON FOR REFUSING THE MID HUMERUS LENGTH MEASURE.

      CONCERN ABOUT DISCOMFORT..1
      CHILD TIRED/UNHAPPY...2
      LANGUAGE ISSUE, SPANISH...3
      LANGUAGE ISSUE, NON SPANISH..................................4
      PARTICIPANT ILL/ EMERGENCY......................................5
      NO TIME..6
      EQUIPMENT FAILURE..7
      SAFETY EXCLUSION..8
      PHYSICAL LIMITATION...9
      TECHNICIAN ERROR..10
      OTHER...-5
      NONE GIVEN...-7

PROGRAMMER INSTRUCTIONS:
- IF RESPONSE CODE -7 SELECTED, DO NOT ALLOW SELECTION OF ADDITIONAL RESPONSE CODES AND GO TO **AN_MEASUREMENT_UP_ARM_CIR_COM**.
- IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 SELECTED OR JUST ONE RESPONSE OF 1 THROUGH 10 SELECTED, GO TO **AN_HUMERUS_LENGTH.**
- IF RESPONSE CODE -5 SELECTED OR IF ANY COMBINATION OF RESPONSE CODES 1 THROUGH 10 AND -5 SELECTED, GO TO **AN_HEAD_CIRC_REFUS_REASON_OTH.**

AN137/(AN_HUM_LENGTH_REFUS_REASON_OTH).

      SPECIFY:_____

      REFUSED...-1
      DON'T KNOW..-2

PROGRAMMER INSTRUCTION:
- GO TO **AN_MEASUREMENT_UP_ARM_CIR_COM.**

AN150/(AN_UP_ARM_CIR1). UPPER ARM CIRCUMFERENCE 1.

DATA COLLECTOR INSTRUCTION:
- TAKE UPPER ARM CIRCUMFERENCE AT THE HUMERUS MIDPOINT.

      MEASURED UPPER ARM CIRCUMFERENCE………………… __ __ __ . __ cm.
      REFUSED ……………………………………………… -1
      (AN_UP_ARM_CIRC_REFUS_REASON)
      COULD NOT OBTAIN …………………………………….. -2
      (AN_UP_ARM_CIRC_REFUS_REASON)

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A (ANTHROPOMETRY EDIT RANGES) TO DETERMINE HARD AND SOFT EDITS:

- o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED UPPER ARM CIRCUMFERENCE BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
- O IF MEASUREMENT IS <0 OR > 70 CM, DISPLAY HARD EDIT.

AN155/(AN_UP_ARM_CIR2). MID UPPER ARM CIRCUMFERENCE 2.

DATA COLLECTOR INSTRUCTION:
- TAKE UPPER ARM CIRCUMFERENCE AT THE HUMERUS MIDPOINT.

    MEASURED UPPER ARM CIRCUMFERENCE …………..…… __ __ __ . __ cm.
    REFUSED …………………………………………………… -1
    COULD NOT OBTAIN …………………………………... -2

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A TO DETERMINE HARD AND SOFT EDITS:
    - o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED UPPER ARM CIRCUMFERENCE BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
    - O IF MEASUREMENT IS < 0 OR > 70 CM, DISPLAY HARD EDIT.
- IF VALID MEASURES PROVIDED FOR **AN_UP_ARM_CIR1** AND **AN_UP_ARM_CIR2**, CALCULATE THE DIFFERENCE BETWEEN **AN_UP_ARM_CIR1** AND **AN_UP_ARM_CIR2**:
    - O IF **AN_UP_ARM_CIR1** AND **AN_UP_ARM_CIR2** DIFFER BY ≤ 0.5 CM, CALCULATE THE MEAN OF **AN_UP_ARM_CIR1** AND **AN_UP_ARM_CIR2**, SAVE AS **AN_UP_ARM_CIR_MEAN**, AND THEN GO TO **AN_ULNAR_LENGTH.**
    - O IF **AN_ UP_ARM_CIR1** AND **AN_UP_ARM_CIR2** DIFFER BY > 0.5 CM, GO TO **AN_ UP_ARM_CIR3.**
- IF **AN_UP_ARM_CIR2** = -1:
    - o SAVE **AN_UP_ARM_CIR1** AS **AN_UP_ARM_MEAN**
    - o GO TO **AN_UP_ARM_CIRC_REFUS_REASON**
- IF **AN_UP_ARM_CIR2** = -2:
    - o SAVE **AN_UP_ARM_CIR1** AS **AN_UP_ARM_MEAN**
    - o GO TO **AN_MEASUREMENT_UP_ARM_CIR_COM**.

