

Being a Primary Spine Provider

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Traditional Management of Spine Pain



FRAGMENTED CARE

Being a Primary Spine Provider

- Our presentation will discuss the concept of being a primary spine provider from the perspective of an MD, physical therapist and chiropractor.
- All 3 specialties can be a portal of entry for patients to receive care for spine complaints.
- We want you to recognize the similarities between our approach as well as each unique perspective in approaching a patient with spine complaints.
- Patients have a choice as to who they may want to see based on prior experiences and ideas - we need to listen to each patient to get them the care that will work best for each one.
- Minimize the fragmented care approach.

Similarities between each of our specialties

- **Essential Message for all of our patients:**
- LBP is normal, this episode will improve.
- Surgery is **rarely an option** for LBP due to disc degeneration.
- Emphasize the importance of **PHYSICAL FUNCTION**:
 - General exercises
 - Posture/Mechanics
 - Specific Core Exercises
- Early intervention: "You may hurt but you won't harm."



Other Similarities

- We know that how the patient is managed in the **early weeks** of symptoms will set the stage for recovery and decrease the risk for chronicity.
- We have to have a **similar message** – early intervention.
- Thorough history- review **Red Flags**.
- **Standard exam** with unique additions from each specialty.



Essential Skills of a primary spine provider

- Differential diagnosis of spine related disorders.
- Efficient management of low back pain promoting **early intervention**.
- Effective education, communication and motivation of patients.
- Identify and manage the **psychosocial aspects** of spine related disorders. (fear/avoidance behaviors, family member living with chronic pain, job satisfaction, history of depression or anxiety.)
- Developing a positive therapeutic relationship with our patient.
- Become a local site resource for treating spine pain.



History

- Obtaining a careful history is the most important part of the evaluation. (Ask and Listen)
- Many items to consider including onset, prior symptoms, leg symptoms or not, prior treatment and outcomes, work comp, MVA, injury?, legal representation?
- The history taking can be aided by the use of a questionnaire or a list of questions which can remind you of items to add in your report. (this can function as a dictation template)
- You may find it helpful to develop a **Smart Phrase** that you use when seeing a patient with spine complaints – having a list of questions you typically address, possibly even an exam template can help with documentation.

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History

- If you can see on your schedule that patient is scheduled for back evaluation- prepare ahead of time- review the chart, locate and review imaging, if you use a questionnaire have them fill this out as soon as they arrive.
- More often a patient may bring up symptoms of back pain as part of a “laundry list” of complaints- in those situations a questionnaire may not be helpful, but rather having an Excellian Smart Phrase to help you in your history taking and exam documentation.
- Have a **standardized approach**- history, exam, etc.

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Red Flags

- **Suspected Cauda Equina syndrome**- New bowel/ bladder dysfunction, Perineal numbness/saddle anesthesia. Persistent weakness. (lower motor neuron findings)
- **Suspected Myelopathy**- New onset upper motor neuron signs (clonus, hyperreflexia, Hoffman’s sign). New onset gait/balance issues. Spasticity. Persistent weakness
- **Recent trauma** – early imaging
- **Suspected cancer**- Think about what cancers metastasize to bone.
BLT KP (Mnemonic: bacon, lettuce, tomato, kosher pickle)
Breast, Lung, Thyroid, Kidney, Prostate. Unexplained weight loss, pain at night. Cancer risk factors.

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Red Flags

- **Suspected infection:** immunocompromised (HIV, diabetes, chronic steroid use) IV drug use, fever/chills at night, recent spinal procedure.
- **Suspected Autoimmune Disease/Polyarthritis:** redness/swelling of joints, joint deformity, extended morning stiffness, Chlamydial infection in recent 6 months.
- **Consider non-spine pain origins:** 2% of low back pain is due to visceral disease- pelvic organs, renal source, AAA, pancreatitis, penetrating ulcer, cholecystitis, cardiac or pulmonary disease.

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Physical Exam- summary

- General appearance
- Transition (sit to stand)
- Gait (heel / toe walk)
- Inspection
- Palpation
- Percussion
- Lumbar range of motion
- Reflexes / clonus
- Sensation
- Motor exam
- SLR / neural tension signs
- Hip range of motion
- Provocative maneuvers- SI joints
- Peripheral pulses
- Lymphatics- edema

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Standard Exam

- **Have a template with normal defaults.**
- General- "Well-developed, well-nourished individual in no acute distress." Comment whether they appear uncomfortable.
- I start the exam by having them **stand from the sitting position** and watch how easy this is for them and comment on this. Pain with transition from sitting to standing is common.
- Watch them **walk in the exam room**- back and forth a few times. Is gait antalgic, limping, using cane?,
- Have them **walk on heels and toes.**

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Standard Exam

- **Inspection:** check back area – surgical scars?, rash, scoliosis, iliac crest height.
- **Palpation:** areas of tenderness, spasm, asymmetry. Trochanteric tenderness. Know landmarks- inferior border of scapula- T7, iliac crest- L4 level. Comment on tenderness to extreme light touch.
- **Percussion:** Does it correlate with tenderness on palpation? Generalized? Over reaction? Is there percussion tenderness over a specific vertebral level?
- This is where I check **Waddell's findings**- pain with simulated rotation or pain with axial compression, suggestion of symptom exaggeration.

