

INTERVIEWER NOTE: In order to elicit as comprehensive a list of activities affected by respondent's arthritis as possible, please **read** each probe to **all** respondents. Record each new activity in **Q 2b** and indicate a probed response with a "P" and the probe number. e.g., "P 3" would indicate a response to the leisure activity probe.

PROBE: Does your arthritis limit...

- (1) any (other) activities around the house such as cooking, housework, etc.
- (2) any activity related to dressing such as doing up buttons, pulling sweater over head, etc.
- (3) any (other) activities at your work (outside the house)?
- (4) any (other) leisure activities. Either athletic such as bowling, swimming, golf, etc. or non-athletic such as needlework, woodwork, etc.?
- (5) any (other) social activities such as visiting, playing cards, going to church, etc.?

INTERVIEWER NOTE: To rank the list of activities in order of importance **to the respondent** follow the steps below.

2. c. **Which** of these activities would you **most like** to be able to do without the pain or discomfort of your arthritis?

INTERVIEWER NOTE: Please show and read the list to the respondent. Place a "1" in the box next to the selected activity.

2. d. After _____ (read ACTIVITY "1") which activity would you **next** most like to be able to do without the pain and discomfort of your arthritis?

INTERVIEWER NOTE: Please show and read the list to the respondent again, do not read activity "1". Place a "2" in the box beside the selected activity.

2. e. After _____ (read ACTIVITY "1" and ACTIVITY "2") which activity would you **next** like to be able to do without the pain and discomfort of your arthritis?

INTERVIEWER NOTE: Please show the list to the respondent. Read the remaining activities, do not read activities "1" and "2". Place a "3" in the box beside the selected activity. Continue in this manner until all the activities have been ranked.

3. a. In general, how satisfying do you find the way you've been spending your life? For example, over the last 2 weeks would you call your life...
1. Completely satisfying → GO TO Q 4
 2. Pretty satisfying
 3. Not very satisfying
- b. Is your life not completely satisfying because of your arthritis?
1. No
 2. Yes
4. a. How would you say your overall physical functioning has been? For example, over the last 2 weeks would you call your physical function...
1. Good → GO TO Q 5
 2. Good to fair
 3. Fair
 4. Fair to poor
 5. Poor
- b. Is your physical function not as good as it might be because of your arthritis?
2. No
 2. Yes
5. a. How would you say your ***overall social*** functioning has been over the last 2 weeks?... (such as your ability to work, to have friends, and to get along with you family). Would you call your social function...
1. Good → GO TO Q 6
 2. Good to fair
 3. Fair
 4. Fair to poor
 5. Poor
- b. Is your social function not as good as it might be because of your arthritis?
1. No
 2. Yes

6. a. How would you say your ***overall emotional*** functioning has been over the last 2 weeks?... (such as your ability to remain in good spirits most of the time, and to be usually happy). Would you call your emotional function...

1. Good
2. Good to fair
3. Fair
4. Fair to poor
5. Poor

—————▶ SKIP PART B

b. Is your overall emotional function not as good as it might be because of your arthritis?

1. No
2. Yes

MODIFIED MACTAR FOLLOW-UP

INTERVIEWER NOTE: When the question ends with "... " read the response categories provided, otherwise wait for a spontaneous response from the respondent for all questions. Circle the number of the response.

INTERVIEWER START TIME: _____ A.M. P.M.

SECTION A: This section contains some question about your general health.

1. Over the ***last 2 weeks*** how would you say your overall health has been? Would you say your overall health has been...

- 1. Very good
- 2. Pretty good
- 3. Not too good

b. Have you noticed any change in your arthritis since we talked during the first interview?

- 1. No —————> GO TO Q 2
- 2. Yes

c. Has your arthritis improved or got worse?

- 1. Improved
- 2. Got worse

d. Please describe how your arthritis has changed.

e. Compared to how your arthritis was during the 2 weeks before you began taking the new medication, how much better or worse overall has your arthritis been? (Circle one.)

- | | | | | | | |
|-----------------------|---------------------|-------------------|--------------|--------------------|----------------------|------------------------|
| -3 | -2 | -1 | 0 | +1 | +2 | +3 |
| A great
deal worse | Moderately
worse | Slightly
worse | No
change | Slightly
better | Moderately
better | A great deal
better |

2. You may remember the first time we talked you said your arthritis limited your ability to carry out some activities. (INTERVIEWER NOTE: For a to j read and insert the activities elicited at baseline).

a. Since the first interview have you noticed any change in your ability to...

-
1. No —————▶ GO TO Q 2b
2. Yes

Has this improved or got worse?

1. Improved
2. Got worse

b. Have you noticed any change in your ability to...

-
1. No —————▶ GO TO Q 2c
2. Yes

Has this improved or got worse?

1. Improved
2. Got worse

c. Since the first interview have you noticed any change in your ability to...

-
1. No —————▶ GO TO Q 2d
2. Yes

Has this improved or got worse?

