STOP THE MADNESS
Physical Therapists Solution to Chronic Spinal Pain

Stop the Pain
Stop the Madness

PAIN
#1 cause of adult disability in the US

PAIN
1 in 6 people live with chronic pain

57% of all adults have had chronic or recurrent pain in the last year
65% of patients with depression reported that they were in physical pain. Many had headaches, back pain, and joint pain.

75% of people make adjustments to their lifestyle because of their pain.

Prevalence of CHRONIC SPINAL PAIN is 19% (Pain, 2005)

Back pain accounts for approximately 50% of all patients treated in outpatient physical therapy practices.
A total of 44 million prescriptions were dispensed for back pain in the U.S.A. in the year 2000.

Total costs of prescription opioid abuse were estimated at $55.7 Billion in 2007. *Pain Med, 2011*

The $$$ paid for visits to doctors’ offices, clinics, surgery, and prescription medicines for Low Back Pain in 2005 was **$86 Billion**

Spinal Fusion
The goal of spinal fusion surgery is to stabilize a segment of the spine that has weakened and eliminate motion at that segment. This stabilization will *ideally reduce the pain* that is associated with vertebral movement.

Rapid Magnetic Resonance Imaging vs Radiographs for Patients With Low Back Pain: A Randomized Controlled Trial
**JAMA**

- 380 patients with LBP were randomized to receive radiographs or MRI
- 12 months- No difference between groups for function or satisfaction
- Surgery: 6% for MRI 2% for X-ray
- Costs per Episode MRI = $2380 X-ray = $2059

Annual Life Threatening Side Effects

Traditional NSAIDS & COX-2s
70,000 – 200,000 users annually

*Overtreated* by Shannon Brownlee

*Way Too Much Medicine Is Making Us Sicker and Poorer*
Long-term Outcomes of Lumbar Fusion Among Workers’ Compensation Subjects

- A cohort of 725 fusion cases versus 725 controls.
- Surgical cases had a 1 in 4 chance of a repeat surgery, a 1 in 3 chance of a complication, and 3 in 4 chance of never working again.
- There were also more deaths in the spinal fusion group.

Age, BMI, diagnoses, education, surgical fusion approach, sex, marital status, the number of lumbar levels with degenerative changes, and the number of vocational sessions were not significant predictors of RTW.

In summary, lumbar fusion may not be an effective operation in workers’ compensation patients with the diagnoses of disc degeneration, disc herniation, and/or radiculopathy. This procedure is offered to improve pain and function, yet objective outcomes showed increased permanent disability, poor RTW status, and higher doses of opioids.

Efficacy for fusion in relieving back pain is extremely suspect. Only one trial has shown an advantage for surgery compared with routine nonsurgical care and three trials showing no advantage compared with structured rehabilitation. Benefit with fusion was roughly the same in all four trials.

In 2004, spine fusion procedures totaled $16.9 Billion.

Spinal-fusions rose by 77%
THA and TKA increased by only 13%
Spinal-fusion costs >$34,000 including professional fees

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-Ann Intern Med. 2008
There is one thing stronger than all the armies in the world, and that is an idea whose time has come.

- Victor Hugo

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Use Comparisons
(big numbers are hard to envision)

Use Local Comparisons (in my back yard)

Use Local Comparisons (in my back yard)

Unwarranted and Unexplainable Variation in Spine Surgery Rates

Fort Collins-Loveland, CO

Denver, CO

National Average

Source: Dartmouth Atlas of Healthcare
Use Local Comparisons (in my back yard)

Or better yet...

For every 2 miles you drive up I-25 the rate of spine surgery increases by 1%.

Pose Unlikely Questions (or "really???")

What is the #1 predictor of whether you will have low back surgery in the USA?

A. MRI of Herniated Disc
B. Pain Severity & Location
C. Loss of Strength and Reflexes
D. Zip Code

Take Numbers & Make Them Personal

Trends, Major Medical Complications, and Charges Associated With Surgery for Lumbar Spinal Stenosis in Older Adults

