Improved Outcomes Associated with Adherence to the DOWC Physical Therapy Time to Effect Criteria

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April, 2019
No Conflicts of Interest
How many PT sessions is appropriate for a “typical” IW with low back pain (LBP)?
TODAY’S MESSAGE

The excessive use of physical therapy (PT) can contribute to real patient harm.

Ensuring PT-related functional gain at regular intervals can improve outcomes and minimize harm for our injured workers (IWps).

Pinnacol’s UR approach is unique, more time- and cost-intensive than conventional approaches, but has distinct advantages.

Pinnacol is harnessing new practice pattern variation reports to augment adherence to DOWC MTGs and educate the provider community.
90% of LBP patients recover within six weeks, without any treatment at all.
PINNACOL PHYSICAL THERAPY UTILIZATION

- 63% Receive PT
- 37%
FUNCTIONAL GAIN

Functional gains that can be objectively measured include:

1. Increased range of motion, strength, endurance, positional tolerances, power, coordination, balance* / lifting test, pushing test, sock test, etc.

2. Increased ability to perform activities of daily living

3. Decrease in opioid or medication use

4. Decreased work restrictions or the ability to return to work at full duty

5. Subjective reports of decreased pain, but only when correlated with objective findings

LBP Medical Treatment Guideline*
“Time-to-effect” criteria

[Initial] time to produce effect:
   6 treatments

Optimum Duration:
   4 to 8 weeks concurrent with an active daily home exercise program
   ~12 treatments

Maximum Duration:
   8 to 12 weeks of therapist oversight. Home exercise should continue indefinitely
   ~24 treatments

* Colorado Division of Workers’ Compensation, Rule 17, Exhibit 1, Low Back Pain Medical Treatment Guidelines, Revised February 3, 2014. https://www.colorado.gov/pacific/sites/default/files/MTG_Ex1_LBP.pdf
Percent of Pinnacol LBP patients receiving specified number of PT sessions*

* Among surgical patients, only pre-surgical PT is included.
PT modalities

ACTIVE
- Therapeutic exercises

PASSIVE
- Cold (cryotherapy)
- Heat
- Massage
- Electrical stimulation
- Ultrasound
PT’s POTENTIAL BENEFITS

- Functional assessments
- Education
- Encouragement
- Reassurance
- Building confidence
- Care and compassion
- Therapeutic exercise
American College of Physicians (2017) LBP Guideline:

(1) No PT benefit (pain or function) for patients with acute (<12 weeks) LBP

(2) Only small PT benefit for chronic (>12 weeks) LBP

Physical therapy and chiropractic benefit for individual patients

- PT or chiropractic worth trying
- Maintain PT or chiropractic only while there is continuous functional gain
- Benefit should be achievable through a home-based program promoted during a judicious number of clinic-based sessions
“EXCESSIVE” PT

No evidence of functional gain by time-to-effect and there has been sufficient opportunity for LW education

- Physician and PT bias towards “doing something”
- Failure to assess or monitor functional gain
- Exaggerate PT benefits, minimize potential downsides
- Physician defers to physical therapist
- Patient demand
- Reticence to declare MMI
- Financial motivations
Example case

22 yo male, no past medical history

“Patient was breaking up and removing a concrete floor using a pry bar when he strained his lower back. Patient denies past injury.”
Initial PCP visit

Sept. 2

Objective:

**Vitals:** Wt 140, Temp 98.9 oral, BP LUE 112/76, Staff: ra, Staff: ra.

**Examination:**

- **Lower back:**
  - **Inspection:** normal curvature of spine, No swelling, No ecchymoses. **Palpation:** no vertebral spine tenderness, no paraspinal spasm, no tenderness on SI joints. **Straight leg raising test:** negative bilaterally. **Motor system:** V/V bilaterally. **Sensory exam:** normal bilateral. **Reflexes:** bilaterally symmetrical, Babinski negative. **Gait:** normal.

Plan:

1. **Sprain of ligaments of lumbar spine, initial encounter**
   Start meloxicam tablet, 15 mg, 1 tab(s), orally, once a day, 10 day(s), 10 Tablet, Refills 0.

   PT – 6 visits 2-3x/week; full work restriction
Physical therapy: initial visit

Sept. 8

Subjective

- Pain: 6/10 pain at worst that occurs with sustained positions of 15 minutes duration or greater. Worst on the R.

