

ASSESSMENT AND MANAGEMENT OF ACUTE PAIN IN PAEDIATRIC OUTPATIENTS AGED BETWEEN 1 MONTH AND 15 YEARS

MARCH 2000

Guidelines Department

All rights of translation, adaptation and reproduction by any means, are reserved, for all countries.

Any reproduction or representation of this work, in whole or in part, by whatever means, made without the permission of ANAES is illegal and constitutes an infringement of copyright. In accordance with the provisions of the Intellectual Property Code, only the following are permitted: 1) reproduction which is strictly for the purpose of the private use of the person making the copy and not intended for collective use, and 2) quotation of short passages which are justified as being for purposes of a scientific nature or for illustration of the work in which they are incorporated.

This document was produced in March 2000. It may be ordered (including carriage) from: **Agence Nationale d'Accréditation et d'Évaluation en Santé (ANAES)** - Service Communication - 159, rue Nationale -75640 Paris Cedex 13 -Tel.: 033 1 42 16 72 72 - Fax: 033 1 42 16 73 73 © 2000. Agence Nationale d'Accréditation et d'Évaluation en Santé (ANAES) These guidelines were produced at the request of the Ministry of Health. They were produced by ANAES in partnership with the following organisations:

La Société Française de la Douleur; L'Association Française pour la Recherche et l'Evaluation en Kinésithérapie; La Société Française d'Anesthésie-Réanimation; La Société Française de Pédiatrie; L'Association des Anesthésistes-Réanimateurs Pédiatriques d'Expression Française; Le Collège National des Médecins de la Douleur; L'Association Pédagogique Nationale pour Enseignement de la Thérapeutique; La Société Française d'Oncologie Pédiatrique, La Fédération Française de Psychiatrie

The method used was the method described in the guide "Recommandations pour la Pratique Clinique – Base méthodologique pour leur réalisation en France – 1999" ["Clinical Practice Guidelines – Methodology to be used in France – 1999] published by ANAES.

The work was coordinated by Dr. Najoua Mlika-Cabanne under the supervision of Professor Alain Durocher

Documentary research was carried out by Emmanuelle Blondet under the supervision of Hélène Cordier, head of ANAES' Documentation Department, assisted by Nathalie Haslin.

Secretarial services were provided by Vanessa Aliouane-Decool.

ANAES - the Agence Nationale d'Accréditation et d'Évaluation en Santé - would like to thank the members of the Management Committee, the Working Group, the members of the Reading Group and the members of the Scientific Council, whose names are listed below. ANAES would also like to thank Hakim Neghal for his help with the literature review.

MANAGEMENT COMMITTEE

Dr. Daniel Annequin, anaesthetist, Paris; Bruno Demont, physiotherapist (physiotherapist), Le Chesnay; Professor Claude Écoffey, anaesthetist and intensivist, Rennes; Dr. Élisabeth Fournier-Charrière, paediatrician, Le Kremlin-Bicêtre; Professor Isabelle Murat, anaesthetist, Paris;

Dr. Évelyne Pichard-Léandri, anaesthetist, Villejuif; Professor Patrice Queneau, rheumatologist and

Professor of Therapeutics, Saint-Étienne; Professor Jean-Michel Zucker, paediatrician and oncologist, Paris.

WORKING GROUP

Dr. Annie Gauvain-Piquard, psychiatrist, group chairman, Villejuif;

Dr. Barbara Tourniaire, paediatrician, project manager, Paris;

Dr. Jean-Pierre Alibeu, anaesthetist, Grenoble; Dr. Daniel Arsac, general practitioner, Nîmes; Sylvain Bailleux, physiotherapist, Issy-les-Moulineaux;

Dr. Catherine Dormard, general practitioner, Saclay;

Professor Jacques Fermanian, biostatistician, Paris;

Dr. Élisabeth Fournier-Charrière, paediatrician, Le Kremlin-Bicêtre;

Dominique Gibirila, child care manager, Toulouse;

Élisabeth Gloaguen, senior child care manager, Thionville;

Mireille Goy-Kreitmann, psychologist, Nice;

Dr. Hervé Guyot, general practitioner, Joué-lès-Tours;

Dr. Nathalie Hoog-Labouret, AFSSAPS (Agence Française de Sécurité Sanitaire des Produits de Santé - French Agency for the Safety of Health Products), Saint-Denis; Dr. Patrick Jaquemin, ear, nose and throat specialist, Angoulême; Dr. Jacques Langue, paediatrician, Lyon; Dr. Noëlla Lodé, paediatrician, Paris; Dr. Laurence Michelutti-Javaudin, general surgeon, Millau; Dr. Annie Rousseau, AFSSAPS, Saint-Denis; Dr. Agnès Saint-Raymond, AFSSAPS, Saint-Denis: Dr. Chantal Wood, paediatrician, Paris; Dr. Najoua Mlika-Cabanne, ANAES project manager, Paris.

