

# Cancer Pain Assessment and Classification

Peter Lawlor  
Elisabeth Bruyère & University of Ottawa



4/06/2012

EAPC Preconf Plenary

1

## Goals of systematic cancer pain assessment and classification

- Clinical care
  - Screening
  - Pain Rx / Patient Triage / Provision of Holistic Care
  - Communication with patient / family
  - Interdisciplinary communication / common language
- Audit, Quality Assurance, Service development
- Educational
- Research

## Objectives

1. To appreciate the rationale for use of cancer pain assessment and classification tools
2. Be aware of the deficits and challenges in pain assessment and classification
  - a) in clinical practice and
  - b) in cancer pain audit and research studies

### review

*Annals of Oncology* 19: 1985–1991, 2008  
doi:10.1093/annonc/mdn419  
Published online 15 July 2008

## Prevalence of undertreatment in cancer pain. A review of published literature

S. Deandrea<sup>1,2\*</sup>, M. Montanari<sup>3,4</sup>, L. Moja<sup>5</sup> & G. Apolone<sup>3,4</sup>

<sup>1</sup>Laboratory of Epidemiological Methods, Department of Epidemiology, Mario Negri Institute for Pharmacological Research, Milano; <sup>2</sup>Department of Epidemiology, Institute of Medical Statistics and Biometry, University of Milano, Milano; <sup>3</sup>Center for the Evaluation and Research on Pain, Department of Oncology, Mario Negri Institute for Pharmacological Research, Milano; <sup>4</sup>Laboratory of Translational and Outcome Research, Department of Oncology, Mario Negri Institute for Pharmacological Research, Milano; <sup>5</sup>Department of Oncology, Italian Cochrane Centre, Mario Negri Institute for Pharmacological Research, Milano

Received 5 March 2008; revised 2 June 2008; accepted 9 June 2008

**Background:** Pain is a major health care problem for patients with cancer; despite the existence of guidelines for cancer pain management, undertreatment is a widespread problem. Pain Management Indexes (PMIs) evaluate the congruence between the patient's reported level of pain and the intensity/strength of the analgesic therapy. Negative scores indicate inadequate prescriptions.

**Materials and methods:** We conducted a Medline search using terms for 'pain management', 'index' or 'measure' to select studies which measured undertreatment in cancer settings. Univariate and multivariate logistic regression identified associations between independent predictors and high prevalence of undertreatment.

**Results:** Among the 44 studies identified, 26 studies used the PMI as proposed by Cleeland. The range of negative PMI varied from 8% to 82% with a weighted mean value of 43%. In multivariate analyses, factors associated with negative PMI were date of publication before 2001, provenance from Europe or Asia and countries with a gross national income per capita <\$40 000 per year and a care setting not specific for cancer. Age was not a significant predictor for undertreatment.

**Conclusion:** Nearly one of two patients with cancer pain is undertreated. The percentage is high, but consists of a large variability of undertreatment across studies and settings.

## Physician attitudes and practice in cancer pain management. A survey from the Eastern Cooperative Oncology Group.

Von Roenn et al *Annals of Int Med* 1993

- Physician cancer pain questionnaire
- 897/1800 analyzed
- Poor assessment was rated by 76% as the single most important barrier to adequate pain management
- Other barriers (62%)
  - Under reporting by patients
  - Reluctance to take analgesia

### Medical Oncologists' Attitudes and Practice in Cancer Pain Management: A National Survey

Brenda Breuer, Stewart B. Fleishman, Ricardo A. Cruciani, and Russell K. Portenoy

See accompanying editorial on page 4742; listen to the podcast by Dr Bruera at [www.jco.org/podcast](http://www.jco.org/podcast)

#### A B S T R A C T

##### Purpose

To evaluate the attitudes, knowledge, and practices of US medical oncologists that are related to management of cancer pain.

##### Methods

An anonymous survey was mailed to a geographically representative sample of medical oncologists randomly selected from the American Medical Association's Physician Master File.

##### Results

From a total of 2,000 oncologists, 354 responded to the original questionnaire and 256 responded to one of two subsequent shortened versions (overall response rate, 32%). Responders were demographically similar to all US medical oncologists. Using numeric rating scales of 0 to 10, oncologists rated their specialty highly for the ability to manage cancer pain (median, 7; interquartile range [IQR], 6 to 8) but rated their peers as more conservative prescribers than themselves (median, 3; IQR, 2 to 5). The quality of pain management training during medical school and residency was rated as 3 (IQR, 1 to 5) and 5 (IQR, 3 to 7), respectively. The most important barriers to pain management were poor assessment (median, 6; IQR, 4 to 7) and patient reluctance to take opioids (median, 6; IQR, 5 to 7) or report pain (median, 6; IQR, 4 to 7). Other barriers included physician reluctance to prescribe opioids (median, 5; IQR, 3 to 7) and perceived excessive regulation (median, 4; IQR, 2 to 7). In response to two vignettes describing challenging clinical scenarios, 60% and 87%, respectively, endorsed treatment decisions that would be considered unacceptable by pain specialists. Frequent referrals to pain or palliative care specialists were reported by only 14% and 16%, respectively.

##### Conclusion

These data suggest that, for more than 20 years, a focus on cancer pain has not adequately addressed the perception of treatment barriers or limitations in pain-related knowledge and practice within the oncology community. Additional efforts are needed to achieve meaningful progress.