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Waddell's Tests: Gordon Waddell, 1980. Signs of nonorganic pathology (symptom exaggeration)

1. Non-anatomic superficial tenderness.
 2. Simulation tests with axial loading (compression) and trunk rotation
 3. Distraction test with seated straight leg raise (flip test)
 4. Non-anatomic weakness or sensory loss
 5. Over-reaction (exaggerated and non-reproducible responses to stimuli).
- (Note: Need 3 of 5 to be clinically significant. Isolated nonorganic signs don't necessarily suggest symptom exaggeration and should be ignored)

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Standard Exam

- Check **lumbar range of motion**- flexion, extension, side bending.
- **Move to seated position** on exam table and **check reflexes**, clonus. Babinski sign. (Jendrassik's maneuver)
- Think **upper motor neuron signs** – hyper-reflexia, clonus, Hoffman's sign, Babinski sign, spasticity, ataxic gait.
- Check **sensory exam**- dermatomal distribution?, stocking distribution?,
- Check **motor exam** (including rapid toe raising) ? Non-anatomic weakness(giving away, cogwheeling)

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Standard Exam

- **Move to supine position.**
- Check **straight leg raise**- nerve tension signs- Lasegue sign.
- Check **hip range of motion.** Limited? Painful?
- Provocative tests- **Patrick test** for SI pain
- Check for **edema, peripheral pulses.**

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Imaging

- Consider imaging options- **first line always x-rays.**
- **Lumbar X-rays**- 3 views (AP, Lateral, coned down view) consider Oblique views if concerned about spondylolisthesis (Scotty dog sign).
- Occasionally will order flexion/ extension views to check for instability. (spondylolisthesis)
- **MRI scan**- generally done too often. X-rays done too little. MRI findings frequently don't correlate with symptom intensity or clinical findings. Studies have identified worse outcome once patients know that they have degenerative changes on MRI.

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Imaging

- Rarely need to order **MRI with contrast** – this is generally done in the early post operative period and often done by the surgeon.
- My recommendation is to **look at all images** you order with the patient (can paste images into After Visit Summary for home review)
- MRI images- typically look at T2 images- filter which shows better contrast between structures- (fluid is white on T2 images)
- I might suggest that you consider meeting with your local radiologist to learn the basic points of reading spine xrays or MRI images.

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Medications

- Medications should be used with a multidisciplinary treatment approach.
- **First Line medications**
 - **NSAIDs** – **Ibuprofen** (up to 800 mg tid). **Naprosyn** (500 mg bid). If not effective, try a different agent. (Recall can use **Celebrex** with Coumadin patients).
 - **Simple analgesics- Acetaminophen** (up to 1000 mg tid) or **Tylenol Arthritis** (extended release 650 tabs, 2 at night).
 - **Topical agents- Voltaren gel, Lidoderm patch, OTC Aspercreme w 4% Lidocaine. Capsaicin cream** (OTC or Rx).

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Medications

- **Second Line medications**
 - **Muscle relaxants- Flexeril** (5-10 mg TID prn), **Methocarbamol** (500-1000mg QID prn), **Tizanidine** (1-2 mg TID prn). Use of **Soma** is not recommended due to abuse/addiction risk.
 - **Neuropathic pain- Gabapentin** (start low and titrate slowly- I often start with 300 mg HS, then increase to 600 mg HS, then add 3rd dose during day or late afternoon) **Lyrica-** (start with 50 mg HS, and increase slowly TID then up to 150-300/day).
 - **Tricyclic antidepressants- Nortriptyline, Amitriptyline** (HS dosing).
 - **Prednisone**- Various dosing options of Prednisone may be helpful. Shown to improve function, not pain.

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Medications

- **Third Line medications**
 - **Short acting opioids- Tramadol** (25 – 100mg q6 hrs prn) Helps with neuropathic pain. Don't use if history of seizure or concurrent SSRI use.
 - Norco** 5/325mg (1 q 4-6 hrs prn x 5 days) **Percocet** (Oxycodone/APAP 5/325mg) (1 q 4-6 hrs prn x 5 days).
- Check PMP database and check for pain medication agreement before prescribing.