1. Improved
2. Got worse

d. Since the first interview have you noticed any change in your ability to...

-
1. No —————▶ GO TO Q 2e
2. Yes

Has this improved or got worse?

1. Improved
2. Got worse

e. Have you noticed any change in your ability to...

-
1. No —————▶ GO TO Q 2f
2. Yes

Has this improved or got worse?

1. Improved
2. Got worse

f. Since the first interview have you noticed any change in your ability to...

-
1. No —————▶ GO TO Q 2g
2. Yes

Has this improved or got worse?

1. Improved
2. Got worse

g. Have you noticed any change in your ability to...

-
1. No —————▶ GO TO Q 2h
2. Yes

Has this improved or got worse?

1. Improved
2. Got worse

h. Since the first interview have you noticed any change in your ability to...

-
1. No —————▶ GO TO Q 2i
2. Yes

Has this improved or got worse?

1. Improved
2. Got worse

i. Have you noticed any change in your ability to...

-
1. No —————▶ GO TO Q 2j
2. Yes

Has this improved or got worse?

1. Improved
2. Got worse

j. Since the first interview have you noticed any change in your ability to...

-
1. No
2. Yes

Has this improved or got worse?

1. Improved
2. Got worse

3. a. In general, how satisfying do you find the way you've been spending your life? For example, over the **last 2 weeks** would you call your life...

1. Completely satisfying → GO TO Q 3c
2. Pretty satisfying
3. Not very satisfying

b. Is your life not completely satisfying because of your arthritis?

1. No
2. Yes

c. How satisfying do you find the way you are spending your life since we last talked, would you say it has improved, got worse, or not changed?

1. Improved
2. Got worse
3. Not changed

4. a. How would you say your **overall physical** functioning has been? For example, over the **last 2 weeks** would you call your physical function...

1. Good → GO TO Q 4c
2. Good to fair
3. Fair
4. Fair to poor
5. Poor

b. Is your physical function not as good as it might be because of your arthritis?

1. No
2. Yes

c. Has your physical function improved, got worse, or not changed since we last talked?

1. Improved
2. Got worse
3. Not changed

5. a. How would you say your **overall social** functioning has been over the last 2 weeks?... (such as your ability to work, to have friends, and to get along with your family). Would you call your social function...

1. Good → GO TO Q 5c
2. Good to fair
3. Fair
4. Fair to poor
5. Poor

b. Is your social function not as good as it might be because of your arthritis?

1. No
2. Yes

c. Has your social function improved, got worse, or not changed since the first interview?

1. Improved
2. Got worse
3. Not changed

6. a. How would you say your ***overall emotional*** functioning has been over the last 2 weeks?... (such as your ability to remain in good spirits most of the time, and to be usually happy). Would you call your emotional function...

1. Good —————▶ GO TO Q 6c
2. Good to fair
3. Fair
4. Fair to poor
5. Poor

b. Is your overall emotional function not as good as it might be because of your arthritis?

1. No
2. Yes

c. Has your emotional function improved, got worse, or not changed since we last talked?

1. Improved
2. Got worse
3. Not changed

MACTAR SCORING GUIDELINES

SUMMARY

The Modified Mactar [McMaster (Mac) Toronto Arthritis] Questionnaire was developed from the original Mactar [J Rheumatol 1987;14(3):446-451] and consists of two components:

1. A "priority function questionnaire designed to identify individual disabilities due to arthritis" and their "relative importance to the patient". The patient is asked the following questions, "Please tell me which activities are affected by your arthritis." To ensure the patient realized that we are interested in all activities including mobility, self-care, work and leisure, the interviewer described this "menu" and provided a standardized explanation with examples of what is meant by each of these. The patient is then asked to add any activities in each of these areas not already listed and to be as specific as possible in describing which activities are affected. Following this, the rank order of these activities is elicited using the following wording: "Which of these activities would you most like to be able to do?" Further questions are asked to determine the rank order of the other disabilities mentioned.
2. Four global questions (original questionnaire) eliciting information on physical, social and emotional functions, each scored on a five-point scale. If a less than perfect score is elicited for any of these functions, a further question is asked to determine the association of these difficulties with arthritis, i.e., "Is your physical function not as good as it might be because of arthritis?" For both components, patients are questioned over a two-week period. The modified Mactar takes 5 to 10 minutes to administer, depending on the number of activities in the priority function section.

The follow-up or post-treatment section consists of change questions for both the priority function and conventional components. The patient is questioned as follow: "Have you noticed any change in your arthritis since the first interview?"; "Since the first interview, have you noticed any changes in your ability to walk?", etc. If the response is positive, a further question is asked as follows: "Has this improved or gotten worse?".

SCORING THE MACTAR

Priority Function Section

This section does not receive a score at baseline: a direct change score is computed at follow-up. Scoring of the Mactar can be computed using different methods. Weights can be given to the priority problems depending on the rank order of these problems by the patient. It is possible to select the top five problems (if the patient has at least five problems) or the top three problems. If the top five problems are selected, the problem ranked No. 1 will be given a score of 5, the problem ranked No. 2 will be assigned a score of 4, and similarly weights 3, 2, 1 for the problems ranked Nos. 3, 4, 5.

