

Instruction/Operator's Manual

Skinfold Caliper, SH5020



Grip **SAEHAN**[®]
www.saeahanmedical.com

**Instruction/Operator's Manual for the Measurement of
Subcutaneous tissue and the conversion of this
measurement to percentage of body fat.**

INTRODUCTION

The Saehan Skinfold Caliper is used to measure the thickness of “Skinfolds”.

Measurements are taken at selected sites. The resultant skinfold thickness is then translated by means of skinfold tables to a percentage of bodyfat.

SKINFOLD MEASUREMENT

The Saehan Skinfold Caliper is used to measure the thickness of “Skinfolds”.

- Take skinfold measurements directly on the skin.
 - not through clothing.
- Pick-up and hold skinfold with one hand – use the other hand to measure the skinfold thickness with the Saehan Skinfold Caliper.
- Take three measurements at each skinfold site. The final skinfold thickness at that skinfold site is the average of these readings.

MEASUREMENT PROCEDURES

Locate and measure each skinfold with care, Results may vary if measurements are not consistently taken at the exact same location with the same skinfold “pinch” and caliper pressure. For each skinfold location use the same measurement procedure.

- With a grease pencil, mark the measurement point on the skinfold site.
- Pick-up skinfold with the thumb and forefinger of your left hand.
- Apply the Skinfold Caliper to the site so that the grease pencil mark on the skinfold site is halfway between the caliper jaws.
- Release your right thumb from the caliper lever so that the tips of the caliper jaw can exert their full force on the skinfold.
- Read the skinfold measurement (in millimeters) directly from the caliper dial.

- Repeat the measurement two more times. A total of three measurements at each site is required for accurate results.
- The skinfold reading for the site is the average of the three readings.

$$\text{Average skinfold readings} = (R1 + R2 + R3) / 3$$

SKINFOLD MEASUREMENT LOCATIONS

TRICEPS

Between the tip of the olecranon process of the ulna (elbow) and the acromion of the scapula (shoulder).

Mark the point on the back of the arm halfway between the tip of the elbow and the shoulder.



BICEP

Mid point on the muscle (generally this will be opposite from the nipple).

Mark the point halfway between the FLEXED bicep muscle. When taking the measurement the muscle (arm) should be RELAXED and in a perpendicular position.



SUBSCAPULAR

Below the tip of the inferior angle of the scapular at an angle of 45 degrees to vertical (back, just under the shoulder blade).

Mark the point just under the shoulder blade halfway between the spine and side. When taking the measurement the skinfold caliper should be orientated at 45 degrees.



SUPRAILIAC

Above the iliac crest in mid-axillary line (about one inch above the hip bone at an angle of 45 degrees to vertical)

Mark the point about one inch above the hip bone. When taking the measurement the skinfold caliper should be orientated at 45 degrees.



Child Tables

The American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) suggests that national percentage norms are the best reference for skinfold measurements and body fat content in children under 17 years of age.

AAHPERD suggests that the ideal is the 50th percentile: those below the 25th percentile should be encouraged to reduce the amount of body fat, while those above the 90th percentile should not be encouraged to lose body fat.

To find the appropriate percentile for boys and girls:

- 1 - Add the two (2) average skinfold readings (triceps and Subscapular)
- 2 - Use the appropriate percentile table (boy or girl). Find your percentile by reading down the appropriate age column until you intersect with the skinfold reading.

Then read the percentile by looking to the left in that row.

TRANSPORTATION & STORAGE CONDITION: Environment

1. General :

- It is not aimed to be used in households.
- It is used in physical therapy rooms, doctors' offices and patients' rooms, etc.
- Equipment can be damaged when dropped to the floor.
- Impossible to expect to work properly any more
- If it works properly, calibration / exactitude should be maintained.

