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d'**A**ccréditation et  
d'**É**valuation en **S**anté

# **DIAGNOSIS, MANAGEMENT AND FOLLOW-UP OF PATIENTS WITH CHRONIC LOW BACK PAIN**

**DECEMBER 2000**

**Guidelines Department**

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These guidelines have been produced at the request of *CNAMTS*, the French national health insurance fund.

They were produced in accordance with the methods described in the working manual “Clinical Practice Guidelines - Methodology to be used in France, 1999” published by ANAES. The following professional societies were consulted when drawing up these guidelines:

- *Société Française de Rhumatologie;*
- *Société Française de Thérapeutique Médicale;*
- *Société Française de la Douleur;*
- *Collège National des Généralistes Enseignants;*
- *Société Française de Radiologie;*
- *Société Française de Chirurgie Orthopédique et Traumatologique;*
- *Société Francophone d'Etude de la Douleur;*
- *Société Française de Médecine Générale;*
- *Association Pédagogique Nationale pour l'Enseignement de la Thérapeutique;*
- *Société de Thérapeutique Manuelle;*
- *Société Française de Rééducation Fonctionnelle de Médecine Physique et de Rééducation;*
- *Association Française pour la Recherche et l'Évaluation en Kinésithérapie;*
- *Société Française de Médecine du Travail.*

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## GUIDELINES

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The guidelines that follow concern chronic uncomplicated low back pain. They were produced at the request of the *Caisse nationale d'assurance maladie des travailleurs salariés*<sup>1</sup>. The guidelines exclude the diagnosis and management of secondary low back pain caused by inflammation, trauma, tumour or infection.

As the literature on this subject is of poor quality, only randomised trials were selected. Most used multiple and partial end-points (pain, return to work, functional score, patient-assessed subjective improvement, etc.), thus often preventing comparisons between trials. In view of these methodological limitations, these guidelines should be regarded as proposals to assist health care professionals in managing the patient with chronic low back pain.

Proposals are graded A, B or C according to the following system:

- A grade A guideline is based on scientific evidence established by trials of a high level of evidence, for example randomised controlled trials of high-power and free of major bias, and/or meta-analyses of randomised controlled trials or decision analyses based on properly conducted studies;
- A grade B guideline is based on presumption of a scientific foundation derived from studies of an intermediate level of evidence, for example randomised controlled trials of low power, well-conducted non-randomised controlled trials or cohort studies;
- A grade C guideline is based on studies of a lower level of proof, for example case-control studies or case series.

In the absence of scientific evidence, the proposed guidelines are based on agreement among professionals.

Chronic low back pain is defined as habitual pain in the lumbar region which has been present for more than three months. This pain may also radiate to the buttocks, the iliac crest or even to the thigh and, very occasionally, beyond the knee (Agreement among professionals).

### I. DIAGNOSIS

Diagnosis should consist of an initial assessment of the patient, including discussion and a general clinical examination, and more specifically, musculoskeletal and neurological examinations. The aim of the assessment is to identify any infection, inflammation, tumour or trauma which could be causing the low back pain, and to assess the degree of pain and its repercussions on the patient's everyday physical activity and working life.

The aim of the initial patient assessment is to identify secondary low back pain due to:

- fracture: possibility of trauma or osteoporosis, use of corticosteroids, age over 60 (Agreement among professionals);

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<sup>1</sup> Social security fund for salaried staff

- a neoplasm: age over 50, unexplained weight loss, history of tumour or failure of symptomatic treatment. The first laboratory tests to be done in patients with this type of clinical picture are erythrocyte sedimentation rate and blood protein electrophoresis (Agreement among professionals);
- infection: fever, pain which is worse at night, immunodepression, urinary tract infection, intravenous drug use, prolonged use of corticosteroids. The first laboratory tests to be done in patients with this type of clinical picture are a complete blood count, erythrocyte sedimentation rate and determination of C-reactive protein (CRP) (Agreement among professionals);
- inflammatory disease: gradual onset before the age of 40 years, marked morning stiffness, peripheral joint disease, iritis, cutaneous signs, colitis, urethral discharge, family history of spondylarthropathy. The first laboratory tests to be done in patients with this type of clinical picture are complete blood count and erythrocyte sedimentation rate (Agreement among professionals).

