Appendix 1

Appropriateness of treatment
For whiplash associated disorder

Composition of expert panels

Medical care expert panel Co-Chairs : John-Paul Vader + Bernard Burnand

Category	Name
Chiropractic	Peter Bon
General practice / Internist	Jacob Roffler
	Roger Darioli
Neurology	Otmar Meienberg
	Philippe Vuadens
Neuro-psychology	Giuseppe Di Stefano
Orthopedic surgery	Norbert Boos
Physiotherapy	Stefan Jan
Psychiatry	Bogdan Radanov
	Renato Marelli
Rehabilitation medicine	Rudolf Kissling

Non-medical expert panel Co-Chairs : John-Paul Vader + Erick Frinking

Category	Name
Biomechanics	Felix Walz
Case manager	Rolf Bauser
	Herbert Koenig
Federal judge	Ulrich Meyer-Blaser
Insurance representatives	Daniel Herzog
	Hansueli Reiter
Lawyer	Hans Schmidt
	Jean-Baptiste Huber
Professor of law	Erwin Murer-Frei

Appendix 2

Appropriateness Panel on Chronic Whiplash Associated Disorders 2001

Rating forms: first round

This booklet must be returned by July 10, 2001

Your panellist number is: __

Appropriateness Panel on Chronic Whiplash Associated Disorders

INSTRUCTIONS

The objective of rating the enclosed indications and the upcoming panel meeting is to compile a list of indications for various treatments used in the care of Chronic Whiplash Associated Disorders (WAD). We have developed the list of indications based on a detailed review of the literature and input from expert physicians.

Your participation in this panel will require you to rate the following indications in terms of their appropriateness and mail these ratings to the *Institut universitaire de médecine sociale et préventive* in Lausanne. An addressed envelope for returning your rated indications is enclosed in the front cover of this notebook. Please make and retain one photocopy of your rated indications before mailing them and **send us the original by registered mail.**

When the meeting convenes, panellists will be given a compiled list of indications that summarises all panellists' ratings for each individual indication. Panellists will see their own ratings in addition to a distribution of all panellists' ratings. At all times, however, coded forms will be used to preserve the confidentiality of each individual panellist's ratings.

During the meeting, discussion will focus on the indications for which panellists disagreed most on the initial ratings. Following the discussion, all indications will be rated again.

After the meeting, the results of the panellists' ratings will be summarised in a list that represents the panel's final recommendations for the appropriateness of various treatments for specific patients suffering from chronic WAD:

NOTE: WE MUST RECEIVE YOUR ORIGINAL RATED INDICATIONS IN LAUSANNE BY JULY 10, 2001. Prior to the panel meeting we must analyse all initial ratings and prepare a ratings summary for use during the meeting.

INSTRUCTIONS FOR REVIEWING AND RATING INDICATIONS FOR TREATMENT OF WAD

1. Format of the indications

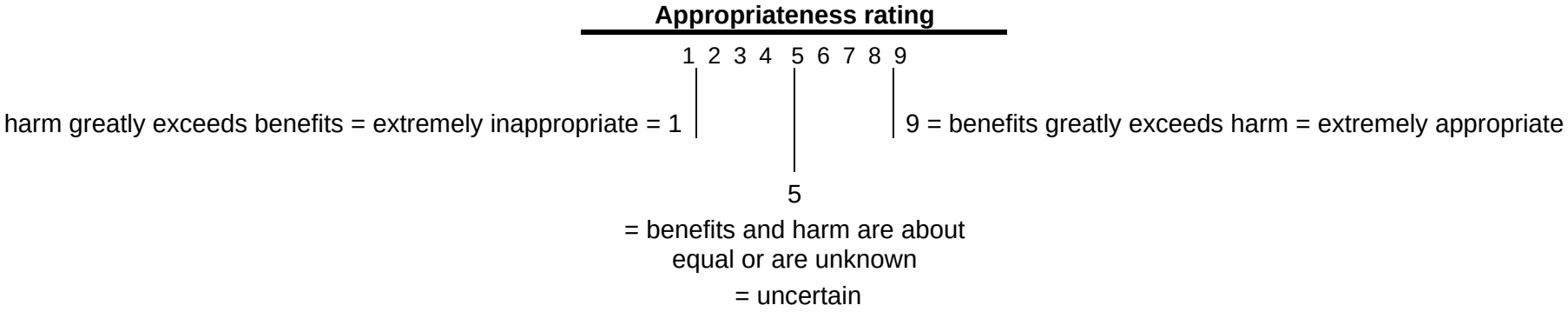
The ratings forms are organised in 9 chapters by duration of symptoms and the presence or absence of pre-trauma head or neck pain. Within each chapter you will be asked to rate the appropriateness of various treatments for different, clinically specific indications.

Each indication is defined by a set of clinical characteristics that include the important elements that have been identified as prognostic elements and which physicians take into account when selecting treatments.

See the sample rating on page 4. The clinical presentation is a patient during the acute phase (duration of symptoms < 6 weeks) of following a rear-end collision, with no history of pre-trauma head or neck pain. Sixty-three *nine-point scales* are displayed on the page. Each scale represents the intersection of one of 9 combinations of clinical factors and 7 different treatment modalities. The first scale in the upper left hand corner of the page represents a patient with good prognosis, who has no complaints of cognitive dysfunction and no physical pain. (For clarification of the terms used in the matrix, please refer to the '**Definitions'** which you have received as a separate document and which are shown again in the next section of this booklet).

2. The Appropriateness Rating Scale

You are asked to rate the clinical appropriateness of performing the different treatment modalities using a *nine-point scale* as follows:



Please rate the appropriateness of each treatment (columns) for each specified clinical indication. You are free to use any of the nine points on the scale to define the degree of appropriateness you feel pertains to each specific indication.

By "appropriate" we mean that expected health benefits to the patient (e.g. relief of symptoms, improved functional capacity, etc.) exceed expected harm (e.g. morbidity, mortality, pain produced by the treatment) by a sufficiently wide margin such that the treatment is worth doing.

You should evaluate benefits and harm based on available scientific data (see attached literature review) and your opinion of what constitutes current optimal medical practice. Consider an average group of patients with each listed indication, presenting themselves to an average physician in Switzerland who cares for patients with WAD. We are aware that the scientific literature does not speak definitively on many issues raised in the matrix of scenarios. The ratings should reflect your best judgement.

3. Example

Please turn to the example on page 4 and look at the boxed ratings (this example is not intended to really evaluate appropriateness, but only to explain how the rating process works). As indicated in the narrative at the upper left corner, all scales on this page apply to patients during the **acute phase** after trauma, with **no history of previous head or neck pain**. The first boxed ratings deal with patients who have has a good prognosis and no cognitive dysfunction. This patient suffers from moderate physical pain. The first circled ① indicates that this panellist feels that immobilisation is extremely inappropriate (i.e. risks far outweigh benefits or no expected benefits) in such patients. The circled ④ in the second and third columns indicates that the panellist feels that physiotherapy/manipulation and electrotherapy are of uncertain appropriateness. The final circled ① in this group indicates that this panellist feels injections would be extremely inappropriate.

The second row of boxed ratings at the bottom of the page also concerns patients with have has a good prognosis but this time have severe cognitive dysfunction problems and suffer physical pain. The circled ⑦ in columns 3 and 4 indicates that this panellist feels that electrotherapy and injections are fairly appropriate for these patients. The circled ⑨ in columns 5 indicates the panellist feels pharmacological treatment is extremely appropriate. The final circled ⑧ indicates that the panellist feels that psychosocial support is also appropriate.

PLEASE PROVIDE A RATING FOR EACH 9-POINT SCALE GIVEN.

DO NOT LEAVE ANY SCALES BLANK.

Chapter 1. Appropriateness of the following treatments for patients in the **acute phase** (symptoms < 6 weeks) presenting with the following situation:	Immobilization	Physiotherapy or Manual medicine	Electrotherapy	Injections	Pharmacological treatment	Psychosocial support	Alternative medicine	
A. With good prognosis	E	X	A	M	P	L	E	
1. Without previous history of pain								
a. No cognitive functioning problems								
i. With no physical pain	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	(1-7)
ii. With light/moderate physical pain	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	(8-14)
iii. With severe physical pain	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	(15-21)
b. Light/moderate cognitive functioning problems								
i. With no physical pain	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	(22-28)
ii. With light/moderate physical pain	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	(29-35)
iii. With severe physical pain	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	(36-42)
c. Severe cognitive functioning problems								
i. With no physical pain	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	(43-49)
ii. With light/moderate physical pain	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	(50-56)
iii. With severe physical pain	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	(57-63)

Appendix 3

Definitions

Whiplash associated disorder

In German : Beschwerdebild nach kraniozervikalem Beschleunigungstrauma ("whiplash-associated disorder")
In French: Symptomatologie après le traumatisme d'accélération cranio-cervical (coup du lapin, "whiplash-associated disorder")

The clinical manifestation of an acceleration-deceleration, soft-tissue injury of the neck as a consequence of a rear-end automobile collision. Aside from the symptoms described in the scenarios, no physically objective signs are present.

Appropriateness:

"A treatment is appropriate if the expected health benefits outweigh the potential risks by a margin such that the treatment is worth performing."

Health benefits that might be considered are: increased life expectancy, quality of life, relief of pain, reduction in anxiety, improved functional capacity, etc.
Health risks that might be considered are : side-effects, pain and discomfort associated with treatment, psychological effects of treatment itself or if fails, etc.

The question to consider is:

"What is the relative appropriateness of providing the specific treatment compared to not providing it?"

- This assessment assumes that all treatments are readily available and will be provided by a trained and competent care-giver.
- The situation envisioned is an "average" patient, being cared for by an "average" care-giver.
- The economic costs of a treatment are explicitly excluded from consideration.
- The evaluation of one treatment as appropriate does not mean that it *must* be provided, nor does it exclude other treatments being just as (or more) appropriate.
- The fact that a treatment has been previously provided without success does not preclude it being appropriate at a later stage.

TREATMENTS

Treatments are described below at a categorical level that should be adequate to differentiate them from other types of treatment. In rating the benefit/harm ratio of a treatment category, the best possible treatment option within that category for the clinical scenario was considered.

- **Immobilisation (cervical)**
  The act of restricting movement of the cervical spine for a limited time (generally less than 2 weeks), using a soft or semi-rigid cervical collar. The choice of the collar and the indication for use depend on relief of pain.
- **"Act-as-usual"**
  The explicit prescription by the care-giver that the patient continues, to the extent possible, normal activities of daily living (including normal work or household activity and cervical movement), including the follow-up (by the care-giver) of that prescription through continued coaching of the patient along these lines.
- **Active physical therapy**
  Therapy focused on treatment of stiffness, muscle weakness and pain in the body by using active mobilisation and exercises. Particularly in the chronic phase this will involve, among other things, occupational therapy, ergonomic assessment and training, improving functional capacity and the ability to manage daily activities.
- **Chiropractic or manual medicine**
  Therapy focused on treatment of stiffness, muscle weakness and pain in the body by using physical agents (such as exercise, remedial exercises, manipulation, massage and other modalities) or where hands are used diagnostically and therapeutically; using specially designed exercises and equipment to help patients regain or improve their physical functioning.
- **Passive physical therapy**
  Includes, among other things: ultrasound, thermal agents, electrical impulse, electromagnetic collar, massage, etc.
- **Injections / infiltrations**
  Includes, but not limited to local injection of:
  - Subcutaneous sterile water
  - Corticosteroids
  - Botulinum toxin-A
- **Analgesics or nonsteroidal anti-inflammatory drugs (NSAID)**
  Agents that relieve pain without affecting consciousness. These drugs include, e.g., paracetamol, dihydrocodeine, co-proxamol, ibuprofen, ketoprofen, piroxicam, naproxen, sulindac, aspirin, choline subsalicylate, diflunisal, fenoprofen, indomethacin, meclofenamate, salsalate, tolmetin and magnesium salicylate, etc.
- **Psychoactive drugs**
  Psychotropic substances aimed at treating sleep disturbances and / or anxiety states (Chapter 3) and / or (for Chapters 4 + 5) depressive states.
- **Psychosocial treatment**
  Psychosocial interventions include, but are not limited to: counseling, psychotherapy, behavioral-cognitive therapies, educational therapies. Psychosocial treatment goes beyond normal psychosocial care (accompaniment, attention and advice, the providing of clear, tailored information about the illness and its consequences, communication, etc.) that is always appropriate in the therapeutic relationship of a whiplash patient with his / her care-giver.
- **Acupuncture and homeopathy**
- **Multidisciplinary pain referral**
  Referral to a care-giver, centre or network of care-givers specially trained and experienced in the multidisciplinary approach to chronic pain.