2. Conditions of visibility :

- Ambient luminance range : 100 lux – 1,500 lux
- Viewing distance : 20 cm – 40 cm
- Viewing angle : normal to the display $\pm 20^\circ$

3. Physical :

- Temperature range : 10°C ~ 40°C
- Relative humidity range : 10 % ~ 90 %
- Ambient pressure range : 700 hPa – 1,060 hPa

Symbols	Meaning
	Manufacturer
	Date of manufactured
	Authorized representative in the European Community
	Medical device
	Serial number
	Batch code
	Catalogue number
	Caution
	Fragile, handle with care
	Keep dry
	Keep away from sunlight
	Consult instructions for use

WARNING ;

The worst damaged is occurred by dropping down to the floor.
When using, wear the strap on the wrist

BODY FAT AND SKINFOLDS / CHILD TABLES / BOYS / GIRLS

AGE Percentile	6	7	8	9	10	11	12	13	14	15	16	17
99	7/8	7/8	7/8	7/9	7/9	8/8	7/9	7/10	7/10	8/11	8/11	8/12
95	8/9	9/10	9/10	9/10	9/10	9/11	9/11	9/12	9/13	9/14	9/14	9/15
90	9/10	9/11	9/11	10/12	10/12	10/12	10/12	10/13	9/15	10/16	10/16	10/16
85	10/11	10/12	10/12	10/12	11/13	11/13	10/13	10/14	10/16	11/17	11/18	11/18
80	10/12	10/12	10/12	11/13	11/13	12/14	11/14	11/15	11/17	11/18	11/19	11/19
75	11/12	11/12	11/13	11/14	12/14	12/15	11/15	12/16	11/18	12/20	12/20	12/20
70	11/12	11/13	11/14	12/15	12/15	12/16	12/16	12/17	12/19	12/21	12/21	13/22
65	11/13	11/13	12/14	12/15	13/16	13/16	13/17	12/18	12/20	13/22	13/22	13/22
60	12/13	12/14	12/15	13/16	13/17	14/17	13/17	13/19	13/21	13/23	13/23	14/24
55	12/14	12/15	13/16	13/16	14/18	15/18	14/19	14/20	13/22	14/24	14/24	14/26
50	12/14	12/15	13/16	14/17	14/18	16/19	15/19	15/20	14/24	14/25	14/25	15/27
45	13/15	13/16	14/17	14/18	15/20	16/20	15/21	16/22	14/25	15/26	15/27	16/28
40	13/15	13/16	14/18	15/19	16/20	17/21	16/22	17/23	15/26	16/28	16/29	16/30
35	13/16	14/17	15/19	16/20	17/22	19/22	17/24	18/25	16/27	18/29	14/30	17/32
30	13/16	14/18	16/20	17/22	18/24	20/23	19/25	19/27	18/30	18/32	18/32	19/34
25	14/17	15/19	17/21	18/24	19/25	22/25	21/27	22/30	20/32	20/34	20/34	21/36
20	14/18	16/20	18/23	20/26	21/28	24/28	24/31	25/33	23/35	22/37	22/37	24/40
15	16/19	17/22	19/25	23/29	24/31	28/31	27/35	29/39	27/39	25/42	24/42	26/42
10	18/22	18/25	21/30	26/34	28/35	33/36	33/40	36/43	31/42	30/48	29/46	30/46
5	20/26	24/28	28/36	34/40	33/41	38/42	44/48	46/51	37/52	40/56	37/57	38/58

PERCENTAGE OF BODY FAT FROM SKINFOLD MEASUREMENTS

After the skinfold measurements have been taken, these measurements can be translated to **BODY FAT CONTENT AS A PERCENTAGE OF BODY WEIGHT**. These percentage figures vary with age and sex.

Adult Tables

To find the equivalent fat content, as a percentage of body weight, for adult males and females:

- 1 - Add the four (4) average skinfold readings (biceps, triceps, subscapular and suprailiac).
- 2 - Use the appropriate percentage of body weight table (male or female). Find your body fat as a percentage of body weight at the intersection of the appropriate **AGE BRACKET** column and **SUM OF SKINFOLD** row.

