

PAIN ASSESSMENT IN VULNERABLE ELDERLY PEOPLE

Lucia Gagliese

Michele Aubin

Wendy Duggleby



Assessment of Postoperative Pain in the Elderly

Lucia Gagliese, PhD

York University, University Health
Network and University of Toronto

Surgery and the elderly

Older patients increasingly likely to be surgical candidates

- ◆ Smith (1907): upper cut-off for surgery was 50 years old
- ◆ Brooks (1937): 70s
- ◆ Pagni et al (1997): 80s
- ◆ Burns et al (1997): 90s



Postoperative pain in the elderly



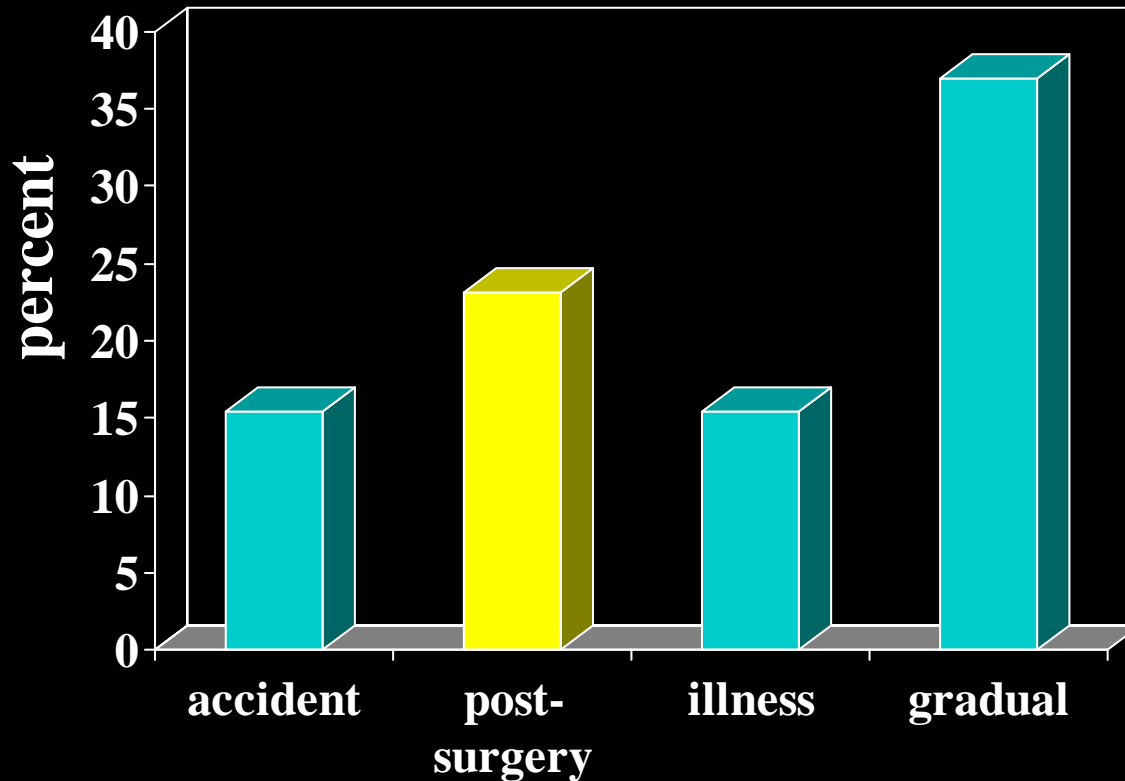
- Older patients are asked about pain less often
- given less frequent analgesia
- lower percentage of prescribed dosage than younger patients

(Melzack et al, 1987; de Rond et al 2000)

Consequences of Unrelieved Acute Pain in the Elderly

- Confusion/delirium
- respiratory depression
- immune suppression
- prolonged immobility
 - increased chance of pneumonia, bedsores, impaired healing
- prolonged recovery
 - long term impairment in functional levels
 - Development of chronic pain

Reported cause of pain in elderly chronic pain centre patients



(Gagliese & Melzack, 2003)

How can we improve postoperative pain control for elderly patients?

Assessment with validated scales

The Assessment of Postoperative Pain across the Adult Lifespan

Lucia Gagliese

Nataly Weizblit

Wendy Ellis

Vincent Chan

Pain:117:412

Objective of the study

- To compare the feasibility and psychometric properties of different pain scales in surgical patients

Participants

- N = 504 general surgery patients
- Inclusion Criteria
 - ◆ Eligible for PCA morphine
 - ◆ Sufficient English to consent and participate
- Exclusion Criteria
 - ◆ Confused
 - ◆ Drug dependent
 - ◆ ASA Class > 3
 - ◆ Weight > 100kg
 - ◆ Chronic pain, chronic opioid use
 - ◆ More than one incision site

Procedure

- Approached 24 ± 2 h postop
- Consent obtained
- Orientation to time, place, person assessed
- Interviewed for medical and pain history
- Pain assessment
 - ◆ Random order of scales
 - ◆ Enlarged font, special pen
 - ◆ Standardized instructions

Visual Analogue Scale

No pain



Worst pain
possible

Vertical and horizontal orientations used

Visual Analogue Scale

No pain



Worst pain
possible

Visual Analogue Scale

No pain



6.2

Worst pain possible

Verbal Descriptor Scale

Please check the word below which best describes your *present* pain:

- No Pain
- Mild
- Discomforting
- Distressing
- Horrible
- Excruciating

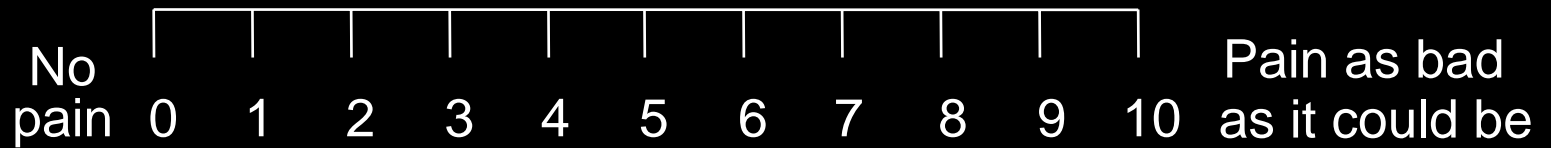
Verbal Descriptor Scale

Please check the word below which best describes your *present* pain:

- No Pain
- Mild
- Discomforting
- Distressing
- Horrible
- Excruciating

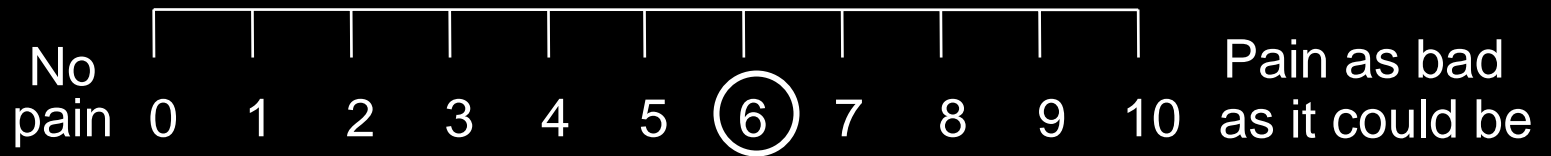
Numeric Rating Scale

Please circle the number below which best represents your *present* pain:



Numeric Rating Scale

Please circle the number below which best represents your *present* pain:



MCGILL PAIN QUESTIONNAIRE

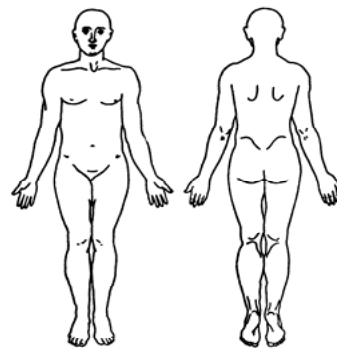
RONALD MELZACK

Patient's Name _____ Date _____ Time _____ am/pm

PRI: S _____ A _____ E _____ M _____ PRI(T) _____ PPI _____
 (1-10) (11-15) (16) (17-20) (1-20)

| | |
|---|---|
| <p>1 FLICKERING _____ QUIVERING _____ PULSING _____ THROBBING _____ BEATING _____ POUNDING _____</p> | <p>11 TIRING _____ EXHAUSTING _____</p> |
| <p>2 JUMPING _____ FLASHING _____ SHOOTING _____</p> | <p>12 SICKENING _____ SUFFOCATING _____</p> |
| <p>3 PRICKING _____ BORING _____ DRILLING _____ STABBING _____ LANCINATING _____</p> | <p>13 FEARFUL _____ FRIGHTFUL _____ TERRIFYING _____</p> |
| <p>4 SHARP _____ CUTTING _____ LACERATING _____</p> | <p>14 PUNISHING _____ GRUELLING _____ CRUEL _____ VICIOUS _____ KILLING _____</p> |
| <p>5 PINCHING _____ PRESSING _____ GNAWING _____ CRAMPING _____ CRUSHING _____</p> | <p>15 WRETCHED _____ BLINDING _____</p> |
| <p>6 TUGGING _____ PULLING _____ WRENCHING _____</p> | <p>16 ANNOYING _____ TROUBLESOME _____ MISERABLE _____ INTENSE _____ UNBEARABLE _____</p> |
| <p>7 HOT _____ BURNING _____ SCALDING _____ SEARING _____</p> | <p>17 SPREADING _____ RADIATING _____ PENETRATING _____ PIERCING _____</p> |
| <p>8 TINGLING _____ ITCHY _____ SMARTING _____ STINGING _____</p> | <p>18 TIGHT _____ NUMB _____ DRAWING _____ SQUEEZING _____ TEARING _____</p> |
| <p>9 DULL _____ SORE _____ HURTING _____ ACHING _____ HEAVY _____</p> | <p>19 COOL _____ COLD _____ FREEZING _____</p> |
| <p>10 TENDER _____ TAUT _____ RASPING _____ SPLITTING _____</p> | <p>20 NAGGING _____ NAUSEATING _____ AGONIZING _____ DREADFUL _____ TORTURING _____</p> |
| | <p>PPI 0 NO PAIN _____ 1 MILD _____ 2 DISCOMFORTING _____ 3 DISTRESSING _____ 4 HORRIBLE _____ 5 EXCRUCIATING _____</p> |

| | | |
|-----------------|--------------------|------------------|
| BRIEF _____ | RHYTHMIC _____ | CONTINUOUS _____ |
| MOMENTARY _____ | PERIODIC _____ | STEADY _____ |
| TRANSIENT _____ | INTERMITTENT _____ | CONSTANT _____ |



E = EXTERNAL
 I = INTERNAL

COMMENTS:

Procedure continued

- Preferences assessed
- PCA recorded
- Chart reviewed

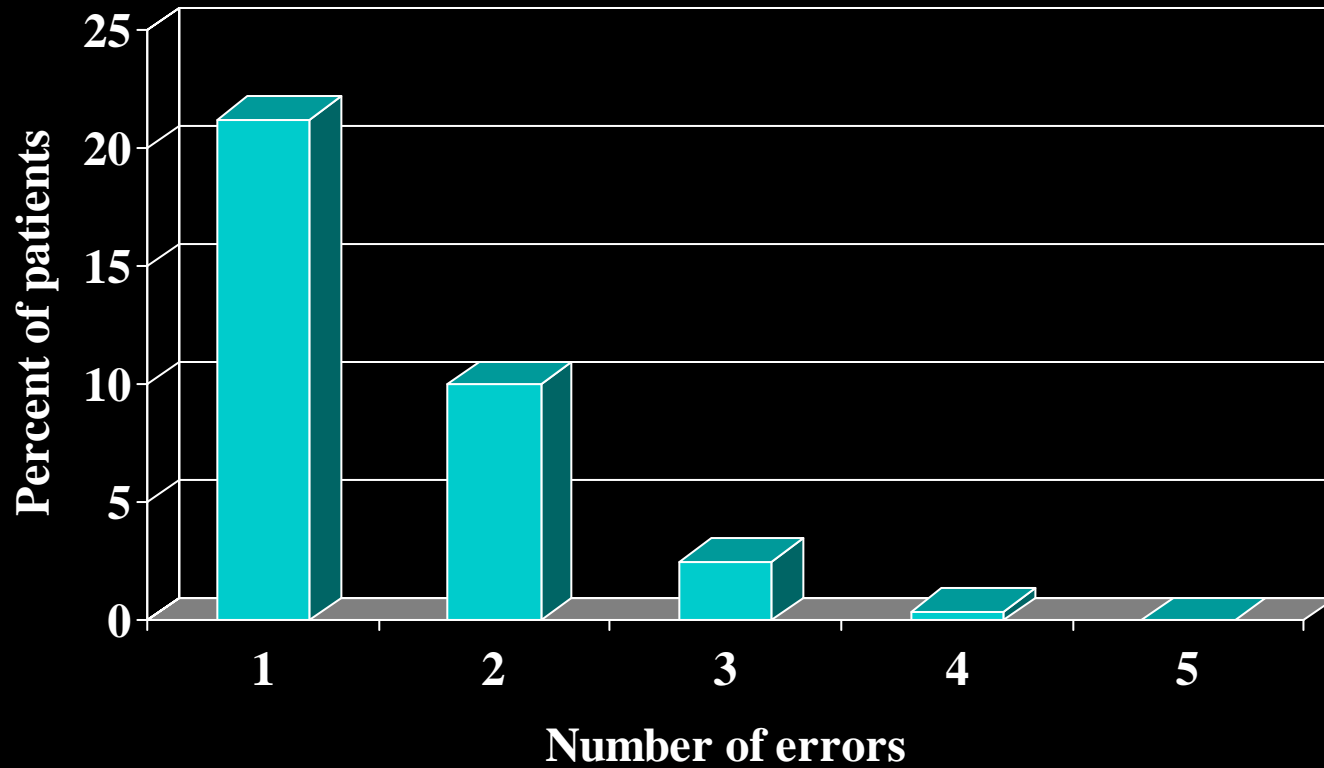
Results

Patient Characteristics

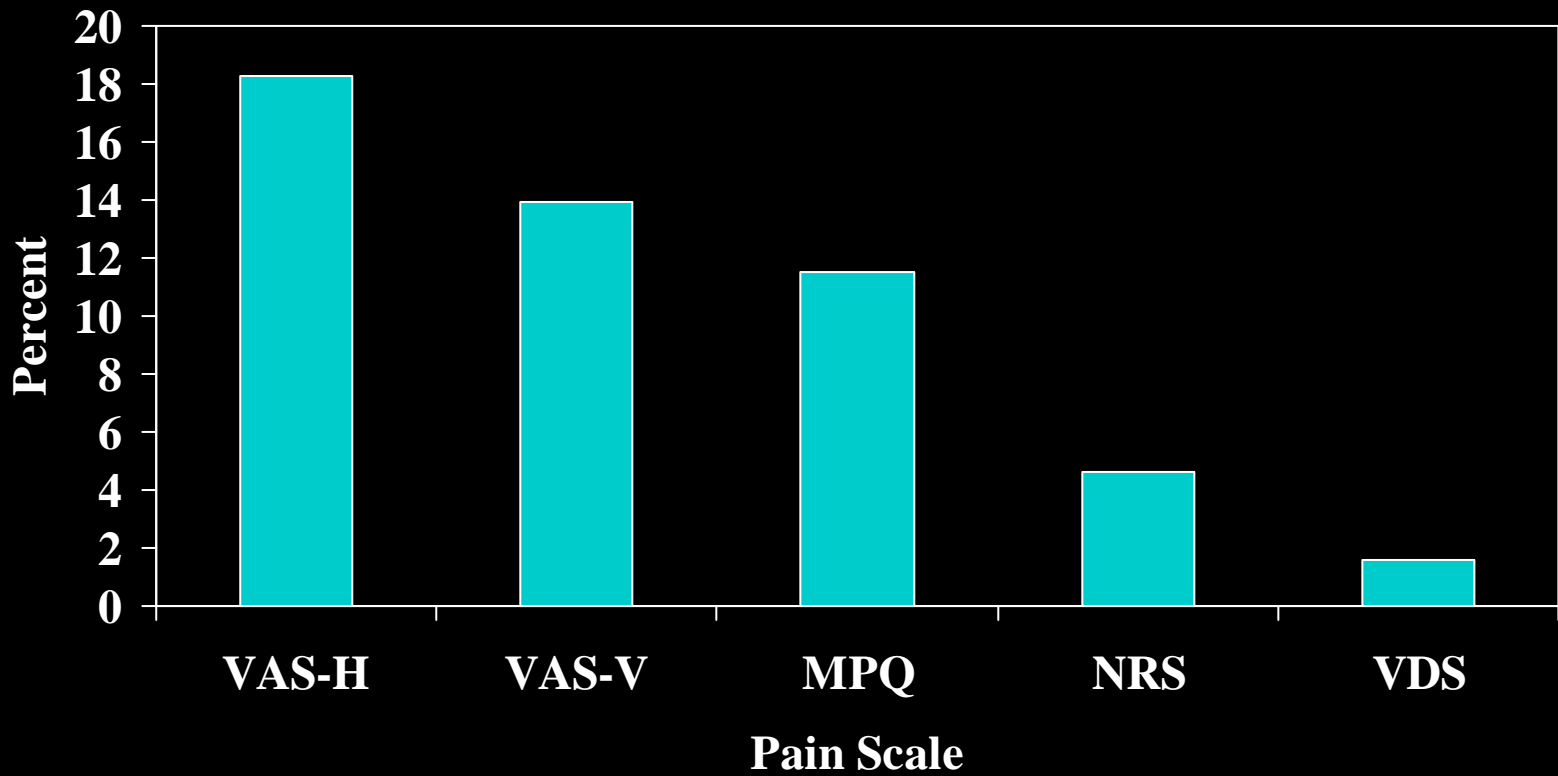
| | |
|-----------|---|
| N | 504 |
| Age | 52.6 ± 14.9 |
| Gender | 58% female |
| Ethnicity | 84% Caucasian 7% African-Canadian 7% Asian 2 % Other |
| Education | 10% Grade School 41% High School 48% College/University |