READING GROUP

Dr. Daniel Annequin, anaesthetist, Paris; Professor Didier Aubert, paediatric surgeon, Besancon:

Dr. Alain Aubrège, general practitioner, Villerslès-Nancy;

Dr. Michel Bardainne, paediatrician, Fougères; Dr. Emmanuel Bisot, general practitioner,

Coullons;

Dr. Jean-Paul Blanc, paediatrician, Saint-Étienne; Dr. Pierre Blondel, ophthalmologist, Toulon; Dr. Solen Boitard-Thonier, dental surgeon/ paediatric dentist, Pleneuf; Dr. Anne Bore-Mondan, school doctor and general practitioner, Mereville; Dr. Denis Boumendil, laboratory analyst, Orsay-Mondetour; Dr. François Boureau, neurophysiologist, Paris; Dr. Nicole Breville, paediatrician/ mother and baby clinic, Orly; Janine Brugidou, paediatric nurse, Toulouse; Dr. Gérard Cagnol, ear, nose and throat specialist, Mongins;

Dr. Pascal Clerc, general practitioner, Issy-les-Moulineaux;

Marie José Clio-Assouvié, physiotherapist, Paris; Dr. Joël Cogneau, ANAES Scientific Council,

Chambray-lès-Tours

Nathalie Constans, nurse, Montferrier;

Christiane Dejaonnis, nurse, Nice;

Dr. Jean-Jacques Delord, ophthalmologist, NÎMES;

Bruno Demont, physiotherapist, Le Chesnay; Dr. Mathieu Dousse, psychiatrist, Paris;

Nicole Dreyer-Muller, child carer, Strasbourg; Nicole Dupont, child carer, Toulouse;

Dr. Gilles Dupuis, ear, nose and throat specialist, Issy-Les-Moulineaux;

Professor Bertrand Dureuil, ANAES Scientific Council, Rouen

Professor Claude Écoffey, anaesthetist and intensivist, Rennes;

Christian Fausser, physiotherapist, Le Kremlin-Bicêtre;

Dr. Béatrice Fervers, oncologist, Lyon;

Professor Patrick Froehlich, ear, nose and throat specialist, Lyon;

Dr. Philippe Gateau, dental surgeon, Nevers;

Dr. Patrick Ginies, anaesthetist and intensivist, Montpellier

Professor Danielle Ginisty, stomatologist, Paris; Dr. Gilles Griessinger, dental surgeon, Joué-lès-Tours;

Dr. Catherine Grognard, dermatologist, Tours; Dr. Brigitte Héritier-Fasseur, paediatrician, La Rochelle;

Dr. Bénédicte Héron, neuropaediatrician, Paris;

Dr. Francine Hirszowski, general practitioner, Paris;

Professor Jean Jasmin, dental surgeon / paediatric dentist, Nice;

Dr. Monique Labat, general practitioner, Goudelin;

Dr. André Locquet, paediatrician, Roncq;

Dr. Jean Lugol, laboratory analyst, Aubagne;

Dr. Michel Meignier, anaesthetist, Nantes;

Dr. Alain Millet, general practitioner, Tarcenay;

Sylvaine Monin, senior nursing manager, Paris; Professor Alain Morgon, ear, nose and throat specialist, Lvon;

Dr. Jean-Claude Msealti, paediatrician, Orsay; Professor Isabelle Murat, anaesthetist, Paris; Paul Pavan, physiotherapist, Grenoble; Long Pham-Quang, psychomotor therapist, Paris; Dr. Évelyne Pichard-Léandri, anaesthetist, Villejuif;

Professor Patrice Queneau, rheumatologist and Professor of therapeutics, Saint-Étienne; Rémi Remondière, physiotherapist, Villejuif;

Dr. Christine Ricard, anaesthetist, Montpellier;

Dr. Bruno Richard, specialist in internal medicine, Nîmes;

Dr. Luc Ronchi, anaesthetist, Saint-Nazaire; Dr. Sylvain Sadik, dermatologist, Chilly-Mazarin; Professor Michel Schmitt, paediatric surgeon, Vandœuvre-lès-Nancy;

Dr. Éric Serra, psychiatrist, Amiens;

Philippe Stevenin, ANAES Scientific Council, Paris;

François Verney, ANAES Scientific Council, Saint-Brieuc;

Dr. Bruno Villemur, general practitioner, Port-La-Nouvelle;

Professor Jean-Michel Zucker, paediatrician and oncologist, Paris.

GUIDELINES

These clinical practice guidelines for "Assessment and management of acute pain in paediatric outpatients aged between 1 month and 15 years" were produced at the request of the Ministry of Health, and are intended for all health professionals involved in managing acute pain in children.

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, 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 evidence, for example case-control studies or case series.

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

INTRODUCTION

It has been shown that children can feel pain as soon as they are born. It is an ethical and legal obligation to relieve this pain. In addition, a child can be harmed by pain, while there is no evidence to suggest that a child can gain any benefit from it.

These guidelines concern the assessment and management of pain in child outpatients aged between one month and 15 years. The term outpatient covers care at home, care given during a consultation, emergency care (including $SMUR^{1}$ and SAMU) and care in day hospitals.

DEFINITION

The term acute pain involves three different concepts: severity, sudden nature and type of pain. The definition used is that adopted in DGS/DH/DAS circular no. 99/84 of 11 February 1999: "Acute pain is a sharp, burning sensation which is part of a rapidly changing clinical picture."

¹ SMUR and SAMU are ambulance services

INSTRUMENTS FOR ASSESSING PAIN SEVERITY

One of the obstacles to managing pain in children is the problem of identifying and assessing it. Pain is best managed when assessed at the outset and when treatment is reassessed regularly.

It is generally necessary to use a pain assessment instrument in order to:

- establish or confirm the presence of pain; •
- assess its severity;
- decide what type of analgesia is needed;
- evaluate the efficacy of treatment given;
- adjust treatment. •

Pain assessment instruments are simple to use, and may be given to parents so that they can reassess their child's pain and adjust treatment accordingly. The instruments vary according to the child's age (Fig. 1).