The initial assessment of a patient with low back pain should include an assessment of pain, which will be based mainly on discussion, a functional assessment and an assessment of the degree of anxiety and/or depression. A number of tools developed and used mainly in clinical research may be used to assess these factors, i.e. a visual analogue scale (VAS), the Dallas scale, the EIFEL scale of functional incapacity for the assessment of low back pain, the Hamilton scale and the Beck Depression Inventory (BDI). They may be useful to practitioners in everyday practice, but their value in this context has not been confirmed (Agreement among professionals).

An isokinetic assessment may occasionally be useful for patients with chronic low back pain, to redefine rehabilitation therapy (Agreement among professionals).

The working group emphasised that particular attention must be paid to discussion with and listening to the patient. In particular, it is essential to obtain a picture of the patient's working life and to examine any psychosocial factors. The clinical examination should be repeated. The initial assessment of a patient with low back pain may require a number of consultations (Agreement among professionals).

The first X-rays to be done should be views of the lumbar spine (a minimum of anteroposterior and lateral, completed if necessary with three-quarter views of the spine). Other views (e.g. sacroiliac, thoracolumbar junction) are not justified unless there is a clinical reason to suspect spondyloarthropathy. As a general rule, further radiological examination is not necessary, and X-rays do not need to be repeated unless there is a change in the clinical situation (Agreement among professionals).

CT-scan or MRI should only be performed in exceptional situations, depending on the clinical picture. The group emphasised that standard X-rays must always be taken before MRI or CT-scan. MRI does not emit radiation and is preferable to a CT-scan. A CT-scan is useful if MRI is contraindicated or not available, in order to eliminate forms of low back pain other than uncomplicated low back pain. There is no justification for myelography or CT-myelography (Agreement among professionals).

Further imaging within a year of the first examination is not recommended unless the symptoms have changed or to verify that there are no contraindications to a new therapy (e.g. spinal manipulation) (Agreement among professionals).

## II. MEDICAL TREATMENT

The main objective of treatment is to help patients control and manage their pain, to improve function and to encourage patients to return to a normal social and working life as soon as possible, in cooperation with the company doctor (Agreement among professionals).

### 1. Systemic administration

- **Paracetamol** may be prescribed for pain relief in patients with chronic low back pain, even though there have been no studies to confirm its analgesic efficacy in this indication (Agreement among professionals). It is recommended that the dose should be optimised while complying with data in the marketing authorisation, i.e. up to 4 g/day given in four doses taken at regular intervals.
- The analgesic action of **nonsteroidal anti-inflammatory drugs (NSAIDs) prescribed at an analgesic dose** has not been evaluated in chronic low back pain. Patients should be informed of the risks involved (in particular, the risk of ulcers and bleeding of the gastrointestinal tract), particularly if the drugs are combined with other anti-inflammatories. The working group stressed this point, as these drugs are available over the counter. This means that self-medication could result in two NSAIDs being taken concomitantly, one prescribed by the doctor and the other obtained by the patient (Agreement among professionals).
- **Acetylsalicylic acid** may be prescribed for pain relief in patients with low back pain, even though there are no studies confirming its analgesic efficacy in this indication. However, the group emphasised that its benefit is much reduced by its toxicity to the digestive system. Treatment should be short-term (Agreement among professionals).
- **NSAIDs at an anti-inflammatory dose** may be prescribed for pain relief in patients with chronic low back pain (grade C). Treatment should be short-term as the studies available do not provide conclusive evidence regarding their long-term pros and cons (Agreement among professionals). Specific cyclooxygenase-2 inhibitors have not been evaluated in this indication.
- **Level II analgesics** reduce low back pain (grade B). They may be prescribed for pain relief in chronic low back pain, generally after failure of level I analgesics (Agreement among professionals).
- **Level III analgesics (strong opioids)** may be prescribed in chronic low back pain on a case-by-case basis, and in compliance with the contraindications (grade C). These analgesics are appropriate for patients after failure of other forms of treatment, particularly after failure of level I and level II analgesics and after depression has been eliminated. Follow-up should include evaluation of pain and investigation of any side effects. Treatment should be given for a limited period, and the drugs should be withdrawn gradually (Agreement among professionals).



