

# Pain Assessment in the Elderly with Dementia

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# Disclosure Statement

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I have no financial relationship to disclose

And

I will not discuss off label use and/or  
investigational use of a commercial product

# Overview of the presentation

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- I. The problem of persistent pain in long-term care
- II. Measurement of pain in older persons with dementia
  - Review of available pain assessment scales
  - Validation of the *Pain Assessment Checklist for seniors with limited ability to communicate* (PACSLAC)

# The population in Long-Term Care is frail

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- Multiple chronic diseases at advanced or terminal stage
- Severe cognitive and functional loss of autonomy
- $\frac{2}{3}$  with a diagnosis of dementia
- 40-50% with severe limitations in ability to communicate

# Persistent pain is frequent in Long-Term Care

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- Prevalence: 49% – 83%
- Multiple sources of pain are frequent
  - Musculo-squelettal
  - Arthritic
  - Neuropathic
  - Cancer

# Pain is underdetected and undertreated in Long-Term Care

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- Persistent pain undiagnosed in  $\frac{2}{3}$  of residents (Sengstaken et al. 1993)
- 15% of residents with pain had received medication in the preceding 24 hrs (mostly Tylenol) (Ferrel, 1995)
- $< \frac{1}{2}$  of patients with daily pain received medication in the preceding 7 days, with frequent inadequate prescribing (Miller et al. 2002)
- Type and dosage of analgesics frequently inappropriate in LTC patients

## Situation is worse for residents with cognitive impairment and dementia

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- Persistent pain is more prevalent in residents with dementia
- Pain is more frequently undertreated in presence of cognitive problems
- $\frac{2}{3}$  less opioids in demented vs cognitively intact patients for post-op. hip surgery (Morrison et al. 2000)
- No evidence for decreased pain threshold in dementia

## Barriers to adequate pain relief in Long-Term Care

- Frail residents sensitive to side effects of analgesia
- High prevalence of hearing, visual and cognitive deficits
- General belief that *"Pain is a natural and inevitable consequence of aging"*
- Fear of long-term use of analgesia, especially opioids
- Difficulties of pain assessment for residents with inability to communicate

# In summary

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- Persistent pain in Long-Term Care residents with dementia is a highly prevalent but neglected problem
- Need for better pain assessment tools
- Need for better intervention programs

# Pain Assessment Tools

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- Self reports : still valid in residents with mild / moderate dementia (MMSE > 18)
- Observational tools necessary with residents with severe dementia
  - ~ 40% – 50% of residents in Quebec public long-term care settings

# Pain behaviours in the elderly with dementia

## 1. Facial expressions

Sad or frightened face, grimacing, wrinkled forehead, closed or tightened eyes, distorted expression, rapid blinking

## 2. Verbalizations, vocalizations

Sighing, moaning, groaning, grunting, chanting, calling out, noisy breathing, asking for help, verbally abusive

## 3. Body movements

Rigid/tense body posture, guarding, fidgeting, increased pacing, rocking, restricted movement, gait or mobility changes

## 4. Changes in interpersonal interactions

Aggressive, combative, resisting care, decreased social interactions, socially inappropriate, disruptive, withdrawn

## 5. Changes in activity patterns or routines

Refusing food, appetite change, increase in rest periods, sleep/rest pattern changes, sudden cessation of common routines, increased wandering

## 6. Mental status changes

Crying or tears, increased confusion, irritability or distress

# Systematic review of pain assessment tools

## ➤ Selection criteria

- French or English
- Older persons with inability to communicate
- Specific for pain
- Based on observation of behaviours

## ➤ Evaluation criteria

- Content validity (12 questions)
- Construct validity (12 questions)
- Reliability (13 questions)
- Clinical usefulness (10 questions)

# Systematic review of observational scales

24 scales identified (19 English / 5 French)

PACSLAC

PTB

DOLOPLUS-2

PAINAD

PBM

ECS

PADE

PATCOA

ECPA

Abbey Scale

Parke

Lamotte & Vetel

FACS

NOPPAIN

Laurent-Kenesi

Davies

PACI

Simons et Malabar

ADDP

Amy's guide

DS-DAT

CNPI

DS-DATmod

FGS

## Best scoring scales

	Content validity	Construct validity	Reliability	Clinical Use	Global score
	(%)				
<b>PACSLAC</b>	<b>100</b>	<b>67</b>	<b>92</b>	<b>90</b>	<b>87</b>
<b>Abbey scale</b>	<b>81</b>	<b>61</b>	<b>56</b>	<b>93</b>	<b>73</b>
<b>DOLOPLUS</b>	<b>78</b>	<b>53</b>	<b>56</b>	<b>73</b>	<b>65</b>
<b>PADE</b>	<b>56</b>	<b>67</b>	<b>82</b>	<b>53</b>	<b>64</b>
<b>PAINAD</b>	<b>78</b>	<b>50</b>	<b>49</b>	<b>77</b>	<b>63</b>

