



# EORTC QLQ-BR23 Scoring Manual

The **Breast Cancer module** is a supplementary questionnaire module to be employed in conjunction with the QLQ-C30. The QLQ-BR23 incorporates five multi-item scales to assess body image, sexual functioning, systemic therapy side effects, breast symptoms, and arm symptoms. In addition, single items assess sexual enjoyment, future perspective and being upset by hair loss.

The scoring approach for the QLQ-BR23 is identical in principle to that for the function and symptom scales / single items of the QLQ-C30. All scoring information specific to the QLQ-BR23 is presented in Table 1.

## *Interpretation:*

All of the scales and single-item measures range in score from 0 to 100. A high score for the functional scales represents a high/healthy level of functioning, whilst a high score for the symptom scales represents a high level of symptomatology or problems.

**Table 1. Scoring the QLQ-BR23**

	Scale	Number of items ( <i>n</i> )	Item range*	QLQ-BR23 item numbers ( <i>I</i> <sub>1</sub> , <i>I</i> <sub>2</sub> , ..., <i>I</i> <sub><i>n</i></sub> )	Reverse scoring items
<b>Symptom scales / items</b>					
Systemic Therapy Side Effects	ST	7	3	31 – 34, 36 – 38	
Upset by Hair Loss	HL	1	3	35	
Arm Symptoms	AS	3	3	47 – 49	
Breast Symptoms	BS	4	3	50 – 53	
<b>Functional scales / items</b>					
Body Image	BI	4	3	39 – 42	
Future Perspective	FU	1	3	43	
Sexual Functioning	SEF	2	3	44, 45	44, 45
Sexual Enjoyment	SEE	1	3	46	46

\* “Item range” is the difference between the possible maximum and the minimum response to individual items. All items are scored 1 to 4, giving range = 3.

SEE, sexual enjoyment, is not applicable if item 45 is “not at all.”

HL, upset by hair loss, is not applicable if item 34 is “not at all.”

## **Principle for scoring**

### **1) Raw score**

For each single-item measure, the score of the concerning item corresponds to the raw score.

For each multi-item scale, calculate the average of the corresponding items.

$$\text{Raw Score} = RS = \left\{ \frac{(I_1 + I_2 + \dots + I_n)}{n} \right\}$$

Take into account that the scoring of questions 44, 45 and 46 must be reversed prior to statistical analysis.

## 2) **Linear Transformation**

To obtain the Score S, standardize the raw score to a 0 – 100 range following the appropriate transformation:

$$\text{Functional scales: } S = \left\{ 1 - \frac{(RS-1)}{range} \right\} \times 100$$

$$\text{Symptom scales: } S = \left\{ \frac{(RS-1)}{range} \right\} \times 100$$

For directions on Missing Data or for more detailed information on the Interpretation of Scores, we redirect to the EORTC QLQ-C30 Scoring Manual (2001).

## **Reference**

Sprangers MAG, Groenvold M, Arraras JI, et al.. The European Organisation for Research and Treatment of Cancer: Breast Cancer Specific Quality of Life Questionnaire Module: First results from a three-country field study. J. Clin. Oncol. 14: 2756-2768, 1996.

This is the revised version of the QLQ-BR23 scoring manual and might slightly differ from the scoring instructions that are presented in the EORTC QLQ-C30 Scoring Manual (2001). Both versions of the scoring manual will lead to the same outcome. Further questions or remarks regarding the scoring algorithms for the QLQ-BR23 can be directed to the QOL Specialist at the Quality of Life Department of the EORTC.