INDICATIONS

Patients are defined via a series of dimensions that cover individual aspects that are believed, or have been shown to influence the outcomes of treatment. They are:

- Prognostic based upon social-demographic characteristics of the patient
- Signs and symptoms
- Duration of complaints

Increased risk of poor prognosis (- / +)

Identification of increased risk of poor prognosis is based on considerations of factors that have been identified in the medical literature. Female gender, older age, an absent or limited social network of family and friends and less than full employment, pre-morbid pain states, previous history of head or neck pain and previous whiplash trauma have been correlated with a poor prognosis.
An actual validated prognosis score is difficult to construct for use in general practice and this dimension is more qualitative than quantitative. For purposes of this evaluation, it will be considered that there is increased risk of less than optimal prognosis if at least two of the following elements are present

- Female gender
- Older age
- No (or very limited) social network of family and friends
- Less that fully employed (professionally or in the household)
- pre-morbid pain states
- previous history of head or neck pain
- previous whiplash trauma.

Pain

(includes, but is not limited to: neck pain, headache, shoulder pain, arm pain, numbness)

- none
- light/moderate (somewhat handicapped, but able to work at least part-time or carry out usual activities)
- severe (unable to work or to carry out usual activities: housework, child-care, etc.)

Cognitive and vegetative dysfunction

(includes, but is not limited to: disturbance of concentration, irritability, sleep disturbance)

- none
- light/moderate (somewhat handicapped, but able to work at least part -time or carry out usual activities)
- severe (unable to work or to carry out usual activities: housework, child-care, etc.)

Duration of Complaints

- acute (less than 6 weeks),
- intermediate (between six weeks and six months), and
- chronic (more than 6 months).
  It should be noted that during the chronic phase, medical treatment (with the possible exception of psychiatric and psychological care for mental well-being) is not at the center of preoccupations. Priority care should be tailored to the needs of the patient and may involve, among other aspects, handling of social, psychological, family, professional, or insurance problems.

Appendix 4

SUMMARY STATISTICS
WHIPLASH PANEL 2001-R2
Level of agreement among panellists for various treatments and patient characteristics

TYPTTT Type of treatment by AGRLEV Level of agreement

TYPTTT	Count / Row Pct	AGRLEV Disagree 0	??? 1	Agree 2	Row Total
.00 As usual			1	8	9
			11.1	88.9	2.0
1.00 Immob.		1		8	9
		11.1		88.9	2.0
2.00 Active phys.			18	27	45
			40.0	60.0	10.0
3.00 Chiro-praxis		6	24	15	45
		13.3	53.3	33.3	10.0
4.00 Pass. phys.		10	16	19	45
		22.2	35.6	42.2	10.0
5.00 Injection		6	9	30	45
		13.3	20.0	66.7	10.0
6.00 Analgesics		3	9	33	45
		6.7	20.0	73.3	10.0
7.00 Psychosoc tt		14	11	20	45
		31.1	24.4	44.4	10.0
8.00 Altern med.		4	29	12	45
		8.9	64.4	26.7	10.0
9.00 Psych.drugs		10	22	13	45
		22.2	48.9	28.9	10.0
10.00 Muscl.relax.		11	20	14	45
		24.4	44.4	31.1	10.0
11.00 Pain referr		7	10	10	27
		25.9	37.0	37.0	6.0
Column Total		72 16.0	169 37.6	209 46.4	450 100.0

PAIN Physical pain by AGRLEV Level of agreement

PAIN	Count / Row Pct	AGRLEV Disagree 0	??? 1	Agree 2	Row Total
1.00 No		17	23	110	150
		11.3	15.3	73.3	33.3
2.00 Moderate		20	89	41	150
		13.3	59.3	27.3	33.3
3.00 Severe		35	57	58	150
		23.3	38.0	38.7	33.3
Column Total		72 16.0	169 37.6	209 46.4	450 100.0

PHASE Symptom duration by AGRLEV Level of agreement

	AGRLEV			
Count / Row Pct	Disagree 0	??? 1	Agree 2	Row Total
PHASE				
1.00	34	55	79	168
0-5w	20.2	32.7	47.0	37.3
2.00	30	67	89	186
6w-5m	16.1	36.0	47.8	41.3
3.00	8	47	41	96
6m+	8.3	49.0	42.7	21.3
Column Total	72 16.0	169 37.6	209 46.4	450 100.0

PROGN Prognosis by AGRLEV Level of agreement

	AGRLEV			
Count / Row Pct	Disagree 0	??? 1	Agree 2	Row Total
PROGN				
1.00	32	63	76	171
Good	18.7	36.8	44.4	50.0
2.00	31	58	82	171
Poor	18.1	33.9	48.0	50.0
Column Total	63 18.4	121 35.4	158 46.2	342 100.0

COGN Cognitive dysfunction by AGRLEV Level of agreement

	AGRLEV			
Count / Row Pct	Disagree 0	??? 1	Agree 2	Row Total
COGN				
1.00	27	55	62	144
No	18.8	38.2	43.1	33.3
2.00	22	61	61	144
Moderate	15.3	42.4	42.4	33.3
3.00	22	52	70	144
Severe	15.3	36.1	48.6	33.3
Column Total	71 16.4	168 38.9	193 44.7	432 100.0

Appendix 5

Note on reading result tables of appropriateness

The following table presents the first page of the evaluation of the appropriateness of various treatments for whiplash associated disorder (WAD). The title of the chapter and specific indications related to the chapter are found in upper left corner, in the column headings and along the left margin. Each indication (represented by a nine-point scale at the intersection of columns and rows) is accompanied by a representation of the distribution of votes of the expert panelists or that indication, as well as statistical information. For example, all indications on this page relate to the appropriateness of cervical immobilization (upper left corner). The three indications in the last line (C) concern patients who are experiencing severe pain. The indications are stratified in the columns according to the time since trauma (acute, intermediate, chronic), with a definition of the time frame agreed upon for each phase.

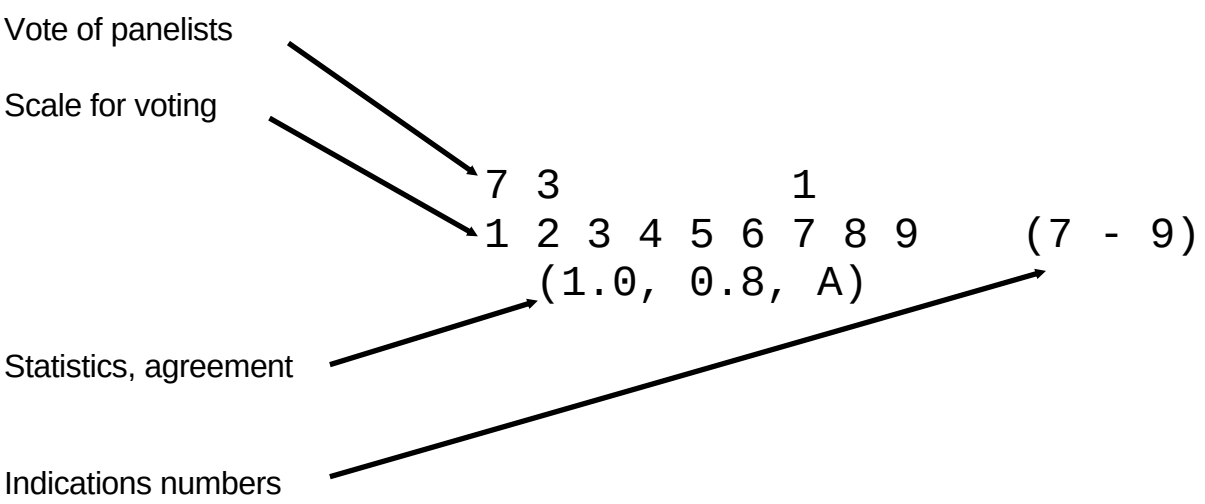
Table 1. Example of a table evaluating appropriateness

Chapter 1 APPROPRIATENESS OF IMMOBILISATION OF CERVICAL SPINE	Treatment phase ACUTE Less than 6 wks	 INTERMEDIATE 6 wks to 6 months	 CHRONIC More than 6 months	
A. No pain	101 1 2 3 4 5 6 7 8 9 (1.0, 0.9, A)	101 1 2 3 4 5 6 7 8 9 (1.0, 0.9, A)	11 1 2 3 4 5 6 7 8 9 (1.0, 0.0, A)	(1 – 3)
B. Light / moderate pain	2 1 2 1 3 1 1 1 2 3 4 5 6 7 8 9 (6.0, 2.6, D)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0, 0.7, A)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0, 0.7, A)	(4 – 6)
C. Severe pain	5 6 1 2 3 4 5 6 7 8 9 (9.0, 0.5, A)	7 2 1 1 1 2 3 4 5 6 7 8 9 (1.0, 1.1, A)	7 3 1 1 2 3 4 5 6 7 8 9 (1.0, 0.8, A)	(7 - 9)

Appropriateness scale: 1 = extremely inappropriate, 5 = uncertain, 9 = extremely appropriate.

The scale for assessing appropriateness goes from 1 to 9. The numbers above the scale indicate how the 11 experts voted on the appropriatess of immobilisaiton of the cervical spine according to the degree of pain and the phase of treatment. For the last indication on the page (box), seven panelists voted 7, three voted 2 and one voted 7. The statistics below the scale indicate the médian score of the panélists (1 in this example) and the mean absolute deviation around the mdedian (0.8). The "A" indicates agreement, "I" indéterminate (neither agreemnent nor disagreement), and "D" disagreement. The definitions of these terms are described in the methods sections of the main text. For this example, the panel found that the indication for immobilisation of the cervical spine was inappropriate (median score between 1 and 3), with agreement among the panelists. See next page for detailed explanation of the boxed indication.

Table 2. Details of the assessment for a specific indication.



The numbers in parentheses at the far right of the page refer to the numbers of the indications within that chapter and on that line. The example above, taken from the preceding page, refers to indication number 9 of chapter 1.

Chapter 1 Appropriateness of immobilization of cervical spine:	Acute Less than 6 wks	Intermediate 6 wks to 6 months	Chronique More than 6 months	
A. No pain	101 1 2 3 4 5 6 7 8 9 (1.0 0.09 A)	101 1 2 3 4 5 6 7 8 9 (1.0 0.09 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	(1-3)
B. Light/moderate pain	2 1 2 1 3 1 1 1 2 3 4 5 6 7 8 9 (6.0 2.55 D)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.73 A)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.73 A)	(4-6)
C. Severe pain	5 6 1 2 3 4 5 6 7 8 9 (9.0 0.45 A)	7 2 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.09 A)	7 3 1 1 2 3 4 5 6 7 8 9 (1.0 0.82 A)	(7-9)

Appropriateness scale: 1 = extremely inappropriate, 5 = uncertain, 9 = extremely appropriate.

