

Rating the Severity of Your Patients Spinal Sprain in Trauma Cases

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Our profession is that best in the world at all aspects of handling spinal trauma that is within our scope to handle, and co-treating those trauma conditions that are not totally within our scope to handle. Let's define generally the injuries that can occur to the spine. This will be by no means a comprehensive listing but rather a general listing.

- q Fractures (Radiologist, Orthopedist)
- q Nerve Damage, Crush, Paralysis (Neurologist)
- q Brain Trauma/Head Injury (Neurologist)
- q Disc (MRI, Upright vs. Recumbent)
- q Radicular (EMG, NCV)
- q Sprain/Strain

Now 99% of your trauma cases that you are currently treating fall into the last three categories of; Disc, Radicular and Sprain/Strain. I know that some of you are also very good at Mild Brain Trauma workups, which we will leave out for now as it is not a majority of you that are, and I want to stay with the common conditions that the majority of us are diagnosing and treating everyday.

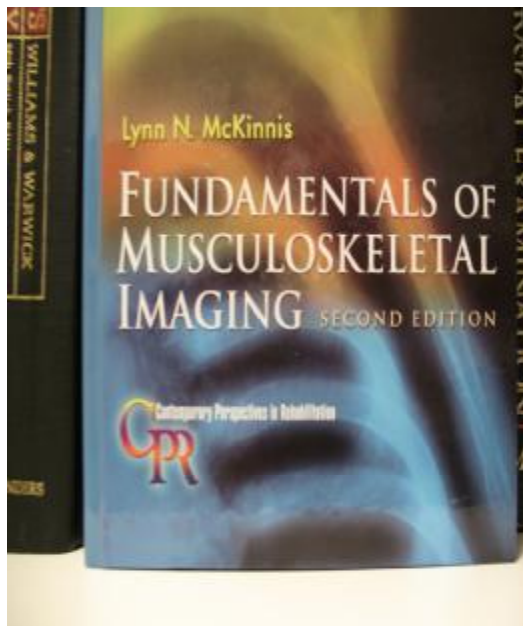
Disc conditions; are diagnosed with MRI usually. This gets into the topic of Up-Right vs. Recumbent. Up-Right will win hands down, but not everyone has them available for easy referral and even if you do have them available, there is still a problem with Medical Radiologists undereducated in functional radiology, thereby missing and under-reporting functional abnormalities such as abnormal translations and angular variations associated with ligament damage other than disc. Bottom line though is that you rule out discs with MRI's.

Radicular Conditions: which is usually a functional nerve impairment that can or hopefully can be reduced with treatment? There are two types, verified and unverified. Verified is when you have a positive diagnostic to correlate with the conditions such as a MRI showing appropriate level disc herniation or bulge, or a positive EMG or NCV study. Unverified is when the patient reports it as a symptom but there is no positive medical test to verify it objectively. To diagnose and verify radicular conditions you should develop a referral relationship with a neurologist to do the electro diagnostics on the patient.

Sprain/Strain: By definition the sprain is damage to the ligament and strain is damage to the muscle. The simple use of sprain/strain does not communicate the severity, and a severe sprain will of course manifest both clinically and in the patient's recovery differently than a mild sprain will.

Now since the majority of our cases are of the sprain/strain type, it could be surmised that it would be important to become an expert on spinal sprains. Becoming a spinal ligament expert is not a glamorous role, as the condition is usually not life threatening, so there are no shows on TV glamorizing the doctors who understand it. You will never see an episode of ER or House, where the life-threatening condition turned out to be a cervical sprain.