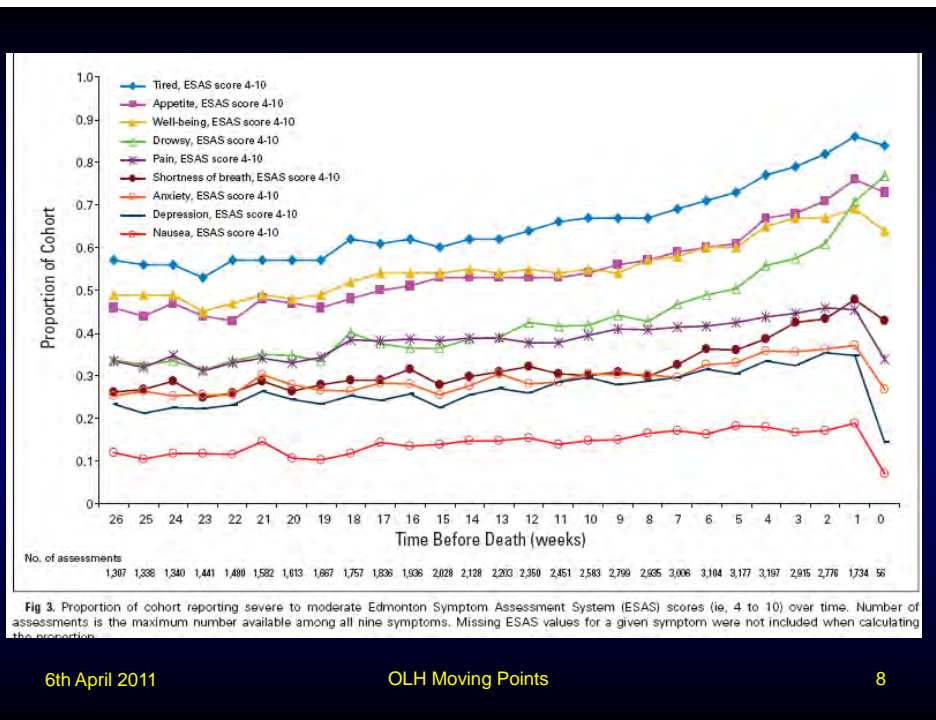
4/06/2012

6

## Pain as 5<sup>th</sup> Vital Sign in hospitalized pts

- Does the incorporation of pain as the 5<sup>th</sup> vital sign lead to improved cancer pain control?
  - Yes: Fallon et al using the EPAT CP in Acute Care
  - No: Morrison & Goldberg in Syst Review JCO 2007
- Controversy surrounds this issue especially in USA
  - Misinterpretation: see Arch Surg 2007 and 2008
  - Litigation for under-treatment
  - Litigation for over-treatment
  - Debate has been mainly on postoperative pain control

“To a man with a hammer, everything looks like a nail” *Mark Twain 1835-1910*



## CP Assessment in Controlled Clinical Trials in Oncology *Caraceni et al JPSM 2005*

- Articles selected for evaluation N=68
- Unidimensional scales used in 69%
- Time reference interval - a problem in 70%
- Lack of clarity in design and data analysis re
  - Pain outcome measure in 40%
  - Patient compliance with assessment in 98%
  - Impact of missing data in 56%

## Pain Assessment Tools: Is the Content Appropriate for Use in Pall Care?

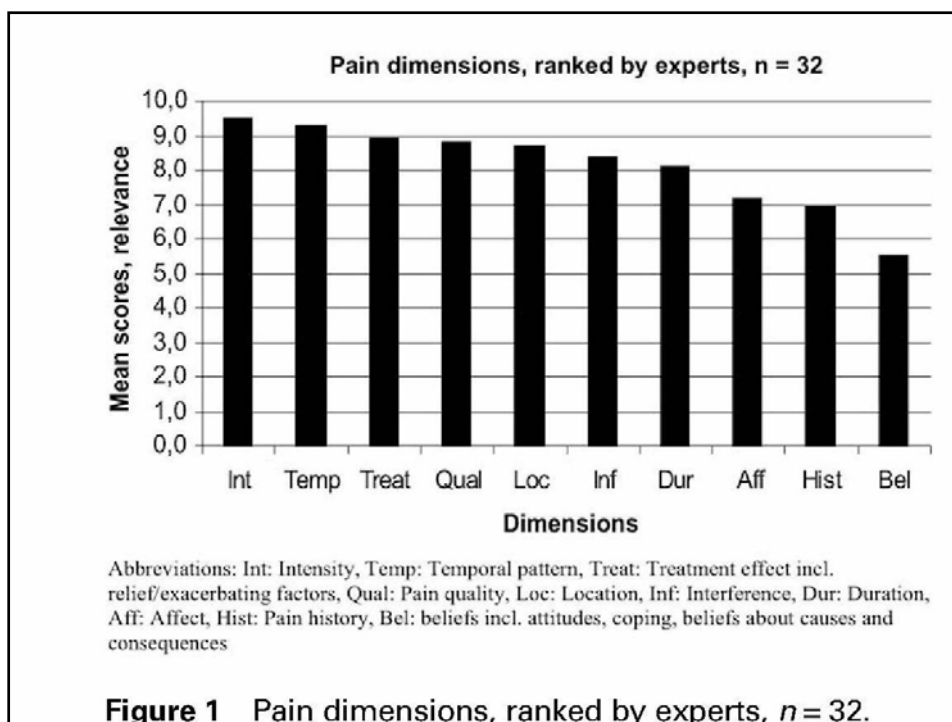
*Holen et al JPSM 2006;32:567-580*

- Problems with content validity
- Problems with burden / non completion
  - <58% of Ca pts could fully complete the full BPI
  - 2 other studies: 35-40% unable to fully complete BPI-sf
- Identified 80 different assessment tools up to 2003
  - 10 dimensions identified