- **Tetrazepam** is the only muscle relaxant whose analgesic action has been studied in chronic low back pain (grade B). Muscle relaxants may be prescribed preferentially to patients with exacerbation of pain, but for not more than two weeks (Agreement among professionals). There is insufficient follow-up to allow evaluation of the long-term benefits of this category of drugs in this indication.
- **Tricyclic antidepressants** have a minor analgesic action in patients with low back pain (grade C), while **serotonin reuptake inhibitors** appear to be ineffective. The prescriber should weigh up the benefit-risk ratio with regard to the benefit of using a tricyclic antidepressant for pain relief in a patient with chronic low back pain when the patient is not depressed (Agreement among professionals).
- **Phytotherapy** was no more effective than placebo in treating chronic low back pain in the only randomised study found. At present there is therefore no scientific justification for using phytotherapy in chronic low back pain.
- Although the working group felt that the above drugs could be combined (except NSAIDs), such combinations have not been evaluated.
- **Corticosteroids** given by the general route are not recommended for pain relief in chronic low back pain (Agreement among professionals).
- The analgesic efficacy of the following forms of treatment has not been evaluated in chronic low back pain: homeopathy, antiepileptics, mesotherapy, oxaceprol, chondroitin sulphates, avocado/soya unsaponifiable extracts, diacerein, trace elements (copper, zinc, etc.), adenosine triphosphate, uridine-5'triphosphoric acid. Any benefits they may have in the management of patients with chronic back pain have yet to be determined.

## 2. Local administration

- **Topical forms of NSAIDs** (gels, creams, etc.) have not been evaluated in chronic low back pain.
- **Epidural corticosteroid injection** seems to provide short-term pain relief in patients with low back pain and/or sciatica (grade B). Its benefit in just low back pain could not be evaluated as study populations included both patients with low back pain and sciatica. This type of treatment should not be given as a first choice (Agreement among professionals).
- The efficacy of **corticosteroid injections into the facet joints** has not been demonstrated in chronic low back pain. They seem to provide pain relief in a population selected by tests (relief after injection of lidocaine into the joint) (grade C). They are not to be used as a first-intention treatment (Agreement among professionals).
- **Injections of steroids into the disc** have not been evaluated in chronic low back back pain.

### III. NON-MEDICAL THERAPY

#### 1. Non-invasive treatment

- **Bed rest** is not recommended (Agreement among professionals).
- **Massage** may be prescribed at the start of a rehabilitation session in preparation for other techniques although there are no studies confirming its efficacy (Agreement among professionals).
- The use of **ionization, electromagnetic waves or laser radiation** is not recommended as their efficacy has not been demonstrated.
- Studies of **transcutaneous electric nerve stimulation (TENS)** seem to show analgesic efficacy during the period of application (grade C). Further studies are needed to define its usefulness in the management of patients with chronic low back pain.
- The usefulness of **electroacupuncture** has yet to be determined. It may have a short-term analgesic action, although it is not possible to recommend any particular technique (grade C).
- **Balneotherapy** may provide pain relief and have a short-term action on function (grade C), but this has not been demonstrated in the long-term. This type of treatment may therefore be prescribed.
- **Physical exercise** provides analgesia and improves function in the short-term when compared with no treatment or placebo (grade B). However, no one type of exercise has been shown to be superior to any other (flexion or extension); available results are contradictory, and the studies themselves poorly designed. Physical exercise is therefore recommended, but no particular technique is advocated. It should be noted that results are only obtained in patients who are motivated and who comply with treatment.
- **Spinal manipulation** may be prescribed for pain relief in chronic low back pain as it has an analgesic action in the short-term (grade B). Its analgesic action is equivalent to that of physiotherapy (grade C) and superior to that of NSAIDs alone, acupuncture and back schools (grade B). The working group reminds practitioners that it is a medical procedure which should be preceded by clinical workup and further investigations.
- **Vertebral traction**, the efficacy of which has not been demonstrated in chronic low back pain, is not recommended (Agreement among professionals).
- The efficacy of **back schools** which provide only one educational programme has not been proven in chronic low back pain (grade B). When they are combined with physical exercise sessions, they provide short-term relief of pain (grade B).
- **Multidisciplinary forms of management** combining education and advice sessions, intensive physical exercise sessions whether supervised by a physiotherapist or unsupervised, and psychological management, in proportions which have still to be

defined, are recommended for analgesic and functional therapy and to a lesser extent for return to work in patients with chronic low back pain (grade B).

- **Hydrotherapy** may be prescribed in the management of chronic low back pain as it provides pain relief and contributes to restoration of function (grade B).
- The value of **lumbar supports** has yet to be demonstrated in chronic low back pain. They should not be used as first choice of treatment (Agreement among professionals).
- **Behavioural therapy** is effective for severity of pain and attitude towards pain, compared with placebo or being on a waiting list (grade C). No specific technique is superior to any other. Behavioural therapies combined with another form of treatment (physical exercise, physiotherapy etc.) seem to enhance this treatment's effectiveness against pain (grade C).