All kidding aside doctor, spinal sprains are not usually life threatening, they have a high probability of being LIFE IMPAIRING! They may not take the life, but they sure can reduce the enjoyment, so they need to be taken very seriously. Fortunately for us becoming a spinal sprain expert is really easy as the level of sprain detected is determined by the **degree of spinal misalignment measured!**

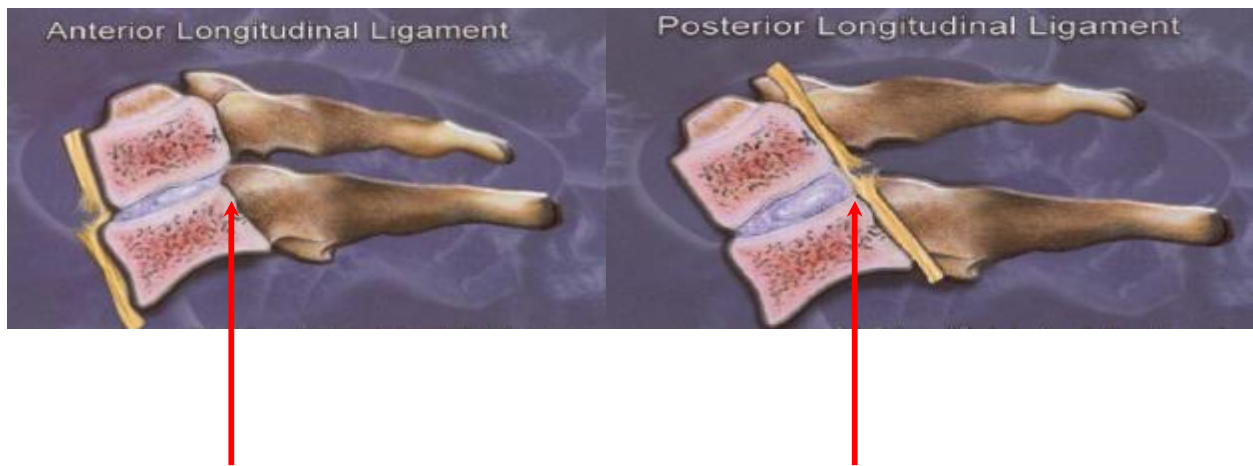


Here is a quote from a PT Textbook called; *Fundamentals of Musculoskeletal Imaging*

“Although ligaments are of water density and generally do not possess enough radiodensity to be visible on radiographs the articular relationships that intact ligaments provide can be evaluated on conventional radiographs. **Loss of normal articular relationships implies loss of ligamentous support**” Pg 145

"If there is a history of trauma and joint instability or hypermobility, or if either is clinically suspected or needs to be ruled out, lateral flexion and extension stress views should be obtained. These two films are then evaluated to identify joint hypermobility revealed by misalignment (**excessive angulations or excessive glide**) of the injured segment." pg 167

Now, since spinal ligaments provide stability of the segmental spinal motion unit, which in turn provides stability for the global motion unit—both ranges need to be evaluated and clinically correlated in a trauma case. Globally we are looking for loss of range of motion. Inter-segmentally we are looking for excessive glide called translation and angulations (damage to the spinal ligaments) causing the vertebral endplates to angulate too far in flexion.

