

# A user's guide to HAGOS

**HAGOS:** HAGOS is a patient-reported outcome measure employing five-item Likert scales. HAGOS covers 6 dimensions (subscales): Symptoms, Pain, Function in daily living (ADL), Function in sport and recreation (Sports/Rec), Participation in Physical Activities (PA) and hip and/or groin-related Quality of Life (QOL).

**Missing data:** If a mark is placed outside a box, the closest box is used. If two boxes are marked, that which indicates the more severe problems is chosen. Missing data are treated as such; one or two missing values are substituted with the average value for the dimension. If more than two items are omitted for the subscales Symptoms, Pain, ADL, Sport/Rec and QOL, the response is considered invalid. If more than 1 item is omitted for the subscale PA, the response is considered invalid.

**Score calculation:** The 6 HAGOS subscales are scored separately: Symptoms (7 items); Pain (10 items); ADL (5 items); Sport/Rec (8 items); PA (2 items) and QOL (5 items). The past week is taken into consideration when answering the questions. Standardised answer options are given (5 Likert boxes) and each question gets a score from 0 to 4, where 0 indicates no problem. The six scores are calculated as the sum of the items included, in accordance with score calculations of the HOOS score. Raw scores are then transformed to a 0-100 scale, with zero representing extreme hip and/or groin problems and 100 representing no hip and/or groin problems, as common in orthopaedic scales. Scores between 0 and 100 represent the percentage of total possible score achieved. An aggregate score is not calculated since it is regarded desirable to analyse and interpret the different dimensions separately.

## HAGOS *Instructions manual scoring sheet*

Assign the following scores to the boxes:

None	Mild	Moderate	Severe	Extreme
0	1	2	3	4

Missing data. If a mark is placed outside a box, the closest box is chosen. If two boxes are marked, that which indicated the more severe problems is chosen. Missing data are treated as such; one or two missing values are substituted with the average value for that subscale. If more than two items for the subscales PAIN, SYMPTOMS, ADL, SPORT/REC and QOL are omitted, the response is considered invalid and no score is calculated. If more than one item for the subscale PA is omitted, the response is considered invalid and no score is calculated. Sum up the total score of each subscale and divide by the possible maximum score for the scale. Traditionally in orthopedics, 100 indicates no problems and 0 indicates extreme problems. The normalised score is transformed to meet this standard. Please use the formulas provided for each subscale:

$$1. \text{ PAIN} \quad 100 - \frac{\text{Total score P1-P10} \times 100}{40} = 100 - \frac{\quad}{40} = \underline{\quad}$$

$$2. \text{ SYMPTOMS} \quad 100 - \frac{\text{Total score S1-S7} \times 100}{28} = 100 - \frac{\quad}{28} = \underline{\quad}$$

$$3. \text{ ADL} \quad 100 - \frac{\text{Total score A1-A5} \times 100}{20} = 100 - \frac{\quad}{20} = \underline{\quad}$$

$$4. \text{ SPORT/REC} \quad 100 - \frac{\text{Total score SP1-SP8} \times 100}{32} = 100 - \frac{\quad}{32} = \underline{\quad}$$

$$5. \text{ PA} \quad 100 - \frac{\text{Total score PA1-PA2} \times 100}{8} = 100 - \frac{\quad}{8} = \underline{\quad}$$

$$6. \text{ QOL} \quad 100 - \frac{\text{Total score Q1-Q5} \times 100}{20} = 100 - \frac{\quad}{20} = \underline{\quad}$$

## Profile

To visualize differences in the six different HAGOS subscores and change between different administrations of the HAGOS (e.g. pre-treatment to post-treatment), HAGOS Profiles can be plotted, as illustrated in the example below.