Feasibility

Error rates

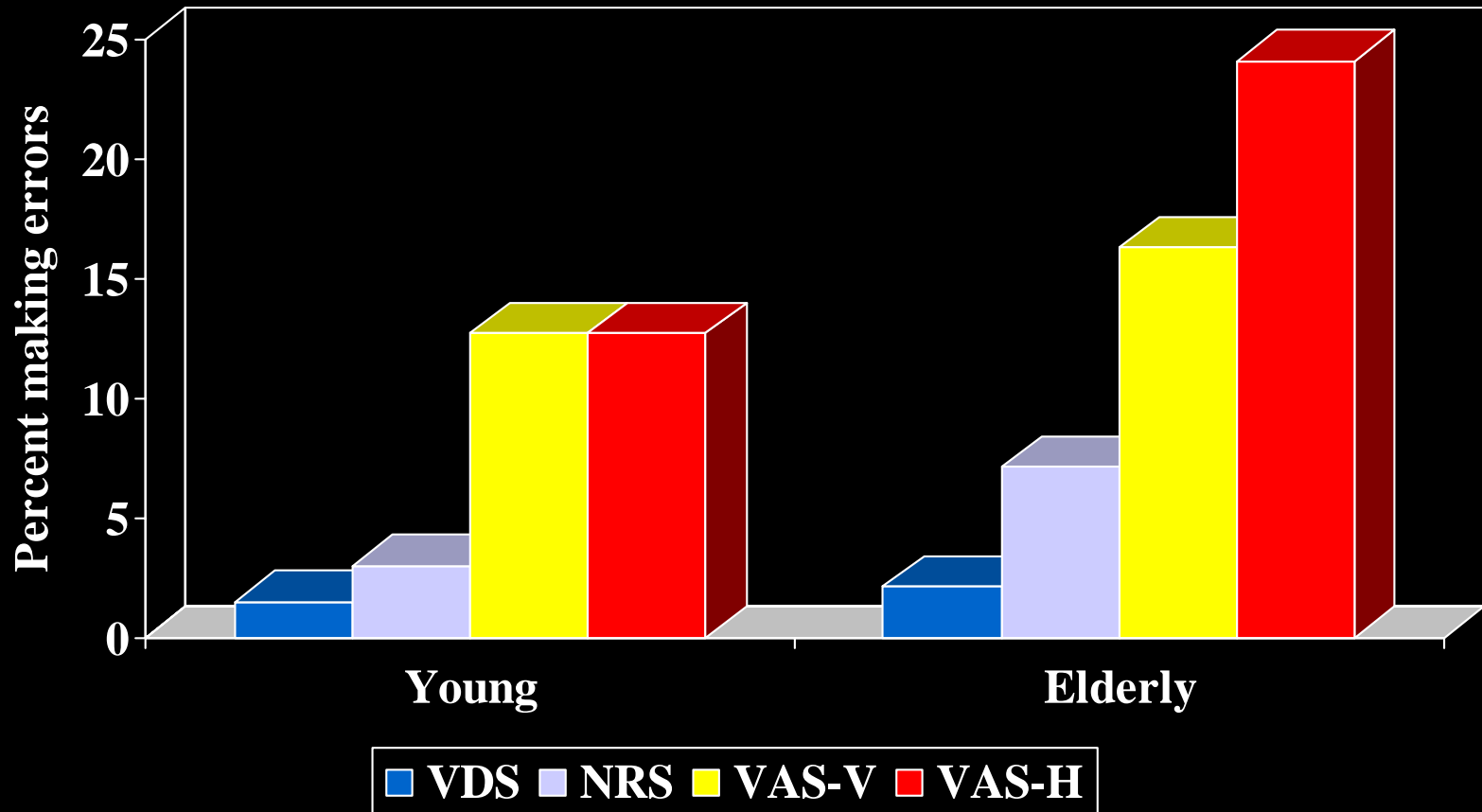


Error rates by scale



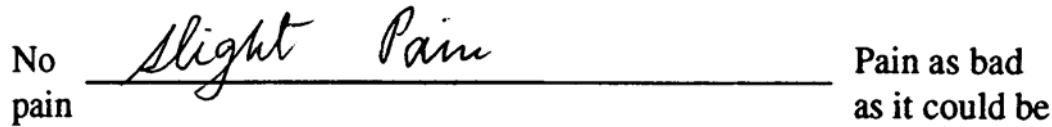
($p \leq 0.005$)