## Pain assessment tools in PC: an urgent need for consensus

*Hjermstad et al (EPCRC) Pall Med 2008;22:895-903*

- Challenges in clinical practice:
  - Pain not routinely measured
  - Content validity concerns / Tool Format issues
  - Too much choice! Many ad hoc tools
  - Burden issues / Clinical practice integration
- Review of 2003-2008 identified 11 tools
- Survey of 32/45 (71%) international experts
  - NRS preferred for pain intensity assessment
  - Time reference interval ideally 24 hours
  - Pain worst and pain average



European Journal of Pain 14 (2010) 441–445

Contents lists available at ScienceDirect



## European Journal of Pain

journal homepage: [www.EuropeanJournalPain.com](http://www.EuropeanJournalPain.com)



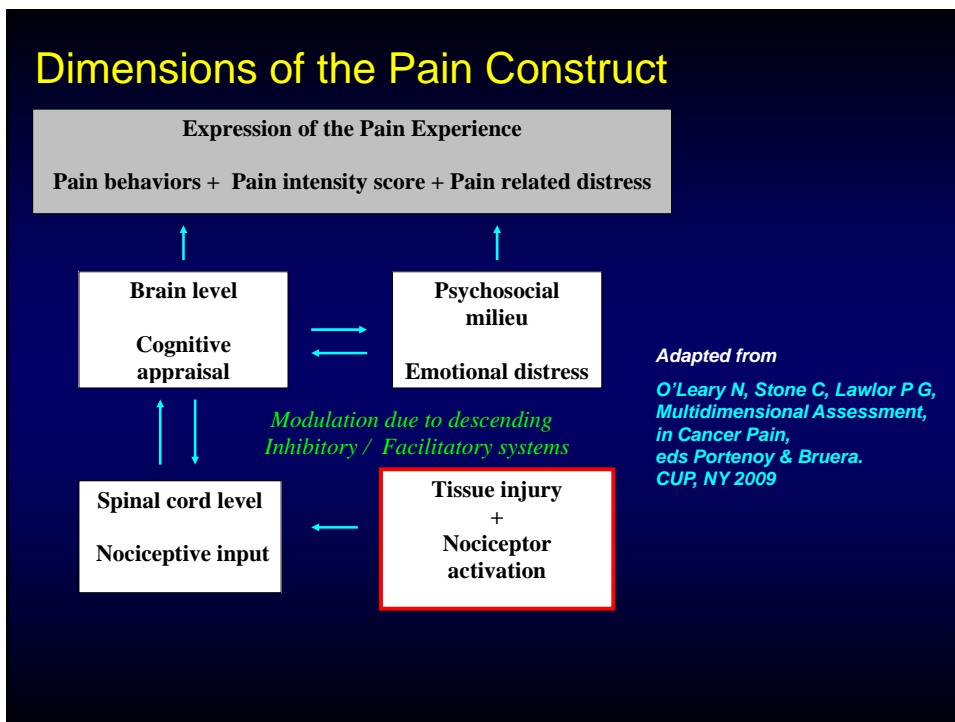
---

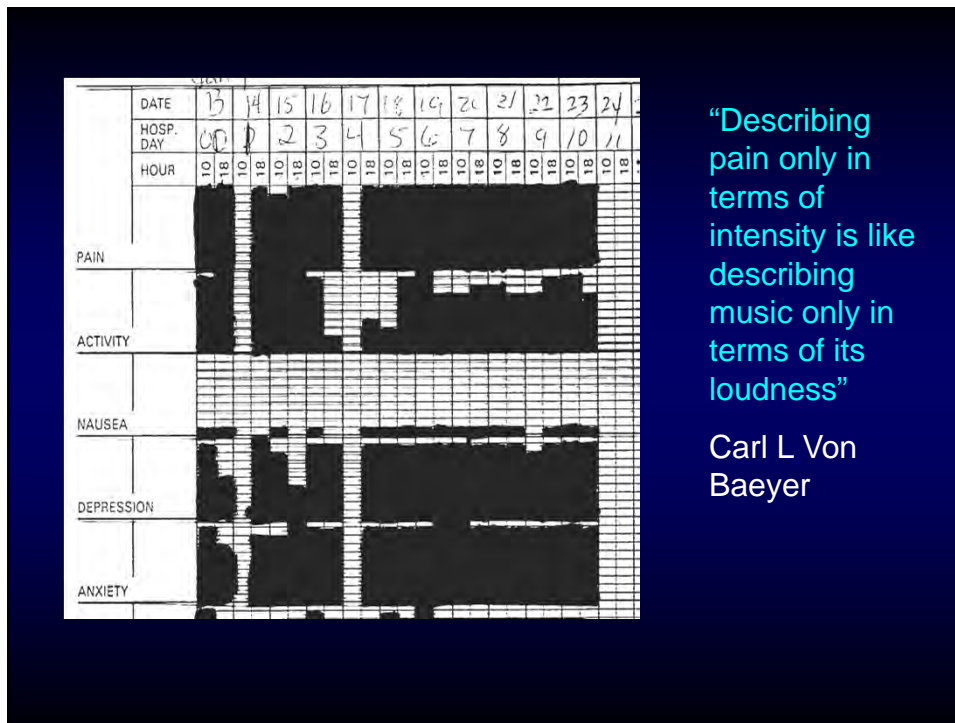
**The validity of average 8-h pain intensity assessment in cancer patients**

Augusto Caraceni <sup>a,\*</sup>, Ernesto Zecca <sup>a</sup>, Cinzia Martini <sup>a</sup>, Cinzia Brunelli <sup>a</sup>, Alessandra Pigni <sup>a</sup>, Giovanna Gorni <sup>a</sup>, Anna Galbiati <sup>a</sup>, Myrta Ibazeta <sup>a</sup>, Marianne Hjermsstad <sup>b,c</sup>, Stein Kaasa <sup>b,d</sup>