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Approach to a patient with spine complaints-- What are your options?

- **What are your options:** after a careful history, review Red Flags, standard examination? **Shared decision making** with patient-preference/ values/ prior experience with a particular treatment.
- When and what type of imaging to do?
- Medications
- Home treatment with Ice/Heat/stretches. Are they doing exercises previously recommended by a therapist?
- Chiropractic Care

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What are your options?

- Physical therapy- traditional PT, intensive strengthening with MedX equipment, pool therapy.
- Alternative modalities – acupuncture, massage, biofeedback
- Spinal injections, if so, what type.
- Pain clinic referral
- Surgery referral

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Primary Care approach to spine patient

- Consider **Red Flags**- this will change your initial approach.
- **Leg symptoms or not?** this will change your approach.
- **Known anatomy**- prior imaging? – will help as you establish a plan. Find prior imaging reports if able. (An MRI 5 yrs earlier will still help)
- **Active / Passive treatment**- Passive treatment with ice, heat, massage, traction, etc. Can help address symptoms, especially in early stages. At some point need to consider a more active treatment plan with home exercises often taught by therapist or chiropractor. This may include ball exercises, home strengthening, pool exercises, etc. Encourage the patient to continue these exercises on their own. If they have been through traditional PT already, I often consider more intensive therapy with core strengthening with MedX equipment.

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Primary Care approach to spine patient

- In general, I consider therapy as the **foundation for treatment** and tend to recommend this at some point in the treatment plan, often early in the treatment. For some patients, PT may need to be repeated every few years.
- **Medications**- recommend meds if needed to decrease their pain symptoms trying to minimize the use of narcotics. Consider gabapentin for suspected neuropathic symptoms.
- If **leg symptoms** seem radicular- consider meds, imaging, possibly short trial of PT before imaging. If too severe to participate in therapy then MRI needed with consideration of spinal injection to decrease symptoms to allow them to begin a PT program.
- Patients with **spinal stenosis symptoms**- PT is still important here, if not improving consider lumbar injections. Encourage home exercises.

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Primary Care approach to spine patient

- Of course there are many other presentations to consider, some of which will be discussed today.
- Our goal is to help you learn how to evaluate a patient with spine complaints and then recognize what your options are for treatment and, after discussing these options with the patient, put a treatment plan in place.

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Chiropractic overview.

November 9, 2018


Chiropractic Care

- Agenda:
 - Chiropractic as a team player in a health system
 - Evidence based approach to spine care
 - Value
 - Tools – Active and Passive modalities
 - Care plan
 - Outcomes

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Chiropractic Care


- Chiropractic as a team player in a health system
 - Direct access provider
 - Primary musculoskeletal practitioners
 - Referrals to and from PCP and specialists
 - Imaging
 - Reduced variability
 - Value – high patient satisfaction, low cost

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Chiropractic Care


- Evidence based approach to spine care
 - Following appropriate guidelines
 - Utilize outcome tools
- Value
 - high patient satisfaction – national data and Allina data
 - low cost – reduction in overall cost of spine care if DC are the first contact provider.

Note: Data from Optum Health demonstrates when intervention was within the first 10 days the outcome is significantly better.

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Chiropractic Care

- Optum data

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Chiropractic Care


- How do you decide if a patient is a good candidate for SMT?
 - Contraindications
 - Inflammatory arthritis, malignancy, bone disease, fractures, infection
 - red flags, yellow flags
 - Patient preference
 - Acute conditions
 - Insurance coverage
 - Previous chiropractic care – good or bad experience

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Chiropractic Care

SPINAL MANIPULATIVE THERAPY

- SMT is a manual procedure that utilizes highly refined skills to evaluate the biomechanics of the spine.
- SMT involves using the hands or an instrument to manipulate the spine in order to restore or enhance joint function.
- SMT is a highly controlled procedure that rarely causes discomfort.
- SMT often helps resolve joint inflammation and reduces the patients pain. SMT may cause a “popping” sound, this is caused by a release of pressure inside the joint.
- The Chiropractor adapts the procedure to meet the specific needs of the patient.