Pain scale error rates by age group

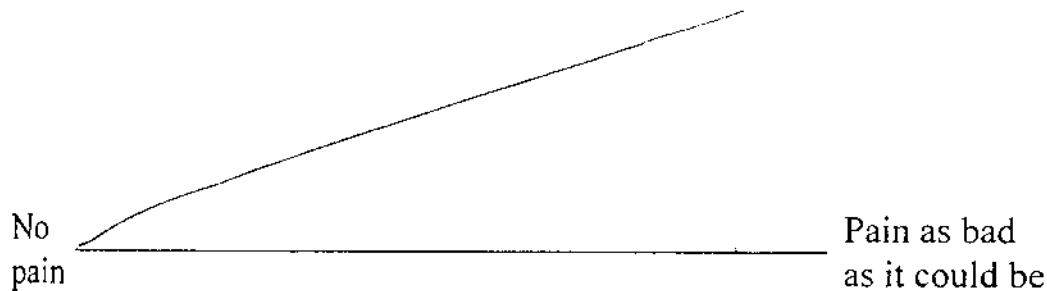


Error rate was highest and increased with age on the VAS-H ($p \leq 0.002$)

Representative VAS Errors



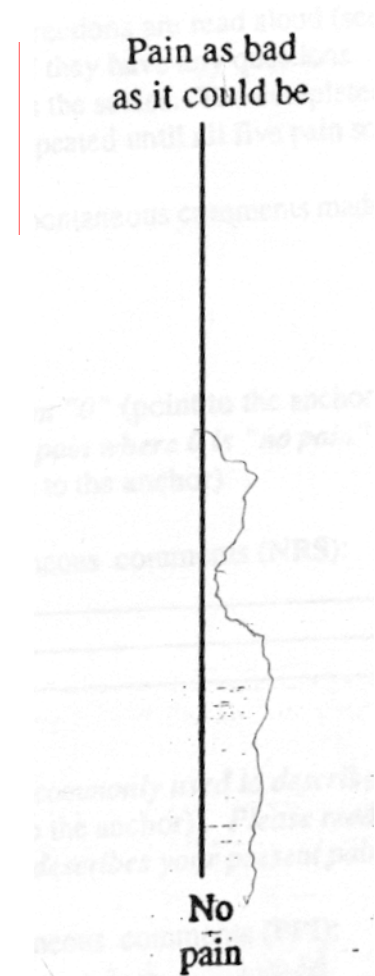
65 y.o. retired school teacher (BSc)



44 y.o. high school dropout



83 y.o., grade school ed.

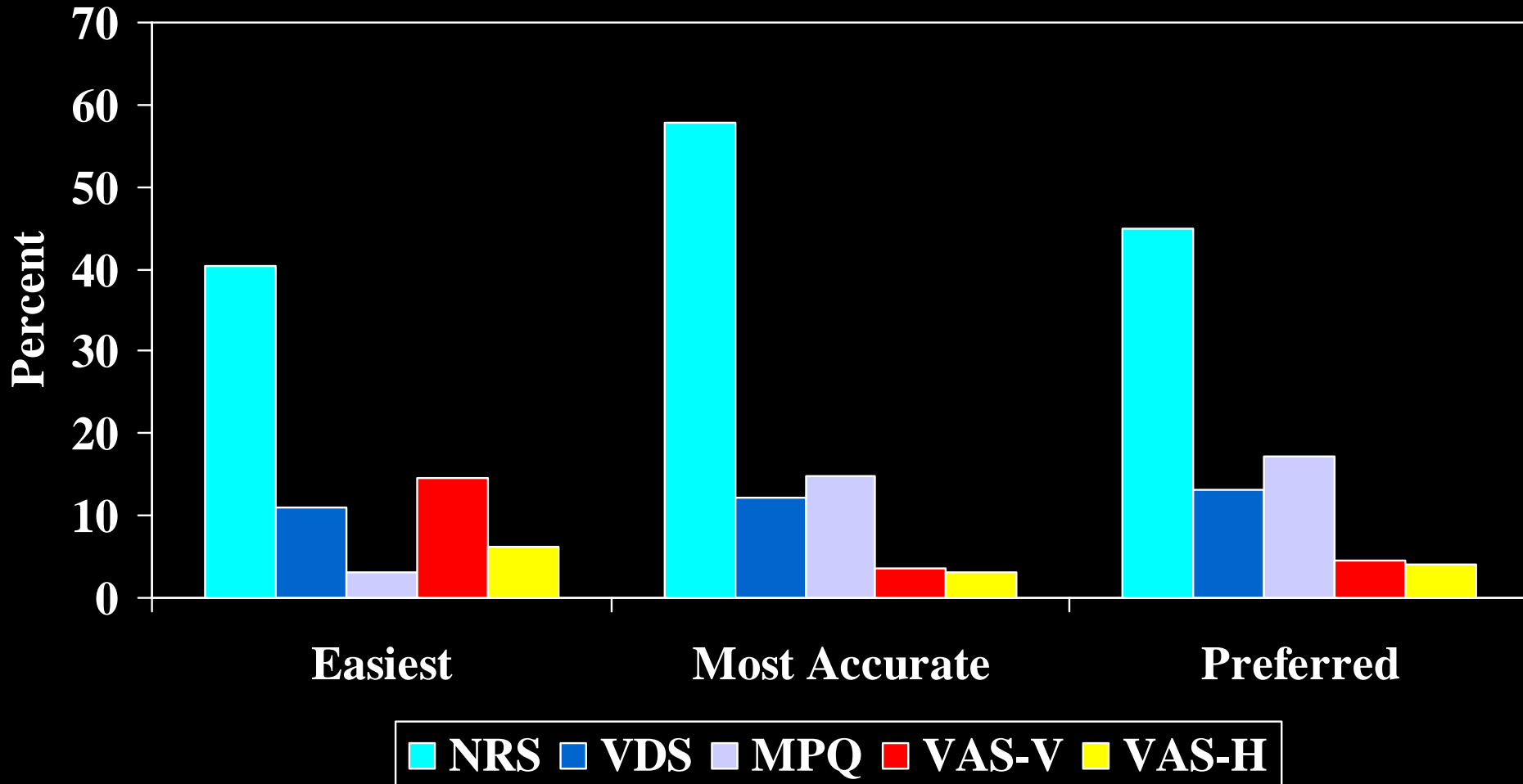


77 y.o. high school grad.