<sup>a</sup> Palliative Care Unit (Pain Therapy – Rehabilitation), Fondazione IRCCS Istituto Nazionale Tumori, Milano, Italy  
<sup>b</sup> Department of Cancer Research and Molecular Medicine, Faculty of Medicine, Norwegian University of Science and Technology (NTNU), Trondheim, Norway  
<sup>c</sup> Palliative Medicine Unit, The Cancer Center, Ullevaal University Hospital, Oslo, Norway  
<sup>d</sup> Palliative Medicine Unit, Department of Oncology, St. Olavs University Hospital, Trondheim, Norway

4/06/2012
EAPC Preconf Plenary
13





*Palliative Medicine* 2009; **23**: 295–308

### Classification of pain in cancer patients – a systematic literature review

**AK Knudsen** Pain and Palliation Research Group and Department of Cancer Research and Molecular Medicine, Faculty of Medicine, NTNU, Trondheim University Hospital, Trondheim, **N Aass** Pain and Palliation Research Group and Department of Cancer Research and Molecular Medicine, Faculty of Medicine, NTNU, Trondheim University Hospital, Trondheim; Division of Cancer Medicine and Radiotherapy, Rikshospitalet University Hospital, Oslo; The Cancer Center, Ullevål University Hospital, Oslo, **R Fainsinger** Division of Palliative Care Medicine, University of Alberta, Edmonton, Alberta, **A Caraceni** Palliative Care Unit, Fondazione IRCCS, Istituto Nazionale Dei Tumori, Milano, **P Klepstad** Pain and Palliation Research Group and Department of Cancer Research and Molecular Medicine, Faculty of Medicine, NTNU, Trondheim University Hospital, Trondheim; Department of Anaesthesiology and Emergency Medicine, Intensive Care Unit, St. Olav University Hospital, Trondheim, **M Jordhøy** Cancer Unit, Department of Internal Medicine, Innlandet Hospital Trust, Gjøvik, **MJ Hjermstad** Pain and Palliation Research Group and Department of Cancer Research and Molecular Medicine, Faculty of Medicine, NTNU, Trondheim University Hospital, Trondheim; The Cancer Center, Ullevål University Hospital, Oslo and **S Kaasa** Pain and Palliation Research Group and Department of Cancer Research and Molecular Medicine, Faculty of Medicine, NTNU, Trondheim University Hospital, Trondheim; Palliative Medicine Unit, Department of Oncology, Trondheim University Hospital, Trondheim, On behalf of the [European Palliative Care Research Collaborative \(EPCRC\)](#)

- To identify and describe cancer pain classification systems
  - development and validation
  - Domains, items therein, and their methods of assessment
  - Impact on clinical studies
  - Prediction of pain response

May 29th 2012

J Club EB

16



*A systematic literature review of classification of pain in cancer patients* 299

**Table 1** Main content of the formal, systematically developed and partially validated classification systems

Classification of Chronic Pain of the International Association for the Study of Pain	The Edmonton Classification System for Cancer Pain	The Cancer Pain Prognostic Scale
Regions involved (axis I)	Pain mechanism	Mixed pain
Systems involved (axis II)	Incident pain	Worst pain severity
Temporal characteristics (axis III)	Psychological distress	Daily opioid dose
Pain intensity/time since onset of pain (axis IV)	Addictive behaviour	Emotional well-being
Aetiology (axis V)	Cognitive function	

*Knudsen AK et al Pall Med 2009;23:295-308*

**Table 2** Summary of content of formal classification systems and characteristics not formally described as part of a classification system applied in the clinical studies

Category	Domain	Formal classification systems (Clinical studies n = 6)			Formal, not validated classification systems (n = 6)			Characteristics not formally described as part of a classification system (n = 43)
		IASP	ECS-CP	CPPS	Prognostic tool for pain treatment <sup>(a)</sup>	OEI	PMI	
Pain characteristics	Intensity	X		X	X		X	34
	Temporal variation/ breakthrough pain	X	X		X			13
	Mechanism/pathophysiology		X	X				17
	Aetiology	X						9
	Location	X						9
	Treatment							18
	Treatment response				X		X	12
	Syndromes	X						3
	Psychological distress		X	X				10
	Cognitive function		X					0
Patient characteristics relevant for cancer pain classification	Addictive behaviour		X					0
	Physical functioning							17*
	Interference							12
	Weight changes							3*
	Primary cancer diagnosis							37*
	Stage of disease							39*
	Location of metastases							6
	Tumour-directed treatment							3
	Survival							3*
	Demographics	Age, gender, occupation, education, marital status, medical history						

IASP, The International Association for the Study of Pain; Classification of Chronic Pain; ECS-CP, Edmonton Classification System for Cancer Pain; CPPS, Cancer Pain Prognostic Scale; OEI, Opioid Escalation Index; PMI, Pain Management Index.  
 \*Not focus in the studies, but recorded as part of several background variables.

*Knudsen AK et al Pall Med 2009;23:295-308*

**Table 1a. Sample of the Edmonton Classification System for Cancer Pain (ECS-CP)**

**Capital Health** **Centre for Health Change** **Community Care Services**  
*Regional Palliative Care Program*  
*Improving the Quality of Living and Dying*

**Edmonton Classification System for Cancer Pain**

Patient Name: \_\_\_\_\_  
 Patient ID No: \_\_\_\_\_

For each of the following features, circle the response that is most appropriate, based on your clinical assessment of the patient.