AN160/(AN_UP_ARM_CIR3). UPPER ARM CIRCUMFERENCE 3.

    MEASURED UPPER ARM CIRCUMFERENCE …………..…… __ __ __ . __ cm.
    REFUSED …………………………………………………… -1
    COULD NOT OBTAIN …………………………………….. -2

COLLECTOR INSTRUCTION:
- TAKE UPPER ARM CIRCUMFERENCE AT THE HUMERUS MIDPOINT.

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A TO DETERMINE HARD AND SOFT EDITS:

- o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED UPPER ARM CIRCUMFERENCE BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
  - O IF MEASUREMENT IS <0 OR > 70 CM, DISPLAY HARD EDIT.
- IF VALID MEASURES PROVIDED FOR **AN_UP_ARM_CIR1** AND **AN_UP_ARM_CIR2**:
  - O IF THE TWO OUTSIDE MEASUREMENTS ARE EQUIDISTANT FROM THE MIDDLE MEASURE, SAVE THE MIDDLE MEASURE AS **AN_UP_ARM_CIR_MEAN.**
  - O IF THE TWO OUTSIDE MEASUREMENTS ARE NOT EQUIDISTANT FROM THE MIDDLE MEASURE, CALCULATE THE MEAN OF THE TWO CLOSEST MEASUREMENTS OF **AN_UP_ARM_CIR1**, **AN_UP_ARM_CIR2**, AND **AN_UP_ARM_CIR3** AND SAVE THE VALUE AS **AN_UP_ARM_CIR_MEAN.**
- IF **AN_UP_ARM_CIR3** = -1:
  - o CALCULATE THE MEAN OF **AN_UP_ARM_CIR1** AND **AN_UP_ARM_CIR2**, AND SAVE AS **AN_UP_ARM_CIR_MEAN**.
  - o GO TO **AN_UP_ARM_CIRC_REFUS_REASON.**
- OTHERWISE, IF **AN_UP_ARM_CIR3** = -2:
  - o CALCULATE THE MEAN OF **AN_UP_ARM_CIR1** AND **AN_UP_ARM_CIR2**, AND SAVE AS **AN_UP_ARM_CIR_MEAN**.
  - o GO TO **AN_MEASUREMENT_UP_ARM_CIR_COM.**

AN161/(AN_UP_ARM_CIRC_REFUS_REASON). ENTER REASON FOR REFUSING THE UPPER ARM CIRCUMFERENCE MEASURE.

CONCERN ABOUT DISCOMFORT...1
(AN_MEASUREMENT_UP_ARM_CIR_COM)
CHILD SICK...2
(**AN_MEASUREMENT_UP_ARM_CIR_COM)**
CHILD TIRED/UNHAPPY..3
(AN_MEASUREMENT_UP_ARM_CIR_COM)
NONE GIVEN...-7
(AN_MEASUREMENT_UP_ARM_CIR_COM)
OTHER ....-5

AN162/(AN_UP_ARM_CIRC_REFUS_REASON_OTH).

SPECIFY:_____

REFUSED...-1
DON'T KNOW..-2

AN165/(AN_MEASUREMENT_UP_ARM_CIR_COM).

DATA COLLECTOR INSTRUCTION:
- SELECT ALL THAT APPLY.
- ENTER COMMENTS ABOUT UPPER ARM LENGTH AND CIRCUMFERENCE.