Best validated instruments according to age bracket

Children aged over 6 years

For children aged over 6 years, self-assessment (i.e. an assessment of the child's pain made by the child itself) has been found to be an excellent form of measurement. It may therefore be used in full confidence, provided that it is explained in a way the child can understand.

The visual analogue scale (VAS) is regarded as the gold standard assessment instrument for children of this age (Fig. 2). A VAS should not be presented as in any sense a game. The extreme grades should be expressed in neutral terms. In France, a vertical scale graded from 0 to 10 is usually presented to children.

However, with some children it is not possible to use a VAS to obtain a grade (Fig. 2). Another scale that can be used for self-assessment is the Poker Chip scale (Fig. 3). The expert group also proposed the use of a scale containing six faces, the FPS-R (Fig. 4), which is currently being validated. A diagram should also be used to locate the pain (Fig. 5) when this information is not clear from the context. However, it should be remembered that the child may confuse right and left.

The same instrument should ideally be used for self-assessment during follow-up.

Children aged between 4 and 6 years

Self-assessment can be tried with children aged between 4 and 6 years. The VAS should then be used in conjunction with another self-assessment instrument, such as the Poker Chip scale or the Faces scale. If different scores are obtained from the two instruments, they should be regarded as not valid, i.e. not providing information. In this event, assessment can only be done by a third party.

If a diagram for pain localisation is used for children aged between 4 and 6 years, it should be related to the data obtained from clinical examination. If there is no relationship between the two sets of data, the localisation on the diagram cannot be regarded as valid. At this age a child might colour in the diagram as a game.

The same instrument should ideally be used for self-assessment during follow-up.

Children aged under 4 years

Assessing a child under 4 years (or a child who is temporarily or permanently unable to communicate properly) is more difficult, as it mainly involves observing how the child behaves (assessment by a third party). Behavioural expression of acute pain has two phases:

- the first phase consists of expression of behavioural distress combined with • psychological and physiological stress;
- the second phase consists of a gradual reduction in the child's activity (moving, playing, sleeping, talking, eating).

There is no absolutely specific pain-related behaviour which could be used as an indicator. Third-party assessment instruments are therefore particularly useful, as they are based on a combination of the best currently known pain indicators, which have been brought together into validated scales. At present, these scales are the most reliable criteria for diagnosing pain in young children and for assessing its intensity.

Most widely used scales

- for diagnosis and assessment of the intensity of immediate postoperative pain:
 - inverse Amiel-Tison scale (Table 1), for children aged between 1 month and 3 vears.
 - OPS scale (*Objective Pain Scale*) from the age of 2 months (*Table 2*), _
 - CHEOPS scale (Children's Hospital of Eastern Ontario Pain Scale) from 1 to 6 vears (Table 3);
- for diagnosis and assessment of the intensity of other forms of acute pain, at onset:
 - abbreviated NFCS scale (Neonatal Facial Coding System), up to 18 months (Fig. _ 6),
 - the CHEOPS scale from 1 to 6 years; _
- for the assessment of acute pain after several hours:
 - the DEGR^R scale (*Douleur Enfant Gustave-Roussy* Gustave-Roussy Child Pain Scale) may be used between 2 and 6 years (Table 4),
 - a general assessment of the child's behaviour may also be used, i.e. disruption of the _ child's basic activities including moving, playing, sleeping, talking, and eating (associated with a situation where pain may be present).

A VAS completed by an experienced carer or parent is an alternative to the use of a thirdparty assessment scale in children aged under 4 years, although it should be remembered that its validity is less reliable than that of the scales cited above.

	Score ^a					
	0	1	2			
1. Whether asleep during the 30 mins before examination	Calm sleep > 10 minutes	Short periods of 5 to 10 minutes	No			
2. Gestures expressing pain	Face calm and relaxed	Intermittent, not very marked	Marked, constant			
3. Quality of crying	No crying	Moderate, child can be calmed down	Repetitive, piercing, "painful"			
4. Spontaneous movement	Moves normally	Some agitation	Incessant agitation			
5. Spontaneous excitability	Calm	Excessive reactivity	Tremor, myoclonus, spontaneous Moro			
6. Tensing of fingers, hands and feet	No tensing	Not very marked, partial, intermittent	Very marked, global, constant			
7. Sucking	Strong, rhythmic, calming	Intermittent, interrupted by crying	None, or a few random movements			
8. Global assessment of tone	Normal for age	Some excess tone	High degree of excess tone			
9. Consolability	Calmed within a minute	Calmed after trying for one minute	No, after trying for two minutes			
10. Sociability	Easy, prolonged	Difficult to achieve	Not sociable			

Table 1. The inverse Amiel-Tison postoperative pain scale

^a Child awake when examined

Table 2. Objective Pain Scale (OPS).

Da	7	
Tim	e	
Crying		
0: Not crying		
1: Crying but responds to tender loving care (TLC)		
2: Crying and does not respond to TLC		
Moving		
0: None		
1: Restless		
2: Thrashing		
Agitation		
0: Patient asleep or calm		
1: Mild		
2: Hysterical		
Verbal Evaluation or body language		
0: Patient asleep or states no pain		
1: Mild pain (cannot localise)		
2: Moderate pain (can localise) verbally or by pointing		
or adopts position with legs drawn up to trunk, fists clenched,		
and moves hand to painful area, or tries to protect it		
Blood Pressure		
0: ± 10 % Pre-Op		
1: 10 to 20% Pre-Op		
2: 20 to 30% Pre-Op		
Total scor	e	

Table 3. Children's Hospital of Eastern Ontario Pain Scale (CHEOPS) postoperative pain scale.

