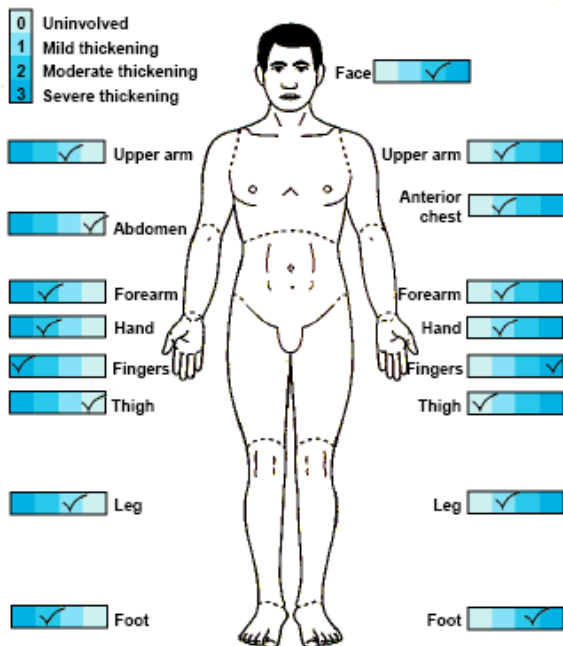


## Calculation of the Modified Rodnan Score\*

\*Clements PJ, Lachenbruch PA, Seibold JR, Zee B, Steen VD, Brennan P, Silman AJ, Allegar N, Varga J, Massa M, et al. Skin thickness score in systemic sclerosis: an assessment of interobserver variability in 3 independent studies. J Rheumatol. 1993 Nov; 20(11):1892–6.

This score consists of an evaluation of patient's skin thickness rated by clinical palpation using a 0–3 scale (0=normal skin; 1=mild thickness; 2=moderate thickness; 3=severe thickness with inability to pinch the skin into a fold) for each of 17 surface anatomic areas of the body: face, anterior chest, abdomen, (right and left separately) fingers, forearms, upper arms, thighs, lower legs, dorsum of hands and feet. These individual values are added and the sum is defined as the total skin score.

## Skin sclerosis score



### Modified Rodnan Skin score

|                          |               |           |
|--------------------------|---------------|-----------|
| Face                     | 3             |           |
| Neck                     | 3             |           |
| Anterior chest           | 3             |           |
| Abdomen                  | 3             |           |
| Back - upper             | 3             |           |
| Back - lower             | 3             |           |
|                          | <b>9 (18)</b> |           |
| Upper arm                | 3             | 3         |
| Forearm                  | 3             | 3         |
| Hand                     | 3             | 3         |
| Fingers                  | 3             | 3         |
| Thigh                    | 3             | 3         |
| Leg                      | 3             | 3         |
| Foot                     | 3             | 3         |
|                          | <b>21</b>     | <b>21</b> |
| <b>Maximum (17 site)</b> |               | <b>51</b> |
| <b>20 site</b>           |               | <b>60</b> |

#### •Historical perspective

–Farmer et al (1960), Barnett et al (1969) –noted that extensive skin change was associated with major visceral involvement in SSc

•Rodnan et al (1979) Validated a semi-quantitative skin thickness score assessment tool (devised in 1968) by weighing skin biopsies and measuring collagen content.

–Rodnan total skin score (TSS) assessed 26 areas 0 to 4 (max. 104).

–22 site modified RSS (0 to 3, maximum 66) –Kahaleh et al 1986

–10 site modified RSS (0 to 3, maximum 30) –Clements et al 1990

–17 site modified RSS (0 to 3, maximum 51) –Clements et al 1993\*

## Calculation of the Lung Functional Score according to the NIH recommendations

The LFS is computed according to FEV1 and DLCO measurements compromise:

80% or more of predicted: score 1

70%–79% of predicted: score 2

60%–69% of predicted: score 3

50%–59% of predicted: score 4

40%–49% of predicted: score 5

40% or less of predicted: score 6

The scores for FEV1 and DLCO are then added together, and the sum is reduced to an overall category according to [Table 3](#).

**Table 3.** *Categories of the Lung Function Score*

| Category   | Lung Function            | LFS          |
|------------|--------------------------|--------------|
| <b>I</b>   | <b>Normal</b>            | <b>2</b>     |
| <b>II</b>  | <b>Mild decrease</b>     | <b>3-5</b>   |
| <b>III</b> | <b>Moderate decrease</b> | <b>6-9</b>   |
| <b>IV</b>  | <b>Severe decrease</b>   | <b>10-12</b> |

In patients with lung involvement PR is defined as as sustained, measurable improvement in pulmonary function tests (DLCO and/or FEV1) and/or the ability to obtain a suspension or reduction by 50% of daily steroid intake WITHOUT DETERIORATION OF LUNG FUNCTION this means that patients in PR had to have:

- improvement of the LFS of at least (one or two points) at 3 and 6 months
- in alternative a suspension or reduction by 70% of daily steroid intake

## **Calculation of the GUT Functional Score according to the NIH recommendations**

GI symptoms during the preceding week are graded by the examining clinician according to 0-to-3 severity scales.

For upper GI symptoms: early satiety, anorexia, nausea, and vomiting

–Score of 1 indicates mild, occasional symptoms, with little reduction in oral intake.

–Score of 2 indicates moderate, intermittent symptoms, with some reduction in oral intake,

–Score of 3 indicates more severe or persistent symptoms throughout the day,

with marked reduction in oral intake on most days.

For esophageal symptoms of dysphagia or odynophagia,

–Score of 1 indicates occasionally difficult or painful swallowing of solid foods or pills.

–Score of 2 indicates intermittent dysphagia or odynophagia with solid foods and pills, but not for liquids or soft foods,

–Score of 3 indicates dysphagia or odynophagia for almost all oral intakes on most days.

For lower GI symptoms:

–Score of 1 indicates occasional loose or liquid stools, on some days.

–Score of 2 indicates intermittent loose or liquid stools throughout the day without requiring intervention to prevent or correct volume depletion

–Score of 3 indicates voluminous diarrhea requiring intervention to prevent or correct volume depletion.

## Calculation of the Schirmer's test

Schirmer's test uses paper strips inserted into the eye for several minutes. Both eyes are tested at the same time. Most often, this test consists of placing a small strip of filter paper inside the conjunctival sac. The eyes are closed for 5 minutes. The paper is then removed and the amount of moisture is measured. This technique measures basic tear function. A young person normally moistens 15 mm of each paper strip. Because hypolacrimation occurs with aging, 33% of normal elderly persons may wet only 10 mm in 5 minutes.

The Schirmer's test in patients with Sicca Syndrome has been evaluated as follows:

1. Normal test: which is  $\geq 15$  mm wetting of the paper after 5 minutes.
2. Mild damage: which is 14–9 mm wetting of the paper after 5 minutes.
3. Moderate damage: which is 8–4 mm wetting of the paper after 5 minutes.
4. Severe damage: which is  $< 4$  mm wetting of the paper after 5 minutes

PR for ocular cGVHD was defined as subjective improvement, with at least 50% reduction in the frequency of artificial tear administration or as improvement in Schirmer test in one or both eyes of at least 3 mm.