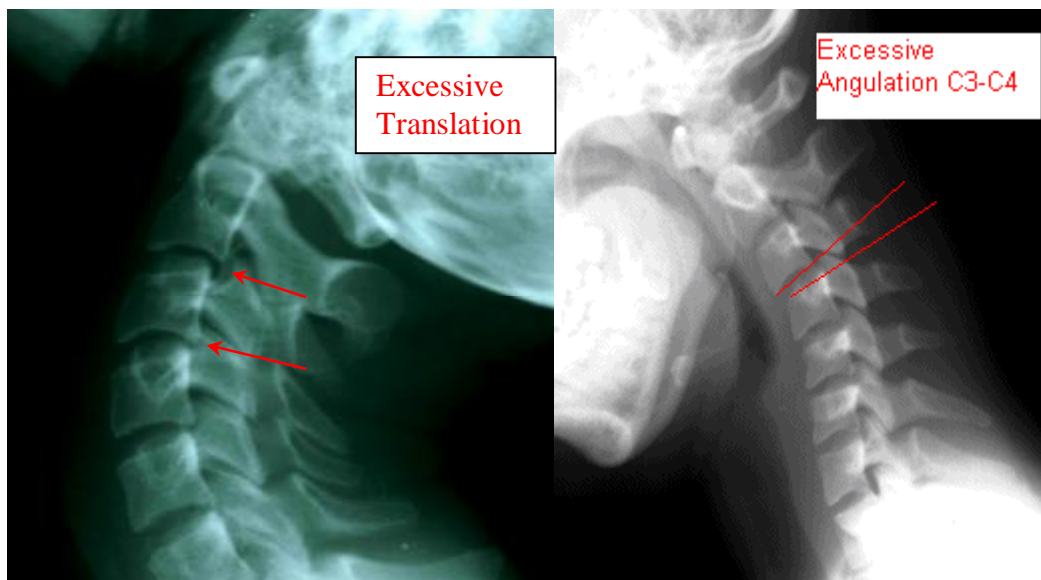


Excessive Translation (Glide)

Excessive Angulation

These are range of motion problems found intersegmentally. This is what ligament damage looks like intersegmentally.

This is what these look like on your functional x-rays.



Have you ever wondered why you can have perfect global range of motion with a patient that has a reversed cervical curve? You may have perfect global range of motion and highly abnormal intersegmental range of motion caused by prior or current intersegmental ligament impairment.

In order to assess ligament damage we must take flexion extension films, called “Stress Views”, “Stress Radiography”, “Trauma Radiography” or “Functional Radiography”.

The AMA supports this with the following: *“Motion of individual spine segments cannot be determined by physical examination but is evaluated with flexion extension roentgenograms”* pg. 379 AMA Guides

Flexion extension radiographs allow you to assess the spine for ligament damage. The AMA calls this damaged spinal motion unit, **“alteration of motion segment integrity”**, which makes sense and is exactly what it says it is, a misaligned damaged motion unit due to loss of ligament function, or in severe cases a fracture.

Now Doctor how do you know that this “alteration of motion segment integrity” was caused by the accident? Here is what the AMA says; *“When routine x-rays are normal and severe trauma is absent, motion segment alteration is rare; thus, flexion and extension x-rays are indicated only when the physician suspects motion segment alteration from history or findings on routine x-rays.”* Pg. 379 AMA Guides

Remember that the trauma to the spine usually occurs from 0-300 milliseconds in an auto accident. The whole thing is done by the time the muscles have a chance to respond, leaving the brunt of the damage to the ligaments (hence the importance of ligament assessment). The AMA sentence above supports cause as the accident, when “alteration of motion segment integrity” is present.

Rating the Sprain Severity

Okay we now know that we have a patient with a sprain and we know that in order to assess the sprain we need to take functional films (flexion extension films) to assess for translations and angulations called “alteration of motion segment integrity”.

The AMA goes one step further and physically defines the level of translation and angulations necessary to make the condition a ratable condition. Here are the numbers for “alteration of motion segment integrity”.

These are the Specs:

Translation is defined as anterior-posterior motion of one vertebra over another that is:

n >3.5 mm in cervical spine

n >2.5 mm in thoracic spine

n >4.5 mm in lumbar spine

Angular motion difference of two adjacent segments

n >11 deg Cervical spine

n >15 deg at L1-L2, L2-L3 & L3-L4

n >20 deg at L4-L5

n >25 deg at L5-S1

When found the AMA consensus says that this condition has a high probability of negatively affecting (impairing) 25% of the patient's activities of daily living. If in the neck, the patient may show it by not being able to sit at the computer as long as they use to without discomfort, get headaches from neck fatigue, can't ride in the car as long without having to shift all over the place to stay comfortable, or maybe they do not sleep as well and on and on and on, as the scenarios are infinite and in your clinic right now!

To Accurately Assess Alteration of Motion Segment Integrity You Need Measuring Equipment Called "X-Ray Digitization Systems". Digitization comes from the word digit (finger) and the Arabic Numerals called digits i.e., 0-9. Digitization then is a verb which means to measure or put numeric value to a spatial arrangement. When a carpenter measures a countertop he is digitizing it.