Chapter 2 Appropriateness of explicit prescription to "act-as-usual":	Acute Less than 6 wks	Intermediate 6 wks to 6 months	Chronique More than 6 months	
A. No pain	1 1 9 1 2 3 4 5 6 7 8 9 (9.0 0.27 A)	2 9 1 2 3 4 5 6 7 8 9 (9.0 0.18 A)	1 10 1 2 3 4 5 6 7 8 9 (9.0 0.09 A)	(1-3)
B. Light/moderate pain	1 4 2 4 1 2 3 4 5 6 7 8 9 (8.0 0.91 A)	1 4 6 1 2 3 4 5 6 7 8 9 (9.0 0.55 A)	2 9 1 2 3 4 5 6 7 8 9 (9.0 0.18 A)	(4-6)
C. Severe pain	1 1 2 5 2 1 2 3 4 5 6 7 8 9 (7.0 1.64 I)	2 1 2 6 1 2 3 4 5 6 7 8 9 (9.0 1.09 A)	2 9 1 2 3 4 5 6 7 8 9 (9.0 0.18 A)	(7-9)

Appropriateness scale: 1 = extremely inappropriate, 5 = uncertain, 9 = extremely appropriate.

Chapter 3 Appropriateness of the following treatments for patients in the ACUTE PHASE (symptoms < 6 weeks), presenting with the following situation:	Active physical therapy	Chiropractic or manual medicine	Passive physical therapy	Injections	Analgesics / NSAID	Psycho-social treatment	Acupuncture / homeopathy	Psychoactive drugs	Muscle relaxants	
A. With good prognosis										
1. No cognitive and vegetative dysfunction										
a) No pain	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.18 A)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.45 A)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	(1-9)
b) Light/moderate pain	1 1 1 1 5 2 1 2 3 4 5 6 7 8 9 (7.0 1.64 I)	5 1 1 1 1 1 1 1 2 3 4 5 6 7 8 9 (2.0 2.00 I)	7 2 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.27 A)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	1 1 7 1 1 1 2 3 4 5 6 7 8 9 (7.0 0.55 A)	6 2 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 2.45 I)	6 1 1 3 1 2 3 4 5 6 7 8 9 (1.0 1.36 I)	5 3 1 1 1 1 2 3 4 5 6 7 8 9 (3.0 1.73 I)	5 2 3 1 1 2 3 4 5 6 7 8 9 (2.0 1.64 I)	(10-18)
c) Severe pain	1 2 1 2 2 3 1 2 3 4 5 6 7 8 9 (7.0 1.64 I)	4 1 1 1 1 2 1 1 2 3 4 5 6 7 8 9 (4.0 2.45 D)	6 1 1 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 2.27 D)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	4 7 1 2 3 4 5 6 7 8 9 (9.0 0.36 A)	4 1 1 2 1 1 1 1 2 3 4 5 6 7 8 9 (5.0 2.64 D)	4 1 3 3 1 2 3 4 5 6 7 8 9 (5.0 1.91 I)	2 2 1 1 3 1 1 1 2 3 4 5 6 7 8 9 (5.0 2.36 D)	3 1 3 4 1 2 3 4 5 6 7 8 9 (5.0 2.09 D)	(19-27)
2. Light/moderate cognitive and vegetative dysfunction										
a) No pain	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.27 A)	6 2 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 2.45 I)	9 2 1 2 3 4 5 6 7 8 9 (1.0 0.73 A)	6 1 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.50 I)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	(28-36)
b) Light/moderate pain	1 1 1 6 2 1 2 3 4 5 6 7 8 9 (7.0 1.36 I)	4 1 1 1 2 2 1 2 3 4 5 6 7 8 9 (3.0 2.00 I)	7 1 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.73 I)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	1 8 1 1 1 2 3 4 5 6 7 8 9 (7.0 0.45 A)	3 2 3 2 1 1 2 3 4 5 6 7 8 9 (6.0 2.55 D)	4 2 2 2 1 1 2 3 4 5 6 7 8 9 (2.0 1.45 I)	2 1 2 1 2 1 2 1 2 3 4 5 6 7 8 9 (4.0 1.82 I)	5 2 3 1 1 2 3 4 5 6 7 8 9 (2.0 1.64 I)	(37-45)
c) Severe pain	1 2 3 2 3 1 2 3 4 5 6 7 8 9 (7.0 1.55 I)	4 1 1 3 2 1 2 3 4 5 6 7 8 9 (5.0 2.36 I)	6 1 1 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 2.27 D)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.64 A)	4 7 1 2 3 4 5 6 7 8 9 (9.0 0.36 A)	3 1 1 1 4 1 1 2 3 4 5 6 7 8 9 (6.0 2.45 D)	3 2 2 4 1 2 3 4 5 6 7 8 9 (5.0 1.82 I)	1 1 1 1 1 1 3 1 1 1 2 3 4 5 6 7 8 9 (6.0 2.09 D)	3 1 3 3 1 1 2 3 4 5 6 7 8 9 (5.0 2.18 D)	(46-54)
3. Severe cognitive and vegetative dysfunction										
a) No pain	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	4 1 4 1 1 1 2 3 4 5 6 7 8 9 (6.0 2.45 I)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.82 A)	4 2 2 1 1 1 2 3 4 5 6 7 8 9 (5.0 2.30 D)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	(55-63)
b) Light/moderate pain	1 1 1 1 5 2 1 2 3 4 5 6 7 8 9 (7.0 1.45 I)	5 1 1 1 2 1 1 2 3 4 5 6 7 8 9 (2.0 2.36 D)	7 1 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.82 I)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	1 6 2 2 1 2 3 4 5 6 7 8 9 (7.0 0.73 A)	2 1 1 2 3 1 1 1 2 3 4 5 6 7 8 9 (6.0 2.27 D)	3 1 2 3 2 1 2 3 4 5 6 7 8 9 (3.0 1.73 I)	2 3 1 4 1 1 2 3 4 5 6 7 8 9 (6.0 1.36 I)	5 1 1 3 1 1 2 3 4 5 6 7 8 9 (2.0 1.73 I)	(64-72)
c) Severe pain	1 2 2 3 3 1 2 3 4 5 6 7 8 9 (8.0 1.55 I)	4 1 1 2 2 1 1 2 3 4 5 6 7 8 9 (5.0 2.64 D)	6 1 1 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 2.36 D)	8 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.82 A)	2 9 1 2 3 4 5 6 7 8 9 (9.0 0.18 A)	2 1 1 2 1 2 2 1 2 3 4 5 6 7 8 9 (6.0 2.55 D)	3 1 2 3 2 1 2 3 4 5 6 7 8 9 (5.0 1.91 I)	1 2 1 2 4 1 1 2 3 4 5 6 7 8 9 (7.0 1.27 I)	3 1 3 3 1 1 2 3 4 5 6 7 8 9 (5.0 2.00 D)	(73-81)

Appropriateness scale: 1 = extremely inappropriate, 5 = uncertain, 9 = extremely appropriate.

Chapter 3 Appropriateness of the following treatments for patients in the ACUTE PHASE (symptoms < 6 weeks), presenting with the following situation:	Active physical therapy	Chiropractic or manual medicine	Passive physical therapy	Injections	Analgesics / NSAID	Psycho-social treatment	Acupuncture / homeopathy	Psychoactive drugs	Muscle relaxants	
B. With poor prognosis										
1. No cognitive and vegetative dysfunction										
a) No pain	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.18 A)	5 1 1 1 2 1 1 2 3 4 5 6 7 8 9 (2.0 2.64 D)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.45 A)	7 1 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.55 I)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	(82-90)
b) Light/moderate pain	1 1 1 6 2 1 2 3 4 5 6 7 8 9 (7.0 1.36 I)	4 2 2 1 1 1 1 2 3 4 5 6 7 8 9 (2.0 1.82 I)	8 1 2 1 2 3 4 5 6 7 8 9 (1.0 1.27 A)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	1 1 7 2 1 2 3 4 5 6 7 8 9 (7.0 0.64 A)	2 1 1 2 4 1 1 2 3 4 5 6 7 8 9 (6.0 1.91 D)	5 2 2 1 1 1 2 3 4 5 6 7 8 9 (3.0 1.91 I)	3 3 2 2 1 1 2 3 4 5 6 7 8 9 (3.0 2.18 D)	3 2 1 4 1 1 2 3 4 5 6 7 8 9 (4.0 1.73 I)	(91-99)
c) Severe pain	1 1 1 3 2 3 1 2 3 4 5 6 7 8 9 (7.0 1.64 I)	4 1 1 1 1 2 1 1 2 3 4 5 6 7 8 9 (3.0 2.36 D)	7 1 1 2 1 2 3 4 5 6 7 8 9 (1.0 2.36 D)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	3 8 1 2 3 4 5 6 7 8 9 (9.0 0.27 A)	2 2 3 4 1 2 3 4 5 6 7 8 9 (8.0 2.18 I)	4 4 2 1 1 2 3 4 5 6 7 8 9 (5.0 1.82 I)	2 1 2 3 1 2 1 2 3 4 5 6 7 8 9 (7.0 2.27 D)	2 1 1 2 1 4 1 2 3 4 5 6 7 8 9 (5.0 1.91 D)	(100-108)
2. Light/moderate cognitive and vegetative dysfunction										
a) No pain	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	8 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.82 A)	3 1 2 2 2 1 1 2 3 4 5 6 7 8 9 (5.0 2.64 D)	7 1 2 1 1 2 3 4 5 6 7 8 9 (1.0 1.27 I)	6 1 2 2 1 2 3 4 5 6 7 8 9 (1.0 2.27 I)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.45 A)	(109-117)
b) Light/moderate pain	1 1 2 5 2 1 2 3 4 5 6 7 8 9 (7.0 1.45 I)	4 2 2 1 2 1 2 3 4 5 6 7 8 9 (2.0 2.00 I)	7 2 2 1 2 3 4 5 6 7 8 9 (1.0 1.45 A)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	1 8 2 1 2 3 4 5 6 7 8 9 (7.0 0.55 A)	2 1 1 3 2 2 1 2 3 4 5 6 7 8 9 (7.0 2.18 D)	3 1 2 3 1 1 1 2 3 4 5 6 7 8 9 (3.0 1.82 I)	2 1 1 2 4 1 1 2 3 4 5 6 7 8 9 (5.0 2.09 D)	3 1 1 1 3 1 1 1 2 3 4 5 6 7 8 9 (4.0 1.82 I)	(118-126)
c) Severe pain	1 2 2 3 3 1 2 3 4 5 6 7 8 9 (8.0 1.55 I)	4 1 1 2 1 2 1 2 3 4 5 6 7 8 9 (5.0 2.64 D)	6 1 1 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 2.45 I)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.73 A)	4 7 1 2 3 4 5 6 7 8 9 (9.0 0.36 A)	1 1 3 3 3 1 2 3 4 5 6 7 8 9 (8.0 1.45 A)	3 1 3 2 2 1 2 3 4 5 6 7 8 9 (5.0 1.82 I)	1 1 1 1 4 1 2 1 2 3 4 5 6 7 8 9 (7.0 1.64 I)	2 1 1 2 5 1 2 3 4 5 6 7 8 9 (5.0 2.00 D)	(127-135)
3. Severe cognitive and vegetative dysfunction										
a) No pain	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	9 2 1 2 3 4 5 6 7 8 9 (1.0 0.73 A)	3 1 2 2 3 1 2 3 4 5 6 7 8 9 (7.0 2.73 D)	8 1 2 1 2 3 4 5 6 7 8 9 (1.0 0.82 A)	5 2 1 1 2 1 2 3 4 5 6 7 8 9 (5.0 2.64 D)	8 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.09 A)	(136-144)
b) Light/moderate pain	1 1 1 2 3 2 1 1 2 3 4 5 6 7 8 9 (7.0 2.00 I)	5 2 1 1 2 1 2 3 4 5 6 7 8 9 (2.0 2.09 I)	7 2 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.55 A)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	1 6 2 2 1 2 3 4 5 6 7 8 9 (7.0 0.73 A)	2 2 3 4 1 2 3 4 5 6 7 8 9 (8.0 2.18 I)	3 3 3 1 1 1 2 3 4 5 6 7 8 9 (3.0 1.73 I)	1 2 1 3 1 3 1 2 3 4 5 6 7 8 9 (7.0 1.45 I)	3 2 1 3 1 1 1 2 3 4 5 6 7 8 9 (4.0 1.91 I)	(145-153)
c) Severe pain	1 1 4 5 1 2 3 4 5 6 7 8 9 (8.0 1.27 A)	4 1 1 1 2 2 1 2 3 4 5 6 7 8 9 (5.0 2.91 D)	6 2 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 2.55 I)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.82 A)	2 9 1 2 3 4 5 6 7 8 9 (9.0 0.18 A)	1 1 1 2 6 1 2 3 4 5 6 7 8 9 (9.0 1.36 A)	3 3 1 4 1 2 3 4 5 6 7 8 9 (5.0 1.91 D)	1 1 2 4 3 1 2 3 4 5 6 7 8 9 (8.0 1.09 A)	2 2 2 3 2 1 2 3 4 5 6 7 8 9 (5.0 2.00 I)	(154-162)

Appropriateness scale: 1 = extremely inappropriate, 5 = uncertain, 9 = extremely appropriate.

