The Spine Care Continuum

Toward an evidence based care pathway for spine conditions utilizing a team approach
Project Triggers
Goals of Spine Care

• To provide evidence based medicine that effectively treats patients’ pain and disability

• To provide care that gives patients a sense of satisfaction

• To provide care that accomplishes both of the above at a reasonable and transparent cost with good outcomes
Barriers?

The System
Technology
Information
“Miracles”
Expectations
What is a
good
outcome?
Back Pain/Epidemiology

• Back Pain is not completely understood and it is difficult to treat – only the patient experiences it.
• #2 reason to visit the doctor in the US – 15 million (2.5%) of yearly office visits.
• Estimated 80+% of adults experience significant back pain in a lifetime.
Acute Back Pain/Prognosis

• Favorable – 80+ % recover within 6 weeks, although recurrence may affect up to 40% within 6 months
• Fewer than 5% will have serious systemic pathology.
• This is why so many different interventions appear to be effective for acute back pain, including those with no supporting evidence and regardless of the etiology.
Radiology

• MRI is sensitive
  – A large % of asymptomatic adults will have MRI abnormalities
  – Prospective studies haven’t been done to allow correlation of findings with clinical history over time.

• Patients have access to their MRI reports without the context and have a natural desire for a definitive answer.
Review of 3110 asymptomatic patients

Table 2: Age-specific prevalence estimates of degenerative spine imaging findings in asymptomatic patients

<table>
<thead>
<tr>
<th>Imaging Finding</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disk degeneration</td>
<td>37%</td>
<td>52%</td>
<td>68%</td>
<td>80%</td>
<td>88%</td>
<td>93%</td>
<td>96%</td>
</tr>
<tr>
<td>Disk signal loss</td>
<td>17%</td>
<td>33%</td>
<td>54%</td>
<td>73%</td>
<td>86%</td>
<td>94%</td>
<td>97%</td>
</tr>
<tr>
<td>Disk height loss</td>
<td>24%</td>
<td>34%</td>
<td>45%</td>
<td>56%</td>
<td>67%</td>
<td>76%</td>
<td>84%</td>
</tr>
<tr>
<td>Disk bulge</td>
<td>30%</td>
<td>40%</td>
<td>50%</td>
<td>60%</td>
<td>69%</td>
<td>77%</td>
<td>84%</td>
</tr>
<tr>
<td>Disk protrusion</td>
<td>29%</td>
<td>31%</td>
<td>33%</td>
<td>36%</td>
<td>38%</td>
<td>40%</td>
<td>43%</td>
</tr>
<tr>
<td>Annular fissure</td>
<td>19%</td>
<td>20%</td>
<td>22%</td>
<td>23%</td>
<td>25%</td>
<td>27%</td>
<td>29%</td>
</tr>
<tr>
<td>Facet degeneration</td>
<td>4%</td>
<td>9%</td>
<td>18%</td>
<td>32%</td>
<td>50%</td>
<td>69%</td>
<td>83%</td>
</tr>
<tr>
<td>Spondylolisthesis</td>
<td>3%</td>
<td>5%</td>
<td>8%</td>
<td>14%</td>
<td>23%</td>
<td>35%</td>
<td>50%</td>
</tr>
</tbody>
</table>

*Note: The results are based on a retrospective study and may not reflect the current prevalence rates in the asymptomatic population.*
Radiology

- Degenerative disc changes do not equal degenerative disc disease
- Disc bulges without nerve compression don’t cause radiculopathy
- Cauda equina compression doesn’t equal cauda equina syndrome
- Foraminal stenosis is not lumbar stenosis
- Annular fissures aren’t surgical
Patients’ Bill of Rights

• Patients are told they have the right to have their pain controlled and they hear that they have the right to no pain
  – Data shows narcotics aren’t a good long term strategy
    • Overdose of prescription narcotics is a leading cause of death in adults.
  – Other modalities may be underutilized.

• Smoking, obesity, secondary gain
Our Vision

Patient-Centered Medical Neighborhood

- Rehab
- Neurosurgeons
- Pain Specialists
- Persistent Pain

Providence Patient-Centered Medical Home

Continuous, meaningful relationships with a clinical team founded on:
- A Comprehensive approach to health
- Patient engagement
- Anticipating the patients' needs
- Coordinating care with others
- Easy access to appointments and other information
- Exceptional standards of care and service
- Caregiver-Patient partnership

Current State
High Cost
High Utilization

Spine Care Continuum Pilot
Specialist Triage
Patient Navigation
Outcome Measures

Future State
Right Care, Right Time
Lower overall spend
PBSI-PMG Spine Care Pilot Scope

- Surgeon consult and RN navigation to support PMG PCP-Medical Home
- PCP remains the quarterback of care and determines treatment and referral plans
- Establish outcome measures and utilize shared decision making

Direct line

Assess → Conservative Tx → Imaging → Conservative Tx → Aggressive Tx → Exit

Pain Education

Surgeon consult to PCP
Patient Navigation
HVHC Shared Decision Making
Outcome measures
Intake Process