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Chiropractic Care

Maitlands 5 mobilization grades

- Reduces pain
 - Grade I: small amplitude movement at the beginning of ROM.
 - Grade II: large amplitude movement within mid range of ROM.
- Maintain motion
 - Grade III: large amplitude movement from mid range to physiological limit (PL)

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Chiropractic Care

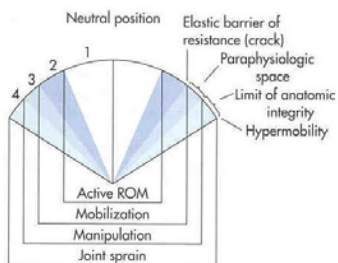
Maitlands 5 mobilization grades

- Decreases pain, increases ROM (active/passive), increases proprioceptive effects in and around the joint region
 - Grade IV: small amplitude movement at end range of motion PL and perform small amplitude oscillations
Resistance limits movement in absences of pain and spasm
 - Grade V: small amplitude movement from PL to anatomical limit (AL)
Manipulation (chiropractic)
Usually accompanied by a popping sound
Velocity of thrust is more important and effective than force of thrust (HVLA v. LVHA)

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Chiropractic Care




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Chiropractic care

Outcomes of SMT:
Joint Mobilization/Manipulation

- Reduce pain
 - Improving joint function and decrease muscle guarding
 - Effective and widely used techniques in injury rehabilitation/acute and chronic pain. Proprioceptive effects to improve postural and kinesthetic awareness
- Regain normal active joint range of motion (AROM)
- Restore normal passive motions, stretching or lengthening tissue surrounding the joint (capsular and ligamentous)
- Reposition or re-align a joint, break adhesion and stretch tissue to permit structural changes
- Regain normal distribution of forces and stresses about a joint

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Chiropractic Care

Manipulation Safety:

- Effective and widely used technique
- AROM applies more stress on the internal carotid/vertebral arteries than manipulation
 - (Herzog <https://www.ncbi.nlm.nih.gov/pubmed/23140796>)


Rare adverse events - 1 in 5.85 million manipulations.

- (CMAJ. 2002 April 2; 166(7): 886, Cureus. 2016 Feb;8(2))

Malpractice insurance is \$1500-\$2000/year.

Tools

Manual technique – hands,
Activator technique – activator is a hand held device

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Chiropractic Care

More tools Chiropractors include in their treatment plans:

Active modalities - stretching, strengthening, ergonomic changes, yoga, pilates, HEP

Passive modalities – interferential current, ultrasound, infrared laser therapy, Acupuncture, Trigger point therapy, myofascial therapy

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Chiropractic Care

Care Plan/Outcomes:

- Outcome tools: Keele, Oswestry, NDI, PROMIS10, VAS, PHQ-9
- Treatment plans/algorithms:
 - 4-6 visits
 - Decrease pain/increase function
 - Begin active care
 - Preventative care instruction and education
 - Include referral to other providers if indicated
 - Discharge

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Chiropractic Care

- Referral in Excellian “amb consult to chiropractic”
- Locations:
 - Isanti/Cambridge
 - Jenna Theirren, DC (acupuncture)
 - Coon Rapids/Woodbury
 - Derek Doty, DC
 - Nicollet Mall
 - Dean Bruns, DC
 - West Health (Plymouth)
 - Steve Dandrea, DC (acupuncture)
 - Centennial Lakes (Edina)
 - Molly Magnani, DC (acupuncture)
 - Doug Pernula, DC (acupuncture)
 - Rochelle Rougier-Maas, DC (acupuncture)

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Chiropractic Care

- **Conservative care first:** data shows that a conservative approach to back pain is more cost effective, has high value and high patient satisfaction. PCP, primary spine providers, physical medicine providers, chiropractors should be at the portal of entry for back pain patients.
- **Quality:** evidence-informed practitioners of multiple disciplines
- **Efficiency:** access to care as quickly as possible improves outcomes
- **Triple Aim:** improving the health of patients, enhancing the experience and outcomes of the patient, and reducing per capita cost of care.

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Triage Process: Multivariable

Table 1. Triage Process and Matching Criteria for the Rehabilitation Provider*

	Rehabilitation Approach	Symptom Modulation	Movement Control	Functional Optimization
Triage Variable	Pain rating	High to moderate	Moderate to low	Low to absent
	Disability rating	High	Medium	Low
	Clinical status	Volatile; symptoms predominate	Stable; movement impairments predominate	Well-controlled; performance deficits predominate
Treatment Modifying Variables	Psychosocial status	+/-	+/-	+/-
	Comorbidities	+/-	+/-	+/-

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Standard evaluation components for all Spine Patients.