NONE…………………………………………….....................1
MEASUREMENT TAKEN OVER THICK CLOTHING........2

MEASUREMENT TAKEN ON LEFT ARM.........................3
OTHER...-5

PROGRAMMER INSTRUCTIONS:
- IF **AN_UP_ARM_CIR1, AN_UP_ARM_CIR2,** OR **AN_UP_ARM_CIR3** = -2, DISPLAY "PLEASE ENTER THE REASON WHY YOU COULD NOT OBTAIN THE UPPER ARM CIRCUMFERENCE MEASURE."
- IF RESPONSE CODE 1 SELECTED, DO NOT ALLOW SELECTION OF ADDITIONAL RESPONSE CODES, AND GO TO **AN_ULNAR_LENGTH**.
- IF ANY COMBINATION OF RESPONSE CODES 2 - 3 SELECTED, GO TO **AN_ULNAR_LENGTH.**
- IF RESPONSE CODE -5 SELECTED OR IF ANY COMBINATION OF RESPONSE CODES 2 - 3 AND -5 SELECTED, GO TO **AN_MEASUREMENT_UP_ARM_COM_OTH**.

AN170/(AN_MEASUREMENT_UP_ARM_CIR_COM_OTH).   DATA   COLLECTOR MEASUREMENT COMMENTS

SPECIFY _____

PROGRAMMER INSTRUCTION:
- LIMIT FREE TEXT TO 255 CHARACTERS

AN175/(AN_ULNAR_LENGTH). ULNAR LENGTH

MEASURED ULNAR LENGTH …………………………… __ __ __ . __ cm.
REFUSED ……………………………………………………… -1
(AN_ULNAR_LENGTH_REFUS_REASON)
COULD NOT OBTAIN …………………………………..-2
(AN_MEASUREMENT_ULNAR_LENGTH_COM)

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A TO DETERMINE HARD AND SOFT EDITS:
  o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED HUMERUS LENGTH BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
  O IF MEASUREMENT IS <0 OR > 80 CM, DISPLAY HARD EDIT.
- IF VALID VALUE ENTERED, GO TO **AN_MEASUREMENT_ULNAR_LENGTH_COM.**

AN176/(AN_ULNAR_LENGTH_REFUS_REASON). ENTER REASON FOR REFUSING THE UPPER ARM CIRCUMFERENCE MEASURE.

CONCERN ABOUT DISCOMFORT...1
(AN_MEASUREMENT_ULNAR_ LENGTH_COM)
CHILD SICK...2
(AN_MEASUREMENT_ULNAR_ LENGTH_COM)
CHILD TIRED/UNHAPPY...3
(AN_MEASUREMENT_ULNAR_ LENGTH_COM)
NONE GIVEN..-7
(AN_MEASUREMENT_ULNAR_ LENGTH_COM)
OTHER ....-5

AN177/(AN_ULNAR_LENGTH_REFUS_REASON_OTH).

SPECIFY:_____

REFUSED...-1
DON'T KNOW..-2

AN180/(AN_MEASUREMENT_ ULNAR_ LENGTH_COM).

DATA COLLECTOR INSTRUCTION:
- SELECT ALL THAT APPLY.
- ENTER COMMENTS ABOUT ULNAR LENGTH MEASUREMENT.

NONE……………………………………….....................1
MEASUREMENT TAKEN OVER THICK CLOTHING........2
MEASUREMENT TAKEN ON LEFT ARM........................3
OTHER...-5

PROGRAMMER INSTRUCTIONS:
- IF **AN_ULNAR_LENGTH** = -2, DISPLAY "PLEASE ENTER THE REASON YOU COULD NOT OBTAIN THE ULNAR LENGTH MEASURE."
- IF RESPONSE CODE 1 SELECTED, DO NOT ALLOW SELECTION OF ADDITIONAL RESPONSE CODES AND GO TO **AN_TRICEPS_SKINFOLD1**.
- IF ANY COMBINATION OF RESPONSE CODES 2 AND 3 SELECTED, GO TO **AN_TRICEPS_SKINFOLD1.**
- IF RESPONSE CODE -5 SELECTED OR IF ANY COMBINATION OF RESPONSE CODES 2, 3 AND -5 SELECTED, GO TO **AN_MEASUREMENT_ULNAR_LENGTH_COM_OTH**.

