

# Structured Interview for the Modified Rankin Scale

## Questionnaire and Guidelines

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May 2002

# Structured Interview for the Modified Rankin Scale

## Introduction

The Modified Rankin Scale (MRS) (van Swieten et al., 1988) is widely used as a functional outcome measure in stroke. The purpose of the Structured Interview is to assign patients to MRS grades in a systematic way. The interview consists of five sections corresponding to the levels of disability on the MRS (see Table).

Modified Rankin Scale		Section of the Structured Interview
5	<b>Severe disability:</b> bedridden, incontinent and requiring constant nursing care and attention.	1. Constant care
4	<b>Moderately severe disability:</b> unable to walk without assistance, and unable to attend to own bodily needs without assistance.	2. Assistance for bodily needs / walking
3	<b>Moderate disability:</b> requiring some help, but able to walk without assistance.	3. Assistance to look after own affairs
2	<b>Slight disability:</b> unable to carry out all previous activities but able to look after own affairs without assistance.	4. Usual duties and activities
1	<b>No significant disability:</b> despite symptoms: able to carry out all usual duties and activities.	5. Symptom checklist
0	<b>No symptoms at all</b>	

## General Instructions

### Timing

The interview is intended for use after discharge from hospital.

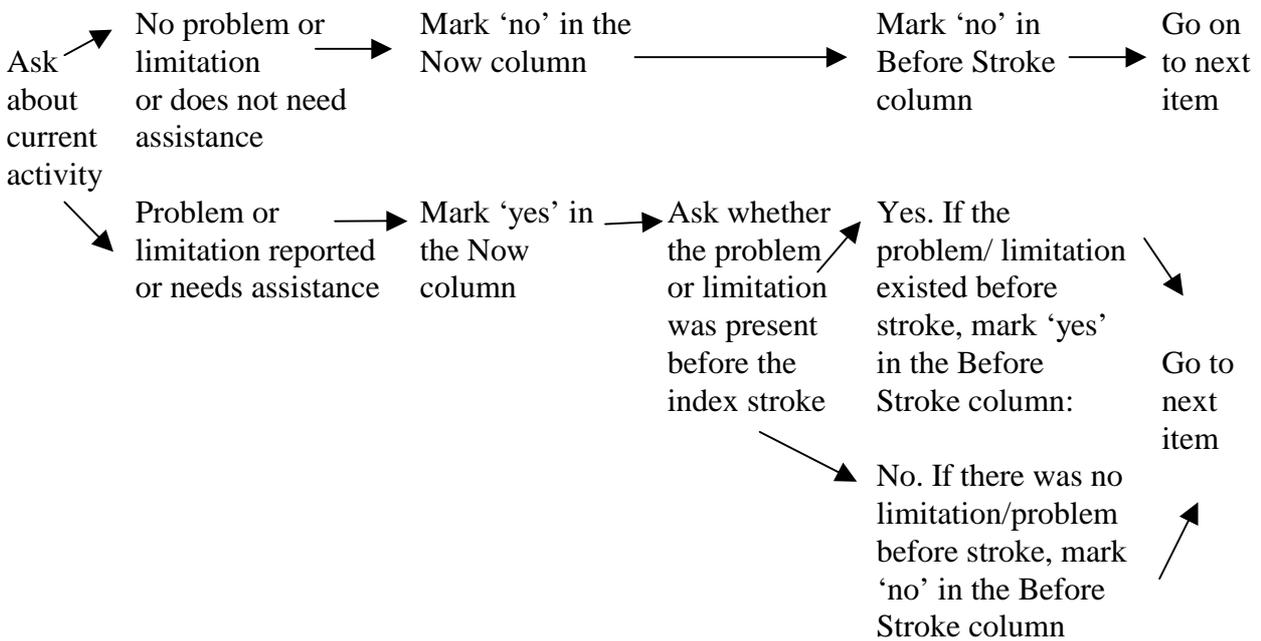
### Respondents

Use the best source of information available. Information can be obtained from the patient and/or a person who is familiar with the daily routine of the patient. Interview the patient and a close friend or caregiver whenever possible. If the patient lacks insight into some difficulties, or responses are inconsistent it is often helpful to interview a caregiver or relative independently.