- Mechanism of Pain**
  - No No pain syndrome
  - Nc Any nociceptive combination of visceral and/or bone or soft tissue pain
  - Ne Neuropathic pain syndrome with or without any combination of nociceptive pain
  - Nx Insufficient information to classify
- Incident Pain**
  - I0 No incident pain
  - I1 Incident pain present
  - Ix Insufficient information to classify
- Psychological Distress**
  - P0 No psychological distress
  - Pp Psychological distress present
  - Px Insufficient information to classify
- Addictive Behavior**
  - A0 No addictive behavior
  - Aa Addictive behavior present
  - Ax Insufficient information to classify
- Cognitive Function**
  - C0 No impairment. Patient able to provide accurate present and past pain history unimpaired
  - C1 Partial impairment. Sufficient impairment to affect patient's ability to provide accurate present and/or past pain history
  - Cu Total impairment. Patient unresponsive, delirious or demented to the stage of being unable to provide any present and past pain history
  - Cx Insufficient information to classify.

ECS-CP profile: \_\_\_\_\_ (combination of the five circled responses, one for each category)

Assessed by: \_\_\_\_\_ Date: \_\_\_\_\_

©2010/11/12 Program Breakthrough 1 CLINICAL Assessment Tools/10/11 Edmonton Classification System for Cancer Pain (ECS-CP) Manual.doc  
 ECS-CP Administration Manual Revised 23-Nov-2010

## Stable Pain Control

For 3 Consecutive Days:	Cognitively Intact	Cognitively Impaired
< 3 PRN doses per day	√	√
Pain-NRS ≤ 3/10	√	

May 22nd 2012
Acad Half Day
20

**Fig 1. Kaplan-Meier curves for pain intensity (n = 591)**



Median time to Stable Pain Control

Mild: 4 (3-4)

Moderate: 8 (6-11)

Severe: 22 (15-27)

Fainsinger, R. L. et al. *J Clin Oncol*; 27:585-590 2009

JOURNAL OF CLINICAL ONCOLOGY

EUROPEAN JOURNAL OF CANCER 46 (2010) 2896-2904

available at [www.sciencedirect.com](http://www.sciencedirect.com)

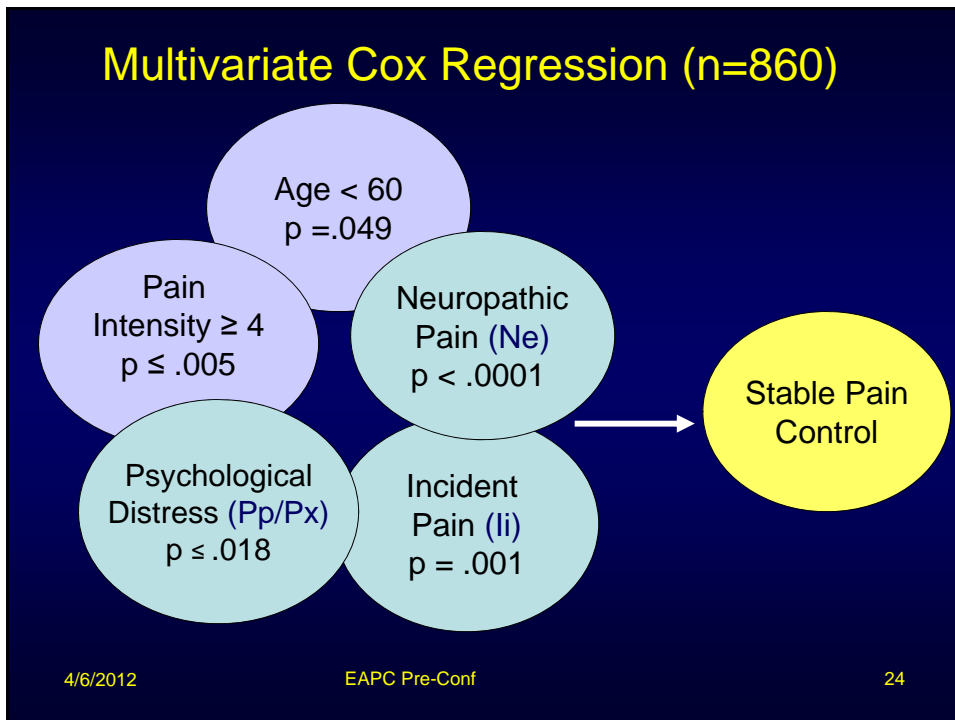
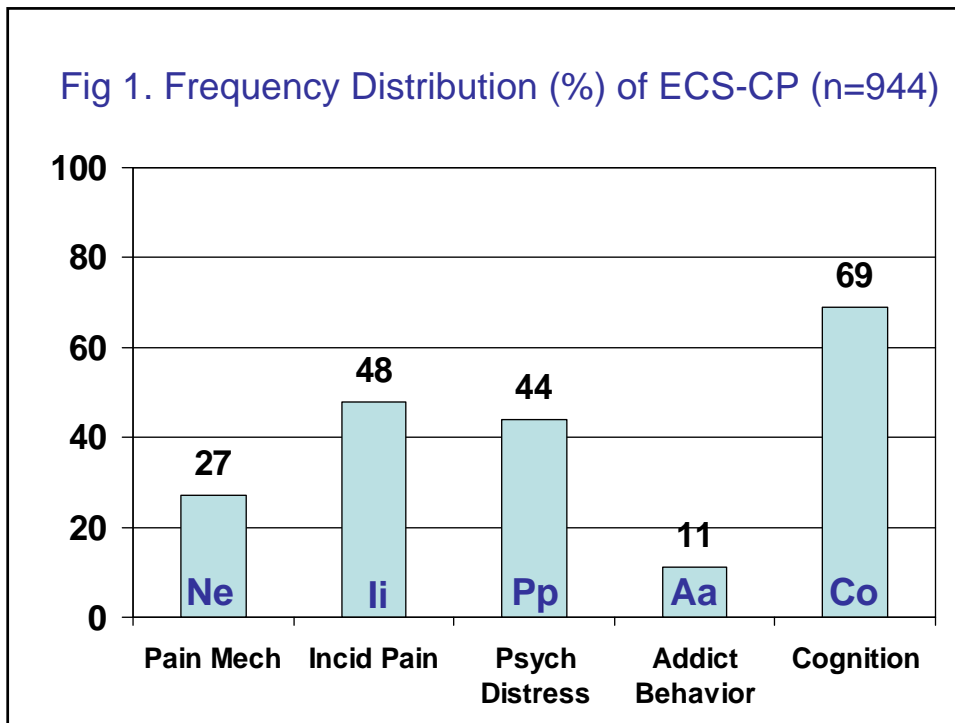
ScienceDirect