Predictors of errors

| <u>Variable</u> | <u>β</u> | <u>p</u> |
|----------------------|---------------------------|-------------|
| Age | 0.12 | 0.02 |
| Gender | .09 | |
| Education | .02 | |
| ASA Class | .07 | |
| Surgical Duration | .01 | |
| Blood Loss | .05 | |
| Opioid dose | .04 | |

Preferences



Creation of matched groups

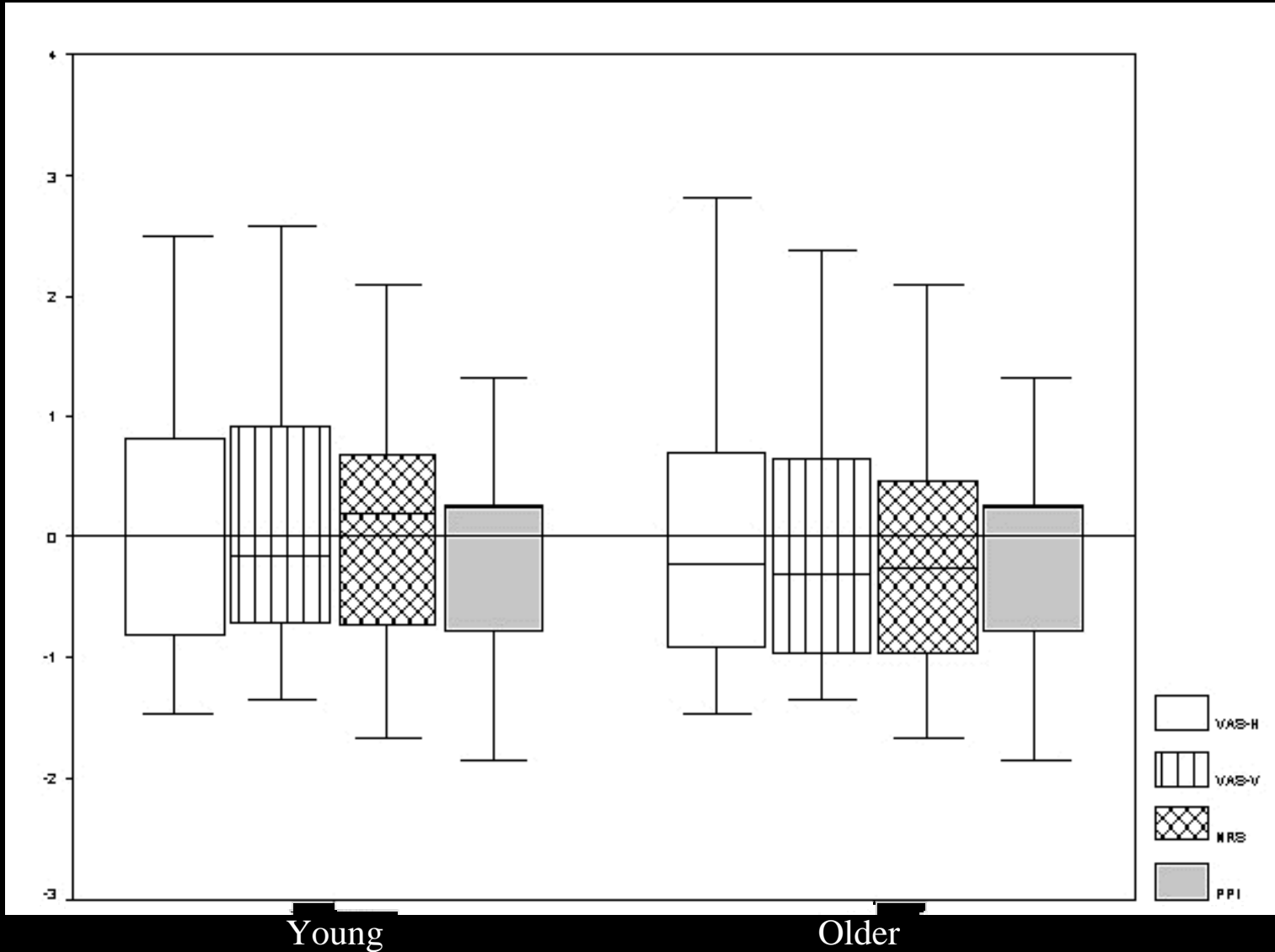
Young (n=123; 42 ± 12 y.o.)

Older (n=123; 68 ± 6 y.o.) patients who did not make errors were matched on:

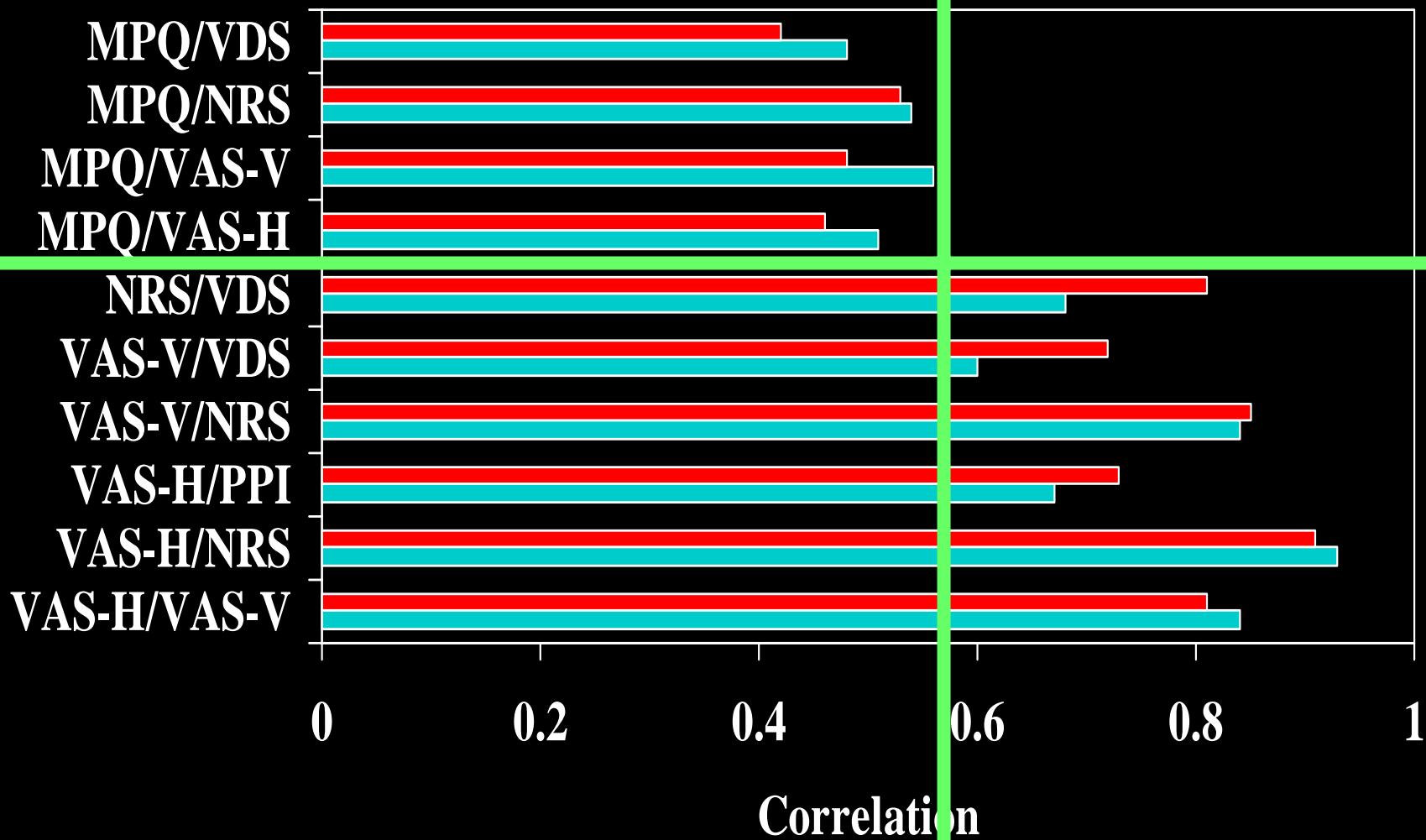
- surgical procedure
- gender

Consistency of pain estimates by age group

Pain scores by age group



Convergent and divergent validity

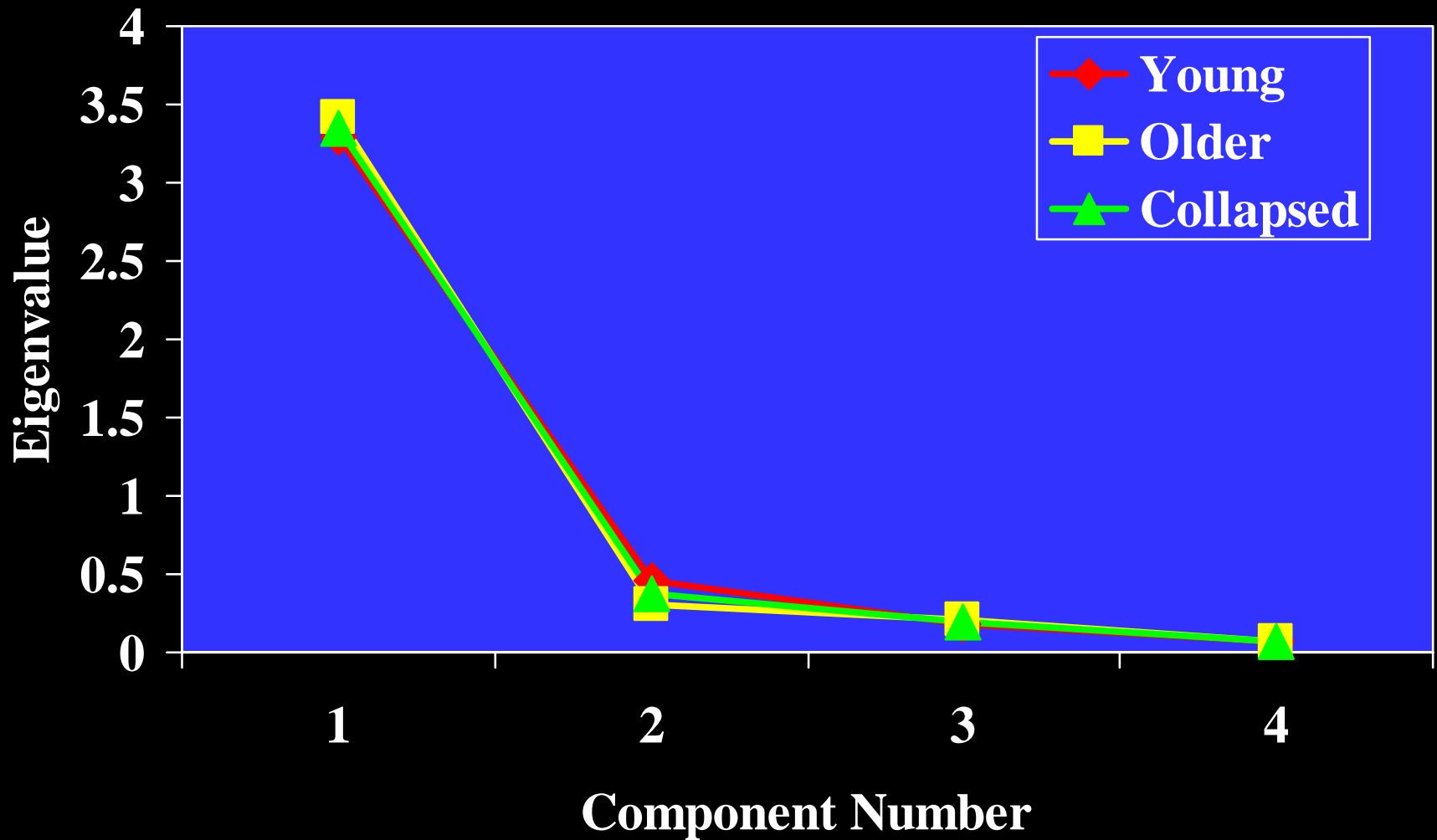


■ Young ■ Older

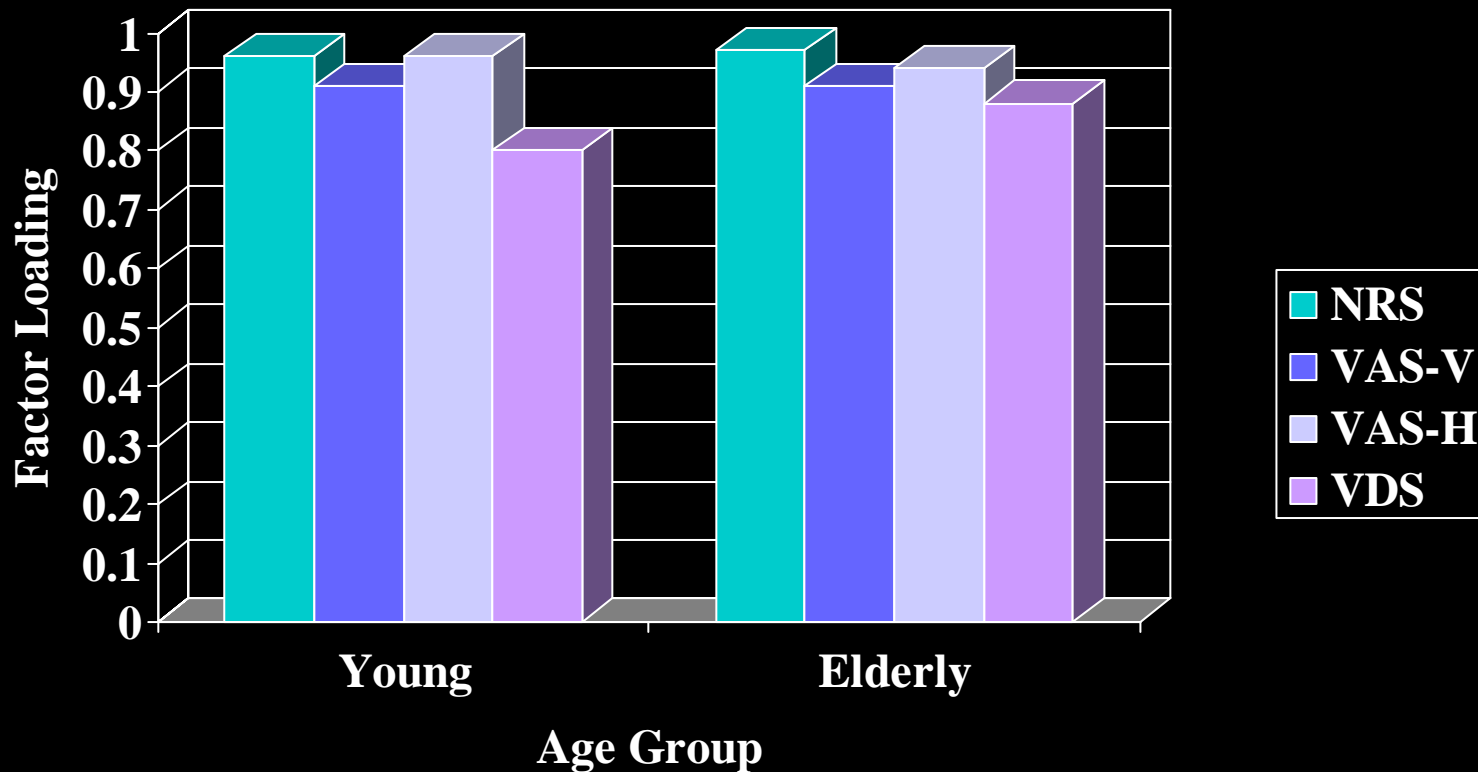
Construct and criterion validity

- Principal components analysis
- Each of the pain intensity estimates (VAS-h, VAS-V, NRS, VDS)
- Separately for each age group

Scree plot



Factor loadings by age group



Conclusions

- The NRS is the tool of choice
- VAS should be used with caution
 - ◆ More research is needed to elucidate the reasons for these difficulties

Pain Assessment Recommendations

- Frequent assessment using a pain scale validated for the elderly
- Do not rely on spontaneous report
- May have atypical presentation: agitation, confusion, anorexia
- Stress importance of pain relief
- Address concerns about treatment



Cancer Pain Research Unit

Asha Kurian

Melissa Jovellanos

Lynn Gauthier

Andrea Jarvi

Stephanie Go



Canada Foundation for Innovation
Fondation canadienne pour l'innovation