You need a digitization system as that is what Panjabe and White used to define these relationships which are now the numbers that the AMA uses. Like all instruments, digitization systems are not all alike, some are much better than others. ROM done by sight is not as good as using a Goniometer, and a Goniometer is not nearly as accurate as Gravity Based Dual Inclinometers. Not all X-Ray Digitization equipment is the same as some are more accurate than others.

Bottom line you want the numbers to be as accurate as possible, which is why you send the films to us to give you a read out on your translation and angulation numbers, which tells you if you have a ratable level of translation or angulation. If this is found you have a severe condition that the AMA rates as a 25% Whole Person Impairment.

The numbers for translation and angulations in a normal patient were defined by Lin et al published in Spine in 2001. They said

**Measurements over 1mm Translation and / or over 7° Angular Variation are considered to be clinically significant and in excess of normal flexibility of the cervical spine.. (SPINE 2001, February; 26(3): (256-261), Lin, Tsai, Chu and Chang.*

If you want the full article for your reference it is in the Article and Links section of our website http://www.nationalinjurydiagnostics.com/Lin_SPINE_2001.pdf

There is your system to grade the sprain with, and provide OBJECTIVE (written verifiable evidence) documentation, and please notice if you read the Lin et al article that they used a Neumonics Digitization System, to get these numbers. We have that system and choose to regularly use a different system, because we have determined it to be more accurate! None-the-less they used a digitization system in their research, they did not MEASURE BY HAND WITH A MARKING PENCIL

AND RULER! I HAVE NEVER SEEN A X-RAY RULER WITH THE MILLIMETERS DELINEATED INTO HUNDRETHS, i.e., 3.49 mm, which is not ratable and 3.51 mm which is!

So to rate the sprain by radiographic translation and angulation measurements, here is the system:

- q Mild Correlate Less than 1mm translation and less than 7° Angulations
- q Moderate 1-3.5 mm Translation or 7-11° of Angular Findings
- q Severe Ratable Alteration Motion Segment Integrity Greater than 3.5 mm Translation or Greater than 11° Angular Findings

These findings along with my other clinical findings lead me to conclude.....must correlate the whole picture as the treating doctor. You must correlate these findings with all of your other clinical findings!

There is your ligament assessment in a nutshell. You have an injured patient and you do all of your workup including x-rays with functional flexion and extension films. The films are sent out to us to get accurate translation and angulation numbers in order to determine if you have a mild, moderate or severe sprain and you take that information to set up your treatment plan for the patient. You use it to more accurately and effectively manage your patient, by communicating to them the severity of their sprain (spinal ligament damage), so that you can better motivate them, through education and understanding why it so important to comply with your treatment recommendations.

Sprained ligaments are what result in the “life impairing” aspect of these injuries. Rate them so that you know what you are dealing with right from the start, i.e., how severe that damage is with the patient you are working with. This drives all of your medical necessity and protects you in review.

Important Point: it does not get any more objective when you have some one else assess this for you as I am an unbiased second opinion. I do not see your patient, I do not see the history or the examination findings, and am therefore not prejudiced by that information, I only see your x-rays and it does not get any more objective than that, as the data is just highly accurate measurements.

Unfortunately there is not a separate and distinct ICD-9 Code for Mild, Moderate and Severe Spinal Sprains, which would make it easier to report, so you must do so in your documentation.

You perform your work-up on the patient, including functional x-rays...those x-rays are sent out for an unbiased, accurate and objective read and the findings are incorporated to assist in determining the level of sprain to refine your diagnosis, which is used to refine your treatment plan and support your medical necessity in your documentation.

For those of you who are really documentation hungry and want verbiage we have additional forms for you on our Download Forms page. Our Generic Radiology Report gives you referral verbiage, Our Medical Necessity Form gives you verbiage, and there is also our Digitization Consultation Form. Go to:

<http://www.nationalinjurydiagnostics.com/Howtouseus.html>

How Does This Help Justify Medical Necessity For Frequency and Duration of Treatment?