Day		
Time		
Cry		
1: No cry		
2: Moaning or crying		
3: Screaming or sobbing		
Facial		
0: Smiling		
1: Composed, neutral		
2: Grimace		
Child verbal		
0: Talks about other things without complaint		
1: Child not talking; or complains, but not about pain		
2: Child complains about pain		
Torso		
1: Body (not limbs) is at rest; torso is inactive		
2: Body is in motion in a shifting or serpentine fashion		
and/or body is arched or rigid or shuddering,		
and/or restrained		
Touch		
1: Child is not touching or grabbing at wound		
2: Child is reaching for or touching or grabbing the painful area,		
<u>or</u> child is restrained		
Legs		
1: Relaxed or gentle movements		
2: Restless, or striking out with foot or feet, or legs tensed, in the air or pulled up tightly to		
body		
and/or standing, crouching or kneeling,		
and/or restrained		
Total score		

Relationship of self-assessment instruments to pain intensity

As there is no consensus agreement on how the various self-assessment instruments correspond to the pain categories used in marketing authorisations (AMM) for analgesics, i.e. "mild", "moderate", "severe" and "very severe", the working group proposed the following values (*Table 5*):

Table 4. The DEGR^R scale

GUSTAVE-ROUSSY CHILD PAIN SCALE®

LABEL

Date:

Name of tester:

ITEM 1: PAIN AVOIDANCE AT REST

The child spontaneously avoids a certain position or adopts a specific posture, even when awkward, to relieve a painful area. This item should be studied when the child is sitting or lying down, without any physical activity. It should not be confused with antalgic posture during movement. SCORE:

- 0: No antalgic posture: the child can adopt any position he likes
- The child seems to be avoiding certain positions.
 The child <u>avoids</u> certain positions, but does not appear to be uncomfortable
- 3: The child chooses an obviously antalgic posture which gives him some relief.
- 4: The child unsuccessfully tries to adopt an antalgic position and fails to get comfortable

ITEM 2: LACK OF EXPRESSION

Concerns the child's ability to register and express feelings by his tone of voice, eyes and facial expression. This item should be studied when the child has a reason for being active (during play, meals and conversation). SCORE:

- 0: The child is alert and lively, with an animated expression
- 1: The child appears to be impassive and dull. 2: At least one of the following signs:
- lack of facial expression, expressionless eyes, muttering and speaking in a monotonous voice, not speaking readily.
- 3: A number of the signs described above are marked.
 4: Face rigid, as though enlarged. Vacant look. Speaks with some effort.

ITEM 3: SPONTANEOUS PROTECTION OF PAINFUL AREAS The child is careful all the time to avoid contact with a painful area SCORE:

- O: The child does not make any attempt to protect himself.
 1: The child avoids violent contact.
 2: The child protects his body, avoiding and moving away anything that could touch it.
- 3: The child is visibly concerned to restrict any touching of his body. 4: All the child's attention is required to protect the affected area

ITEM 4: EXPRESSING PAIN

This item concerns the way in which the child says that he is in pain, either spontaneously or when asked, during the period of observation. **SCORE:**

- 0: No complaint, the child has not said that he is in pain
- 1: "Neutral" complaints:
 - no expression of emotion (e.g., just says "it hurts")
- and does not go out of his way to say this.
 2: At least one of the following signs:
 - has triggered the question "what's wrong, does something hurt?"
 - he uses a whining voice to say that he is in pain
- expressive gestures accompanying the complaint.
 addition to Score 2, the child:
 has attracted attention to say that he is in pain
 - has asked for medicine

4: When the child says he is in pain he is groaning, sobbing or pleading.

ITEM 5: PAIN AVOIDANCE WHEN MOVING

The child spontaneously avoids all movement, or using part of his body. This item should be scored during any <u>sequences of movements</u> (e.g. walking) that he may be asked to perform. <u>Should not be confused</u> with moving slowly or infrequently.

SCORE:

- **0:** The child has no difficulty moving any part of his body. His movements are supple and he moves easily.
- 1: Some of the child's movements cause him discomfort or are not quite naturai
- 2: The child is careful when making certain movements.
- 3: The child is clearly avoiding certain movements, and generally moves with great care.
- 4: To avoid movements which are too painful for him, the child has to be helped.

ITEM 6: LACK OF INTEREST IN SURROUNDINGS

Concerns the child's energy in interacting with his environment SCORE:

- **0:** The child is full of energy, interested in his environment, able to concentrate and to amuse himself.
- The child is interested in his environment, but without any enthusiasm.
 The child gets bored easily, but can be stimulated.
 The child hangs back, unable to play, looking on passively.
- 4: The child is apathetic and indifferent to everything.

ITEM 7: HOW THE CHILD REACTS TO BEING MOVED (passive movement)

When the child has to be moved for an everyday event (bath, meal), he is wary, says how he wants to be moved, stops the adult's hand or holds onto

SCORE:

- 0: The child allows himself to be moved and does not give the movement any special attention.1: The child watches carefully when moved.
- 2: In addition to Score 1, the child shows that the person moving him has to be careful.
- 3: In addition to Score 2, the child holds back the carer's hand or guides their movements.
- 4: The child resists anything the carer does or makes the carer agree not to make any movement without his permission.

ITEM 8: INDICATING PAINFUL AREAS

The child locates his pain, either spontaneously or when asked.

- SCORE: 0: No indication: at no time does the child say that any part of his body
- hurts. 1: The child indicates verbally only that it hurts somewhere but without
- giving any details. 2: In addition to Score 1, the child uses a vague gesture to indicate where
- *it hurts.* **3:** The child points to a specific painful area.
- 4: In addition to Score 3, the child describes confidently and precisely where it hurts.