BODY FAT AND SKINFOLDS / ADULT TABLES / MALES/FEMALES

AGE skinfolds (mm)	16-29	30-39	40-49	50+
15	4,8 / 10,5	- / -	- / -	- / -
20	8,1 / 14,1	12,2 / 17,0	12,2 / 19,8	12,6 / 21,4
25	10,5 / 16,8	14,2 / 19,4	15,0 / 22,2	15,6 / 24,0
30	12,9 / 19,5	16,2 / 21,8	17,7 / 24,5	18,6 / 26,0
35	14,7 / 21,5	17,7 / 23,7	19,6 / 26,4	20,8 / 28,5
40	16,4 / 23,4	19,2 / 25,5	21,4 / 28,2	22,9 / 30,3
45	17,7 / 25,0	20,4 / 26,9	23,0 / 29,6	24,7 / 31,9
50	19,0 / 26,5	21,5 / 28,2	24,6 / 31,0	26,5 / 33,4
55	20,1 / 27,8	22,5 / 29,4	25,9 / 32,1	27,9 / 34,6
60	21,2 / 29,1	23,5 / 30,6	27,1 / 33,2	29,2 / 35,7
65	22,2 / 30,2	24,3 / 31,6	28,2 / 34,1	30,4 / 36,7
70	23,1 / 31,2	25,1 / 32,5	29,3 / 35,0	31,6 / 37,7
75	24,0 / 32,2	25,9 / 33,4	30,3 / 35,9	32,7 / 38,7
80	24,8 / 33,1	26,6 / 34,3	31,2 / 36,7	33,8 / 39,6
85	25,5 / 34,0	27,2 / 35,1	32,1 / 37,5	34,8 / 40,4
90	26,2 / 34,8	27,8 / 35,8	33,0 / 38,3	35,8 / 41,2
95	26,9 / 35,6	28,4 / 36,5	33,7 / 39,0	36,6 / 41,9
100	27,6 / 36,4	29,0 / 37,2	34,4 / 39,7	37,4 / 42,6
105	28,2 / 37,1	29,6 / 37,9	35,1 / 40,4	38,2 / 43,3
110	28,8 / 37,8	30,1 / 38,6	35,8 / 41,0	39,0 / 43,9
115	29,4 / 38,4	30,6 / 39,1	36,4 / 41,5	39,7 / 44,5
120	30,0 / 39,0	31,1 / 39,6	37,0 / 42,0	40,4 / 45,1
125	30,5 / 39,6	31,5 / 40,1	37,6 / 42,5	41,1 / 45,7
130	31,0 / 40,2	31,9 / 40,6	38,2 / 43,0	41,8 / 46,2
135	31,5 / 40,8	32,3 / 41,1	38,7 / 43,5	42,4 / 46,7
140	32,0 / 41,3	32,7 / 41,6	39,2 / 44,0	43,0 / 47,2
145	32,5 / 41,8	33,1 / 42,1	39,7 / 44,5	43,6 / 47,7
150	32,9 / 42,3	33,5 / 42,6	40,2 / 45,0	44,1 / 48,2
155	33,3 / 42,8	33,9 / 43,1	40,7 / 45,5	44,6 / 48,7
160	33,7 / 43,3	34,3 / 43,6	41,2 / 45,8	45,1 / 49,2
165	34,1 / 43,7	34,6 / 44,0	41,6 / 46,2	45,6 / 49,6
170	34,5 / 44,1	34,8 / 44,4	42,0 / 46,6	46,1 / 50,0
175	34,9 / -	- / 44,8	- / 47,0	- / 50,4
180	35,3 / -	- / 45,2	- / 47,4	- / 50,8
185	35,6 / -	- / 45,6	- / 47,8	- / 51,2
190	35,9 / -	- / 45,9	- / 48,2	- / 51,6
195	- / -	- / 46,2	- / 48,5	- / 52,0
200	- / -	- / 46,5	- / 48,8	- / 52,4
205	- / -	- / -	- / 49,1	- / 52,7
210	- / -	- / -	- / 49,4	- / 53,0

SAEHAN[®]
Skinfold Caliper
(SH5020)

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※ If there has been occurred any serious accident in relation to the our device released in market, the quality management representative of our company will notify the Notified Body & the competent authority of any serious accident in accordance with the vigilance procedure.