AN185/(AN_MEASUREMENT_ULNAR_LENGTH_COM_OTH). DATA COLLECTOR MEASUREMENT COMMENTS

SPECIFY _____

PROGRAMMER INSTRUCTION:
- LIMIT FREE TEXT TO 255 CHARACTERS.

AN190/(AN_TRICEPS_SKINFOLD1). TRICEPS SKINFOLD MEASUREMENT 1

MEASURED TRICEPS SKINFOLD ………………………… __ __. __ cm.
EXCEEDS CAPACITY……………………….……… -6 **(AN_SUBSCAP_SKINFOLD1)**
REFUSED ………………………………………… -1 **(AN_SUBSCAP_SKINFOLD1)**
COULD NOT OBTAIN …………………………….. -2 **(AN_SUBSCAP_SKINFOLD1)**

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A TO DETERMINE HARD AND SOFT EDITS:
  - IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED TRICEPS SKINFOLD BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
  - IF MEASUREMENT IS < 0 OR > 67 CM, DISPLAY HARD EDIT.

AN195/(AN_TRICEPS_SKINFOLD2). TRICEPS SKINFOLD MEASUREMENT 2

MEASURED TRICEPS SKINFOLD ………………………… __ __. __ cm.
REFUSED ……………………………………………… -1
COULD NOT OBTAIN ………………………………….. -2

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A TO DETERMINE HARD AND SOFT EDITS:
  - o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED TRICEPS SKINFOLD BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
  - O IF MEASUREMENT IS < 0 OR > 67 CM, DISPLAY HARD EDIT.
- IF VALID MEASURES PROVIDED FOR **AN_TRICEPS_SKINFOLD1** AND **AN_TRICEPS_SKINFOLD2**, CALCULATE THE DIFFERENCE BETWEEN **AN_TRICEPS_SKINFOLD1** AND **AN_TRICEPS_SKINFOLD2**:
  - O IF **AN_TRICEPS_SKINFOLD1** AND **AN_TRICEPS_SKINFOLD2** DIFFER BY ≤ 2.0 CM, CALCULATE THE MEAN OF **AN_TRICEPS_SKINFOLD1** AND **AN_TRICEPS_SKINFOLD2**, SAVE AS **AN_TRICEPS_SKINFOLD_MEAN**, AND THEN GO TO **AN_SUBSCAP_SKINFOLD1**.
  - O IF **AN_TRICEPS_SKINFOLD1** AND **AN_TRICEPS_SKINFOLD2** DIFFER BY > 2.0 CM, GO TO **AN_TRICEPS_SKINFOLD3.**
- IF **AN_TRICEPS _SKINFOLD2** = -1:
  - o SAVE **AN_TRICEPS_SKINFOLD1** AS **AN_TRICEPS_SKINFOLD_MEAN**.
  - o GO TO **AN_TRI_SKIN_REFUS_REASON**.
- IF **AN_TRICEPS _SKINFOLD2** = -2:
  - o SAVE **AN_TRICEPS_SKINFOLD1** AS **AN_TRICEPS_SKINFOLD_MEAN**.
  - o GO TO **AN_TRICEPS_SKINFOLD3.**