Objective Examination

Functional Tests:
- Movement: Fwd bend: full, painfree; backward bend: limited 25%, painful

Joint Integrity/Mobility: Lumbar:
- Central P-A
  - Left: Hypomobile/Painful
  - Right: Hypomobile/Painful

Muscle Testing:
- Difficulty maintaining TrA with alternating hip flexion

Special Tests:
- Spine: + slump test on the R, + repro pain with SLR

Problems & Goals

Problem #1  ADL / Functional Status: Current Status: Work status: Unable to work secondary to dysfunction.
  - STG Achieve by Sep 22, 2016.
    - ADL Improvements In:
      - Pt will demonstrate good lifting mechanics for up to 10 lbs consistently and safely
  - LTG Achieve by Oct 06, 2016.
    - ADL Improvements In:
      - Pt will be able to return to work full duty, demonstrating the ability to safely lift 60 lbs consistently

Problem #2  Functional Tests: Movement: Fwd bend: full, painfree; backward bend: limited 25%, painful
  - LTG Achieve by Oct 06, 2016.
    - Functional Test Improvements:
      - Pt will extend without pain

Problem #3  Muscle Testing: difficulty maintaining TrA with alternating hip flexion
  - STG Achieve by Sep 22, 2016.
    - Musculoskeletal Improvements In:
      - Pt will demonstrate good performance of HEP with neutral spine
Subjective

* Pain 6/10 pain at worst that occurs with sustained positions of 15 minutes duration or greater worst on the R

Objective Examination

Functional Tests:
- Movement: bend: full, painfree; backward bend: limited 25%, painful
- TrA:

Joint Range of Motion: Lumbar:
- Left:
- Right:

Testing:
- Difficulty maintaining TrA with alternating hip flexion

Special Tests:
- Spine: + slump test on the R, + repro pain with SLR

Assessment

Tolerance:
- Pt tolerated prone with 2 pillows best and had pain relief following manual therapy in this position

Treatment Emphasis to focus on:
- Muscle Function Improvements  Pain relief

Plan

- Cont treatment to absence of pain
Physical therapy: subsequent visits

Subjective

- Pain 6/10 pain at worst that occurs with sustained positions of 15 minutes duration or greater, worst on the R

Objective Examination

Functional Tests:
- Movement: Bend: full, painfree; Backward bend: limited 25%, painful

Joint Mobility: Lumbar:
- Left: Hypomobile/Painful
- Right: Hypomobile/Painful

Special Tests:
- Spine: + slump test on the R, + repro pain with SLR

Assessment

Tolerance
- Pt has difficulty maintaining 40 mmHg with alt hip flexion

Treatment Emphasis to focus on
- Muscle Function Improvements

Plan

Daily Plan
- Cont to progress painfree strength
Physical therapy: subsequent visits

Subjective

Pain: 6/10 pain at worst that occurs with sustained positions of 15 minutes duration or greater worst on the right

Objective Examination

Functional Test:
• Movement: Press: full, pain-free; Backward bend: limited 25%, painful
Join: Full
Mobility: Lumbar:

TrA Testing:
• Difficulty maintaining TrA with alternating hip flexion

Special Tests:
• Spine: + slump test on the right, + repro pain with SLR

Assessment

Tolerance
• pt had some increased pain after core exercise but was reduced with cat/camel

Treatment Emphasis to focus on
• Muscle Function Improvements

Plan

Daily Plan
• Cont to progress core strength and work into functional, next dr appt 9/30
Physical therapy: subsequent visit

Subjective

- Pain: 6/10 pain at worst that occurs with sustained positions of 15 minutes duration or greater, worst on the right.

Objective Examination

- Functional:
  - Movements: forward bend: full, pain-free; backward bend: limited 25%, pain-free.
- Joint Integrity: Mobility: Lumbar:
  - TL-A: Painful/Hypomobile
- Muscle Testing:
  - Difficulty maintaining TrA with alternating hip flexion
- Special Tests:
  - Spine: + slump test on the right, + repro pain with SLR

Assessment

- Tolerance
  - PT cont to have decreased pain with flexion
- Treatment Emphasis to focus on
  - Muscle Function Improvements

Plan

- Daily Plan
  - Cont to reduce pain and improve functional strength
PCP visits

HPI:
  Lower back:
  Patient states he continues to have low back pain. He denies any radiating pain, numbness or weakness into his lower extremities. He is requesting an x-ray.

