The PROMIS of Pain Assessment in the Military

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COL (ret), MC, USA
I have no financial relationships with any product or company discussed in this presentation.

I have performed consulting services for Pacira Inc. and Teleflex Inc. in the last 12 months, nothing in this presentation relates to this work.
The views expressed in this paper are those of the author and do not reflect the official policy or position of the Uniformed Services University, Department of Defense, or the U.S. Government.
Pain Assessment Scales

10 of 10 Pain

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Many validated scales are available

NRS – Numeric Rating Scale

0 1 2 3 4 5 6 7 8 9 10

None Mild Moderate Severe

VDS - Verbal Descriptor Scale

FPS-R - Faces Pain Scale Revised

IPT – Iowa Pain Thermometer

The Most Intense Pain Imaginable
Very Severe Pain
Severe Pain
Moderate Pain
Mild Pain
Slight Pain
No Pain

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Pain Assessment Scales

Scale Comparisons


- 86 younger & 89 older volunteer subjects responding to experimental thermal pain.
- Response to pain then measured with: vertical visual analog scale (VAS), 21-point Numeric Rating Scale (NRS), Verbal Descriptor Scale (VDS), 11-point Verbal Numeric Rating Scale (VNS), and Faces Pain Scale (FPS).

Conclusions:

Scale preference was not related to cognitive status, educational level, age, race, or sex.

The scale most preferred to represent pain intensity in both cohorts of subjects was the NRS, followed by the VDS.

All 5 pain scales were effective in discriminating different levels of pain sensation; however the VDS was most sensitive and reliable.
Scale Comparisons

Evaluation of the revised faces pain scale, verbal descriptor scale, numeric rating scale, and Iowa pain thermometer in older minority adults.

Pain Management Nursing. 2006:7(3);117-125.

- 68 cognitively impaired participants exposed to the Faces Pain Scale Revised (FPS-R), Verbal Descriptor Scale (VDS), Numeric Rating Scale (NRS), and Iowa Pain Thermometer (IPT).

Conclusions:

When race and cognitive status were considered, African-Americans and Hispanics preferred the FPS-R. Severely, moderately, and mildly impaired participants also preferred the FPS-R. The findings of this study support the use of these scales with older cognitively impaired minority adults.
4.1.2 Standardized Pain Assessment Tool

Objective: Describe a common language DoD and VHA pain assessment tool with visual cues and a common set of measurement questions.

The most commonly used tool to measure pain in both civilian and military medicine settings is an 11-point, 0-10 Visual Analog Scale (VAS). During site visits, the TF received a great deal of negative feedback regarding the use and perceived value of the VAS Pain Scale. A majority of the doctors, nurses, physical therapists, medics and other clinicians who were interviewed reported similar negative feelings about the VAS Pain Scale, including:

- The VAS Pain Scale is inconsistently administered.
- The VAS Pain Scale is regarded as very subjective and had no functional anchors.
- The VAS Pain Scale assessments recorded in patient medical records are considered to have little value by clinicians at all levels.
Pain Assessment Scales

Pain Management Task Force – Attributes for a new DoD and VHA Pain Assessment Tool

1. Validated:
   A. Able to measure pain intensity, mood, stress, biopsychosocial impact, and functional impact;

2. Objective and useful in evaluating treatment effectiveness:
   A. Practical and adaptable to multiple clinical settings and scenarios throughout the continuum of care (e.g. battlefield, transport, combat support hospital, primary care, medical center, pain medicine specialty services);
   B. Easily adapted and integrated into DoD and VHA computer medical databases;
   C. Standardized into all levels of medical training across all roles of care (e.g. useful for the medic, the ward nurse, the primary care provider, the pain researcher, and the pain management specialist); and