AN200/(AN_TRICEPS_SKINFOLD3). TRICEPS SKINFOLD MEASUREMENT 3

MEASURED TRICEPS SKINFOLD ……………………… __ __ . __ cm.
REFUSED ……………………………………………… -1
COULD NOT OBTAIN ………………………………….. -2

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A TO DETERMINE HARD AND SOFT EDITS:
  - o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED TRICEPS SKINFOLD BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
  - O IF MEASUREMENT IS < 0 OR > 67 CM, DISPLAY HARD EDIT.
- IF VALID MEASURES PROVIDED FOR **AN_TRICEPS_SKINFOLD1**, **AN_TRICEPS_SKINFOLD2** AND **AN_TRICEPS_SKINFOLD3**:
  - O IF THE TWO OUTSIDE MEASUREMENTS ARE EQUIDISTANT FROM THE MIDDLE MEASURE, THEN SAVE THE MIDDLE MEASURE AS **AN_TRICEPS_SKINFOLD_MEAN.**
  - O IF THE TWO OUTSIDE MEASUREMENTS ARE NOT EQUIDISTANT FROM THE MIDDLE MEASURE, CALCULATE THE MEAN OF THE TWO CLOSEST MEASUREMENTS OF **AN_TRICEPS_SKINFOLD1, AN_TRICEPS_SKINFOLD2,**

> AND **AN_TRICEPS_SKINFOLD3** AND SAVE THE VALUE AS **AN_TRICEPS_SKINFOLD_MEAN.**
>   o GO TO **AN_SUBSCAP_SKINFOLD1.**
> - IF **AN_TRICEPS_SKINFOLD3**= -1:
>   o CALCULATE THE MEAN OF **AN_TRICEPS_SKINFOLD1** AND **AN_TRICEPS_SKINFOLD2**, AND SAVE AS **AN_TRICEPS_SKINFOLD_MEAN**.
>   o GO TO **AN_TRI_SKIN_REFUS_REASON.**
> - OTHERWISE, IF **AN_TRICEPS_SKINFOLD3**= -2:
>   o CALCULATE THE MEAN OF **AN_TRICEPS_SKINFOLD1** AND **AN_TRICEPS_SKINFOLD2**, AND SAVE AS **AN_TRICEPS_SKINFOLD_MEAN**.
>   o GO TO **AN_SUBSCAP_SKINFOLD1.**

AN201/(AN_TRI_SKIN_REFUS_REASON). ENTER REASON FOR REFUSING THE TRICEP SKINFOLD MEASURE.

CONCERN ABOUT DISCOMFORT...1
(AN_SUBSCAP_SKINFOLD1)
CHILD SICK...2
(**AN_SUBSCAP_SKINFOLD1**)
CHILD TIRED/UNHAPPY..3
(AN_SUBSCAP_SKINFOLD1)
NONE GIVEN...-7
(**AN_SUBSCAP_SKINFOLD1**)
OTHER ....-5

AN202/(AN_TRI_SKIN_REFUS_REASON_OTH).

SPECIFY:_____

REFUSED...-1
DON'T KNOW..-2

PROGRAMMER INSTRUCTION:
- LIMIT FREE TEXT TO 255 CHARACTERS.

AN205/(AN_SUBSCAP_SKINFOLD1). SUBSCAPULAR SKINFOLD MEASUREMENT 1

MEASURED SUBSCAPULAR SKINFOLD ………………………… __ __. __ cm.
EXCEEDS CAPACITY…………………………… -6
REFUSED ………………………………………… -1 **(PROGRAMMER INSTRUCTIONS FOLLOWING AN_SUBSCAP_SKINFOLD3)**
COULD NOT OBTAIN …………………………….. -2 **(PROGRAMMER INSTRUCTIONS FOLLOWING AN_SUBSCAP_SKINFOLD3)**

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A TO DETERMINE HARD AND SOFT EDITS:
  o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED SUBSCAPULAR SKINFOLD BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.

o   IF MEASUREMENT IS < 0 OR > 67 CM, DISPLAY HARD EDIT.