ITEM 9: REACTIONS TO EXAMINATION OF PAINFUL AREAS

Examination of the painful area triggers a guarding movement by the child, or withdrawal, and an emotional reaction. Record only reactions which were caused by the examination, and not pre-existing reactions which were present before the examination SCORE:

- 0: The examination does not trigger any reaction. 1: The child is reticent while being examined but not otherwise.
- 2: At least one of the following signs is observed during the examination: stiffness in the area being examined, tensing of the face, sudden crying,
- holding his breath. **3:** In addition to Score 2, the child changes colour, sweats, moans or tries
- to stop the person examining him. 4: The child's reactions make it almost impossible to examine the painful area.

ITEM 10: SLOWNESS AND INFREQUENCY OF MOVEMENTS

The child's movements are slow, restricted and rather stiff, even at a distance from painful areas. The trunk and large joints are particularly immobile. Should be scored in relation to the normal movements of a child of this age.

SCORE

- 0: The child's movements are expansive, lively, quick, varied and he takes some pleasure in them. 1: The child is a little slow and moves without any vivacity
- 2: One of the following signs: delayed movements,
 - restrained movements,
 - slow gestures,
 - starts motor activity infrequently.
- 3: A number of the above signs are marked.4: The child appears to be stuck to the spot, although nothing is stopping him moving

Self-assessment instruments				Third party assessment instruments				
Type of pain	VAS (cm)	<i>Poker chip</i> (Number of chips taken)	6-face scale: FPS-R (Score for face chosen)	Inverse Amiel- Tison score	CHEOPS	DEGR ^R	OPS	NFCS
Mild	1 - 3	1	2					
Moderate	3 - 5	2	4					
Severe	5 - 7	3	6					
Very severe ^a	> 7	4	8 or 10					
Therapeutic intervention threshold ^b	3/10	2	4	5/20	9/13	10/40	3/10	1/4

Table 5. Relationship of self-assessment instruments to pain intensity, and intervention thresholds for self-assessment and third party assessment instruments.

^{a1} The wording of AMM indications for Level 3 analgesics does not include the phrase "very severe pain", but generally, "severe pain which does not respond to lower-level analgesics.

^b The threshold above which treatment must be started. Below this threshold, treatment remains to be assessed by the child, carer or parents.

RULES FOR MANAGING PAIN IN CHILDREN

Treatment with analgesics

Analgesia should be offered when the treatment for the cause of the pain is prescribed. The main aim is to relieve pain rapidly, and this will affect the choice of drug used and how it is given.

The immediate aim of analgesic treatment is to achieve a pain threshold below the VAS threshold value of 3/10, if possible, and/or to allow the child to return to the basic activities of moving, playing, sleeping, talking and eating. The initial prescription depends on the level of pain. The first choice of treatment for mild pain is a Level 1 analgesic, for moderate pain it is a Level 1 or 2 analgesic, for severe pain, a Level 2 or 3 analgesic, and for very severe pain, a Level 3 analgesic. A rapid route of administration should be used if pain is severe or very severe. Outside the hospital environment, the drug should be given by the doctor himself or herself. Doctors should keep major analgesics in their emergency kit.

The second aim is to adjust treatment quickly according to the level of residual pain. Pain should be reassessed after one or two doses of analgesic. If at this time the pain is more

severe than 3/10, analgesic therapy should be intensified. When adjusting treatment in outpatients, the parents should be given adequate information and specific instructions should be included on the prescription, i.e. regular doses for a given period, how and when to assess pain, and how to change drug levels. Side effects should be looked for regularly, and the parents should be aware of this.

When the right level of analgesia has been obtained, pain recurrence should be prevented by regular doses of analgesics (including at night) for the foreseeable duration of the pain. In addition, pain that is foreseeable, i.e. occurring during certain types of medical care or procedures, should be prevented. Both the child and the child's family should be given detailed information about care procedures and an analgesia schedule.

— Non-pharmacological methods

In addition to analgesics, pain management may include non-pharmacological methods (distraction, relaxation, hypnosis). If the child can describe the coping mechanism he normally uses, it should be offered and used. If not, and for younger children, distraction is often an effective aid in reducing distress and/or pain. Simple techniques include:

- *distraction*: reading a book to a child, or showing him pictures; for older children, suggesting the child tells himself a story;
- *relaxation*: mimic the type of breathing needed to make soap bubbles when breathing through a straw.

— Presence and role of parents

Children are less distressed when their parents are with them. It should be possible for parents to be present when painful procedures are performed and in any situation when the child is likely to feel pain, whenever the child and their family want this. Parents may need advice about their role in such situations. During the procedure, parents should maintain warm, distracting and reassuring physical and oral contact with their child, which may help to reassure the child that he is being well cared-for.