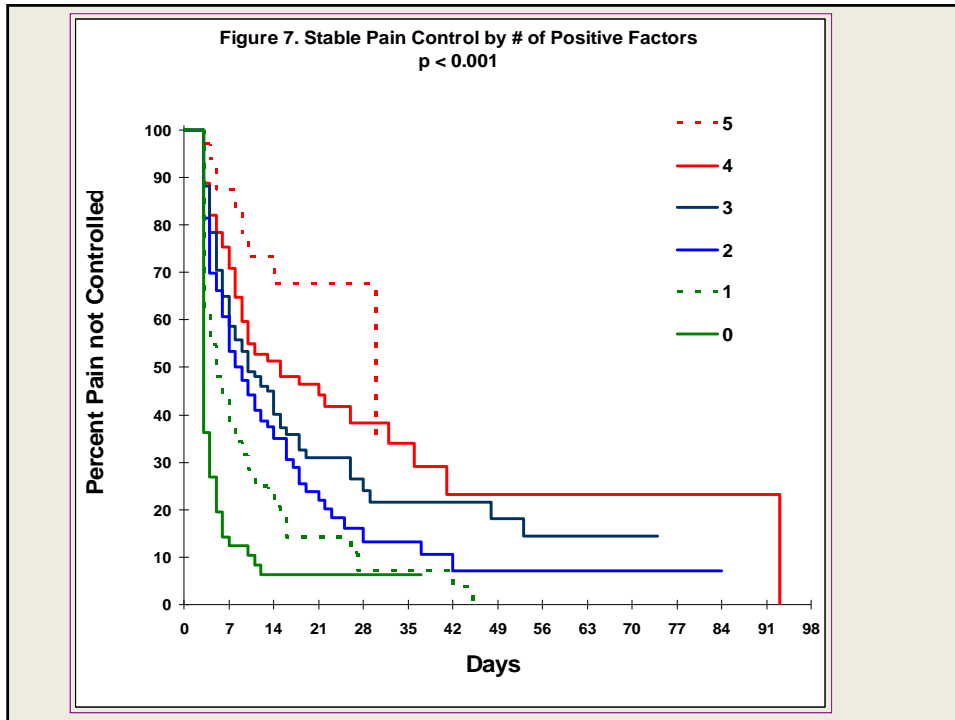
journal homepage: [www.ejconline.com](http://www.ejconline.com)

**An international multicentre validation study of a pain classification system for cancer patients** ☆

Robin L. Fainsinger <sup>a,\*</sup>, Cheryl Nekolaichuk <sup>a</sup>, Peter Lawlor <sup>b</sup>, Neil Hagen <sup>c</sup>,  
 Michaela Bercovitch <sup>d</sup>, Michael Fisch <sup>e</sup>, Lyle Galloway <sup>c</sup>, Gina Kaye <sup>f</sup>, Willem Landman <sup>g</sup>,  
 Odette Spruyt <sup>h</sup>, Donna Zhukovsky <sup>e</sup>, Eduardo Bruera <sup>e</sup>, John Hanson <sup>i</sup>

<sup>a</sup> University of Alberta, Edmonton, Canada  
<sup>b</sup> University of Ottawa, Ottawa, Canada  
<sup>c</sup> University of Calgary, Calgary, Canada  
<sup>d</sup> Tel Hashomer Hospice, Tel Aviv, Israel  
<sup>e</sup> M.D. Anderson Cancer Center, Houston, United States  
<sup>f</sup> South Auckland Hospice, Auckland, New Zealand  
<sup>g</sup> Middlemore Hospital, Auckland, New Zealand  
<sup>h</sup> Peter MacCallum Cancer Centre, Melbourne, Australia  
<sup>i</sup> Cross Cancer Institute, Edmonton, Canada