### Procedure

For sections 1, 2, 3, & 5 first ask about current activities. If there is currently no problem or limitation in a particular activity, it is not necessary to ask about status 'before stroke', but please tick the relevant boxes. If the person indicates a problem or limitation on a particular activity, then establish whether this was present before the stroke and record the response appropriately in the 'before stroke' column. (This sequence is illustrated in the diagram on the next page)

**Diagram: Interview procedure for sections 1, 2, 3 & 5**



For Section 4 ask about ability to perform the activity before stroke and then ask about a change in ability after the stroke. If the person did not participate in an activity (e.g. work) before stroke then move to the next question as indicated on the questionnaire. Sometimes it can be difficult to establish whether or not someone could do an activity before stroke (particularly if the person had one or more previous strokes) - in this case use your judgement and focus on the index stroke for which the patient was enrolled in the study.

The responses to the separate sections should generally be hierarchical (for example if a person indicates that they require assistance to attend to bodily needs, then it is inconsistent if they then say that they go out alone for social and leisure activities). Thus, responses to later questions may suggest revisions to earlier responses. Check for consistency as you proceed. Ask all questions and go back to clarify, if necessary.

Notes for specific sections of the interview are given on the following pages. The document is formatted so that the notes appear opposite the interview questions when double-sided printing is used.

Sources:-

Section 2 of the interview is adapted from the Barthel Index (Collin et al. 1988), and Section 4 is adapted from the Extended Glasgow Outcome Scale (Wilson et al., 1998).

Collin, C., Wade, D. T., Davies, S., & Horne, V. (1988). The Barthel ADL Index: a reliability study. *International Disability Studies*, 10, 61-63.

van Swieten, J. C., Koudstaal, P. J., Visser, M. C., Schouten, H. J. A., & van Gijn, J. (1988). Interobserver agreement for the assessment of handicap in stroke patients. *Stroke*, 19, 604-607.

Wilson, J. T. L., Pettigrew, L. E. L., & Teasdale, G. M. (1998). Structured interviews for the Glasgow Outcome Scale and Extended Glasgow Outcome Scale: Guidelines for their use. *Journal of Neurotrauma*, 15, 573-585.

# Notes

## 1. CONSTANT CARE

Patients are usually bedridden: patients may not actually remain in bed all the time, but moving them from the bed to sitting will require major assistance. Patients will also need assistance with other activities.

## SECTIONS 2 AND 3: ASSISTANCE FOR ACTIVITIES OF DAILY LIVING

Assistance may be considered essential when there is the need for physical help (by another person) with an activity or there is a need for supervision, or the person needs prompting or reminding to do a task.

Mark responses based on the ability of the patient to perform the activity and not whether the patient actually performs the activity currently. Please probe using the specific questions given in the sections below. Please use your judgement to decide whether the person can actually do something before recording a response. The need for supervision for safety reasons should be due to objective danger that is posed, rather than 'just in case'. People may feel that a person who has had stroke should not be left on their own, but that does not make the person with stroke dependent. A general need for companionship, care, or protection should not be considered assistance.

## 2. ASSISTANCE TO ATTEND TO BODILY NEEDS/ FOR WALKING

### 2.1. Assistance for eating

Patient may eat a modified diet on their own. This should not be considered assistance.

### 2.2. Assistance for using the toilet

Using toilet without assistance include, reaching the toilet/commode; undress sufficiently; clean self; dress and leave.

### 2.3. Assistance for routine daily hygiene

Daily Hygiene includes just the three activities indicated (washing face, doing hair, cleaning teeth/ fitting false teeth). It does not include bathing and showering, or shaving, which are more complex activities for which the person may require assistance. The ability to bath, shower or shave is not relevant for this section.

### 2.4. Assistance for walking

Specific question to ask: "If absolutely necessary could you walk across the room, even if your caregiver was not present?"

## 3. ASSISTANCE TO LOOK AFTER OWN AFFAIRS

**3.1 Preparing a simple meal.** Specific questions to ask: "If the person were on their own: Would they go hungry? Might they be at risk of burning the house down if they tried to cook?"

**3.2 Performing basic household chores.** Specific questions to ask: "Are they *able to do* chores, if necessary, even if they do not normally do them." Men may, report that they need assistance more often than women. Please clarify by probing about the person's *ability* to perform the chores.

**3.3 Looking after household expenses.** Specific questions to ask: "Do you look after your own pension/income? Do you arrange to pay bills?" Look for a change from previous level of responsibility. Note: the person may be reluctant to admit a problem. The question is NOT about financial needs (e.g. assistance from benefit agencies). It refers to whether or not patients are able to take responsibility for the money that they have.

**3.4 Local travel.** Specific questions to ask: "If you need to get somewhere can you manage to call a taxi?" The patient should be able to at least order and take a taxi alone. This question is NOT about being able to afford a taxi, but about the tasks involved. The question refers to whether or not the patients can get around locally by themselves.