— Giving the child information

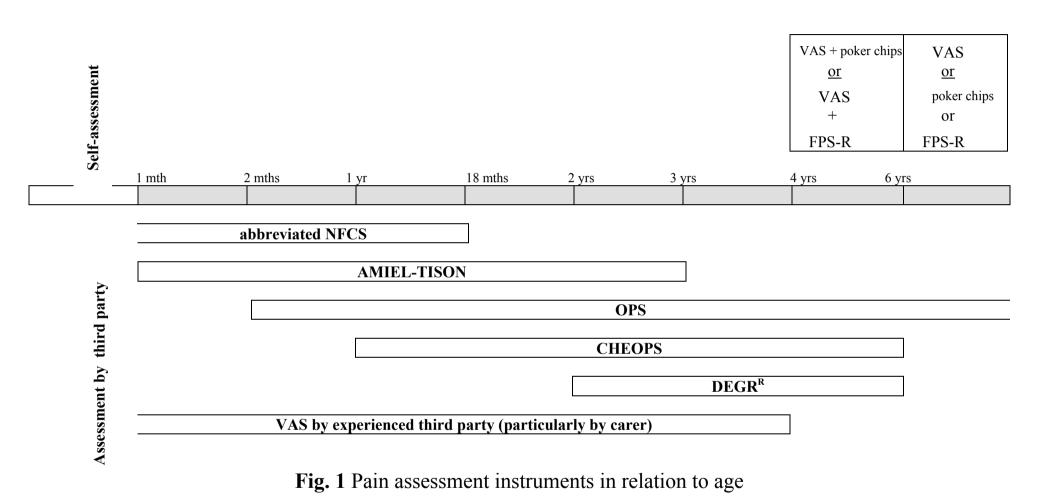
The child should be given appropriate information for his cognitive level about the cause of his pain and/or about any painful procedures which may be necessary to manage the pain. Such explanations should not be given at the very last moment. This information is a child's right and it is an obligation of health care professionals to provide it.

CLASSIFICATION OF ANALGESICS

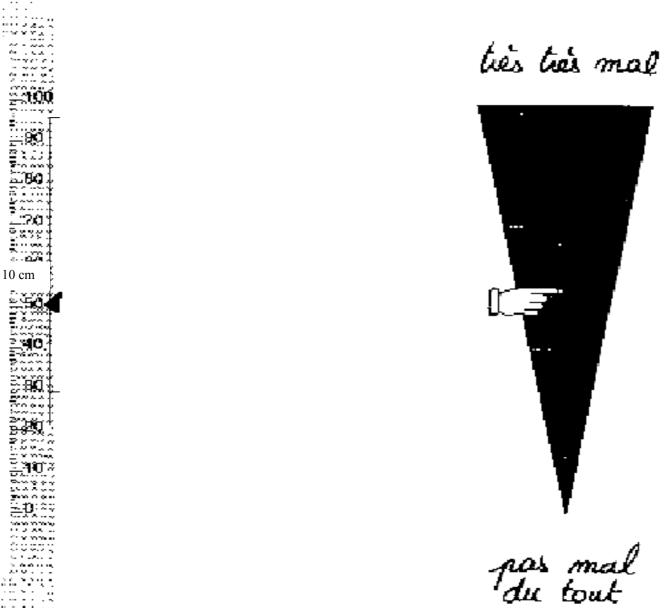
Table 6 gives the various analgesics which have been granted an AMM for paediatric use. These analgesics have been classified according to the WHO classification's three therapeutic levels according to their mode of action and/or analgesic power:

- Level 1: non-opioid analgesics;
- Level 2: mild centrally acting analgesics;
- Level 3: opioids (or strong centrally acting analgesics).

It should be noted that no Level 2 analgesics have been granted an AMM for use in children aged under 1 year; and that there are no oral Level 3 analgesics for use between birth and the age of 6 months.



VAS: Visual Analogue Scale; FPS-R: Faces Pain Scale-Revised; NFCS: *Neonatal Facial Coding System*; OPS: *Objective Pain Scale*; CHEOPS: *Children's Hospital of Eastern Ontario Pain Scale*; DEGR^R: Gustave-Roussy Pain Scale.



Reverse of ruler

Side shown to child [*très très mal* = Hurts very much]

Fig. 2. Visual Analogue Scale.

The child is told to move the pointer (or point his/her finger) as high as his /her pain is bad.

Faces Pain Scale – Revised (FPS-R)

Pain Research Unit, Sydney Children's Hospital, Randwick NSW 2031, Australia. This material may be photocopied for clinical use. For all other purposes or for further information, contact the Pain Research Unit, piirat@sesahs.nsw.gov.au or go to the website: http://painsourcebook.ca/docs/pps92.html

"These faces show how much something can hurt. This face (point to left-most face) shows <u>no pain</u>. The faces show more and more pain (point to each from left to right) up to this one (point to right-most face) - it shows <u>very much pain</u>. Point to the face that shows how much you hurt right now."

Score the chosen face 0, 2, 4, 6, 8, or 10, counting left to right, so 0' = 0 and 10' = 0 very much pain'.

- *Express the extreme points clearly: 'no pain' and 'very much pain'.*
- Do not use words like 'happy' and 'sad'
- The scale is intended to measure how children feel inside, not how their face looks. 'Show me how you feel <u>inside</u>'

Hicks, C.L., von Baeyer, C.L., Spafford, P., van Korlaar, I., & Goodenough, B. The Faces Pain Scale – Revised: Toward a common metric in pediatric pain measurement. *Pain* 2001; *93*:173-183. Scale adapted from: Bieri, D, Reeve, R, Champion, G, Addicoat, L and Ziegler, J. The Faces Pain Scale for the self-assessment of the severity of pain experienced by children: Development, initial validation and preliminary investigation for ratio scale properties. *Pain* 1990;41:139-150. *Version: June 2001*

Fold here

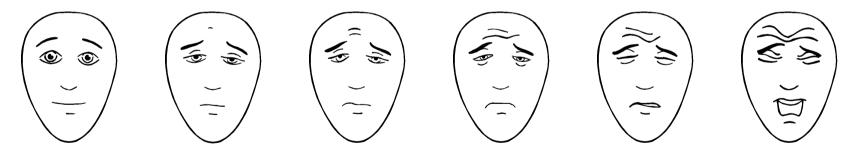


Fig. 4. Presentation of the Six Faces Pain Scale FPS-R

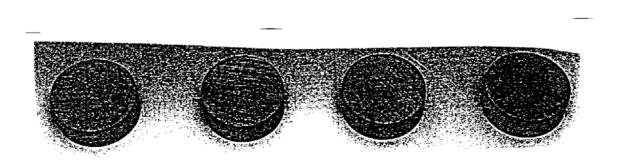


Fig. 3. Poker Chip scale: the poker chips.