## 2. Invasive forms of treatment

- The efficacy of **acupuncture** has not been demonstrated in chronic low back pain.
- It seems that **trigger-point stimulation (neuromyofascial therapy)** provides short-term pain relief in chronic low back pain (grade C), but its usefulness has yet to be determined in the management of chronic low back pain (Agreement among professionals).
- **Thermocoagulation of the medial branch of the posterior primary ramus of the spinal nerve** seems to provide short- and medium-term pain relief in a population selected by provocation tests (grade B). Indications for this form of treatment are exceptional (Agreement among professionals).
- There are no studies confirming any benefit from **arthrodesis** in isolated chronic low back pain (without signs of nerve root compromise). It is reserved for a few unusual indications (Agreement among professionals). Further studies are needed to specify its usefulness in the management of degenerative spondylolisthesis.
- **Disc prostheses** have not been evaluated in chronic low back pain, and in the current state of knowledge, they should not be prescribed (Agreement among professionals).
- The group noted that the discovery during imaging of an isolated disc hernia without signs of nerve root compromise should not result in prescription of surgery or nucleolysis (Agreement among professionals).

#### **IV. FOLLOW-UP**

A follow-up procedure should be drawn up for each patient in accordance with the targets decided with the patient. Each consultation should include discussion and clinical examination to check that there are no warning signs. Pain and its repercussions on everyday activity should be assessed. Imaging tests should not be repeated unless new factors have arisen which might make them necessary (Agreement among professionals). The purpose of follow-up is to avoid giving undue importance to the medical side of the problem, while ensuring that treatment is provided which will reassure the patient.

**Recommendations based on the efficacy of treatments in chronic low back pain**

Treatment	End-point	Grade of recommendation	Recommendation <sup>a</sup>
<b>Recommended treatments</b>			
Physical exercise	Pain	Grade B	Recommended
Multidisciplinary programmes	Pain, function and return to work	Grade B	Recommended
Behavioural therapies	Pain	Grade C	Recommended
<b>Treatments that may be prescribed</b>			
Paracetamol	Pain	Not evaluated	May be prescribed
Back school	Pain	Not effective in isolation Grade B if combined with physical exercise	May be prescribed in combination with physical exercise
Spinal manipulation	Pain	Grade B	May be prescribed
Hydrotherapy	Pain and function	Grade B	May be prescribed for pain relief and to restore function
Opioid analgesics (Level II)	Pain	Grade B	May be prescribed for pain relief
Muscle relaxants (tetrazepam)	Pain	Grade B	May be prescribed for pain relief (short-term)
Balneotherapy	Pain	Grade C	May be prescribed for pain relief
Transcutaneous electric nerve stimulation (TENS)	Pain	Grade C	May be prescribed for pain relief. <sup>b</sup>
Electroacupuncture	Pain	Grade C	May be prescribed for pain relief. <sup>b</sup>
NSAIDs (anti-inflammatory doses)	Pain	Grade C	May be prescribed for pain relief (short term)
Massage	Pain	Efficacy not demonstrated	May be prescribed at the beginning of the session
Acetylsalicylic acid	Pain	Not evaluated	May be prescribed for pain relief (short term)
NSAIDs (analgesic doses)	Pain	Not evaluated	May be prescribed (inform the patient about risks to the digestive system)
Acupuncture	Pain	Efficacy not demonstrated	May be prescribed
<b>Treatments not to be used on a routine basis</b>			
Tricyclic antidepressants	Pain	Grade C	Weigh up benefit/risk before prescription, unless the patient is depressed
Epidural corticosteroid injection	Pain	Grade B (mixed low back pain / sciatica)	Should not be first choice of treatment
Thermocoagulation of the medial branch of the posterior primary ramus of the spinal nerve	Pain	Grade B (selected patients)	Should not be first choice of treatment
Corticosteroid injections into the facet joints	Pain	Grade C (selected patients)	Should not be first choice of treatment
Opioid analgesics (Level III)	Pain	Grade C	May be used on a case-by-case basis
Trigger-point stimulation	Pain	Grade C	May be prescribed for pain relief. <sup>b</sup>
Lumbar support	Pain	Not evaluated	May be prescribed. Should not be first choice.
Lumbar arthrodesis	Pain	Not evaluated	Exceptional indications
<b>Treatments that are not recommended</b>			
Bed rest	Pain	Not evaluated	Not recommended
Phytotherapy	Pain	Efficacy not demonstrated	Not recommended
Corticosteroids	Pain	Not evaluated	Not recommended
Ionization, electromagnetic waves and laser	Pain	Efficacy not demonstrated	Not recommended
Vertebral traction	Pain	Efficacy not demonstrated	Not recommended
Disc prostheses	Pain	Not evaluated	No indication

<sup>a</sup> If no grade is specified, the recommendation is the result of Agreement among professionals.