**Amigo et al J of Palliative Med 2008**

TABLE 1. ECS-CP PROFILE ACROSS DIFFERENT SITES

	Sites								Chi square	P
	RAH (n = 474)		UAH (n = 356)		TPCU (n = 120)		CCT (n = 769)			
	N	%	N	%	N	%	N	%	N	%
<b>Pain mechanism</b>										
Neuropathic	42	8.9	35	9.8	38	37.1	128	16.6	243	14
Non-neuropathic	432	91.1	321	90.2	82	68.3	641	83.4	1476	86
<b>Total</b>	<b>474</b>	<b>100</b>	<b>356</b>	<b>100</b>	<b>120</b>	<b>100</b>	<b>769</b>	<b>100</b>	<b>1719</b>	<b>100</b>
<b>Incident pain</b>										
Present	94	19.9	134	37.6	63	52.5	377	49.1	668	38.9
Absent	379	80.1	222	62.4	57	47.5	391	50.9	1049	61.1
<b>Total</b>	<b>473</b>	<b>100</b>	<b>356</b>	<b>100</b>	<b>120</b>	<b>100</b>	<b>768</b>	<b>100</b>	<b>1717</b>	<b>100</b>
<b>Psychological distress</b>										
Present	61	12.9	108	30.4	59	49.2	161	21.1	389	22.7
Absent	412	87.1	247	69.6	61	50.8	601	78.9	1321	77.3
<b>Total</b>	<b>473</b>	<b>100</b>	<b>355</b>	<b>100</b>	<b>120</b>	<b>100</b>	<b>762</b>	<b>100</b>	<b>1710</b>	<b>100</b>
<b>Addictive behaviour</b>										
Present	42	8.9	40	11.3	16	13.7	55	7.2	153	9
Absent	430	91.1	314	88.7	101	86.3	711	92.8	1556	91.0
<b>Total</b>	<b>472</b>	<b>100</b>	<b>354</b>	<b>100</b>	<b>117</b>	<b>100</b>	<b>766</b>	<b>100</b>	<b>1709</b>	<b>100</b>
<b>Cognitive function</b>										
Normal	255	53.9	230	65.3	86	72.3	457	59.8	1028	60.2
Impaired	218	46.1	122	34.7	33	27.7	307	40.2	680	39.8
<b>Total</b>	<b>473</b>	<b>100</b>	<b>352</b>	<b>100</b>	<b>119</b>	<b>100</b>	<b>764</b>	<b>100</b>	<b>1708</b>	<b>100</b>

European Journal of Pain 15 (2011) 320–327

Contents lists available at ScienceDirect



**European Journal of Pain**

journal homepage: [www.EuropeanJournalPain.com](http://www.EuropeanJournalPain.com)



**Which variables are associated with pain intensity and treatment response in advanced cancer patients? – Implications for a future classification system for cancer pain**

Anne Kari Knudsen <sup>a,\*</sup>, Cinzia Brunelli <sup>b</sup>, Stein Kaasa <sup>a,c</sup>, Giovanni Apolone <sup>d</sup>, Oscar Corli <sup>d</sup>, Mauro Montanari <sup>d</sup>, Robin Fainsinger <sup>e</sup>, Nina Aass <sup>f</sup>, Peter Fayers <sup>a,g</sup>, Augusto Caraceni <sup>b</sup>, Pål Klepstad <sup>a,h</sup>, On behalf of the European Palliative Care Research Collaborative (EPCRC) <sup>1</sup> and the European Pharmacogenetic Study (EPOS) <sup>1</sup>

<sup>a</sup> European Palliative Care Research Centre, Faculty of Medicine, NTNU, NO-7006 Trondheim, Norway  
<sup>b</sup> Palliative Care Unit, Fondazione IRCCS, Istituto Nazionale Dei Tumori, IT-20123 Milan, Italy  
<sup>c</sup> Palliative Medicine Unit, Dept. of Oncology, Trondheim University Hospital, NO-7006 Trondheim, Norway  
<sup>d</sup> Center for the Evaluation and Research on Pain (CERP), Dept. of Oncology, Istituto di Ricerche Farmacologiche 'Mario Negri', IT-20156 Milan, Italy  
<sup>e</sup> Division of Palliative Care Medicine, University of Alberta, 217 – Health Services Centre, 1090 Youville Drive West, Room Edmonton, Edmonton, AB, Canada T6L 5X8  
<sup>f</sup> Faculty of Medicine, University of Oslo, NO-3015 Oslo, Norway  
<sup>g</sup> Section of Population Health, Institute of Applied Health Sciences, University of Aberdeen, Polwarth Building, Foresterhill, Aberdeen AB25 2ZD, UK  
<sup>h</sup> Dept. of Anesthesiology and Emergency Medicine, Intensive Care Unit, Trondheim University Hospital, NO-7006 Trondheim, Norway

May 29th 2012
J Club EB
27

**Table 4**  
Multivariate regression analyses: the final models for all three dependent variables.

Independent variables	Dependent variables	'Pain on the average'		
		$\beta^a$	CI <sup>b</sup>	Stand. $\beta^c$
		<i>N</i> = 1870		
		<i>R</i> <sup>2</sup> adj. = 0.17		
Const.		2.22	1.63, 2.80	–
Breakthrough pain		0.87	0.68, 1.06	0.20
Psychological distress		–0.01	–0.01, –0.006	–0.12
Pain mechanism	Mixed	0.34	0.14, 0.54	0.07
	Bone soft-tissue	–	–	–
Sleep		0.47	0.27, 0.68	0.10
Non-opioids		0.32	0.14, 0.51	0.07
Pain localisation	Upper extremities	0.42	0.17, 0.68	0.07
	Lower extremities	–	–	–
	Back	–	–	–
Opioid dose (lg)		0.23	0.14, 0.31	0.12
Cancer diagnosis	Prostate cancer	–0.44	–0.72, –0.16	–0.07
Location of metastases	Liver metastases	–0.39	–0.61, –0.18	–0.08
Addictive behaviour		–	–	–

<sup>a</sup> Regression coefficient.  
<sup>b</sup> 95% confidence interval.  
<sup>c</sup> Standardised beta.