Objective:
  **Vitals:** Wt 140, Temp 98.9 oral, BP LUE 112/76, Staff: ra, Staff: ra.
  **Examination:**
  Lower back:
  Inspection: normal curvature of spine, No swelling, No ecchymoses. **Palpation:** no vertebral spine tenderness, no paraspinal spasm, no tenderness on SI joints. **Straight leg raising test:** negative bilaterally. **Motor system:** V/V N/N. **Sensory exam:** normal bilateral. **Reflexes:** bilaterally symmetrical, Babinski negative. **Gait:** normal.

Plan:
  1. **Sprain of ligaments of lumbar spine, subsequent encounter**
     Start dexamethasone tablet, 4 mg, 1 tab(s), orally, 2 times a day, 7 day(s), 14, Refills 0

Procedure: PHYSICAL THERAPY TREATMENT
  Continue with additional treatment, 6 visits 1-2 x/week
PCP visits

HPI:

**Lower back:**
Patient continues to have some discomfort with certain movements. Mainly lifting. Her verbal discussion with physical therapist currently showing no dysfunction working with core strengthening.

**Objective:**

**Vitals:** Wt 151 lb, temp 98.9 oral, BP LUE 112/76, Staff: ra, Staff: ra.

**Examination:**

**Inspection:** normal curvature of spine, No swelling, No ecchymoses. **Palpation:** no vertebral spine tenderness, no paraspinal spasm, no tenderness on SI joints. **Straight leg raising test:** negative bilaterally. **Motor system:** V/ V bilaterally. **Sensory exam:** normal bilateral. **Reflexes:** bilaterally symmetrical, babinski negative. **Gait:** normal.

**Plan:**

1. **Sprain of ligaments of lumbar spine, subsequent encounter**

Notes: Additional 3 visits of physical therapy to outline self exercise program. Continue with core strengthening.

2. **Others**

Start naproxen tablet, 500 mg, 1 tab(s), orally, 2 times a day, 14 days, 28 Tablet, Refills 0.
PCP visits

Objective:

Vitals: BP LUE 114/80, Staff: ra, Staff: ra.

Therapeutic Interventions:

Assessment:

Assessment:
1. Sprain of ligaments of lumbar spine, subsequent encounter - S33.5XXD (Primary), Continue with core strengthening, Add muscle relaxer. Continue Naprosyn
PCP visits

Subjective:

Chief Complaints:
1. OFFICE VISIT. 2. Patient is here for follow-up for a work related injury. 3. Spanish Interpreter Used: LC.

Medical History: Denies past medical history.

Medications: Taking cyclobenzaprine 10 mg tablet 1 tab(s) hs, Taking naproxen 500 mg tablet 1 tab(s) 2 times a day, Medication List reviewed and reconciled with the patient

Allergies: N.K.D.A.

Objective:

Therapeutic Interventions:

Assessment:

Assessment:
1. Sprain of ligaments of lumbar spine, subsequent encounter - S38.5XXD (Primary), Patient with pain. Reviewed note from therapist.
2. Low back pain - M54.5

We’ll obtain MRI. No work until MRI is completed

Result: normal MRI
PCP visits

HPI:

**Lower back:**

Patient is here to review MRI findings. Reviewed report normal MRI of lumbar spine. "I don’t care what the MRI shows, I still have pain".

**Examination:**

**Low back:**

**Inspection:** normal curvature of spine. No swelling, No ecchymoses. **Palpation:** no vertebral spine tenderness, no spinal spasm, no tenderness on SI joints. **Straight leg raising test:** negative bilaterally. **Motor system:** V/VI/2/5 power, normal bilaterally. **Sensory exam:** normal bilateral. **Reflexes:** bilaterally symmetrical, babinski negative. **Gait:** normal.

**Assessment:**

1. Low back pain - M54.5 (Primary)
2. Sprain of ligaments of lumbar spine, subsequent encounter - S33.5XXD

Reviewed MRI findings with patient. Normal findings. There are no chronic or concerning findings. Will check CBC, sedimentation rate and C-reactive protein today. He is encouraged to return to physical therapy and modified work. Prescription for Celebrex given.
PCP visits

HPI:

Lower back:

Patient continues to complain of low back pain. He denies any radicular symptoms. Pain is exacerbated by activity and lifting. When questioned if it keeps him up at night. He states at times he will awaken with some discomfort. He will stretch pain is relieved.

Examination:

Lower:


Assessment

sedimentation rate, C-reactive protein all within normal limits. MRI normal. Discussed with patient that there is no findings on testing to warrant any further evaluation. Encouraged to restart physical therapy work on strengthening. Continue anti-inflammatory. We will follow-up in 3 weeks. Patient should be at MMI at that time.
PCP visits

Subjective:

Chief Complaints:
1. OFFICE VISIT. 2. Patient is here for follow-up for a work related injury. 3. Spanish Interpreter Used: RA.