- Patient questionnaire.
- FOTO outcome measure.
- Standard Elements and medical screening.
 - History
 - Pain rating and description (quality, influences, changes)
 - Red flag/yellow assessment of symptoms.
 - Neurological screen (sensory, reflexes, muscular testing of myotomes).
 - Prior functional level
 - Postural Assessment
 - Appropriate Spine ROM assessment
 - Appropriate Extremity Screen
 - Flexibility
 - Palpation
- Differentiating Elements

Using clinical judgment Therapists perform appropriate testing related to categorization of patients for confirmation or baseline.

 - Cervical**
 - Mobility deficits
 - Headache
 - WAD
 - Neck Pain with radiating pain
 - Lumbar:**
 - Symptom modulation: ROM with repeated movements and end range assessment
 - Specific Exercise (directional preference),
 - Manipulation
 - Stabilization
 - Traction
 - Mobility assessment
 - Activation
 - Acquisition;
 - Assimilation.
 - Muscle recruitment/endurance/strength testing
 - Special diagnostic testing based on medical screen, patient presentation or proposed treatment.
 - Ex. upper cervical testing on patient with prior to traction

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Primary Spine Practitioner (PSP) Certification Program

Michael J Schneider, DC, PhD
Associate Professor
Department of Physical Therapy
Program Director

Emphasis of primary care practitioners in health care reform.

There have been recent calls for greater emphasis on Primary Care in healthcare reform.

Rittenhouse DR, Shortell SM, Fisher ES. Primary care and accountable care—two essential elements of delivery-system reform. *N Engl J Med*. 2009 Dec 10;361(24):2391-5.

Phillips RL, Jr., Bazemore AW. Primary care and why it matters for U.S. health system reform. *Health Aff (Millwood)*. 2010 May;29(5):806-10.



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But PCPs...

- ... are already overburdened
- ... have a poor understanding of the diagnosis and management of Spine/MSK disorders
- ... don't follow LBP guidelines, and give too many opioids and order too many MRIs
- ... rank last in patient satisfaction for LBP (Consumer Reports survey)



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There is need for a non-physician practitioner dedicated to primary spine triage and management...

The Primary Spine Practitioner (PSP)




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CMS has called for a “refitting” of the existing healthcare workforce...


“An alternative approach...is to make better use of the existing health workforce through legal scopes of practice that are based on professional competence”.

Dower C, et al. It is time to restructure health professions scope-of-practice regulations to remove barriers to care. Health Affairs 2013;32(11):1971-6.

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Role of the PSP in the emerging value-based healthcare system:

- Serve as “Captain of the Spine Care Team”
- Triage, counseling and management
- Manual therapy and exercise treatment
- Primary responsibility for guiding the patient across the FULL CYCLE of a LBP episode
- MSK Analogy of NP to PCP

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Skill Set of a PSP includes:

- Medical screening, diagnosis, triage
- Basic indications for and ability to interpret spine imaging (MRI, CT, x-ray)
- Manual therapy and rehab exercise protocols
- CBT, MI and managing psychosocial issues
- Basics indications for specialty procedures; injections, meds, surgery
- **Ability to act as the primary coordinator and manager of all spine related services**

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PSP Certification Program:
5 "Units" and practical competency exam

- Unit 1 - Principles of Primary Spine Care
 - Online Modules (10 hrs.) with associated quizzes
 - Live Weekend Seminar (12 hrs.) with associated unit test
- Unit 2 - Lumbar Spine
 - Online Modules (10 hrs.) with associated quizzes
 - Live Weekend Seminar (12 hrs.) with associated unit test
- Unit 3 - Cervical Spine
 - Online Modules (10 hrs.) with associated quizzes
 - Live Weekend Seminar (12 hrs.) with associated unit test
- Unit 4 - Managing Psycho-Social Factors and Chronic Pain
 - Online Modules (10 hrs.) with associated quizzes
 - Live Weekend Seminar (12 hrs.) with associated unit test
- Unit 5 - Clinical Management
 - Online Modules (10 hrs.) with associated quizzes
 - Live Weekend Seminar (12 hrs.) with associated unit test
 - Final Practical Competency Exam

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Primary Spine Care Service Line

- Established in several medical systems
 - Beth Israel-Deaconess Hospital - Plymouth MA
 - Spine Integrated Practice Unit - Dell Medical School, Austin TX
 - UPMC Center for Spine Health - Pittsburgh, PA

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Value-based healthcare is coming...

- LBP is the 3rd most costly condition for health plans
- PCPs, PAs, NPs are not managing LBP efficiently at the portal of entry
- Specialty providers see too many routine LBP cases and perform too many specialty procedures
- Bundled payments and capitation will drive the need for effective and efficient spine care for the 85% of routine LBP patients
- **The PSP will become an essential team-player in the emerging value-based healthcare delivery system**

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Outcomes

- ODI
- NDI
- FOTO.

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