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Simple Fusion</th>
<th>Complex Fusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-hospital complications</td>
<td>2.64 (1.24-5.61)</td>
<td>2.38 (1.57-3.54)</td>
</tr>
<tr>
<td>Mortality within 30 days</td>
<td>1.96 (1.21-3.18)</td>
<td>2.96 (1.61-5.48)</td>
</tr>
<tr>
<td>Either of the above, &quot;life-threatening complications&quot;</td>
<td>2.66 (1.21-5.85)</td>
<td>2.95 (1.50-5.84)</td>
</tr>
<tr>
<td>Length of stay, adjusted mean, days</td>
<td>4.50 (3.82-5.34)</td>
<td>4.81 (3.86-5.99)</td>
</tr>
<tr>
<td>Hospital charges, adjusted mean, US $</td>
<td>58111 (99,891-64,887)</td>
<td>63888 (79,290-77,422)</td>
</tr>
<tr>
<td>Nursing home discharge</td>
<td>2.72 (1.57-2.90)</td>
<td>2.83 (1.57-3.14)</td>
</tr>
<tr>
<td>Rehabilitation, any cause, within 30 days</td>
<td>1.03 (0.44-2.46)</td>
<td>1.34 (0.74-2.47)</td>
</tr>
</tbody>
</table>

Take Numbers & Make Them Personal

Let's put this another way...

- Risk Death
- Spend $60-80K
- Worse odds of success than not having surgery
- Not Die
- Spend $1-2K
- As good or better odds of success than having surgery

Empower your patients with simple questions...

What should I ask my doctor?


Among patients receiving orthopaedic surgery care the likelihood of having spinal surgery increases by 34% if the orthopods own the MRI!
One more question for your patients to ask their spine surgeon.

Do you own the MRI Machine?

We should reiterate to the patient that the image of a disc lesion of some sort represents a “picture” of a single moment in time and that we have no compelling evidence that this indicates or indicts them to a prolonged course of impairment of disability.

Patients require frequent reassurance that there is no serious damage or disease and that the overall prognosis is good—for example, a consistent positive message informing the patient that, regardless of the imaging findings, the vast majority of low back pain resolves fairly quickly, the risk of chronic LBP is very low, and, therefore, the odds for recovery are good.

The timing of care matters.
Primary care referral of patients with a new consultation for LBP to physical therapy: the impact of the timing and content of care on future healthcare utilization and costs. - Fritz, Childs, Waikner, Flynn (In Review)

SETTING
Data extracted from Mercer HealthOnline® a database of members of employee-sponsored health plans.

PATIENTS

RESULTS
• Physical therapy was utilized within 90 days in just 7% of patients.
• Early PT (within 14 days of primary care) occurred with 53% of physical therapy utilizers, and was associated with decreased risk of advanced imaging, additional physician visits, lumbar surgery, lumbar injections, and opioid use as compared with delayed physical therapy.
• Total medical costs for LBP were $2736.23 lower for patients receiving early physical therapy.
• The content of physical therapy was associated with subsequent healthcare utilization and costs, but not as strongly as the timing of physical therapy.

One more question for your patients to ask their physician.

I will be going to see my physical therapist.
Recommendation 7: For patients who do not improve with self-care options, clinicians should consider the addition of nonpharmacologic therapy with proven benefits—for acute low back pain, **spinal manipulation** for chronic or subacute low back pain, intensive interdisciplinary rehabilitation, exercise therapy, acupuncture, massage therapy, **spinal manipulation**, yoga, cognitive-behavioral therapy, or progressive relaxation (weak recommendation, moderate-quality evidence).
What tests matter?

Why This Technique?

Results

Oswestry Disability Index (ODI)

- 45% patients improved dramatically and were classified as Success

![Graph showing ODI improvement over time]

Pre-test Probability of Dramatic Success with Manipulation

- Objective: To validate a clinical prediction rule to identify individuals with LBP most likely to benefit from spinal manipulation.
- Study Design: A randomized clinical trial.

Validation of the Rule

BMC Musculoskeletal

- 2 factors present:
  - Recent onset (<16 days)
  - No symptoms below knee

45% 91%

In the study by Childs and colleagues, spinal manipulation seemed to offer a 'slam dunk' effect if patients met certain criteria.

Deyo, Ann Int Med, 2004

A Clinical Prediction Rule To Identify Patients with Low Back Pain Most Likely To Benefit from Spinal Manipulation: A Validation Study

Patient records revealed that most (97%) subjects received low velocity techniques with a small (5%) proportion also receiving high velocity thrust techniques.
• Mechanical Stimulus
  ↓
  Tissue
  ↓
  Decrease Spasm Increase ROM

• Peripheral Nervous System
  ↓
  Spinal Cord
  ↓
  Peripheral Nervous System

Neurophysiological

Peripheral Nervous System
Spinal Cord Mech
Supraspinal Mech

September 19, 1881

• ...for over 30 years Joseph Lister had traveled the world pleading with physicians to sterilize their hands and instruments.
• Dr. Smith Townsend

Why PT?
Why PT?

The future is so bright
I gotta wear shades

BORN TO MOVE
A Quiet Tribe, Healthcare Disrupters,
and the Greatest Profession
Musculoskeletal Care Has Never Seen

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