Chapter 4 Appropriateness of the following treatments for patients in the INTERMEDIATE PHASE (symptoms 6 weeks or more and <6 months), presenting with the following situation:	Active physical therapy	Chiropractic or manual medicine	Passive physical therapy	Injections	Analgesics / NSAID	Psycho-social treatment	Acupuncture / homeopathy	Psychoactive drugs	Muscle relaxants	Multidisciplinary pain referral	
A. With good prognosis											
1. No cognitive and vegetative dysfunction											
a) No pain	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	101 1 2 3 4 5 6 7 8 9 (1.0 0.09 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	9 2 1 2 3 4 5 6 7 8 9 (1.0 0.18 A)	3 1 1 2 2 2 1 2 3 4 5 6 7 8 9 (5.0 2.55 D)	9 2 1 2 3 4 5 6 7 8 9 (1.0 0.18 A)	7 1 1 2 1 2 3 4 5 6 7 8 9 (1.0 1.64 I)	101 1 2 3 4 5 6 7 8 9 (1.0 0.09 A)	7 1 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 2.00 I)	(1-10)
b) Light/moderate pain	1 2 3 1 4 1 2 3 4 5 6 7 8 9 (7.0 1.36 I)	1 1 3 2 4 1 2 3 4 5 6 7 8 9 (6.0 1.09 I)	1 2 1 2 2 3 1 2 3 4 5 6 7 8 9 (5.0 1.55 D)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 1.45 I)	1 5 4 1 1 2 3 4 5 6 7 8 9 (6.0 0.73 I)	3 1 1 3 3 1 2 3 4 5 6 7 8 9 (8.0 1.36 I)	4 5 1 1 1 2 3 4 5 6 7 8 9 (5.0 1.73 I)	1 1 2 7 1 2 3 4 5 6 7 8 9 (7.0 0.64 I)	4 1 2 2 1 1 1 2 3 4 5 6 7 8 9 (4.0 1.82 I)	1 2 1 2 1 3 1 1 2 3 4 5 6 7 8 9 (5.0 2.09 D)	(11-20)
c) Severe pain	1 3 4 1 2 3 4 5 6 7 8 9 (8.0 1.09 A)	1 3 1 5 1 1 2 3 4 5 6 7 8 9 (7.0 1.09 I)	1 1 3 6 1 2 3 4 5 6 7 8 9 (7.0 0.73 I)	5 1 1 1 2 1 1 2 3 4 5 6 7 8 9 (3.0 2.64 D)	1 1 3 6 1 2 3 4 5 6 7 8 9 (9.0 0.73 A)	1 2 3 5 1 2 3 4 5 6 7 8 9 (8.0 0.91 A)	3 5 2 1 1 2 3 4 5 6 7 8 9 (5.0 1.45 I)	1 4 3 3 1 2 3 4 5 6 7 8 9 (8.0 0.82 A)	3 1 1 3 1 1 1 1 2 3 4 5 6 7 8 9 (6.0 2.18 D)	1 1 2 2 1 4 1 2 3 4 5 6 7 8 9 (7.0 1.64 I)	(21-30)
2. Light/moderate cognitive and vegetative dysfunction											
a) No pain	7 2 2 1 2 3 4 5 6 7 8 9 (1.0 0.91 A)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	101 1 2 3 4 5 6 7 8 9 (1.0 0.09 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	9 2 1 2 3 4 5 6 7 8 9 (1.0 0.18 A)	2 1 1 1 3 3 1 2 3 4 5 6 7 8 9 (7.0 2.45 D)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.45 A)	4 1 2 2 2 1 2 3 4 5 6 7 8 9 (5.0 2.09 I)	101 1 2 3 4 5 6 7 8 9 (1.0 0.09 A)	2 1 2 2 1 3 1 2 3 4 5 6 7 8 9 (5.0 2.64 D)	(31-40)
b) Light/moderate pain	1 1 3 2 4 1 2 3 4 5 6 7 8 9 (8.0 1.27 A)	1 1 3 1 4 1 1 2 3 4 5 6 7 8 9 (6.0 1.27 I)	1 2 1 1 3 3 1 2 3 4 5 6 7 8 9 (6.0 1.55 D)	7 1 2 1 1 2 3 4 5 6 7 8 9 (1.0 1.82 I)	1 2 7 1 1 2 3 4 5 6 7 8 9 (7.0 0.55 I)	2 1 1 3 4 1 2 3 4 5 6 7 8 9 (8.0 1.18 I)	3 1 5 1 1 1 2 3 4 5 6 7 8 9 (5.0 1.64 I)	1 3 6 1 1 2 3 4 5 6 7 8 9 (7.0 0.55 I)	3 2 2 1 1 2 1 2 3 4 5 6 7 8 9 (4.0 1.82 I)	1 3 4 3 1 2 3 4 5 6 7 8 9 (7.0 1.18 I)	(41-50)
c) Severe pain	1 1 4 5 1 2 3 4 5 6 7 8 9 (8.0 1.00 A)	1 3 1 2 3 1 1 2 3 4 5 6 7 8 9 (7.0 1.45 I)	1 1 1 6 2 1 2 3 4 5 6 7 8 9 (7.0 0.73 I)	4 1 1 1 1 2 1 1 2 3 4 5 6 7 8 9 (3.0 2.55 D)	1 4 6 1 2 3 4 5 6 7 8 9 (9.0 0.64 A)	1 1 3 6 1 2 3 4 5 6 7 8 9 (9.0 0.82 A)	3 5 2 1 1 2 3 4 5 6 7 8 9 (5.0 1.45 I)	1 1 6 3 1 2 3 4 5 6 7 8 9 (8.0 0.55 A)	2 1 1 1 2 2 1 1 1 2 3 4 5 6 7 8 9 (6.0 2.09 D)	1 2 3 5 1 2 3 4 5 6 7 8 9 (8.0 1.00 A)	(51-60)
3. Severe cognitive and vegetative dysfunction											
a) No pain	7 2 2 1 2 3 4 5 6 7 8 9 (1.0 0.91 A)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	101 1 2 3 4 5 6 7 8 9 (1.0 0.09 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	9 2 1 2 3 4 5 6 7 8 9 (1.0 0.18 A)	1 1 1 3 4 1 2 3 4 5 6 7 8 9 (8.0 1.73 I)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	3 1 1 3 2 1 1 2 3 4 5 6 7 8 9 (6.0 2.00 D)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.64 A)	2 3 1 2 3 1 2 3 4 5 6 7 8 9 (6.0 2.18 I)	(61-70)
b) Light/moderate pain	1 1 3 2 4 1 2 3 4 5 6 7 8 9 (8.0 1.27 A)	1 1 3 1 4 1 1 2 3 4 5 6 7 8 9 (6.0 1.27 I)	1 2 1 1 2 4 1 2 3 4 5 6 7 8 9 (6.0 1.64 D)	7 1 2 1 1 2 3 4 5 6 7 8 9 (1.0 1.82 I)	1 3 6 1 1 2 3 4 5 6 7 8 9 (7.0 0.64 I)	1 2 2 6 1 2 3 4 5 6 7 8 9 (9.0 0.82 A)	3 1 4 2 1 1 2 3 4 5 6 7 8 9 (5.0 1.73 I)	1 1 6 3 1 2 3 4 5 6 7 8 9 (7.0 0.55 A)	3 2 2 1 1 2 1 2 3 4 5 6 7 8 9 (4.0 1.82 I)	1 7 3 1 2 3 4 5 6 7 8 9 (7.0 0.64 A)	(71-80)
c) Severe pain	1 1 4 5 1 2 3 4 5 6 7 8 9 (8.0 1.00 A)	1 3 1 2 3 1 1 2 3 4 5 6 7 8 9 (7.0 1.45 I)	1 1 1 5 3 1 2 3 4 5 6 7 8 9 (7.0 0.82 I)	4 2 1 1 2 1 1 2 3 4 5 6 7 8 9 (3.0 2.45 D)	1 3 7 1 2 3 4 5 6 7 8 9 (9.0 0.55 A)	4 7 1 2 3 4 5 6 7 8 9 (9.0 0.36 A)	3 4 1 2 1 1 2 3 4 5 6 7 8 9 (5.0 1.82 D)	2 4 5 1 2 3 4 5 6 7 8 9 (8.0 0.64 A)	2 1 1 1 2 1 2 1 1 2 3 4 5 6 7 8 9 (6.0 2.18 D)	1 5 5 1 2 3 4 5 6 7 8 9 (8.0 0.55 A)	(81-90)

Appropriateness scale: 1 = extremely inappropriate, 5 = uncertain, 9 = extremely appropriate.