The child is told: "Each poker chip is a little bit of the hurt; take the number of pieces that show how much hurt you have at the moment."

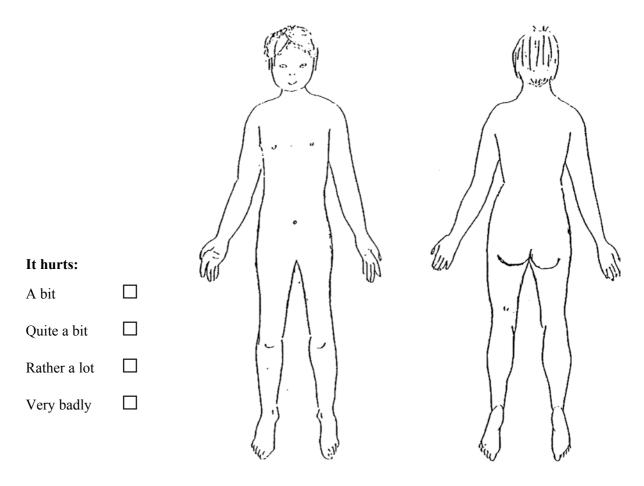


Fig. 5. Locating pain on a diagram.

The child is told: "Draw where it hurts you." If the child is able to, he/she can first choose a colour code for the four levels of pain shown in the key.

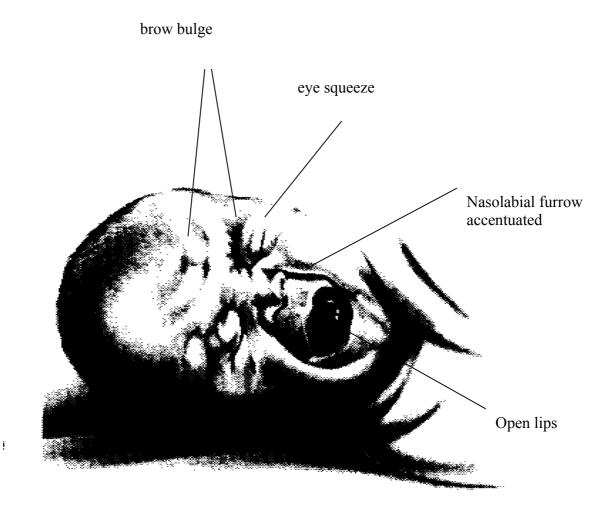


Fig. 6. Abbreviated Neonatal Facial Coding System.

The observer grades each item as 0 = absent or 1 = present. Grades are added together to give the score. Table 6. Analgesic medicines and analgesics with an AMM that may be used in paediatrics: summary by level and by age (from Agence Française de Sécurité Sanitaire des Produits de Santé (AFSSAPS) = French Agency for the Safety of Health Products)

	Neonate 0-28 days		1 mtł	fant 1-2 yrs	. 10 . 4	. 201	Child 2 yrs-12 yrs		Adolescent 12 yrs-15 yrs
		> 1 mth	> 6 mths	> 12 mths	> 18 mths	> 30 mths	> 4 yrs	> 7 yrs	
Level 1	Paracetamol PO*	Paracetamol PO	Paracetamol PO	Paracetamol PO	Paracetamol PO	Paracetamol PO	Paracetamol PO	Paracetamol PO	Paracetamol PO
	Propacetamol IV*	Propacetamol IV Aspirin PO	Propacetamol IV Aspirin PO Ibuprofen PO Niflumic acid suppositories	Propacetamol IV Aspirin PO Ibuprofen PO Niflumic acid suppositories Diclofenac suppositories, PO Tiaprofenic acid PO	Propacetamol IV Aspirin PO Ibuprofen PO Niflumic acid suppositories Diclofenac suppositories, PO Tiaprofenic acid PO Naproxen PO	Propacetamol IV Aspirin PO Ibuprofen PO Niflumic acid suppositories, PO Diclofenac suppositories, PO Tiaprofenic acid PO Naproxen PO			
Level 2				Codeine PO	Codeine PO Nalbuphine I*	Codeine PO Nalbuphine I	Codeine PO Nalbuphine I	Codeine PO Nalbuphine I Buprenorphine PO	Codeine PO Nalbuphine I Buprenorphine PO Oxycodone suppositories Tramadol PO

*: PO: per os; IV: intravenous; I: injectable;

Table 6 (contd). Analgesic medicines and analgesics with an AMM that may be used in paediatrics: summary by level and by age (from Agence Française de Sécurité Sanitaire des Produits de Santé (AFSSAPS) = the French Agency for the Safety of Health Products) (continued).