- Intake Specialist or RN contacts enrolled patients, introduces the program, completes intake, sends welcome letter.
  - **Includes:** spine clinical history, work history, previous treatments and medication information, functional questionnaires and pain scales

- RN navigator reviews intake, links images and forwards to SCC reviewer who completes review within 3 business days

- Current average of >60 new patients/each month
RN Navigation

- Role of RN Navigator
  - Enrollment
  - Communication to PCP, specialists
  - Monitors patient during active treatment to identify barriers, provide education and shared decision making, and collect outcomes

- Impact of RN Navigation
  - As a result of RN navigation, the following trends have been noticed:
    - Expedited appointment with specialist when indicated
    - Minimize barriers to care
    - PCP may change treatment plan
    - Shared decision making
SCC Recommendations

- Additional imaging is sometimes required prior to referrals: Standing Flexion Extension
- # Surgical pts: 32 or 11.1%
Introducing Spine Therapy Exercise Program (STEP) At St. Vincent’s Hospital Sports Therapy

Providence STEP is a standardized, evidence based exercise program designed for all spine patients (cervical, thoracic, and lumbar). The program focuses on restoring functional movement and strength along with providing education on pain management strategies.

Participation in the program includes:

- Comprehensive evaluation by a physical therapist to assess both physical and behavioral limitations so that the care plan is directed appropriately for the patient’s stage of healing and tailored to their motivational level.

- Providence’s Persistent Pain education including video, classes or one on one therapy with Persistent Pain therapist.

- Individual therapy program to meet the patient’s needs including guided resistance training and flexibility program. The program has goals and limitations for resistance based on the patient’s ideal body weight for age and gender. The goal of the program is to transition the patient to an independent exercise program.

This program empowers each participant with the knowledge, coping skills, confidence, and physical strength to manage their condition.
SCC Pilot Demographics
09.30.2013-09.01.2015

- 1st 122 patients
- 64% female, 36% male
- 14.6% of patients smoke
- 47% are obese (Class I,II,III)
Length of Symptoms Prior to Intake

- < 1 month: 21.2%
- > 1 year: 3.0%
- 1 - 3 months: 6.0%
- 3 - 6 months: 14.4%
- 6 - 9 months: 10.3%
- 9 - 12 months: 39.0%
Interventions Trialed Prior to SCC Intake

- Medrol Dose Pack
- PT
- Chiro
- Injections
- Prior Spine Surgery

0.00%  10.00%  20.00%  30.00%  40.00%  50.00%
Project Participation

509 patients enrolled

Live at 22 clinics
## Measuring Success

<table>
<thead>
<tr>
<th>Cost/Time/Utilization</th>
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</table>

- To date, we are improving the transit time to appropriate care with a trend toward decreasing costly care of limited benefit

<table>
<thead>
<tr>
<th>Outcomes</th>
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</table>

We are showing provider satisfaction and using standard outcome measures to determine improvement clinical outcomes and PRO.
Claims Analysis

Early Results

SCC Analysis:

- SCC compared with control group during pilot:
  - 27% reduction in overall spend
  - 14% reduction in surgical rate
  - BUT n is low and confidence intervals overlap

- To compare with baseline, we need a full year of data after the date of imaging
  - Numbers continue to improve
### Patient Measures

#### Satisfaction

<table>
<thead>
<tr>
<th>I received the information and support I needed.</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>14</td>
</tr>
<tr>
<td>Agree</td>
<td>4</td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
</tr>
<tr>
<td>Disagree</td>
<td>0</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
</tr>
<tr>
<td>No Record</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I would recommend this spine program to my friends and family.</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>13</td>
</tr>
<tr>
<td>Agree</td>
<td>7</td>
</tr>
<tr>
<td>Neutral</td>
<td>1</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
</tr>
<tr>
<td>No Record</td>
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<tr>
<td>Total</td>
<td>22</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Net promotor score</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotor</td>
<td>13</td>
</tr>
<tr>
<td>Passive</td>
<td>8</td>
</tr>
<tr>
<td>Detractor</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
</tr>
</tbody>
</table>

N is too low to draw conclusions from patient satisfactions surveys.

#### Shared Decision Making

<table>
<thead>
<tr>
<th></th>
<th>Offered the aid (% of enrolled population)</th>
<th>Viewed the aid (% of those offered)</th>
<th>Aid impacted decision (% of those offered)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>189</td>
<td>82</td>
<td>41</td>
</tr>
<tr>
<td>Since October 2014</td>
<td>41%</td>
<td>43%</td>
<td>22%</td>
</tr>
</tbody>
</table>
What is our conclusion from this data?

N = patients who returned baseline survey.
SCC

• Improved pathway to care with expedited access to appropriate therapy
• Data shows decreased cost, improved patient and provider satisfaction
• Opportunities for research to establish evidence based guidelines
  – Factors that influence outcome
• A consistent product systemwide