On the 'shopping' and 'local travel' questions (independence outside the home) there is quite often some restriction before stroke. Please ask about this and record the response in the 'Before Stroke' column

**3.5 Local shopping.** Specific Questions to ask: "If your life depended on it – could you get out and buy even single items?" "Can the person go to a local shop to buy milk or a loaf of bread?" Could also include going to the pub/bar, ordering and paying for a drink by themselves

## Interview

Please mark (X) in the appropriate box. Please record responses to all questions (unless otherwise indicated in the text), including those concerning status before stroke. See guidelines on the facing page for further information.

<b>1 CONSTANT CARE</b>		
Constant care means that someone needs to be available at all times. Care may be provided by either a trained or an untrained caregiver. The patient will usually be bedridden and may be incontinent.	<b>Now</b>	<b>Before stroke</b>
<b>1.1 Does the person require constant care?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No (5)	<input type="checkbox"/> Yes <input type="checkbox"/> No

<b>2 ASSISTANCE TO ATTEND TO BODILY NEEDS/ FOR WALKING</b>		
Assistance includes physical assistance, verbal instruction, or supervision by another person.	<b>Now</b>	<b>Before stroke</b>
<b>2.1 Is assistance essential for eating?</b> (Eating without assistance: food and implements may be provided by others).	<input type="checkbox"/> Yes <input type="checkbox"/> No (4)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>2.2 Is assistance essential for using the toilet?</b> (Using toilet without assistance: reach toilet/commode; undress sufficiently; clean self; dress and leave).	<input type="checkbox"/> Yes <input type="checkbox"/> No (4)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>2.3 Is assistance essential for routine daily hygiene?</b> (Routine hygiene: washing face, doing hair, cleaning teeth/fitting false teeth. Implements may be provided by others and this should not be considered assistance).	<input type="checkbox"/> Yes <input type="checkbox"/> No (4)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>2.4 Is assistance essential for walking?</b> (Walking without assistance: Able to walk indoors around house or ward, may use any aid (e.g. stick/cane, walking frame/walker), however not requiring physical help or verbal instruction or supervision from another person).	<input type="checkbox"/> Yes <input type="checkbox"/> No (4)	<input type="checkbox"/> Yes <input type="checkbox"/> No

<b>3 ASSISTANCE TO LOOK AFTER OWN AFFAIRS</b>		
Assistance includes physical assistance, or verbal instruction, or supervision by another person.	<b>Now</b>	<b>Before stroke</b>
<b>3.1 Is assistance essential for preparing a simple meal?</b> (For example, able to prepare breakfast or a snack)	<input type="checkbox"/> Yes <input type="checkbox"/> No (3)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>3.2 Is assistance essential for basic household chores?</b> (For example, finding and putting away clothes, clearing up after a meal. Exclude chores that do not need to be done every day, such as using a vacuum cleaner.)	<input type="checkbox"/> Yes <input type="checkbox"/> No (3)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>3.3 Is assistance essential for looking after household expenses?</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No (3)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>3.4 Is assistance essential for local travel?</b> (Patients may drive or use public transport to get around. Ability to use a taxi is sufficient, provided the person can phone for it themselves and instruct the driver.)	<input type="checkbox"/> Yes <input type="checkbox"/> No (3)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>3.5 Is assistance essential for local shopping?</b> (Local shopping: at least able to buy a single item )	<input type="checkbox"/> Yes <input type="checkbox"/> No (3)	<input type="checkbox"/> Yes <input type="checkbox"/> No

## Notes

### 4. USUAL DUTIES AND ACTIVITIES

The set of questions in Section 4 are about how the patient usually spends his/her day. In this section, questions concerning status before stroke are asked first, to establish which areas are relevant. If an activity is not relevant (e.g. the person was not working before stroke), then it is assumed that there is no change, and the interviewer proceeds to ask about the next area.

Concentrate on key areas relevant to the particular person. Not all will apply, but almost everyone will have some regular pre-stroke social & leisure activities.

It is change that is important. The section concerns fulfilment of major social roles, relative to the previous roles that the person had.

Change should come from impairment (not social circumstances). For example, change in financial circumstances may produce a change in social activities but this is not relevant.

Possible improvement in the future is not relevant (e.g. "I plan to go back to work next month"). The relevant time period is within the previous week or so.

#### 4.1 Work

4.1.1 Work refers to paid employment, and does not include voluntary work (which can be included under 'social and leisure activities'). Many elderly patients will have retired and this section will not be relevant.

4.1.2 Change in ability to work or study includes loss of employment or reduction in level of responsibility; change in education, or problems with study. Special arrangements which allow someone to return to work even though they would not normally be able to work should be considered as 'reduced level of work'.