3. Consistent with current validated pain research tools.

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Pain Assessment Scales

Defense and Veterans Pain Rating Scale

Available at: www.DVCIPM.org/training.html
Pain Assessment Scales

DoD/VA Pain Supplemental Questions

For clinicians to evaluate the biopsychosocial impact of pain

1. Circle the one number that describes how, during the past 24 hours, pain has interfered with your usual ACTIVITY:

0  1  2  3  4  5  6  7  8  9  10

Does not interfere

Completely interferes

2. Circle the one number that describes how, during the past 24 hours, pain has interfered with your SLEEP:

0  1  2  3  4  5  6  7  8  9  10

Does not interfere

Completely interferes

3. Circle the one number that describes how, during the past 24 hours, pain has affected your MOOD:

0  1  2  3  4  5  6  7  8  9  10

Does not affect

Completely affects

4. Circle the one number that describes how, during the past 24 hours, pain has contributed to your STRESS:

0  1  2  3  4  5  6  7  8  9  10

Does not contribute

Contributes a great deal

Preliminary validation of the defense and veterans pain rating scale (DVPRS) with a military population.

Pain Medicine. 2012:14;110-123

- A convenience sample of 350 inpatient and outpatient active duty or retired service members at WRAMC. Participants completed the 5 item DVPRS; 1 pain intensity numeric rating scale (NRS) with and without word descriptors presented in random order and 4 supplemental items measuring general activity, mood, level of stress and sleep, and the Brief Pain Inventory (BPI) 7 interference items.

- When the DVPRS was presented with the word descriptors first, the correlation between the two ratings was slightly higher, \( r=0.929 \) (n=171; P<0.001), than ordering first without the descriptors, \( r=0.882 \) (n=177; P<0.001). Intraclass correlation coefficient (ICC) was 0.943 showing excellent alignment of word descriptors by respondents (n=42) matching them correctly with pain level.
Pain Assessment Scales

DVPRS Validation Study

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27 Feb. 2015
• In this preliminary phase of validation, the DVPRS tool demonstrated acceptable psychometric properties in a single assessment point in time.

• Thus far, a subset of respondents indicated excellent alignment of word descriptors denoting pain severity showing promising initial findings for validating the meaningfulness of words and phrases.
### Pain Assessment Scales

#### DVPRS Clinical Use

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<td>1950</td>
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*Note: DVPRS Clinical Use indicates the use of theDVPRS Pain Assessment Scale for clinical use. The table includes patient information, medication, and other relevant data.*
Pain Assessment Scales

DVPRS Clinical Use

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<th>Dates of the week</th>
<th>Activity</th>
<th>Sleep</th>
<th>Mood</th>
<th>Stress</th>
<th>Pain now</th>
<th>Pain o/v 24h</th>
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<td>3</td>
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<td>5</td>
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<td>3</td>
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Week 1 pain trends

Week 2 pain trends

mCare - TATRC

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Why is this important?

About 20 percent of active duty personnel reported having engaged in heavy drinking in 2008, the latest year for which data are available, and binge drinking increased from 35 percent in 1998 to 47 percent in 2008. While rates of both illicit and prescription drug abuse are low, the rate of medication misuse is rising. Just 2 percent of active duty personnel reported misusing prescription drugs in 2002 compared with 11 percent in 2008. The armed forces' programs and policies have not evolved to effectively address medication misuse and abuse, the committee noted.
“It’s now four years since I lay in the dirt, near death, on the side of the road in Fallujah. I’m grateful for all I have, and proud of the things I’ve accomplished.

In the end though, I don’t measure how far I’ve come by goals achieved, or academic degrees earned, or running trophies won. For me, what counts is that pain no longer rules my life.”

–Derek McGinnis

Exit Wounds: A Survival Guide to Pain Management for Returning Veterans and Their Families
www.exitwoundsforveterans.org American Pain Foundation
Prevalence of Chronic Pain, PTSD and TBI in a sample of 340 OEF/OIF veterans with polytrauma

Chronic Pain
N=277
81.5%

PTSD N=232
68.2%

TBI
N=227
66.8%

Why do we need the data?

More opioids, more addiction, more deaths

Rates of prescription painkiller sales, deaths and substance abuse treatment admissions (1999-2010)

- Sales per kilograms per 10,000 people
- Deaths per 100,000 people
- Treatment admissions per 10,000 people


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Why do we need the data?

Opioid overdose/death ratio

9-fold increase in risk relative to low-dose patients

Non-user 1-19 mg. 20-49 mg. 50-99 mg. 100+ mg.