*Knudsen AK et al E J Pain 2011;15:320-327*

May 29th 2012
J Club EB
28

PAIN<sup>®</sup> 153 (2012) 696–703PAIN<sup>®</sup>

www.elsevier.com/locate/pain

## Which domains should be included in a cancer pain classification system? Analyses of longitudinal data

Anne Kari Knudsen<sup>a,b,\*</sup>, Cinzia Brunelli<sup>c,1</sup>, Pål Klepstad<sup>d,i,1</sup>, Nina Aass<sup>e,f,1</sup>, Giovanni Apolone<sup>g,1</sup>, Oscar Corli<sup>h,1</sup>, Mauro Montanari<sup>h,1</sup>, Augusto Caraceni<sup>a,c,1</sup>, Stein Kaasa<sup>a,b,1</sup>

<sup>a</sup> European Palliative Care Research Centre, Department of Cancer Research and Molecular Medicine, Faculty of Medicine, Norwegian University of Science and Technology, Trondheim, Norway

<sup>b</sup> Department of Oncology, Trondheim University Hospital, Trondheim, Norway

<sup>c</sup> Palliative Care, Pain Therapy and Rehabilitation Unit, Fondazione IRCCS (Istituto di Ricovero e Cura a Carrattere Scientifico [Italian Research Hospital]), Istituto Nazionale Dei Tumori, Milano, Italy

<sup>d</sup> Department of Anesthesiology and Emergency Medicine, Intensive Care Unit, Trondheim University Hospital, Trondheim, Norway

<sup>e</sup> Faculty of Medicine, University of Oslo, Oslo, Norway

<sup>f</sup> Regional Center for Excellence in Palliative Care, Oslo University Hospital, Oslo, Norway

<sup>g</sup> Scientific Directorate, IRCCS Arcispedale Santa Maria Nuova, Reggio-Emilia, Italy

<sup>h</sup> Center for the Evaluation and Research on Pain, Department of Oncology, Istituto di Ricerche Farmacologiche Mario Negri, Milan, Italy

<sup>i</sup> Department of Circulation and Medical Imaging, Faculty of Medicine, Norwegian University of Science and Technology, Trondheim, Norway

*Knudsen AK et al Pain 2012;153:696-703*

May 29th 2012

J Club EB

29

**Table 3**  
Results from cross-sectional analyses (part A).

Domains	Outcomes								
	Pain on average last week NRS-11 (BPI) n = 1520			Pain at its worst last week NRS-11 (BPI) n = 1480			Pain relief last week NRS-11 (BPI) n = 1480		
	Beta <sup>a</sup>	CI	Stand. beta	Beta	CI	Stand. beta	Beta	CI	Stand. beta
Const.	1.73***	1.04–2.41	–	5.39***	4.38–6.41	–	58.1***	48.0–68.2	–
Incident pain	0.64***	0.44–0.84	0.16***	0.87***	0.63–1.11	0.20***	–	–	–
Sleep	0.39***	0.28–0.50	0.16***	0.38***	0.24–0.51	0.14***	–4.7***	–6.2––3.2	–0.15***
Pain localisation:									
Upper extremities	0.53**	0.21–0.84	0.08**	–	–	–	–	–	–
Head	–	–	–	–	–	–	–6.1**	–10.6––1.5	–0.06**
MEDD at inclusion (mg)	–	–	–	0.17**	0.07–0.27	0.08**	–	–	–
Use of NSAIDs	–	–	–	0.36**	0.12–0.60	0.08**	–	–	–
Adjusted R <sup>2</sup>	0.26		0.21	0.22					

*Knudsen AK et al Pain 2012;153:696-703*

May 29th 2012

J Club EB

30

**Table 5**  
Results from multivariate analysis of longitudinal data CPOR (part B).

Domains	Outcomes								
	Pain on average last week NRS-11 (BPI) n = 348			Pain at its worst last week NRS-11 (BPI) n = 351			Pain relief last week NRS-11 (BPI) n = 348		
	Beta <sup>a</sup>	CI	Stand. beta	Beta	CI	Stand. beta	Beta	CI	Stand. beta
Const.	0.81	0.28-1.34	-	4.53	3.19-5.87	-	62.1	50.1-73.2	-
Initial pain intensity <sup>b</sup>	0.44***	0.35-0.54	0.45***	0.44***	0.33-0.55	0.38***	-2.1*	-3.5 to -6.1	-0.16**
Initial pain relief <sup>c</sup>	-	-	-	-	-	-	2.4***	1.4-3.4	0.26***
Incident pain	0.44*	0.08-0.80	0.14**	-	-	-	-	-	-
Localisation of pain: thorax/abdomen	-	-	-	-	-	-	7.2**	2.4-11.9	0.15**
Cancer diagnosis: lung cancer	0.59**	0.20-0.99	0.14**	0.61*	0.13-1.09	0.12*	-7.5**	-12.7 to -2.3	-0.14**
Age	-	-	-	-0.02**	-0.04 to -0.01	-0.13**	-	-	-
Adjusted R <sup>2</sup>	0.24	-	-	0.16	-	-	0.18	-	-

*Knudsen AK et al Pain 2012;153:696-703*

May 29th 2012

J Club EB

31

## Milan 2009: Basic and Specific Working Proposals [BWPs and SWPs] for CPACS

- International consensus needed to classify and assess cancer pain
- Use of similar appropriate assessments in both clinical practice and research
- Domains ECS-CP + location, sleep, depression, anxiety, genetic variations
- ECS-CP template
- PI, PR, Temporal
- NRS, 0-10
- Avg PI; 24hrs, last week
- Avg PI 24hrs to classify
- Patient-rated
- PI in longitudinal monitoring
- Formats

4/06/2012

EAPC Preconf Plenary

32



## Milan Conference 2009: Further Development and Follow-Up [FD]

**FD1:** Future CP Studies to report SWPs

**FD2:** Std international consensus-based methods for BTP, Incident pain, Psych Distress and pain mechanism

**FD3:** Graded decreases[ $\geq 50\%$ , substantial], [ $\geq 30\%$ , meaningful], [15-30%, minor]

**FD4:** Avg PI  $\leq 3$  = controlled,  $\geq 4$  and  $\leq 7$ ??

**FD5:** Std pencil/paper cross cultural, computer based 0-10

**FD6:** Updates and revisions to SWPs to be published

**FD7:** International panel, representative of major bodies, EAPC, IASP etc.

4/06/2012

EAPC Preconf Plenary

33