Chapter 4 Appropriateness of the following treatments for patients in the INTERMEDIATE PHASE (symptoms 6 weeks or more and <6 months), presenting with the following situation:	Active physical therapy	Chiropractic or manual medicine	Passive physical therapy	Injections	Analgesics / NSAID	Psycho-social treatment	Acupuncture / homeopathy	Psychoactive drugs	Muscle relaxants	Multidisciplinary pain referral	
B. With poor prognosis											
1. No cognitive and vegetative dysfunction											
a) No pain	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.64 A)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.64 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	3 1 3 2 2 1 2 3 4 5 6 7 8 9 (5.0 2.36 D)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.45 A)	6 1 2 1 1 1 2 3 4 5 6 7 8 9 (1.0 2.18 I)	8 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.91 A)	6 1 1 3 1 2 3 4 5 6 7 8 9 (1.0 3.00 D)	(91-100)
b) Light/moderate pain	1 1 4 1 4 1 2 3 4 5 6 7 8 9 (7.0 1.27 A)	1 3 1 1 5 1 2 3 4 5 6 7 8 9 (6.0 1.36 I)	1 2 1 2 2 3 1 2 3 4 5 6 7 8 9 (5.0 1.55 D)	7 1 2 1 1 2 3 4 5 6 7 8 9 (1.0 1.82 I)	1 4 5 1 1 2 3 4 5 6 7 8 9 (7.0 0.73 I)	1 1 2 4 3 1 2 3 4 5 6 7 8 9 (8.0 0.91 A)	4 5 1 1 1 2 3 4 5 6 7 8 9 (5.0 1.73 I)	1 3 6 1 1 2 3 4 5 6 7 8 9 (7.0 0.64 I)	4 1 2 2 2 1 2 3 4 5 6 7 8 9 (4.0 1.91 I)	1 2 1 1 2 1 3 1 2 3 4 5 6 7 8 9 (7.0 2.64 D)	(101-110)
c) Severe pain	1 3 2 5 1 2 3 4 5 6 7 8 9 (8.0 1.09 A)	1 3 1 4 1 1 1 2 3 4 5 6 7 8 9 (7.0 1.18 I)	2 1 2 5 1 1 2 3 4 5 6 7 8 9 (7.0 1.00 I)	5 1 2 2 1 1 2 3 4 5 6 7 8 9 (3.0 2.55 D)	1 4 6 1 2 3 4 5 6 7 8 9 (9.0 0.64 A)	1 1 2 7 1 2 3 4 5 6 7 8 9 (9.0 0.73 A)	3 5 2 1 1 2 3 4 5 6 7 8 9 (5.0 1.45 I)	3 3 5 1 2 3 4 5 6 7 8 9 (8.0 0.73 A)	3 1 1 2 2 1 1 1 2 3 4 5 6 7 8 9 (6.0 2.27 D)	1 1 1 2 1 5 1 2 3 4 5 6 7 8 9 (8.0 1.73 I)	(111-120)
2. Light/moderate cognitive and vegetative dysfunction											
a) No pain	7 2 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.00 A)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.64 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	2 1 1 3 1 3 1 2 3 4 5 6 7 8 9 (7.0 2.18 I)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.45 A)	3 1 2 3 1 1 1 2 3 4 5 6 7 8 9 (5.0 2.09 I)	8 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.00 A)	2 1 3 1 1 3 1 2 3 4 5 6 7 8 9 (3.0 2.73 D)	(121-130)
b) Light/moderate pain	1 1 3 2 4 1 2 3 4 5 6 7 8 9 (8.0 1.18 A)	1 3 1 1 4 1 1 2 3 4 5 6 7 8 9 (6.0 1.45 I)	1 2 2 3 3 1 2 3 4 5 6 7 8 9 (6.0 1.45 D)	7 1 2 1 1 2 3 4 5 6 7 8 9 (1.0 1.82 I)	1 3 6 1 1 2 3 4 5 6 7 8 9 (7.0 0.64 I)	1 6 4 1 2 3 4 5 6 7 8 9 (8.0 0.55 A)	3 1 5 1 1 1 2 3 4 5 6 7 8 9 (5.0 1.64 I)	1 3 4 2 1 1 2 3 4 5 6 7 8 9 (7.0 0.82 I)	3 2 2 1 1 1 1 1 2 3 4 5 6 7 8 9 (4.0 1.91 I)	1 1 2 2 2 3 1 2 3 4 5 6 7 8 9 (7.0 1.55 I)	(131-140)
c) Severe pain	1 1 4 5 1 2 3 4 5 6 7 8 9 (8.0 0.91 A)	1 3 1 2 3 1 1 2 3 4 5 6 7 8 9 (7.0 1.36 I)	1 2 1 6 1 1 2 3 4 5 6 7 8 9 (7.0 0.82 I)	5 1 2 2 1 1 2 3 4 5 6 7 8 9 (3.0 2.55 D)	1 4 6 1 2 3 4 5 6 7 8 9 (9.0 0.64 A)	4 7 1 2 3 4 5 6 7 8 9 (9.0 0.36 A)	3 5 2 1 1 2 3 4 5 6 7 8 9 (5.0 1.45 I)	1 1 2 7 1 2 3 4 5 6 7 8 9 (9.0 0.64 A)	2 1 1 1 1 2 2 1 2 3 4 5 6 7 8 9 (6.0 2.40 D)	2 1 2 6 1 2 3 4 5 6 7 8 9 (9.0 1.09 A)	(141-150)
3. Severe cognitive and vegetative dysfunction											
a) No pain	8 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.00 A)	9 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.64 A)	101 1 2 3 4 5 6 7 8 9 (1.0 0.09 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	1 1 2 1 3 3 1 2 3 4 5 6 7 8 9 (8.0 1.91 I)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	2 1 2 2 1 2 1 1 2 3 4 5 6 7 8 9 (6.0 2.00 I)	8 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.00 A)	1 1 3 2 1 3 1 2 3 4 5 6 7 8 9 (7.0 1.64 I)	(151-160)
b) Light/moderate pain	1 1 2 3 4 1 2 3 4 5 6 7 8 9 (8.0 1.09 A)	1 3 1 1 3 2 1 2 3 4 5 6 7 8 9 (6.0 1.55 I)	1 2 1 3 3 1 1 2 3 4 5 6 7 8 9 (6.0 1.55 D)	7 1 2 1 1 2 3 4 5 6 7 8 9 (1.0 1.82 I)	1 3 3 3 1 1 2 3 4 5 6 7 8 9 (7.0 0.91 I)	1 4 6 1 2 3 4 5 6 7 8 9 (9.0 0.55 A)	3 4 1 3 1 2 3 4 5 6 7 8 9 (5.0 1.73 D)	1 5 2 3 1 2 3 4 5 6 7 8 9 (7.0 0.91 A)	3 1 1 2 1 1 1 1 1 2 3 4 5 6 7 8 9 (4.0 2.09 I)	1 3 3 4 1 2 3 4 5 6 7 8 9 (8.0 0.82 A)	(161-170)
c) Severe pain	1 1 2 7 1 2 3 4 5 6 7 8 9 (9.0 0.82 A)	1 3 1 2 1 3 1 2 3 4 5 6 7 8 9 (7.0 1.55 I)	1 1 2 5 2 1 2 3 4 5 6 7 8 9 (7.0 0.82 I)	4 2 2 2 1 1 2 3 4 5 6 7 8 9 (3.0 2.36 D)	1 3 7 1 2 3 4 5 6 7 8 9 (9.0 0.55 A)	2 9 1 2 3 4 5 6 7 8 9 (9.0 0.18 A)	3 4 1 1 2 1 2 3 4 5 6 7 8 9 (5.0 1.91 D)	1 2 8 1 2 3 4 5 6 7 8 9 (9.0 0.36 A)	2 1 1 1 2 1 1 2 1 2 3 4 5 6 7 8 9 (6.0 2.27 D)	1 3 7 1 2 3 4 5 6 7 8 9 (9.0 0.45 A)	(171-180)

Appropriateness scale: 1 = extremely inappropriate, 5 = uncertain, 9 = extremely appropriate.

Chapter 5 Appropriateness of the following treatments for patients in the CHRONIC PHASE (symptoms 6 months and more), presenting with the following situation:	Active physical therapy	Chiropractic or manual medicine	Passive physical therapy	Injections	Analgesics / NSAID	Psycho-social treatment	Acupuncture / homeopathy	Psychoactive drugs	Muscle relaxants	Multidisciplinary pain referral	
A. No cognitive and vegetative dysfunction											
1. No pain	8 1 2 1 2 3 4 5 6 7 8 9 (1.0 0.82 A)	8 1 2 1 2 3 4 5 6 7 8 9 (1.0 0.82 A)	8 1 2 1 2 3 4 5 6 7 8 9 (1.0 0.82 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	8 2 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	3 2 1 1 4 1 2 3 4 5 6 7 8 9 (7.0 2.82 D)	8 1 2 1 2 3 4 5 6 7 8 9 (1.0 0.82 A)	5 1 2 2 1 1 2 3 4 5 6 7 8 9 (2.0 2.55 D)	7 2 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.82 A)	5 1 1 1 1 2 1 2 3 4 5 6 7 8 9 (2.0 2.64 D)	(1-10)
2. Light/moderate pain	1 5 2 2 1 1 2 3 4 5 6 7 8 9 (5.0 1.55 I)	1 2 1 4 2 1 1 2 3 4 5 6 7 8 9 (5.0 1.36 I)	4 3 2 1 1 1 2 3 4 5 6 7 8 9 (3.0 1.73 I)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	2 1 1 3 3 1 1 2 3 4 5 6 7 8 9 (6.0 1.64 D)	2 5 4 1 2 3 4 5 6 7 8 9 (8.0 0.73 A)	2 1 5 2 1 1 2 3 4 5 6 7 8 9 (5.0 1.18 I)	1 3 2 3 1 1 1 2 3 4 5 6 7 8 9 (6.0 1.18 I)	4 1 3 3 1 2 3 4 5 6 7 8 9 (4.0 1.55 I)	1 1 2 2 1 1 3 1 2 3 4 5 6 7 8 9 (6.0 1.91 I)	(11-20)
3. Severe pain	1 2 1 2 3 2 1 2 3 4 5 6 7 8 9 (7.0 1.36 I)	1 1 3 2 3 1 1 2 3 4 5 6 7 8 9 (6.0 1.36 I)	2 1 1 3 2 1 1 1 2 3 4 5 6 7 8 9 (5.0 1.64 I)	8 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.64 I)	1 1 1 2 4 2 1 2 3 4 5 6 7 8 9 (8.0 1.73 I)	1 3 7 1 2 3 4 5 6 7 8 9 (9.0 0.45 A)	1 6 2 2 1 2 3 4 5 6 7 8 9 (5.0 0.91 I)	1 1 1 4 4 1 2 3 4 5 6 7 8 9 (8.0 0.91 A)	4 1 1 3 2 1 2 3 4 5 6 7 8 9 (4.0 1.91 I)	1 4 1 5 1 2 3 4 5 6 7 8 9 (8.0 1.00 A)	(21-30)
B. Light/moderate cognitive and vegetative dysfunction											
1. No pain	7 2 2 1 2 3 4 5 6 7 8 9 (1.0 0.91 A)	7 2 2 1 2 3 4 5 6 7 8 9 (1.0 0.91 A)	7 2 2 1 2 3 4 5 6 7 8 9 (1.0 0.91 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	7 2 2 1 2 3 4 5 6 7 8 9 (1.0 0.91 A)	2 1 2 2 4 1 2 3 4 5 6 7 8 9 (8.0 1.27 I)	6 1 3 1 1 2 3 4 5 6 7 8 9 (1.0 1.64 I)	2 1 1 2 2 2 1 1 2 3 4 5 6 7 8 9 (5.0 2.27 D)	7 1 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 0.91 A)	1 1 1 1 2 2 1 2 1 2 3 4 5 6 7 8 9 (5.0 2.27 D)	(31-40)
2. Light/moderate pain	1 4 2 3 1 1 2 3 4 5 6 7 8 9 (7.0 1.64 I)	1 2 1 3 2 1 1 1 2 3 4 5 6 7 8 9 (5.0 1.64 I)	4 1 1 3 1 1 1 2 3 4 5 6 7 8 9 (4.0 2.00 I)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.36 A)	2 1 1 3 3 1 1 2 3 4 5 6 7 8 9 (6.0 1.64 D)	1 1 5 4 1 2 3 4 5 6 7 8 9 (8.0 0.64 A)	2 1 5 2 1 1 2 3 4 5 6 7 8 9 (5.0 1.18 I)	1 2 2 2 3 1 1 2 3 4 5 6 7 8 9 (7.0 1.36 I)	4 2 3 1 1 1 2 3 4 5 6 7 8 9 (3.0 1.45 I)	1 3 2 1 4 1 2 3 4 5 6 7 8 9 (7.0 1.27 I)	(41-50)
3. Severe pain	1 3 1 3 3 1 2 3 4 5 6 7 8 9 (8.0 1.64 I)	1 1 4 2 1 1 1 1 2 3 4 5 6 7 8 9 (5.0 1.45 I)	2 1 4 2 1 1 1 2 3 4 5 6 7 8 9 (5.0 1.64 I)	8 1 2 1 2 3 4 5 6 7 8 9 (1.0 1.73 I)	1 1 1 2 3 3 1 2 3 4 5 6 7 8 9 (8.0 1.82 I)	1 3 7 1 2 3 4 5 6 7 8 9 (9.0 0.45 A)	1 5 3 2 1 2 3 4 5 6 7 8 9 (5.0 1.00 I)	1 1 4 5 1 2 3 4 5 6 7 8 9 (8.0 0.82 A)	4 1 1 3 1 1 1 2 3 4 5 6 7 8 9 (4.0 1.91 I)	1 4 6 1 2 3 4 5 6 7 8 9 (9.0 0.55 A)	(51-60)
C. Severe cognitive and vegetative dysfunction											
1. No pain	7 2 2 1 2 3 4 5 6 7 8 9 (1.0 0.91 A)	7 2 2 1 2 3 4 5 6 7 8 9 (1.0 0.91 A)	7 2 2 1 2 3 4 5 6 7 8 9 (1.0 0.91 A)	11 1 2 3 4 5 6 7 8 9 (1.0 0.00 A)	7 2 2 1 2 3 4 5 6 7 8 9 (1.0 0.91 A)	1 2 3 5 1 2 3 4 5 6 7 8 9 (8.0 0.91 A)	5 1 3 1 1 1 2 3 4 5 6 7 8 9 (2.0 2.09 I)	1 1 4 1 2 2 1 2 3 4 5 6 7 8 9 (5.0 2.09 I)	6 2 1 2 1 2 3 4 5 6 7 8 9 (1.0 1.18 I)	1 1 1 1 1 5 1 2 3 4 5 6 7 8 9 (8.0 2.00 I)	(61-70)
2. Light/moderate pain	1 3 1 1 4 1 1 2 3 4 5 6 7 8 9 (7.0 1.64 I)	1 1 1 3 2 1 2 1 2 3 4 5 6 7 8 9 (5.0 1.64 I)	3 1 1 2 2 1 1 2 3 4 5 6 7 8 9 (5.0 2.00 I)	10 1 1 2 3 4 5 6 7 8 9 (1.0 0.55 A)	2 1 1 3 2 1 1 1 2 3 4 5 6 7 8 9 (6.0 1.73 D)	1 3 7 1 2 3 4 5 6 7 8 9 (9.0 0.55 A)	2 1 5 2 1 1 2 3 4 5 6 7 8 9 (5.0 1.18 I)	2 2 2 3 2 1 2 3 4 5 6 7 8 9 (7.0 1.18 I)	4 1 2 3 1 1 2 3 4 5 6 7 8 9 (4.0 1.64 I)	1 2 3 5 1 2 3 4 5 6 7 8 9 (8.0 0.82 A)	(71-80)
3. Severe pain	1 2 2 1 5 1 2 3 4 5 6 7 8 9 (8.0 1.73 I)	1 1 4 2 1 2 1 2 3 4 5 6 7 8 9 (5.0 1.55 I)	2 1 4 2 1 1 1 2 3 4 5 6 7 8 9 (5.0 1.73 I)	8 1 1 1 1 2 3 4 5 6 7 8 9 (1.0 1.82 I)	1 1 1 2 1 5 1 2 3 4 5 6 7 8 9 (8.0 2.00 I)	2 9 1 2 3 4 5 6 7 8 9 (9.0 0.18 A)	1 5 2 3 1 2 3 4 5 6 7 8 9 (5.0 1.09 I)	1 3 7 1 2 3 4 5 6 7 8 9 (9.0 0.64 A)	4 1 2 2 1 1 1 2 3 4 5 6 7 8 9 (5.0 2.18 I)	1 10 1 2 3 4 5 6 7 8 9 (9.0 0.09 A)	(81-90)