The top five problems elicited from and ranked by a hypothetical patient are shown in column 1 of Table 1. In order to avoid problems with negative signs, all change scores will be

positive as follows: worse = 1, no change = 2, improved = 3. Walking is ranked No. 1; therefore, it received a weight of 5.

TABLE 1

Problems	Rank by Patient	Weights	Worse	No Change	Improved
Standing	2	4		2	
Dressing	3	3			3
Walking	1	5		2	
Driving	4	2		2	
Socializing	5	1			3

The score can be computed as follows:

Sum of [weight x change score]

Denote S5R as score ranked for top 5 problems

For example given in table 1 $S5R = 5(2) + 4(2) + 3(3) + 2(2) + 1(3) = 34$

The maximum possible score for S5R using this weighting is 45. The minimum score is 15. This allows for a change score to vary over 30 between interview 1 and 2. If fewer than 5 problems are identified, it is possible to compute S5R for the smaller set by using dummy problems for the missing ones and scoring them as no change (i.e. 2).

Equal weights can also be assigned to the activities in the previous example as outlined in Table 2:

TABLE 2

Problems	Rank by Patient	Weights	Worse	No Change	Improved
Standing	2	1		2	
Dressing	3	1			3
Walking	1	1		2	
Driving	4	1		2	
Socializing	5	1			3

The score can be computed as follows:

S5E = equal scores for top 5 problems

Sum of [weight x change score]

$S5E = 1(2) + 1(3) + 1(2) + 1(2) + 1(3) = 12$

The maximum possible score for S5E using the previous example is 15. The minimum score is 5, thus permitting a change score to vary over 10 units between interview 1 and 2. If fewer than 5 problems are identified, it is possible to compute S5E for the smaller set by using dummy problems for the missing ones and scoring them as no change (i.e. 2).

Conventional Questions

In order to maintain consistency with the priority function component, the scores assigned to the conventional questions must again be reversed.

TABLE 3: Scoring Scheme for Baseline Conventional Questions

Question Number	Response #	Responses	Score
1	1	Very good	3
	2	Pretty good	2
	3	Not too good	1
2a	1	No	1
	2	Yes	0
3a	1	Completely satisfying	3
	2	Pretty satisfying	2
	3	Not very satisfying	1
3b	1	No	1
	2	Yes	0
4a, 5a and 6a	1	Good	5
	2	Good to fair	4
	3	Fair	3
	4	Fair to poor	2
	5	Poor	1
4b, 5b and 6b	1	No	1
	2	Yes	0

Using these guidelines it is possible to compute a best and worst score for the physical, social and emotional components of the conventional section of the questionnaire at baseline:

best possible baseline score = 26; worst possible baseline score = 5

TABLE 4: Scoring Scheme for Post-Treatment Follow-up Questionnaire

Question	Response #	Responses	Score
1a	1	Very good	3
	2	Pretty good	2
	3	Not too good	1
1b	1	No	2
	2	Yes	0
1c	1	Improved	3
	2	Got worse	1
1e	-3	A great deal better	7
	-2	Moderately better	6
	-1	Slightly better	5
	0	No change	4
	+1	Slightly worse	3
	+2	Moderately worse	2
	+3	A great deal worse	1
2a to 2j	2 & 1	Yes and Improved	3
	2 & 2	Yes and Got worse	1
	1	No	2
3a	1	Completely satisfying	3
	2	Pretty satisfying	2
	3	Not very satisfying	1
3b	1	No	1
	2	Yes	0
3c	1	Improved	3
	2	Got worse	1
	3	No change	2
4a, 5a and 6a	1	Good	5
	2	Good to fair	4
	3	Fair	3
	4	Fair to poor	2
	5	Poor	1
4b, 5b and 6b	1	No	1
	2	Yes	0
4c, 5c and 6c	1	Improved	3
	2	Got worse	1
	3	No change	2

Using these guidelines it is possible to compute a best and worst score for the physical, social and emotional components of the conventional section of the questionnaire at post-treatment follow-up:

best possible post-treatment score = 47; worst possible post-treatment score = 11

References

- Tugwell P, Bombardier C, Buchanan WW, Goldsmith C, Grace E & Hanna B. The MACTAR patient preference disability questionnaire – An individualized functional priority approach for assessing improvement in physical disability in clinical trials in rheumatoid arthritis. *J Rheumatol* 1987;14:446-451.
- Verhoeven AC Boers M & van der Linden S. Validity of the MACTAR questionnaire as a functional index in a rheumatoid arthritis clinical trial. *J Rheumatol* 2000;27:2801-9.
- Clinch JJ, Tugwell P, Wells G & Shea B. An individualized functional priority approach to the assessment of health-related quality of life in rheumatology. *J Rheumatol* 2001;28:445-51.