AN210/(AN_SUBSCAP_SKINFOLD2). SUBSCAPULAR SKINFOLD MEASUREMENT 2

MEASURED SUBSCAPULAR SKINFOLD ……………………… __ __ . __ cm.
REFUSED …………………………………………………… -1
COULD NOT OBTAIN …………………………………….. -2

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A TO DETERMINE HARD AND SOFT EDITS:
  - o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED SUBSCAPULAR SKINFOLD BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
  - O IF MEASUREMENT IS < 0 OR > 67 CM, DISPLAY HARD EDIT.
- IF VALID MEASURES PROVIDED FOR **AN_SUBSCAP_SKINFOLD1** AND **AN_SUBSCAP_SKINFOLD2**, CALCULATE THE DIFFERENCE BETWEEN **AN_SUBSCAP_SKINFOLD1** AND **AN_SUBSCAP_SKINFOLD2**:
  - O IF **AN_SUBSCAP_SKINFOLD1** AND **AN_SUBSCAP_SKINFOLD2** DIFFER BY ≤ 2.0 CM, CALCULATE THE MEAN OF **AN_SUBSCAP_SKINFOLD1** AND **AN_ SUBSCAP_SKINFOLD2**, SAVE AS **AN_SUBSCAP_SKINFOLD_MEAN**, AND GO TO PROGRAMMER INSTRUCTIONS FOLLOWING **AN_SUBSCAP_SKINFOLD3**.
  - O IF **AN_SUBSCAP_SKINFOLD1** AND **AN_SUBSCAP_SKINFOLD2** DIFFER BY > 2.0 cm, GO TO **AN_SUBSCAP_SKINFOLD3.**
- IF **AN_SUBSCAP_SKINFOLD2** = -1 OR -2, SAVE **AN_SUBSCAP_SKINFOLD1** AS **AN_SUBSCAP_SKINFOLD_MEAN** AND GO TO PROGRAMMER INSTRUCTIONS FOLLOWING **AN_SUBSCAP_SKINFOLD3**.

AN215/(AN_SUBSCAP_SKINFOLD3). SUBSCAPULAR SKINFOLD MEASUREMENT 3

MEASURED SUBSCAPULAR SKINFOLD ………………………… __ __ . __ cm.
REFUSED …………………………………………………… -1
COULD NOT OBTAIN …………………………………….. -2

PROGRAMMER INSTRUCTIONS:
- GO TO APPENDIX A TO DETERMINE HARD AND SOFT EDITS:
  - o IF MEASUREMENT FALLS OUTSIDE MINIMUM OR MAXIMUM EXPECTED SUBSCAPULAR SKINFOLD BASED ON AGE AND GENDER, DISPLAY SOFT EDIT.
  - O IF MEASUREMENT IS < 0 OR > 67 CM, DISPLAY HARD EDIT.
- IF VALID MEASURES PROVIDED FOR **AN_SUBSCAP_SKINFOLD1**, **AN_SUBSCAP_SKINFOLD2**, AND **AN_SUBSCAP_SKINFOLD3**:
  - O IF THE TWO OUTSIDE MEASUREMENTS ARE EQUIDISTANT FROM THE MIDDLE MEASURE, THEN SAVE THE MIDDLE MEASURE AS **AN_SUBSCAP_SKINFOLD_MEAN.**
  - O IF THE TWO OUTSIDE MEASUREMENTS ARE NOT EQUIDISTANT FROM THE MIDDLE MEASURE, CALCULATE THE MEAN OF THE TWO CLOSEST MEASUREMENTS OF **AN_SUBSCAP_SKINFOLD1, AN_SUBSCAP_SKINFOLD2,** AND **AN_SUBSCAPS_SKINFOLD3** AND SAVE THE VALUE AS **AN_SUBSCAP_SKINFOLD_MEAN.**

o GO TO **AN_MEASUREMENT_SUB_SKIN_COM.**
- IF **AN_SUBSCAP_SKINFOLD3**= -1:
  - o CALCULATE THE MEAN OF **AN_SUBSCAP_SKINFOLD1** AND **AN_SUBSCAP_SKINFOLD2**, AND SAVE AS **AN_SUBSCAP_SKINFOLD_MEAN**.
  - o GO TO **AN_SUB_SKIN_REFUS_REASON.**
- OTHERWISE, IF **AN_SUBSCAP_SKINFOLD3**= -2:
  - o CALCULATE THE MEAN OF **AN_SUBSCAP_SKINFOLD1** AND **AN_SUBSCAP_SKINFOLD2**, AND SAVE AS **AN_SUBSCAP_SKINFOLD_MEAN**.
  - o GO TO **AN_MEASUREMENT_SUB_SKIN_COM.**

AN216/(AN_SUB_SKIN_REFUS_REASON). ENTER REASON FOR REFUSING THE SUBSCAPULAR SKINFOLD MEASURE.

