

## PLICOMETRY

This is a completely different system for assessing the body overweight existence. It has the advantage of extreme simplicity of detection and is based on the measuring of the skinfolds thickness.

Since the most of the excess fat is deposited in the subcutaneous tissue, a fairly accurate assessment of its magnitude can be deduced from the direct reading of the data using a particular instrument, the "Plicometer", for example, the one that the GIMA SpA designed is an easy and practical use model.

If applied in appropriate areas, the plicometer allows the measurement of skinfolds with thickness up to 50 mm.

The skinfold most commonly used are as follows:

- The rear brachial or triceps skinfold

It must be located exactly at the midpoint of an ideal line between the apex of the acromial process of the scapula and the tip of the olecranon, with the forearm flexed of 90°. However, it must be raised and measured while the forearm hangs freely, shaping it into a direction parallel to the longitudinal axis of the arm. The measurement of this fold is essential for the assessment of body fat and should be performed in all subjects (see the figure).

- The subscapular skinfold

It must be determined immediately below the lower of the scapula, along a diagonal line descending in medial-lateral direction and inclined at 45°.

Other skinfolds that can be measured are as follows:

The biceps skinfold, that is the vertical fold formed in the middle third along the anterior brachial midline;

The fold of the iliac crest, that is the vertical fold along the middle axillary line of the height of the iliac crest;

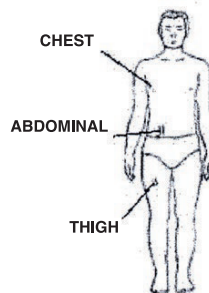
The quadriceps fold, that is the vertical fold along the anterior midline of the thigh between the lower third and the middle third.

Psychometry allows establishing with accuracy whether a given subject weight is within the range or above or lower it and in what extent it deviates.

## MEASURING DIAGRAM

### Measuring Sites for Male

Site	Direction of fold	Measurement
Chest	Diagonal	Fold is taken ½ the distance between the anterior axillary line and nipple.
Abdominal	Vertical	Fold is taken vertical 2 cm lateral to the umbilicus.
Thigh	Vertical	Fold is lifted on anterior aspect of thigh midway between inguinal crease and proximal border of patella. Body weight is shifted to left foot.

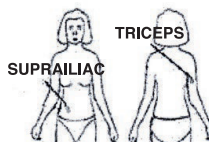


### Tips on Measuring

- Take all measurements on the right side of your body.
- Carefully identify and recall your measuring site for accuracy.
- Take the measurement when skin is dry and lotion-free.
- Do not measure immediately after exercise due to shifts in body fluid.

### Measuring Sites for Female

Site	Direction of fold	Measurement
Triceps	Vertical	Fold is taken midway between the shoulder and elbow joint, on the center of the back of the arm.
Waist	Diagonal	Fold is taken diagonally above the iliac crest along the anterior axillary line.
Thigh	Vertical	Fold is lifted on anterior aspect of thigh midway between inguinal crease and proximal border of patella. Body weight is shifted to the left foot.



## Body Fat "Rating Scale"

Many people desire a "rating system" for assessing their current level of body fat. The following table provides a meaningful rating system.

### MALE

Age	RISKY	EXCELLENT	GOOD	FAIR	POOR	VERY POOR
19-24	<6%	10.8%	14.9%	19.0%	23.3%	>23.3%
25-29		12.8%	16.5%	20.3%	24.4%	
30-34		14.5%	18.0%	21.5%	25.2%	
35-39		16.1%	19.4%	22.6%	26.1%	
40-44		17.5%	20.5%	23.6%	26.9%	
45-49		18.6%	21.5%	24.5%	27.6%	
50-54		19.8%	22.7%	25.6%	28.7%	
55-59		20.2%	23.2%	26.2%	29.3%	
60+		20.3%	23.5%	26.7%	29.8%	

### FEMALE

Age	RISKY	EXCELLENT	GOOD	FAIR	POOR	VERY POOR
19-24	<9%	18.9%	22.1%	25.0%	29.6%	>29.6%
25-29		18.9%	22.0%	25.4%	29.8%	
30-34		19.7%	22.7%	26.4%	30.5%	
35-39		21.0%	24.0%	27.7%	31.5%	
40-44		22.6%	25.6%	29.3%	32.8%	
45-49		24.3%	27.3%	30.9%	34.1%	
50-54		26.6%	29.7%	33.1%	36.2%	
55-59		27.4%	30.7%	34.0%	37.3%	
60+		27.6%	31.0%	34.4%	38.0%	



At left, drawings from the book show the technique for "pinching" the skin to measure % bodyfat with skinfold calipers.



The measured values are approximate.



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