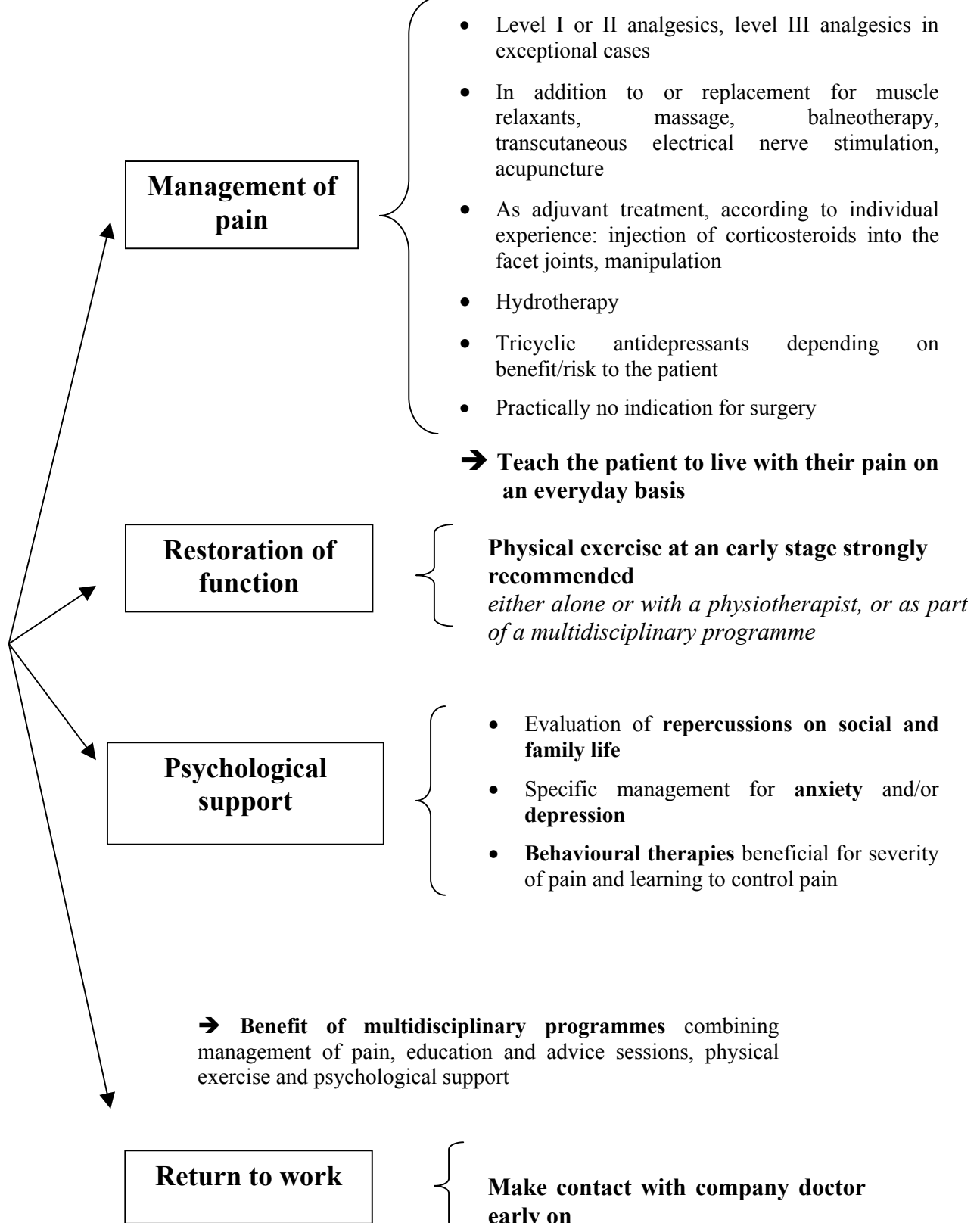
<sup>b</sup> Usefulness in the management of low back pain to be determined.

## PROPOSED TREATMENT STRATEGY

I do not have the proposed treatment strategy diagram.

Change 4<sup>th</sup> line: In addition to or replacement of analgesics: muscle relaxants, .....

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*NB: The treatments cited are not classified by chronology of indications*