CONCERN ABOUT DISCOMFORT..1
(AN_MEASUREMENT_SUB_SKIN_COM)
CHILD SICK...2
(**AN_MEASUREMENT_SUB_SKIN_COM**)
CHILD TIRED/UNHAPPY..3
(AN_MEASUREMENT_SUB_SKIN_COM)
NONE GIVEN..-7
(**AN_MEASUREMENT_SUB_SKIN_COM**)
OTHER ....-5

AN217/(AN_SUB_SKIN_REFUS_REASON_OTH).

SPECIFY:_____

REFUSED..-1
DON'T KNOW...-2

AN180/(AN_MEASUREMENT_SUB_SKIN_COM).

DATA COLLECTOR INSTRUCTION:
- SELECT ALL THAT APPLY
- ENTER COMMENTS ABOUT SKINFOLD MEASUREMENTS.

NONE………………………………………1 **(PROGRAMMER INSTRUCTIONS FOLLOWING AN_MEASUREMENT_SUB_SKIN_COM_OTH)**
MEASUREMENT TAKEN OVER THICK CLOTHING2 **(PROGRAMMER INSTRUCTIONS FOLLOWING AN_MEASUREMENT_SUB_SKIN_COM_OTH)**
OTHER..-5

AN185/(AN_MEASUREMENT_SUB_SKIN_COM_OTH). DATA COLLECTOR MEASUREMENT COMMENTS

SPECIFY _____

PROGRAMMER INSTRUCTION:

- LIMIT FREE TEXT TO 255 CHARACTERS.
- CREATE **AN_CONVERTED_WEIGHT** BY CONVERTING MEAN WEIGHT IN KILOGRAMS TO POUNDS. **AN_CONVERTED_WEIGHT** = [**AN_WEIGHT_MEAS_MEAN** X 2.2046]. SAVE **AN_CONVERTED_WEIGHT** AS **AN_CONVERTED_WEIGHT.**
- CREATE **AN_CONVERTED_WEIGHT_LBS** AND **AN_CONVERTED_WEIGHT_OZ** BY CONVERTING AVERAGE WEIGHT IN KILOGRAMS TO POUNDS AND OUNCES. WEIGHT IN POUNDS = [**AN_WEIGHT_MEAS_MEAN** X 2.2046]. ENTER WHOLE NUMBER IN AND SAVE AS **AN_COVERTED_WEIGHT_LBS.** MULTIPLE DECIMAL FRACTION BY 16 AND ROUND TO NEAREST OUNCE. ENTER VALUE IN AND SAVE AS **AN_CONVERTED_WEIGHT_OUNCE.**
- CREATE **AN_CONVERTED_RECUMB_LENGTH** BY CONVERTING ADJUSTED RECUMBENT LENGTH IN CENTIMETERS TO INCHES. **AN_CONVERTED_RECUMB_LENGTH** = [**AN_RECUMB_LENGTH_ADJUST** X 0.39]. SAVE **AN_CONVERTED_RECUMB_LENGTH** AS **AN_CONVERTED_RECUMB_LENGTH.**

AN220/(AN_CONV_WEIGHT). WEIGHT IN POUNDS AND OUNCES.

PROGRAMMER INSTRUCTIONS:
- IF VALID MEASURE CALCULATED WHEN ANTHROPOMETRY INSTRUMENT, DISPLAY **AN_CONVERTED_WEIGHT_LBS**
- AND **AN_CONVERTED_WEIGHT_OZ**.
- OTHERWISE, IF VALID MEASURE COULD NOT BE OBTAINED, DISPLAY "COULD NOT BE OBTAINED".