Your frequency and duration of treatment are substantiated with the Croft Treatment Guidelines, where ligament damage and altered ROM qualify for a Grade III Level of injury and Grade III treatment parameters equal to 76 treatments over a 56 week period.

If you are not familiar with the Croft Guidelines go to the Croft Treatment Guidelines Listed on our website and look at what qualifies for the Grades.

<http://www.nationalinjurydiagnostics.com/Croft.htm>

Use of the Impairment Rating Level Reported Helps to Make Your Final Prognosis Objective and Not One Based on Opinion

If the patient has ratable “alteration of motion segment integrity”, the AMA says that they will have 25% of their activities of daily living negatively affected by this condition. How simple is that to report at the end of care when you are communicating what the effect the trauma will have on this patient’s future i.e. prognosis! Is this your opinion...NO...this is the AMA’s consensus opinion!

Now for those of you who want to know how to use the AMA Guides to the Evaluation of Permanent Impairments, even when the patient does not have ratable “alteration of motion segment integrity”, but they do have a moderate sprain, and the moderate sprain has caused a permanent asymmetrical global range of motion noted at MMI...then we have made it so simple as we have listed the criteria needed for other impairment level listings in our AMA Clinical Criteria Form

found on our website. You simply read what findings are needed to qualify for a 5% Impairment level reporting, such as permanent asymmetrical range of motion and report it.

These pages are found on our website under AMA Guides.

http://www.nationalinjurydiagnostics.com/AMA_Guides_DRE_Cervical_Listing_Symptoms_1.pdf

http://www.nationalinjurydiagnostics.com/AMA_Guides_DRE_Lumbar_Listing_Symptoms.pdf

http://www.nationalinjurydiagnostics.com/Cervical_Impairment_Page.doc

http://www.nationalinjurydiagnostics.com/Lumbar_Spine_Page.doc

Lets Summate Just How Powerful X-Ray Digitization Results Are!

1. The test is as OBJECTIVE as you are going to get. The test provides and Unbiased Second Opinion.
2. The test results allow you to Grade and document the severity of the spinal sprain. This information is correlated with your other clinical data.
3. Severity of sprain information helps to treat (determine best treatment plan and modality choices) the patient more effectively for more optimal outcomes.
4. Accurate ligament assessment allows you to objectively document your Croft Treatment Guideline Grade, which then leads to frequency and duration numbers. This protects you in UR and ICE reviews and will never be refuted with fact, as it too easy to substantiate, so it will only be refuted with professional opinion of the reviewer which is worthless when not supported by fact (fact being how the patient does not qualify).
5. Medical necessity is now about as bullet proof as you can get, so you are protected in any kind of a post payment review situation.
6. Final prognosis is made easy and is OBJECTIVE by use of the Impairment Guides published by the AMA

Injured patients will usually take longer to get a good result with treatment. Some of these patients will never fully recover and in the majority of these cases the ligament is the source of the trouble. Patients who are not fully told what to expect can become real problem patients as they can have false expectations, such as they should be better with a couple of weeks of treatment. Communicate to them the severity of their condition right from the start and make the goal to be improvement. Each re-exam establishes a new treatment plan designed to gain even more improvement. Ligament injuries usually require more time and in some

cases a LOT more time. Ligament injuries require good patient participation and compliance so tell your patients this.

Doctor I have just laid out the tightest most professional workup of this condition that there is. This is not something that I dreamed up. I could easily charge you a \$10,000.00 consulting fee to show you what I just showed you and it would be worth every penny, as this process will save you 10X or more than that figure in time and stress. I have just taught you how to be offensive (proactive) with your workup and documentation, rather than defensive or reactive, reacting to negative UR (Utilization Reviews) or ICE procedures. I have just taught you how to determine your patients that have a high probability for long term problems so that you can communicate reasonable goals of improvement rather than unachievable pie in the sky goals (100% recovery, no residuals in 6 weeks or less, etc.) that leaves both the patient and you with the idea the treatment was not successful. I have just taught you a bulletproof procedure to establish all of your medical necessity.