Medical History: Denies past medical history.

Objective:

Vitals: BP LUE 110/80, Staff: ra, Staff: ra.

Assessment:

Assessment:
1. Sprain of ligaments of lumbar spine, subsequent encounter - S33.5XXD (Primary), Patient has not attended any physical therapy appointment. Since his last visit. He was given appointments to outline a home exercise program. He is to complete this order. Return to clinic in 2 weeks for closure of his case.
Physical therapy: subsequent visits

Assessment
Cont to present with LBP despite negative imaging. Sx consistently reproduced with closing motions, pt has marked spasm in L hip flexors which is likely source of pain on L. Spasm likely to compensate for poor glute med strength B. Much less pain with extension after hip flexor stretches.

Problems & Goals

**Problem #1**  
ADL / Functional Status: Current Status: Work status: Is unable to work because of this, the season ended at this point and there isn't any work even if pt didn't have restrictions.

**LTG Achieve by Oct 06, 2016.**

**ADL Improvements In:**
- Pt will be able to return to work full duty, demonstrating the ability to safely lift 60 lbs consistently

**Goal Achieved Sep 29, 2016.**

**ADL Improvements In:**
- Pt will demonstrate good lifting mechanics for up to 10 lbs consistently and safely

**Problem #2**  
Functional Tests: Movement: Pain mild with all motions. Sx reproduced with L sidebend and extension. No limitation. Lumbar curve completely reverses with flexion. Hip ROM flexion 95 degrees B, able to achieve more flexion with pelvic and lumbar movement, reproduces sx.

**LTG Achieve by Feb 01, 2017.**

**Functional Test Improvements:**
- Pt will extend without pain

**Problem #3**  
Muscle Testing: able to maintain good core control with all exercise included 90 sec plank. Marked trendelenburg with single leg stance B, reproduces sx on both sides.

**Goal Achieved Oct 25, 2016.**

**Musculoskeletal Improvements In:**
- Pt will demonstrate good performance of HEP with neutral spine

Plan
6 more visits per Rx, PT to focus on correcting impairments of hip flexor length, hip lateral strength, n mobility restriction, spasm.
Physical Therapy: subsequent visits

Subjective Examination
ADL / Functional Status
* Current Status Work status is unable to work because of this, the season ended at this point and there isn't any work even if pt didn't have restrictions

Chief Complaint
* Pain L sided LBP, Pain increased with maintaining position for more than 15 minutes Occurred through pain

Daily Comments
* "It's the same every day, just lasted""site altered"

Mechanism of Injury
* Was lifting heavy object at work, felt mild pain "fatigue" in lumbar spine, severe pain once he straightened up Did course of PT, no change. Pts has films and MRIs which show nothings Referred back for another course of PT

Functional Tests
* Movement Pain mild with all motions Sx resolved with flexion and extension No limitation Lumbar curve completely reverses with flexion Hip ROM flexion 95 degrees B, able to achieve more flexion with pelvic and lumbar movement, reproduces sx

Joint Integrity/Mobility Lumbar
* Unilateral P-A
  * reproduces sx

Muscle Testing
* Abdominals and erecter spinae WNL Glute max 5/5 Ely (5/5 B) Pt able to hold test position 8 seconds B with marked fatigue

Palpation
* Marked spasm in L psaos and iliacus, pt unable to tolerate Pt to kickish Marked tenderness radiating to lower back, no reproduction of sx

Special Tests
* Spine Positive slump test on the R, with sensitivity

Assessment
Cont to lack gluteal mm control Improving Decreasing lumbar mm spasm as gluteal strength improves Fatigues quickly Immediate decrease in lumbar pain after hip flexion and gluteal strengthening

Plan
Cont with focus on gluteal strength and progression to hip

Cloned note
PCP visits

Subjective:

Chief Complaints:
1. OFFICE VISIT. 2. Patient is here for follow-up for a work related injury.

HPI:

Lower back:
Patient has completed his prescribed course of physical therapy. Review of his note from therapist. He is released to home exercise program.

Assessment:
1. Sprain of ligaments of lumbar spine, subsequent encounter - S33.5XXD (Primary), Patient has had a prolonged treatment. His MRI was totally normal. Physical exam totally normal. He is released to full duty without impairment. He is encouraged to incorporate an exercise program into his daily activities.