Appropriateness scale: 1 = extremely inappropriate, 5 = uncertain, 9 = extremely appropriate.

Appendix 6

SUMMARY STATISTICS
WHIPLASH PANEL 2001-R2
Categories of appropriateness for various treatment and by different patient characteristics

TYPTTT Type of treatment by APPRLEV Level of appropriateness

TYPTTT	APPRLEV Inappr.	???	Appr.	Row Total
.00 As usual			9 / 100.0	9 / 2.0
1.00 Immob.	7 / 77.8	1 / 11.1	1 / 11.1	9 / 2.0
2.00 Active phys.	15 / 33.3	1 / 2.2	29 / 64.4	45 / 10.0
3.00 Chiro-praxis	20 / 44.4	19 / 42.2	6 / 13.3	45 / 10.0
4.00 Pass. phys.	24 / 53.3	15 / 33.3	6 / 13.3	45 / 10.0
5.00 Injection	39 / 86.7	6 / 13.3		45 / 10.0
6.00 Analgesics	15 / 33.3	4 / 8.9	26 / 57.8	45 / 10.0
7.00 Psychosoc tt	3 / 6.7	15 / 33.3	27 / 60.0	45 / 10.0
8.00 Altern med.	21 / 46.7	24 / 53.3		45 / 10.0
9.00 Psych.drugs	7 / 15.6	17 / 37.8	21 / 46.7	45 / 10.0
10.00 Muscl.relax.	19 / 42.2	26 / 57.8		45 / 10.0
11.00 Pain referr	1 / 3.7	9 / 33.3	17 / 63.0	27 / 6.0
Column Total	171 / 38.0	137 / 30.4	142 / 31.6	450 / 100.0

PAIN Physical pain by APPRLEV Level of appropriateness

PAIN	APPRLEV Inappr. 0	??? 1	Appr. 2	Row Total
1.00 No	117 / 78.0	23 / 15.3	10 / 6.7	150 / 33.3
2.00 Moderate	41 / 27.3	56 / 37.3	53 / 35.3	150 / 33.3
3.00 Severe	13 / 8.7	58 / 38.7	79 / 52.7	150 / 33.3
Column Total	171 / 38.0	137 / 30.4	142 / 31.6	450 / 100.0

PHASE Symptom duration by APPRLEV Level of appropriateness

PHASE	Count / Row Pct	Inappr. 0	??? 1	Appr. 2	Row Total
1.00		85	47	36	168
0-5w		50.6	28.0	21.4	37.3
2.00		54	56	76	186
6w-5m		29.0	30.1	40.9	41.3
3.00		32	34	30	96
6m+		33.3	35.4	31.3	21.3
Column Total		171	137	142	450
		38.0	30.4	31.6	100.0

PROGN Prognosis by APPRLEV Level of appropriateness

PROGN	Count / Row Pct	Inappr. 0	??? 1	Appr. 2	Row Total
1.00		70	53	48	171
Good		40.9	31.0	28.1	50.0
2.00		65	49	57	171
Poor		38.0	28.7	33.3	50.0
Column Total		135	102	105	342
		39.5	29.8	30.7	100.0

COGN Cognitive dysfunction by APPRLEV Level of appropriateness

COGN	Count / Row Pct	Inappr. 0	??? 1	Appr. 2	Row Total
1.00		59	49	36	144
No		41.0	34.0	25.0	33.3
2.00		55	44	45	144
Moderate		38.2	30.6	31.3	33.3
3.00		50	43	51	144
Severe		34.7	29.9	35.4	33.3
Column Total		164	136	132	432
		38.0	31.5	30.6	100.0

Appendix 7

SUMMARY STATISTICS
WHIPLASH PANEL 2001-R2
Mean and standard deviation of various treatment and patient categories

Mean and standard deviations of ratings for treatments by other variables

	As usual	Immob.	Active phys.	Chiro-praxis	Pass. phys.	Injection	Analgesics	Psycho soc tt
Symptom duration								
0-5w								
Moy	7.5	4.8	4.8	2.8	2.3	1.3	5.8	5.0
St-dev	1.3	3.7	2.7	1.3	1.0	.3	3.2	1.5
n	3	3	18	18	18	18	18	18
6w-5m								
Moy	8.4	1.6	5.7	4.6	4.2	2.5	5.5	7.4
St-dev	.5	.5	2.8	2.2	2.4	1.2	3.1	1.3
n	3	3	18	18	18	18	18	18
6m+								
Moy	8.8	1.5	5.0	4.1	3.4	1.7	4.7	8.0
St-dev	.1	.4	2.4	1.7	1.3	.8	2.2	.9
n	3	3	9	9	9	9	9	9

	Altern med.	Psych. drugs	Muscl. relax.	Pain referr	Total
Symptom duration					
0-5w					
Moy	3.0	4.6	3.1	.	3.7
St-dev	1.1	1.7	1.4	.	2.3
n	18	18	18	0	168
6w-5m					
Moy	3.3	6.4	3.5	6.4	5.0
St-dev	1.4	1.9	1.5	1.6	2.5
n	18	18	18	18	186
6m+					
Moy	4.1	6.5	2.9	7.0	4.8
St-dev	1.3	1.6	.8	1.6	2.5
n	9	9	9	9	96

	Active phys.	Chiro-praxis	Pass. phys.	Injection	Analgesics	Psycho soc tt	Altern med.	Psych. drugs
Prognosis								
Good								
Moy	5.2	3.7	3.3	1.9	5.6	5.7	3.0	5.2
St-dev	2.8	2.0	2.1	1.1	3.2	2.0	1.3	2.0
n	18	18	18	18	18	18	18	18
Poor								
Moy	5.3	3.7	3.2	2.0	5.7	6.7	3.3	5.8
St-dev	2.8	2.0	2.1	1.1	3.1	1.5	1.2	1.9
n	18	18	18	18	18	18	18	18
Cognitive dysfunction								
No								
Moy	5.1	3.6	3.2	1.8	5.3	5.8	3.1	4.9
St-dev	2.7	1.9	1.9	1.0	3.1	2.1	1.4	2.2
n	15	15	15	15	15	15	15	15
Moderate								
Moy	5.2	3.8	3.3	1.9	5.4	6.6	3.3	5.6
St-dev	2.7	2.0	1.9	1.0	3.0	1.7	1.2	1.8
n	15	15	15	15	15	15	15	15
Severe								
Moy	5.3	3.9	3.4	2.0	5.6	7.2	3.6	6.5
St-dev	2.8	2.0	2.0	1.1	3.0	1.5	1.3	1.5
n	15	15	15	15	15	15	15	15

	Muscl. relax.	Pain referr	Total
Prognosis			
Good			
Moy	3.1	6.3	4.2
St-dev	1.5	1.7	2.4
n	18	9	171
Poor			
Moy	3.5	6.6	4.5
St-dev	1.4	1.5	2.5
n	18	9	171
Cognitive dysfunction			
No			
Moy	3.1	5.5	4.1
St-dev	1.3	1.7	2.4
n	15	9	144
Moderate			
Moy	3.2	6.7	4.4
St-dev	1.4	1.4	2.4
n	15	9	144
Severe			
Moy	3.4	7.6	4.7
St-dev	1.4	1.0	2.5
n	15	9	144

	As usual	Immob.	Active phys.	Chiro-praxis	Pass. phys.	Injection	Analgesics	Psycho soc tt
Physical pain								
No								
Moy	8.8	1.1	1.5	1.4	1.2	1.0	1.5	5.3
St-dev	.1	.1	.4	.3	.4	.0	.3	1.7
n	3	3	15	15	15	15	15	15
Moderate								
Moy	8.4	2.8	6.7	4.5	3.8	1.9	6.7	6.8
St-dev	.5	1.8	.7	1.2	1.2	.7	.7	1.6
n	3	3	15	15	15	15	15	15
Severe								
Moy	7.6	4.2	7.4	5.3	4.9	2.7	8.2	7.5
St-dev	1.4	3.8	.5	1.1	1.4	1.0	.8	1.5
n	3	3	15	15	15	15	15	15

	Altern med.	Psych. drugs	Muscl. relax.	Pain referr	Total
Physical pain					
No					
Moy	1.8	3.8	1.6	5.0	2.4
St-dev	.6	1.2	.4	1.3	1.9
n	15	15	15	9	150
Moderate					
Moy	3.8	6.0	3.4	6.8	5.0
St-dev	.7	1.4	.4	1.1	2.0
n	15	15	15	9	150
Severe					
Moy	4.5	7.3	4.7	8.0	6.0
St-dev	.5	1.2	.6	.6	2.1
n	15	15	15	9	150

Appendix 8

EXPERT PANEL : WHIPLASH ASSOCIATED DISORDERS - 2001
POST-PANEL QUESTIONNAIRE

Figures in each column represent the number of panelists who gave that appreciation.
Median (or mean) values are in bold.