AN225/AN_CONV_RECUMBENT_LENGTH). RECUMBENT LENGTH IN INCHES.

PROGRAMMER INSTRUCTION:
- IF VALID MEASURE CALCULATED WHEN ANTHROPOMETRY MODULE ADMINISTERED, DISPLAY **AN_CONVERTED_RECUMBENT_LENGTH**.
- OTHERWISE, IF VALID MEASURE COULD NOT BE OBTAINED, DISPLAY "COULD NOT BE OBTAINED".

AN230. Thank you for having {CHILD'S NAME/the child} complete these measures.

(TIME_STAMP_AN_ET) PROGRAMMER INSTRUCTION:
- INSERT DATE/TIME STAMP

APPENDIX A: ANTHROPOMETRY EDIT RANGES

Measure	Age (years)	Gender	Soft edit		Hard edit	
			Low	High	Low	High
Standing Weight (kg)	< 1	M	5.4	12.1	0	200
		F	4.8	11.8	0	200
	1 - <2	M	8.7	16.5	0	200
		F	8.2	15.5	0	200
	2 - <3	M	10.5	18.3	0	200
		F	11.0	23.5	0	200
Recumbent Length (cm)	< 1	M	56.8	81.3	16	197.5
		F	54.5	78.8	16	197.5
	1 - <2	M	72.8	94.4	16	197.5
		F	71.3	91.4	16	197.5
	2 - <3	M	82.2	102.0	16	197.5
		F	82.0	102.0	16	197.5
Height Adjustment-Below waist	0 - 100	M	N/A	N/A	0	15.2
		F	N/A	N/A	0	15.2
Height Adjustment-Above waist	0 -100	M	N/A	N/A	0	15.2
		F	N/A	N/A	0	15.2
Femur Length (cm)	< 1	M			0	200
		F			0	200
	1 - <2	M			0	200
		F			0	200
	2 - <3	M	14.5	23.0	0	200
		F	15.2	23.3	0	200
Thigh Circumference (cm)	< 1	M			0	200
		F			0	200
	1 - <2	M			0	200
		F			0	200
	2 - <3	M	23.1	34.0	0	200
		F	23.8	36.1	0	200
Waist Circumference (cm)	< 1	M			0	200
		F			0	200
	1 - <2	M			0	200
		F			0	200
	2 - <3	M	41.2	55.6	0	200
		F	41.2	58.3	0	200
Head Circumference (cm)	0 - 0.5	M	38.8	48.8	0	70
		F	37.3	47.6	0	70
	0 - 100	M			0	70
	0 - 70	F			0	70
Humerus and Ulnar Length (cm)	< 1	M	10.0	16.8	0	80
		F	9.5	16.0	0	80
	1 - <2	M	13.3	19.0	0	80
		F	12.8	19.0	0	80
	2 - <3	M	15.3	20.5	0	80

Measure	Age (years)	Gender	Soft edit		Hard edit	
			Low	High	Low	High
		F	15.1	20.9	0	80
Upper Arm Circumference	< 1	M	12.2	18.1	0	70
		F	11.7	18.0	0	70
	1 - <2	M	13.2	19.3	0	70
		F	13.1	19.1	0	70
	2 - <3	M	13.9	19.4	0	70
		F	13.7	20.1	0	70
Triceps Skinfold (mm)	< 1	M	6	16	0	67
		F	6	16	0	67
	1 - <2	M	5	15	0	67
		F	6	16	0	67
	2 - <3	M	5	14	0	67
		F	6	16	0	67
Subscapular Skinfolds (mm)	< 1	M	5	13	0	67
		F	5	13	0	67
	1 - <2	M	4	12	0	67
		F	4	13	0	67
	2 - <3	M	4	11	0	67
		F	4	15	0	67