#### 4.2 Family responsibilities

Refers to the patient's ability to look after others. Probe using specific examples such as "babysitting, looking after your partner, your parents, your grandchildren or dependent others".

#### 4.3 Social & leisure activities

This refers to any specific free-time activities which the person did for pleasure. It is useful to first establish the person's main activities before stroke, and then ask about change in participation since the stroke. Probe with specific questions: "How did you spend your day before the stroke? How often did you get out? What activities did you do in your free time at home? Do you think your level of activity has changed?"



## Notes

### **4. USUAL DUTIES AND ACTIVITIES.** .....Contd.

#### **4.4 Family & friendships**

It is useful to go through the problems listed, particularly change in mood. This includes the patient who has become isolated and / or withdrawn since suffering their stroke. In this case it is more relevant to consider how tolerable this for others rather than the frequency of the problem.

Patients can experience personality changes and may be more insensitive to their partners than before, and this may result in relationship problems. Patients may report that they are now more 'mellow' than before and can longer be bothered joining in conversations about trivia. This behaviour may also result in reduced social interaction and could lead to increased isolation.

It is useful to obtain the views of a caregiver on relationship problems.

### **5. SYMPTOMS AS A RESULT OF THE STROKE**

5.1 This question is used to establish a spontaneous report of symptoms due to stroke, before going through the checklist

#### **5.2 SYMPTOM CHECKLIST**

These can be any symptoms or problems reported by the patient or found on neurological examination. It is important to exclude common problems and complaints not due to stroke.

If you are not sure that a symptom resulted from stroke indicate that it was present 'before stroke' by marking the 'yes' box in the before stroke column. The responses that are considered for scoring are those that are present now, but not present before the stroke, implying that the symptoms are due to stroke.

#### **Assigning a grade on the Modified Rankin Scale**

1. Examine the responses and discount items on which there were limitations before stroke.
2. If there is a 'yes' answer in the 'before stroke' column, indicating a problem before stroke, then discount (do not consider) that item. In section 4 if there is a 'no' answer to question 4.1.1, 4.2.1, 4.3.1 or a 'yes' answer to 4.4.2 then discount the specific subsection.
3. Rankin categories are given in brackets beside specific responses.
4. The overall rating is simply the lowest disability category indicated by the person's answers (after discounting limitations or problems before stroke). Rankin 5 is the lowest category, and Rankin 0 is the highest.

If the person has no limitations or symptoms then the Rankin grade is 0.

## Interview

### 4. USUAL DUTIES AND ACTIVITIES. ....Contd.

#### 4.4 Family & Friendships

(Problems with relationships include difficulties in relationships with people at home, loss of friendships or increase in isolation. Changes in the person may include: communication problems, quick temper, irritability, anxiety, insensitivity to others, mood swings, depression, and unreasonable behaviour).

<b>4.4.1 Since the stroke has the person had problems with relationships or become isolated?</b>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<i>If 'Yes', what is the extent of disruption/strain?</i>		
Occasional- less than weekly	<input type="checkbox"/>	
Frequent- once a week or more, but tolerable	<input type="checkbox"/> (2)	
Constant- daily & intolerable	<input type="checkbox"/> (2)	
<b>4.4.2 Before stroke were any similar problems present?</b>		
	<input type="checkbox"/> Yes	<input type="checkbox"/> No

### 5. SYMPTOMS AS A RESULT OF THE STROKE

(Can be any symptoms or problems reported by the patient or found on neurological examination).

<b>5.1 “Does the patient have any symptoms resulting from stroke?”</b> (Record spontaneous answer to the question from respondent)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	(1)
<b>5.2. SYMPTOM CHECKLIST</b>			
	<b>Now</b>		<b>Before stroke</b>
<b>5.2.1 Does the person have difficulty reading or writing?</b>	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>5.2.2 Does the person have difficulty speaking or finding the right word?</b>	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>5.2.3 Does the person have problems with balance or co-ordination?</b>	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>5.2.4 Does the person have visual problems?</b>	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>5.2.5 Does the person have numbness (face, arms, legs, hands, feet)?</b>	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>5.2.6 Has the person experienced loss of movement (face, arms, legs, hands, feet)?</b>	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>5.2.7 Does the person have difficulty with swallowing?</b>	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>5.2.8 Any other symptoms?</b> (Please record: ..... .....)	<input type="checkbox"/> Yes (1)	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Rankin Grade = <input style="width: 50px; height: 20px; border: 1px solid black;" type="text"/>
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