# Best scoring scales

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## ➤ PACSLAC

- 60 item checklist (present/absent)
- 6 AGS domains covered

## ➤ Abbey's pain scale

- 6 items scored 0-4
- 4/6 AGS domains covered (no evaluation of changes in interpersonal interactions and in mental status)

## ➤ DOLOPLUS-2

- 10 items scored 0-3
- 6 AGS domains covered

# Best scoring scales

- **PADE (Pain Assessment in Demented Elderly)**
  - 24 items scored 0-4
  - 4/6 AGS domains covered (no evaluation of changes in interpersonal interactions and in mental status)
  - Some items refer to functional autonomy
  
- **PAINAD (Pain Assessment in Advanced Dementia)**
  - 5 items scored 0-2
  - 3/6 AGS domains covered (no evaluation of changes in interpersonal interactions, in activities and in mental status)

**Validation of the French version of the *Pain Assessment Checklist for Seniors with Limited Ability to Communicate (PACSLAC)***

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# Objectives

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- Validate a French version of the PACSLAC
- Test the feasibility of integrating the PACSLAC in day-to-day practice in long-term care

# PACSLAC

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## 60 items

- Facial expressions (13 items)
- Activity/Body movements (20 items)
- Social/Personality/Mood (12 items)
- Other (15 items)  
(Physiologic manifestations, sleep, eating, ...)

# METHODS

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## ➤ Phase I: Validation

- Intra/inter observer reliability
- Discriminant validity
- Internal consistency
- Correlation with pain assessment from nurse

## ➤ Phase II: Feasibility

- Convergence validity
- Internal consistency
- Correlation with pain assessment from nurse

# Phase I

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- Training of nurses to the French PACSLAC
- PACSLAC completed by nurses
  - In calm situations
  - In potentially painful situations
  - In potentially distressing situations
- Nurses' perception of pain intensity on a 0-10 scale

# Phase I

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- 86 residents unable to communicate in 2 CHSLD (Quebec City and Montreal)
- Mean age = 84 years
- 62% women
- Average length on stay in CHSLD = 3.5 years
- Dementia (MMSE score = 11.5/30)
- Severe loss of autonomy (MOSES score = 100/128)

# Phase I

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TOTAL NUMBER OF OBSERVATIONS **873**