Item:	Not at all 1	A little 2	Some-what 3	Pretty much 4	Very much 5
Review of the Scientific Literature					
How completely did you read it?				**7**	4
How many hours did you spend reading it? **4.9**					
How informative was it?			1	**7**	3
How much did it influence your first round ratings?			5	**3**	3
First round ratings (done before the meeting)					
How easy did you find the task?	3	2	**3**	3	
How time-consuming did you find the task?			3	**7**	1
How clear were the instructions?				**7**	4
How inconsistent do you believe you were? (the effects of fatigue, memory, different times to rate, format of instrument, etc.)		4	**7**		
How many hours did it take you? **3.8**					
Panel meeting					
How knowledgeable about the subject matter were the moderators?			1	4	**5**
How well did the moderators function as group leaders?				3	**8**
How informative was the discussion?			1	3	**6**
How argumentative was the discussion?			2	**5**	4
How much were you influenced in your second ratings by the feedback from the first round ratings?		1	4	**2**	3
How much were you influenced in your second ratings by the discussion?			2	**6**	3
Overall impressions of your experience					
How satisfying did you find your participation on this panel?			1	**6**	4
How well do you believe *your own ratings* reflect the appropriateness of treatment of WAD?			1	**10**	
How well do you estimate that *your panel's ratings* will reflect the appropriateness of WAD treatment?			4	**7**	
How much do you believe that this panel process can lead to guidelines to assist physician decision-making for treatment of WAD?		1	**5**	3	2
How did your participation on this panel compare with your expectations?	much worse	worse	as expected	better	much better
			6	2	3

Appendix 9

NON-MEDICAL PANEL

Preliminary remark

It was initially foreseen to use the same format for the non-medical expert panel and to address the same questions. During initial discussions with these experts, however, it was evident that, although some of them would be quite at ease discussing the appropriateness of different treatment options, others considered that their expertise was not at all in that area and that it would be unfortunate to use their capacity in that manner. For this reason, the format of the non-medical panel was much more along the lines of a focus group approach. The non-medical experts, were provided with the same literature review as the medical experts and were asked also to comment on the preliminary results from the medical panel.

Background

Below is a summary of the panel discussion on whiplash associated disorders. The aim of the panel was to discuss whiplash associated disorders with people who are dealing with whiplash patients from a non-medical perspective. The discussion focused first on the views of the different stakeholders concerning prognostic factors and dealing with whiplash patients from a social and legal perspective. Then the focus shifted to discussion of the results of the panel of medical experts that was organised one week earlier. The list of participants in this expert panel can be found in Appendix 1.

Views on whiplash associated disorders

In the first round of the discussion, all participants stated their view on whiplash associated disorders. These views were discussed in more detail later in the day.

Dealing with whiplash patients

- People with whiplash associated disorders generally have to undergo many tests. It would be better to limit the number of tests, since it engenders a feeling of distrust, whereas instead the need is really to start coping with their problems.
- Whiplash is a heterogeneous syndrome. Both unexplainable successes and failures can be seen (examples of both situations are given). Currently, an experiment is underway in Switzerland in which social coaching is given to 20 whiplash patients. Most people with chronic whiplash associated disorders suffer from psychological problems, such as depression. In these cases, social coaching is essential to improve the health status of the patient. In the current practice of dealing with whiplash patients, this process is often started too late.
- In the treatment of whiplash patients it is essential to offer the patients an environment of trust and security. The mechanisms behind whiplash associated disorders are not adequately understood and difficult to explain. However, people treating whiplash patients have seen large number of patients with similar symptoms, so they know it is a valid syndrome. Representatives of insurance companies, however, only see limited numbers of patients, which may lead to distrust. While appropriate treatment strategies are obviously important, a climate of trust and security is also considered to be a good basis for improving health status.
- It is important that general practitioners explain to the patients what is happening to them: what is known should be told to the patient. Patients are generally happy if doctors can (based on facts) explain what happened and what their prognosis is. Sometimes, based on biomechanical information, it is possible to decide that some types of treatment (e.g., chiropractic therapy) are not appropriate.
- It is important not to reduce the patient to his/her injuries. Doctors should treat both social and medical factors. The medical treatment is not always well arranged; some doctors are not well informed about the phenomenon. Patients often do not know how to deal with the pain. Sometimes psychotherapy is needed. Insurers always ask patients what they cannot do; instead they should be asked what they can do. It is important that doctors believe the patient's view on the accident and resulting pain. It is not worth discussing whether pain is at the level of 1 or 10 (subjective anyway); instead doctors should accept the view of the patient.

- Insurance companies get 100 to 1000 whiplash cases per year, and try to figure out how to deal with those cases (even though medical treatments are not effective). Important elements in dealing with whiplash patients are to build a relationship of trust, to do as much as possible to prevent chronification, and to guide the patient through the medical system. A combination of these elements may lead to better outcomes. Currently, an experiment (Activita) is conducted to see whether non-medical treatments lead to better outcomes.
- The current (RAND) project seems to mainly focus on whiplash, while we are in fact talking about a broader complex of complaints, including anxiety, post-traumatic stress injury, mild brain injury, and social problems. It would be better to look at pain management instead of looking at management of whiplash (see "Pain Management" by Chris Main).
- After an accident, patients go through different phases. In the beginning, the main problem is pain, and then patients get afraid the pain will last forever. The next phase is one of helplessness in which depression starts to play a role. When it becomes clear that treatment fails, patients become angry and frustrated. Then fear, anger, and depression start to dominate, and finally quarrels within the family start, e.g., about how to deal with pain. This way 'the mouse becomes an elephant'. It is possible to identify what kind of people are at pain risk (presentation of Mr. H. Schmidt). German Swiss are overachievers in comparison with French Swiss; this might be one of the reasons that the prevalence of whiplash among German Swiss is higher. If you run away from the risk factors, you will get fully disabled people. The story of the Gazelle and the Leopard applies to whiplash patients; whiplash patients get frozen by the accident and we will have to defrost them.
- If you present a pain scale to people, everybody will have some pain on the scale. If you ask patients where they are on the pain scale, you have to ask for relative measurements, i.e., their current pain should be compared to their normal pain.
- The processes of dealing with whiplash patients have to be strengthened; early treatment of people, take care of pain, activate people, keep a link with the job, etc.

Dealing with whiplash patients from a legal perspective

- The legal system has a defined way of dealing with whiplash cases. Medical doctors are often not aware of what is happening in the legal system. For judges, the main problem is to determine for what period of time the patient should be compensated. For the short-term the damages will be paid, but on the longer-term problems occur (how long should people not work?). A judge is interested in information on causality; they first assess whether there is a natural cause for the complaints (which is hard to prove in whiplash) and then whether it is a sufficient cause. Criteria that play a role in the decision of a judge are: circumstances and characteristics of the accident; injuries; treatments; (physical) pain; medical errors; complications; and work incapacity. The legal regime is more strict when the problems are mainly psychological (see ATF 115 V 133, 117 V 359, 369). Thus, the legal system contains a disincentive for psychological treatment.
- In terms of dealing with whiplash patients, two systems apply:
  a) accident insurance:
  - treatment must bring noticeable improvement
  - benefits in form of payments (disability pension, daily allowance)

  b) sickness funds:
  - objective evidence of need for treatment
  - respecting general principles of appropriateness, effectiveness and cost.

  According to the accident insurance, one should not give unlimited treatment; however, according to the health insurance, patients should be treated as long as necessary.
- We should not forget that a judge **has to decide;** he cannot say that he does not know. An interdisciplinary dialogue is needed to understand each point of view; there are so many (low quality) articles on whiplash that everybody will be able to find articles that fit them. It was interesting to see the medical people fight in Bern (i.e., at the International Congress on WAD). A dialogue is needed: we should be afraid of lawyers who play doctors and doctors who play lawyers.
- It has taken doctors, insurers, lawyers and patients a long time to understand each other. It must be known that doing nothing can be a cause of pain. Unconsciously lawyers sometimes become doctors (e.g., when they are talking about a typical

whiplash syndrome, while it is not even proven in literature). An interdisciplinary approach is very important.

Prognosis of whiplash

The discussion highlighted several factors that affect the prognosis of people after a whiplash accident. Factors that positively affect the prognosis are, for example, an atmosphere of trust, early psychological coaching, early appropriate treatment, pain management, and information provided to and by the general practitioner. The participants were asked to respond to this.

- No distinction between somatic and psychological factors should be made; in whiplash these are not separable. Once a whiplash occurs, a psychotrap might occur: patients cannot allow themselves to have too much psychological treatment, because judges are more strict on 'psychological' cases. It is important not to divide the patient. However, on the medical side nobody sees the 'whole elephant'. It is important not only to deal with the patient, but also with his/her family, employer, etc.
- A dialogue between insurer, patient, and case manager is needed to develop a platform to determine which route to follow. Sometimes patients need psychotherapy; they should be able to do so and not be afraid to loose payment.
- In the past, insurance companies used the frame of the Federal Insurance Court to reduce the costs related to whiplash accidents (causality vs. non-causality model). It turned out that this model was not appropriate to reduce insurance costs, because clever lawyers were always able to find 'solutions'. Currently, the issue of causality gets much less attention. The focus is on the patient and fast rehabilitation of the patient. A trial is currently being conducted to see whether, in proceeding this way, the outcomes of patients improve, but it is not yet known what the results of the trial will be. The next step is to see what the effects on costs are.
- We should not drive a wedge between feelings and findings. Patients are sometimes sent to doctors to 'prove' that they have pain. Doctors then have to determine to what degree a patient is able to work. The judgement of the doctor partly depends on the way the patient presents him/herself. The fight between lawyers, judges, experts, patients, etc. is a win-loose game in which rationality is lost. The focus should instead be on the well being of the patient.

- It is important to realise that we are functioning within a system, i.e., the legal system, that is very complex. It is not easy to prevent legal involvement, but the patient should always be put in the centre. Currently, insurance companies bypass the legal system for some time (ignoring causality) doing the previously mentioned experiment.
- For insurance companies, it is important to put away the conflictual approach. A certain percentage of patients will be reintegrated fully or partially anyway. For those patients there will be no conflict on causality. In a few cases, the existing legal system is needed. The number of conflicts is gradually decreasing. Insurance companies will have to rely on the expertise of the rehabilitation expert.
- Risk factors are: smoking, low income, heavy work, low autonomy in work, and high speed of work. Half-joking one of the panellists mentions that people with watches that don't scratch are also at risk (if you do not accept pain, you will not recover; the worst client is the 'harmony patient').
- The most important issue is the issue of disability: when is disability valid? The panellists basically agree that this is a medical issue and hope that the medical panel will be able to answer this question. Medical doctors, however, want lawyers and judges to answer the question whether somebody can work or not.

Activita-experiment

In response to enquiries background information on the Activita experiment, which was mentioned a few times during the discussion, was provided.

- In the experiment, patients are dealt with outside the court system. Patients are given financial indemnity for 9-12 months without discussing causality. This seems to be a good idea since insurance companies know that they have to pay anyway. People voluntarily join in the program, and there are no sanctions if they leave it. One of the panellists wonders whether you do not automatically accept causality if you decide to pay the patients for nine months?
- It is easier for private insurers than for social insurers to do experiments such as this; private insurers can, for example, experiment with debt restructuring, whereas social insurers cannot. Private insurers can be more creative in the services they provide.

- One of the panellists stresses that the experiment is a good idea if you continue the experiment after 9 months in the same spirit. Another panellist mentions that he does not believe in spirits. He stresses that his patients can only participate in the experiment when it is assured that they cannot become worse off as a result of their participation (even if they do not reintegrate their work place).
- It is mentioned that this experiment is very close to the way of dealing with whiplash patients in British Colombia.