	Neonate 0-28 days			ıfant h-2 yrs			Child 2 yrs-12 yrs		Adolescent 12 yrs-15 yrs
		> 1 mth	> 6 mths	> 12 mths	> 18 mths	> 30 mths	> 4 yrs	> 7 yrs	
Level 3	Morphine IV Fentanyl IV †	Morphine IV Fentanyl IV †	Morphine IV Fentanyl IV † Morphine PO	Morphine IV Fentanyl IV † Morphine PO Hydromorphone PO	Morphine IV Fentanyl IV † Morphine PO Hydromorphone PO				

*: PO: per os; IV: intravenous; I: injectable;

†: drugs prescribed by hospital doctors and dispensed by hospital pharmacies only

MANAGEMENT OF ACUTE PAIN IN VARIOUS DISEASES (TABLES 7-10)

Table 7. Management of acute pain in surgery for procedures performed in a day hospital.

Surgical procedure	First choice of treatment: Analgesic category and duration	Second choice of treatment (if first choice is inadequate: VAS > 3 or no return to baseline activities after one or two doses)		
Tonsillectomy	Level 2* for 72 hours	Level 3		
Adenoidectomy	Level 1 for 24 hours	Further consultation		
Circumcision	Level 2* for 72 hours and local lidocaine	Level 3		
Undescended testicle repair	Level 1 for 72 hours	Level 2*		
Inguinal hernia	Level 1 for 72 hours	Level 2*		
Surgery for strabismus	Level 1 for 24-48 hours	Level 2*		
Extraction of milk teeth	No analgesia	Level 1		
Extraction of permanent or wisdom teeth, and/or germectomy	Level 1 for 48 hours	Level 2*		

*: If codeine is used, it should be combined with a Level 1 drug.

Table 8. Management of acute pain in fractures and burns.

Condition	First choice of treatment	Second choice of treatment (if first choice is inadequate: VAS > 3 or no return to original level of activity)
Non-displaced fracture	Immobilisation ± Level 2	If pain persists after immobilisation, Level 3
Displaced fracture	Level 3 before and after immobilisation	Increase in dose
Fracture reduction	General anaesthesia	
Superficial and local burn	Level 2 (as soon as the treating doctor has arrived)	Sustained-release oral morphine and intermediate doses of rapid onset oral morphine
Deep or extensive burn	Oral morphine as soon as the treating doctor has arrived Titration of intravenous morphine or fentanyl if managed by SMUR or SAMU ambulance personnel	Morphine IV or immediate-release oral then, if pain is stabilised, sustained-release morphine ± intermediate doses of rapid onset oral morphine +/- NSAID
Dressings for burns	MEOPA +/- loading dose of morphine +/- anxiolytic	Deep sedation or general anaesthesia

Disease	< 6 months	6 months-1 year	1 year-6 years	> (6 years
OTITIS	OPINION OF ENT SPECIALIST	Level 1 + local analgesics if eardrum is intact	Level 1 alone Then (NSAID + paracetamol) for 48 h + local analgesics, if eardrum is intact	$\frac{VAS < 5/10}{Level 1 \text{ for } 48 \text{ hours } + \text{ local}}$ analgesics, if eardrum is intact	$\frac{VAS > 5/10}{Level 1 + codeine}$
		If this fails * NSAID + Paracetamol	If this fails * Add codeine	If this fails * Add codeine	If this fails * Increase doses to maximum allowed
DYSPHAGIA		Level 1 alone then in combination	Level 1 alone then in combination (NSAID + paracetamol)	$\frac{VAS < 5/10}{Level 1 \text{ for } 48 \text{ hours}}$	$\frac{VAS > 5/10}{Level 1 + codeine}$
		If this fails * Increase doses up to maximum allowed	If this fails * Add codeine	If this fails * Add codeine	If this fails * Increase doses to maximum allowed
GINGIVITIS - STOMATITIS		Level 1 (but usually inadequate)	Level 2 routinely for 48 hours + lidocaine gel on the lips only 2 mg/kg every 3 hours (maximum 100 mg/dose)	Level 2 routinely for 48 hours + lidocaine gel on lesions every 3 ho mg/kg, maximum 100 mg /dose)	
		If this fails * Morphine	If this fails * Morphine	If this fails * Morphine	

Table 9. Management of acute pain in medical conditions

*: Failure: For children over 6 years able to complete a VAS, failure is defined after one or two doses of analgesics as: VAS not reduced to 3/10 or lower or no decrease in VAS. (For children under 6 years, we define failure as persistent disappearance of the child's basic activities, i.e.: moving, playing, sleeping, talking, eating).

Care procedure	First choice of treatment	Second choice of treatment (if first choice is inadequate: VAS > 3)
Venepuncture	EMLA* for children under 11 years and those who ask for it (grade A)	MEOPA [†] combined with EMLA for children who are hard to inject or who are afraid of the procedure Sedation in the event of failure of EMLA + MEOPA
Vaccination, subcutaneous injections	Routine EMLA for repeated injections EMLA as required for occasional injections	
Intradermal reaction	EMLA	
Sutures	MEOPA followed by local anaesthesia with injectable buffered lidocaine (9 ml of lidocaine for 1 ml of 88 mEq/100ml)	Sedation or general anaesthesia
Lumbar puncture	MEOPA and/or EMLA	
Myelograms	MEOPA and EMLA	Sedation or general anaesthesia
Paracentesis	MEOPA for children over 6 months	General anaesthesia
Retraction of the foreskin	Lidocaine gel and MEOPA	Sedation or general anaesthesia
Verruca removal	Injectable lidocaine (grade A) and/or MEOPA	Sedation or general anaesthesia

Table 10. Management of acute pain caused by care

* EMLA: anaesthetic cream, a mixture of lidocaine and prilocaine. [†] MEOPA: equimolar mixture of oxygen and nitrogen protoxide