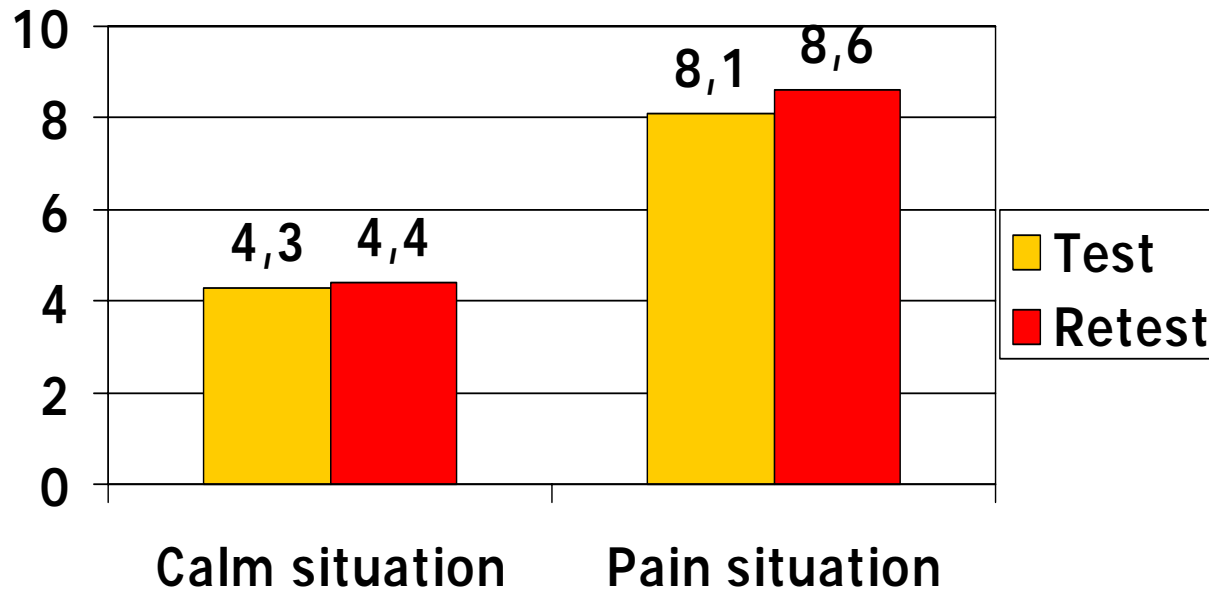
Calm situations 409

Potentially painful situations 403

Potentially distressing situations 61

# Test-retest reliability

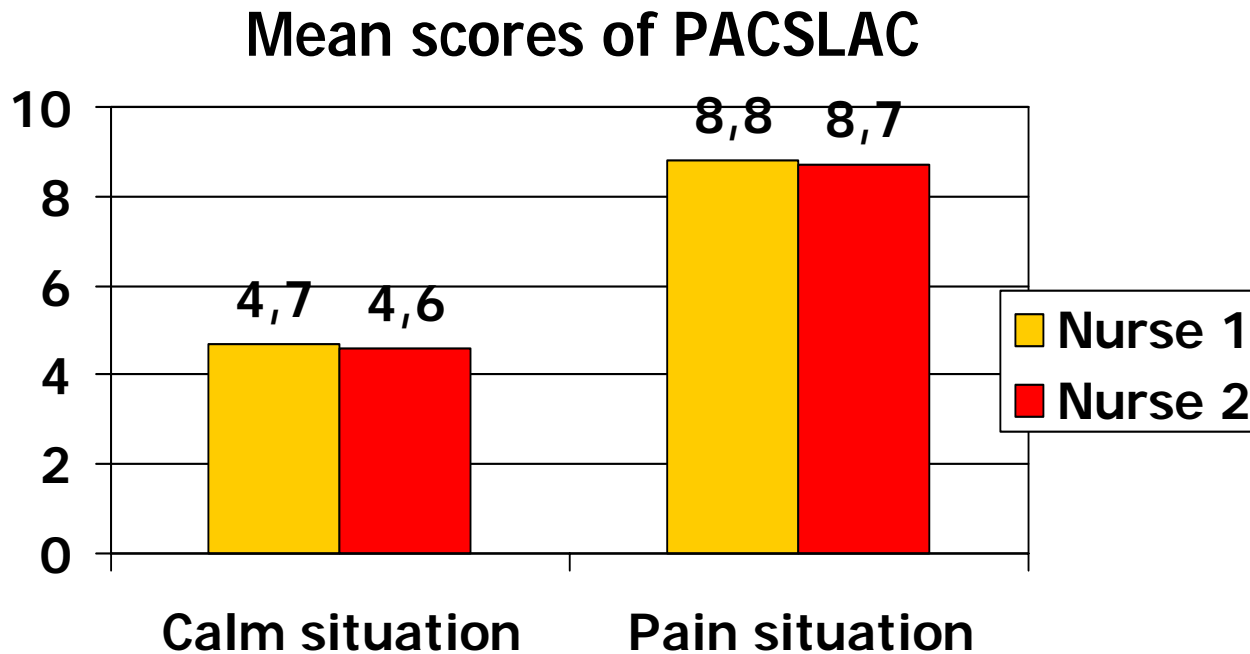
## Mean scores of PACSLAC



Calm situation : Spearman  $r = 0.75$ ,  $p < 0.0001$