Work Status: 1/10/17

☐ Other
☐ Able to return to full duty on
☐ Able to return to modified duty from
☐ Date of Injury
☐ Date of Admission
☐ Date of Release
22 yo healthy male
no PMH
simple back strain

Four months of medical care
- 9 MD visits
- 23 PT visits
- 1 MRI
- Labs
- Steroid, 3 non-steroidals, muscle relaxant

Shortcomings
- No credible functional assessments (by PCP or PT)
- Physical therapist > PCP drives the case
- PCP ignores PT documentation
- Massive cutting-and-pasting, absence of essential and believable E&M elements
- Subjective pain prioritized over and not correlated with physical function
- No psychosocial assessment or intervention

Cost
- $4k medical, $8k indemnity ($12k total)
  (12x the cost of a normal simple LBP claim)
Physical therapy and chiropractic pitfalls

Excessive PT/chiropractic and the “we are doing something” illusion can:

• Delay alternative treatments
• Distract from psychosocial issues
• Foster IW dependency
• Decrease ATP involvement
• Inconvenience IW
• Delay RTW
• Delay MMI
• Increase costs
How can we avoid excessive, potentially harmful treatment?
<table>
<thead>
<tr>
<th></th>
<th>Low Back Pain</th>
<th>Thoracic Outlet Syndrome</th>
<th>Shoulder Injury</th>
<th>Cumulative Trauma Condition</th>
<th>Lower Extremity Injury</th>
<th>Complex Regional Pain Syndrome/Reflex Sympathetic Dystrophy</th>
<th>Cervical Spine</th>
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<td>Diagnostics and Injections</td>
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<td>Manipulation (e.g., chiro, OMT)</td>
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<td>Work Conditioning</td>
<td>up to 2 hrs/day x 2-5 visits/wk, up to 4 wks</td>
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Prior authorization is not necessary for diagnostic testing or injections when the use is consistent with the DOWC Medical Treatment Guidelines. Therapeutic injections do require prior authorization.

Initial evaluation authorized. See DOWC Medical Treatment Guidelines for policies related to ongoing treatment.

*Note: Exhibit 10, Traumatic Brain Injury (TBI), is not referenced in this document. Due to the nature of TBI, the TBI Treatment Guideline states that providers should consult the claims team for treatment priorities and goals. It is highly recommended that the injured worker — in collaboration with his/her family/support system, insurance carrier and case manager — participate in care planning.

(-) If a service or treatment is not listed or not quantified, refer to the treatment guidelines on the DOWC website at https://www.colorado.gov/pacific/edie/workers-compensation-rules-procedure.
Pinnacol’s perspective
INSANITY: "DOING THE SAME THING OVER AND OVER AGAIN AND EXPECTING DIFFERENT RESULTS"

@HONEST_PHYSIO
The DOWC time-to-effect and fxl gain orientation vs. other guidelines

• AECOEM and ODG also often include information related optimal and maximum therapy and to initial time-to-effect (although they do not necessarily use this term).

**AECOEM**

Similarly, physical therapy, manipulation and other physical treatment methods are Recommended, Insufficient Evidence (I) to be tried for at most 5 to 6 appointments. A lack of clear functional improvement indicates the treatment should be changed markedly or stopped altogether.

• Practically-speaking, however, most carriers focus on UR based on approving and limiting to absolute numbers of sessions for particular injuries
Pinnacol’s utilization review process

Nurse review of PCP and PT/chiro documentation at time-to-effect intervals

PCPs must provide written order for additional PT. Therapists cannot continue PT on their own

There must be objective, quantified, documented evidence of meaningful functional gain with ongoing opportunity for continued, meaningful improvement before payment for additional PT/chiro is authorized

Independent expert review when there are questions

Educate PCP, physical therapist, and chiropractor about MTGs

Higher quality care, less patient harm

Quicker RTW

Avoid similar problems with future patients
Uncomplicated low back pain: improved outcomes

• Lost-time claims
• Utilization review compared with no utilization review (RCT)
• 3.2 fewer PT sessions
• Return to work two weeks earlier
• Cost reduction of $2,573/claim
Claims days

Average Claim Days

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Practice pattern variation reports
## PT clinic practice pattern report: LBP

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<th>Billing Vendor</th>
<th>Weight Avg</th>
<th>PT Pre Surg Inj Avg</th>
<th>Rolling Avg</th>
<th>PT Pre Surg/Injection</th>
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A comparison of two providers: low back pain

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Thank you!

tom.denberg@pinnacol.com
x4556