** Significant increment in risk p<0.05
Why do we need the data?

For every 1 death there are...

- 10 treatment admissions for abuse
- 32 emergency dept visits for misuse or abuse
- 130 people who abuse or are dependent
- 825 nonmedical users
What to do?

• If you want something to happen—make it easy

• If you want an evidence based decision – create the evidence

• “I’m neither for or against opioids.”

Alex Cahana, M.D.
Pain Management Task Force

Provide recommendations for MEDCOM for a comprehensive pain management strategy

- that is holistic, multidisciplinary, and multimodal

- utilizes state of the art/science modalities and technologies, and

- provides optimal quality of life for Soldiers and other patients with acute and chronic pain.

--Army Pain Management Task Force Charter; signed 21 Aug 2009

Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education and Research, June 2011

• Recommendation 4.1.9.1

Jointly fund development of a Pain Assessment Screening Tool and Outcome Registry under the direction of a central pain management advisory board.
Problem Statement

• Military Health System (MHS) does not possess an enterprise pain outcome evaluation capability that would provide needed evidence to:
  – Standardize pain management process
  – Propagate evidence-based best practices
  – Establish a registry for comparative effectiveness research
• Pain management in it’s current state *adversely impacts* the entire care continuum.
  • Physicians cannot guide treatment decisions,
  • Patient involvement is limited
  • Efforts of military and civilian researchers to identify the most effective pain management strategies are impeded
  • Pain is number one reason veterans seek care
Back Pain - ‘Barroom Discussion’

Acupuncture for Chronic Pain: Individual Patient Data Meta-analysis

- Individual patient data meta-analyses were conducted using data from 29 of 31 eligible RCTs for chronic LBP, with a total of 17,922 patients analyzed.
- **Conclusions:** Acupuncture is effective for the treatment of chronic pain and is therefore a reasonable referral option
- **Cost:** $100/visit x 10 visits ~ $1000

Spinal Cord Stimulation for Patients with Failed Back Syndrome or Complex Regional Pain Syndrome: A Systematic Review of Effectiveness and Complications
*Pain* 2004;108;137-147

- Seven out of 583 articles met criteria for SCS effectiveness, 15 for complications.
- **Conclusions:** Effective at reducing pain although the effect decreases over time. Adverse events occur in 34% of patients.
- **Cost:** Journal of Neurosurgery: Spine finds the costs per patient to be $32,882 under Medicare and $57,896 under Blue Cross Blue Shield, with annual maintenance per patient of $5,071- $21,390, depending on whether complications are present.

“I am neither for or against acupuncture or SCS for chronic back pain, I am for whatever will cost-effectively treat the patient in front of me. How to choose is the rub…”
Pain Assessment Scales

PASTOR/PROMIS

- Released in June 2011
- Referenced/Acknowledged Pain Management Task Force
- Validated PMTF Analysis, Findings, and Recommendations

- Coordinated Care
- Collaborative Care
- Outcomes Based Care
- Value Based Care
<table>
<thead>
<tr>
<th><strong>PASTOR</strong> - Name of the DoD program</th>
<th><strong>PROMIS</strong> - Engine that drives PASTOR</th>
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Pain Assessment Scales

PASTOR/PROMIS

RESEARCH * OUTCOMES REGISTRY * CLINICAL DECISION TOOL

- Center for Disease Control and Prevention: (Health People 2020 will include PROMIS Global Measure)

- Bravewell Collaborative Integrative Medicine Outcomes Study

- DVCIPM Research
  - Pain Management
  - Rx Med Abuse
  - Interdisciplinary Care
Web application served from MAMC

- Clinical Assessment
  - Using validated computer adaptive testing (CAT) PROMIS instruments

- Clinical Report/Decision Tool
  - Longitudinal pt pain/function/alert data in concise format

- Patients Enter Information Prior to Appointments
  - Using the web capable device of their choice
Pain Assessment Scales

PASTOR Clinical Report

- Pain Mapped by Region
- Clinical Alerts
- Patient Defined Goals
Pain Assessment Scales

- Gen population percentile indicator
- Color Coding on each graph
Pain Assessment Scales
Pain Assessment Scales

Questions?

www.DVCIPM.org