Pain situation: Spearman  $r = 0.80$ ,  $p < 0.0001$

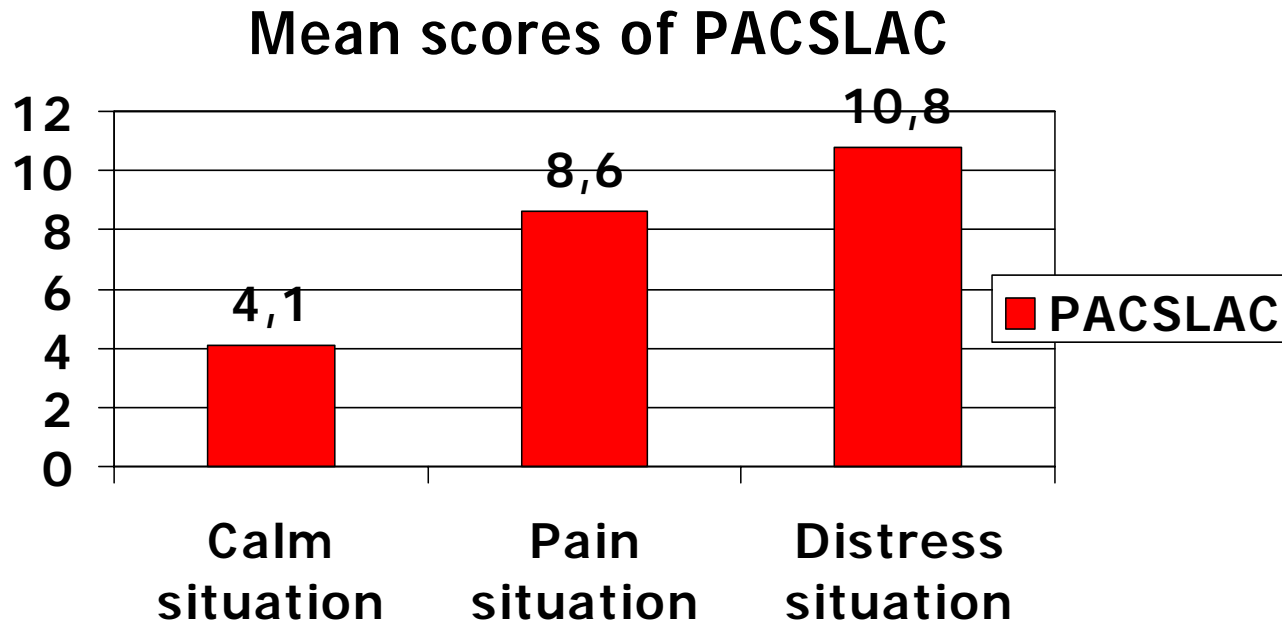
# Inter-observer reliability



Calm situation: Intra-class corrélation coefficient = 0.93,  $p < 0.0001$

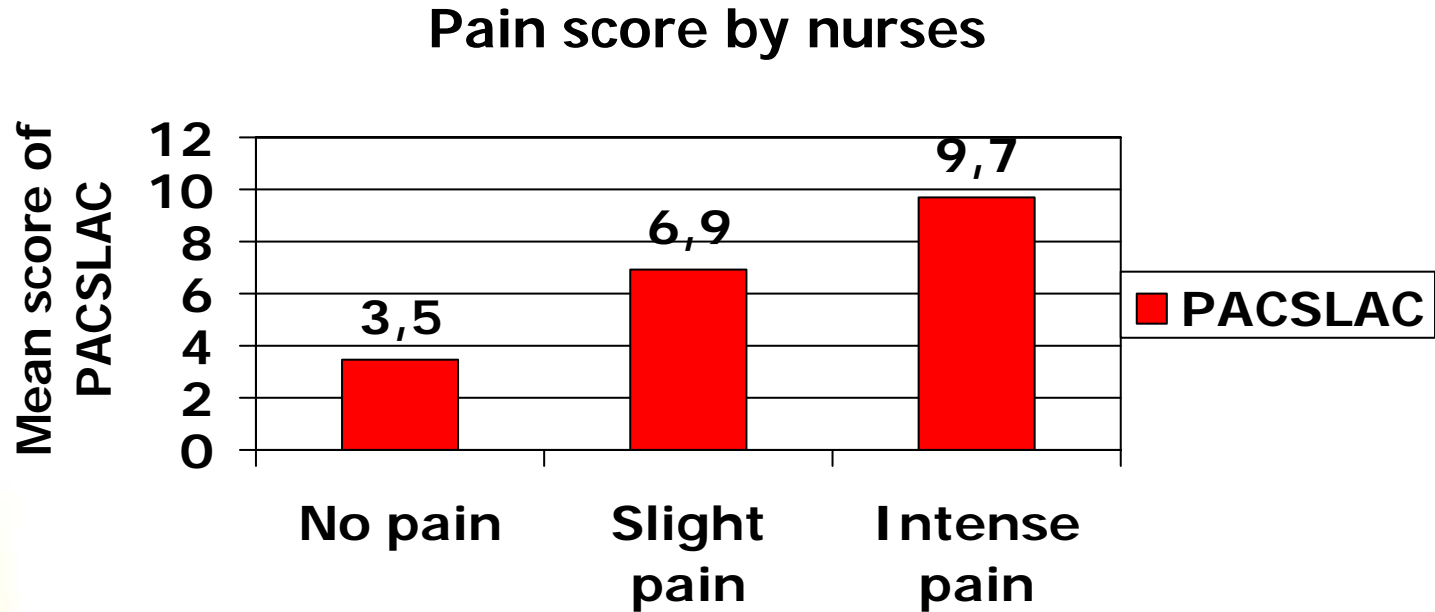
Pain situation: Intra-class corrélation coefficient = 0.94,  $p < 0.0001$