The role of case managers

- Patients that come to case managers often have problems with their basic existence. The first task of the case manager is to take away stressors. Only if these are taken away, can they really deal with the patient.
- Case managers may have their first contact with a whiplash patient anywhere between four weeks and a few years after the accident. A few years after the accident, patients are more willing and more able to make a new start. Shortly after the accident they cannot accept that they will not be able to return to their previous health status.
- The role of the case manager is to guide and coordinate all involved parties. It also needs to be explained clearly to the patient what the role of the case manager is.
- The causality between accident and claims is an artificial problem. The Swiss social insurance system is based on causality. Case management and the Aktivita experiment are aimed at finding a way to make the aspect of causality less important.

General remarks with respect to treatment and indications

The following comments were given in relation to the preliminary results of the medical panel.

- There is one important therapy missing in the indications matrix, namely craniosacral therapy, which is the "one therapy that helps my patients best". Medical doctors tend to exclude things (like craniosacral therapy) that are not in their world.

- The somatic line is often exaggerated. We know very little of the forces that affect the neck. We have to compare with equal forces in sports or other activities and figure out whether there are differences and what these differences are.
- The way the treatment is given is more important than the type of treatment given. People need an individualised approach. Therapy must be fitted to the person and the diagnosis. The medical expert is responsible to co-ordinate the treatment (that is explicitly not the function of the case manager). Medical doctors should take responsibility.
- Physicians are not well educated in pain management. There is a need to educate doctors.
- The treatment should be according to the patient and the diagnosis. And both diagnosis and treatment should be according to the accident. Medical doctors are often talking about biomechanics without really understanding it. Whiplash is not confined to rear-end collisions, so the definition should be broadened to: *pain of the head-neck complex after any type of accident.* Physicians generally do not know about what happened during the crash; they should focus on the patient and not on biomechanics.

Appropriate medical treatment according to the medical panel

The members of the non-medical panel were asked to forecast the results of the medical panel.

The panellists expected that the medical panel in the acute phase did recommend:

- Immobilisation (although this should not be done)
- Passive physical therapy, analgesics, and maybe muscle relaxants; in light cases: act as usual
- Mobilisation for young people (when done well)

The panellists expected that the medical panel in the intermediate phase did recommend:

- Active physical therapy, injections, psychosocial treatment, psycho-active drugs, and muscle relaxants

- Active physical therapy, passive physical therapy, injections, and analgesics

It was noted that there was considerably discrepancy between what the non-medical experts thought the medical experts would say and what the latter actually did say. What doctors say, however, may be different from what they do. The panellists wonder whether the results of the medical panel would have been similar with another panel compositions.

Discussion of the results of the medical panel

- There is no agreement on the effectiveness of acupuncture. More studies in this field are needed, because little is known. The panellists believe that the effect of alternative treatment may have been underestimated by the medical panel. They believe alternative treatment often works better in whiplash patients than 'regular' medicine. Craniosacral therapy helps the patient to get insight in the information stored in his body.
- The non-medical panel is generally happy with the selection of the medical panel. However, they are missing experts in the field of alternative treatment, such as craniosacral therapy, Alexander technique, and Johansson technique.
- One of the panellists wonders whether the fact that acupuncture seems to work best, says something about the causes of whiplash.
- The way people deal with whiplash patients is often intuitive. Patients also have responsibility in dealing with their own situation. The accident looks different from different perspectives - we must make sure that the patient can deal with the problem.
- Somatic and psychological problems are not separable and should be treated as a whole.
- It is important to individualise the problem, and to develop specific points of special attention for individual patients, to determine objectives together with the patient (e.g., 50% working) and see whether it is possible to reach these objectives. The role of families should also be considered in the treatment of whiplash patients.

Long-term disability as a consequence of whiplash

- There is a need for norms for disability. It is very difficult to determine to what extent a patient is disabled. Each patient has its own norms which should be used as a starting basis. In some complex cases a lot of money can be saved even if the patient is working only 20%.
- Some kind of orientation point is needed. In whiplash patients this is seriously lacking. We should be able to compare whiplash to other injuries.
- All panellists seem to agree that some kind of benchmark is needed to determine the degree of disability of whiplash patients. However, it should not be a hard indicator. Otherwise, there is a fear that it might be abused by insurance companies.
- Problematic is that overachievers keep on working while they have complaints and that their health status gradually decreases as a consequence; they work too hard while the situation does not allow it. While some people should try to work a bit more every month; other people should try to work less than they want to.
- The judge wants to know what the patient can still do (not necessarily in terms of percentages). How much can be expected of a patient? It should be possible to determine the intensity of the symptoms.

Important issues that are still outstanding

<u>Education, training and compensation of medical doctors</u>

- The education of medical doctors (e.g. general practitioners and specialists in internal medicine) on whiplash should be improved; they should receive better information on whiplash. They should handle the whole problem, and not only the medical problem. The remuneration of doctors should also be improved.
- If medical guidelines are available, how can it be checked whether those are being followed? The quality of medical files is often too insufficient to judge whether guidelines are followed. Guidelines should have a more prospective function, guiding treatment as it is applied, rather than judging it after the fact.
- General practitioners should be compensated for their leadership function in case handling; they have to organise everything outside their normal daily activity (during

the evening hours). If they would get compensated for this, they would really take charge.

Dialogue between stakeholders

- Lawyers should be educated about medicine. A dialogue between medicine (empirical thinking) and law (normative thinking) is necessary to avoid that both specialities are unconsciously manipulating each other. The discussion during this meeting shows that whiplash is a very complex issue, which might be less medical than we think it is.
- Case managers can serve as a mediator between legal experts and doctors. Not all panellists agree on this. One of the lawyers in the panel stresses that he is perfectly able to talk to medical doctors. It is not a problem of understanding, but it is just not nice to decide how much someone can work. Somebody has to do the unpleasant task.
- The main problem is dealing with the social insurance. Cooperation is needed so that the doctor judges the health situation of the patient - if the doctor does not know, he should be able to say so. Medical doctors have the impression that insurers do not want to decide what can be expected of the patients, and that they have to take that decision instead. If it is getting 'hot' the medical doctor has to decide.
- Medical doctors should talk more with 'Berufsberater' to determine what the patient can still do. One of the key problems is that doctors think that they know everything. Recommendation for the doctors would be that they have to stick to their job and that they just have to say so if there is something they do not know. Most doctors do not inspect the workplaces of their patients and are therefore incapable to make a good decision on the work incapacity of the patient. Case managers can play an important role in this. In addition to deciding on the degree of incapacity, it should also be decided whether people can still do the same job.

Other remarks

- The technical and biomechanical background of the collision circumstances can provide important indications for identifying the most appropriate diagnostic and therapeutic measures. Unfortunately, these elements are not always correctly assessed, either by the patient or the doctor involved. This can lead to a misjudgement of the collision severity and inappropriate treatment. Thus, the type of accident (e.g., mild, severe) as assessed by an engineer may lead to different emphasis of treatment modes (e.g., somatic, psychological).
- Empowerment of the patients is of critical importance: clients need to be taught that they are responsible (in empowerment the use of power is not allowed). We have to make the shift from DISability to disABILITY.
- It is important to have discussions like this more frequently, so that all stakeholders can follow the progress in the management of whiplash patients, and can critically reflect on case management. The conference in Bern was also good, but focused less on practical implementation.

Appendix 10

Appropriateness of various treatments according to illness phase

Phase →	Acute	Semi-acute	Chronic
Treatment ↓			
Cervical immobilization	• No pain → inappropriate • Moderate pain → uncertain • Severe pain → appropriate	• Inappropriate	• Inappropriate
Act as usual	• Appropriate	• Appropriate	• Appropriate
Active physical therapy	• No pain → inappropriate • Moderate/severe pain → appropriate	• No pain → inappropriate • Moderate/severe pain → appropriate •	• No pain → inappropriate • Moderate/severe pain → appropriate (except moderate pain + no cognitive and vegetative dysfunction → uncertain)
Chiropractic or manual medicine	• No/moderate pain → inappropriate (except moderate pain + severe cognitive and vegetative dysfunction → uncertain) • Severe pain → uncertain	• No pain → inappropriate • Moderate pain → uncertain • Severe pain → appropriate	• No pain → inappropriate • Moderate/severe pain → uncertain
Passive physical therapy	• No/moderate pain → inappropriate • Severe pain → uncertain (except severe pain + poor prognosis + moderate/severe cognitive and vegetative dysfunction → inappropriate)	• No pain → inappropriate • Moderate pain → uncertain • Severe pain → appropriate	• No pain → inappropriate • Moderate/severe pain → uncertain
Injections	• Inappropriate	• No/moderate pain → inappropriate • Severe pain → uncertain	• Inappropriate

Appropriateness of various treatments according to illness phase

Phase →	Acute	Semi-acute	Chronic
Treatment ↓			
Analgesics/NSAID	• No pain → inappropriate • Moderate/severe pain → appropriate	• No pain → inappropriate • Moderate/severe pain → appropriate (except moderate pain + no cognitive and vegetative dysfunction → uncertain)	• No pain → inappropriate • Moderate pain → uncertain • Severe pain → appropriate
Psychosocial treatment	• No pain → uncertain (except no pain + no/moderate cognitive and vegetative dysfunction → inappropriate) • Moderate pain → uncertain (except moderate pain + good prognosis + no cognitive and vegetative dysfunction → inappropriate; and moderate pain + poor prognosis + severe cognitive and vegetative dysfunction → appropriate) • Severe pain + good prognosis → uncertain • Severe pain + poor prognosis → appropriate	• Appropriate (except no pain + no/ moderate cognitive and vegetative dysfunction → uncertain; and no pain + good prognosis + moderate cognitive and vegetative dysfunction → uncertain)	• Appropriate (except no pain + no cognitive and vegetative dysfunction → uncertain)
Acupuncture/ homeopathy	• No/moderate pain → inappropriate • Severe pain → uncertain	• No pain → inappropriate • Moderate/severe pain → uncertain	• No pain → inappropriate • Moderate/severe pain → uncertain

Appropriateness of various treatments according to illness phase

Phase →	Acute	Semi-acute	Chronic
Treatment ↓			
Psychoactive drugs	• No pain + no/moderate cognitive and vegetative dysfunction → inappropriate • No pain + severe cognitive and vegetative dysfunction → uncertain • Moderate pain → uncertain (except moderate pain + good prognosis + no cognitive and vegetative dysfunction → inappropriate; and moderate pain + poor prognosis + severe cognitive and vegetative dysfunction → appropriate) • Severe pain → appropriate (except severe pain + good prognosis + no/moderate cognitive and vegatative dysfunction → uncertain; and severe pain + poor prognosis + no cognitive and vegetative dysfunction → uncertain)	• No pain → uncertain (except no pain + no cognitive and vegetative dysfunction → inappropriate) • Moderate/severe pain → appropriate	• No pain → uncertain • Moderate/severe pain → appropriate (except moderate pain + moderate cognitive and vegetative dysfunction → uncertain)
Muscle relaxants	• No pain → inappropriate • Moderate pain + good prognosis → inappropriate • Moderate pain + poor prognosis → uncertain • Severe pain → uncertain	• No pain → inappropriate • Moderate/severe pain → uncertain	• No pain → inappropriate • Moderate/severe pain → uncertain (except moderate pain + moderate cognitive and vegetative dysfunction → inappropriate)

Appropriateness of various treatments according to illness phase

Phase →	Acute	Semi-acute	Chronic
Treatment ↓			
Multidisciplinary pain centre	• N.a.	• No pain → uncertain (except no pain + good prognosis + no cognitive and vegetative dysfunction → inappropriate; and no pain + poor prognosis + severe cognitive and vegetative dysfunction → appropriate) • Moderate pain → appropriate (except moderate pain + no cognitive and vegetative dysfunction → uncertain) • Severe pain → appropriate	• Appropriate (except no pain + no/moderate cognitive and vegetative dysfunction → uncertain; and moderate pain + no cognitive and vegetative dysfunction → uncertain)