# Discriminant validity



ANOVA :  $p < 0.0001$

# Correlation with Pain scores by nurses



Multiple regression analysis:  $R^2 = 0.40$ ,  $p < 0.0001$

# Internal consistency

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Cronbach Alpha = 0.74

# Phase II

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- PACSLAC completed by nurses during work shift
- 3 times / week for 4 weeks
- DOLOPLUS-2 completed once during the first day
- Nurses' own perception of the presence of pain on a 0-10 scale

# Phase II

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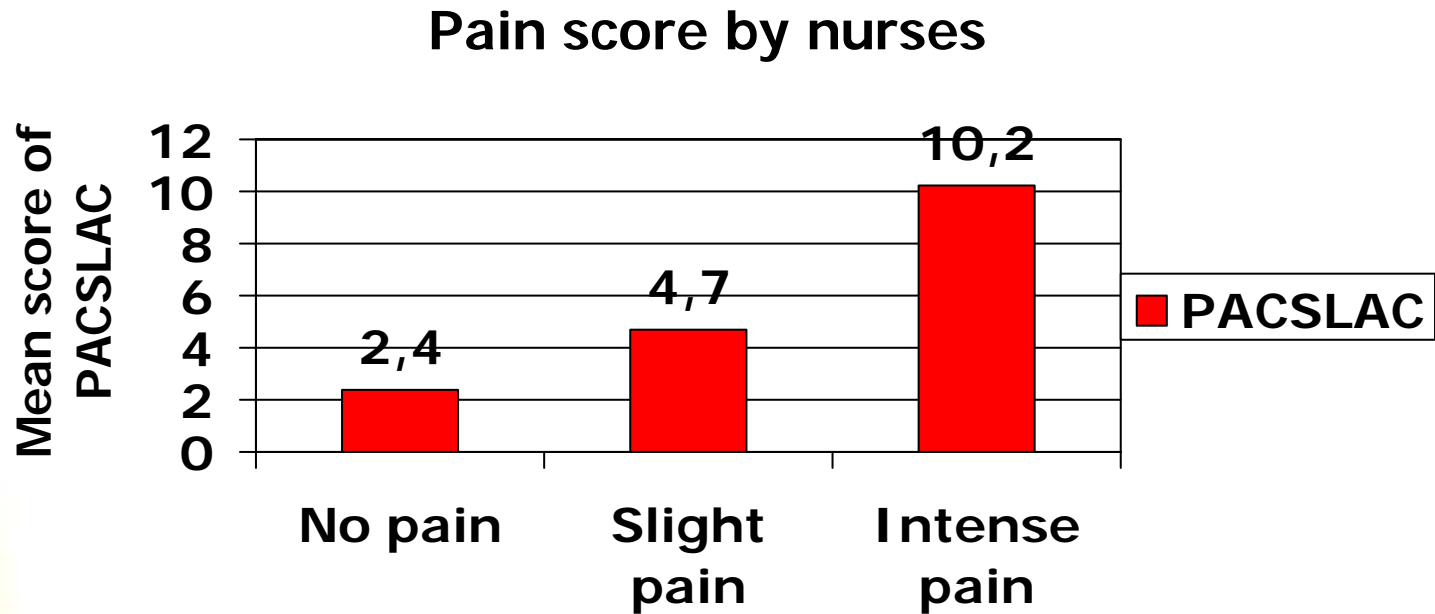
- 26 residents unable to communicate in 2 care units from a CHSLD in Quebec City
- Mean age = 76 years
- 69% women
- Average length of stay in CHSLD = 4.6 years
- Average MMSE score = 13.4/30
- Average MOSES score = 85/128

# Phase II

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- Total number of observations = **306**
- Convergence validity  
Correlation between PACSLAC and DOLOPLUS-2 scores  
 $r=0.8$   $p<0.0001$
- Internal consistency : Cronbach alpha = 0.84

# Correlation with Pain scores by nurses



Multiple regression analysis:  $R^2 = 0.36$ ,  $p < 0.0001$

# Nurses' assessment of the PACSLAC

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- PACSLAC well received by nurses
- Easy to use, < 5 minutes to complete
- Not necessary to know the resident well to complete the PACSLAC
- Useful for systematization of pain assessment

# Conclusion

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- Systematic pain assessment is the first step to improve pain relief in the elderly with dementia
- PACSLAC is a promising pain assessment scale
- Further testing of PACSLAC is necessary
  - Ideal number of items
  - Optimal frequency of use
  - Reactivity to interventions implemented to reduce pain
  - Development of norms to guide interventions

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Merci  
de votre attention!