Most of you do not know me personally and I am not a highly credentialed curriculum vitae builder, i.e., I do not have a list of credentials behind my DC, which may improve leverage when you do not know me personally, and are establishing our relationship through my writings. You see I am probably like you in the fact that I was more interested in getting patients to respond to my care than I was in getting more credentials, as I never saw a patient improve by site of credentials alone, and quite frankly the guys that I personally knew that were highly credentialed had really small practices.

I like you got reviews where my care was denied, due to some obscure doctor giving his opinion that my care should be denied based on a report filled with generalities and personal opinion. Tired and fed up with it, I got to be very good at establishing my clinical rationale and documentation in such a way that you would have to professionally lie in order to deny my care or find fault with my records. In order for a defense medical/chiropractic expert to deny my patients findings they would have to go against the established guidelines and that made it easy to damage their credibility in court as I wrote the questions the plaintiff attorney would use to discredit the expert! In other words I learned to fight in the streets, not in some ivory tower theorizing how things should be.

This procedure above was at the heart of my injury work ups and it should be for you as well, as it is grounded in clinical truth and clinical guidelines and will serve you as well as it has served me, if you will just use it!

It only requires one procedure change. In your normal report of findings, you indicate to the patient that you are going to have their films sent out to a lab to have a special test performed in order to determine the severity of ligament

damage. You have them sign the release form, your staff fills in the patient information form, both forms are copied and put in the patient file and the originals are put into the x-ray sleeve, that sleeve put in a mailing sleeve, our UPS Mailing Sticker is filled in with your address and stuck to the sleeve...UPS is called and they come and pick them up. It is just that simple and it gets really simple like all procedures once it is established as the routine on all injury work-ups, personal injury or work related.

Doctor once this is in and understood, you will never be without it. I run a webinar called Mastering Depositions and in it I will tell you that if you are spending more than one hour preparing for a deposition, you are wasting your time, because your procedures and documentation are only fair to poor, which puts you on the defense trying to recover in the end what should have been there all along, and recovering or being on defense is very time consuming and stressful. What I am talking about is a workup and documentation procedure that is so tight, that when you get a deposition request, you smile and put your legs up on your desk and decide how you want to spend the easiest money you are going to make (deposition fee).

This information applies to all of your insurance documentation. Use good diagnostic procedures to determine your diagnosis which drives your medical necessity and when possible cite guidelines that you are using and how you are using them correctly...SIMPLE!

Trauma cases treat differently and you have to work them up differently, the main reason being for the patient's benefit of a more accurate picture of severity of condition, but if you are more motivated by personal benefit or gain then the secondary reason to you is CYA.

Here is your CYA. If I am going to do a review in your clinic to look for over utilization (i.e., service that I the insurance carrier should not have had to pay for), today call post payment review, and I want to be nasty with a capital N.

This is too easy...I pull all files where you have used the 847.0 as your primary code. I pull your Blue Cross Files, I pull your, United Healthcare Files, your Aetna files and then I pull your Allstate, USAA, and State Farm Files. I show with regular personal health insurance, your treatment frequency is 14 visits for an 847.0 (Cervical Sprain/Strain), but with my auto carriers whom I am reviewing for, your average treatment is 37 visits or more. Your workups in both file types are identical, there is nothing in the file to substantiate more care except your report that patient says they have pain, which we cannot verify as accurate, as you write it in the notes not the patient, therefore you could be writing it falsely to justify more care. "Doctor it appears by these records reviewed that you prescribe treatment based on what you can get paid for rather than based on what the patient needs"...and brother are you on the defense at that point...you will be reading

every article I have written on this subject at that point. Trust me when I tell you, at that point you will have wished you were more proactive, because you are going to spend a lot of time and money on defense. Is this right...no! Can you win...sure! Will it be time consuming...I do not have to answer that one for you.

You win by being proactive or offensive with your documentation from day one to day end. Help as many patients as you can comfortably help, (hundreds a week for many of you) and spend your off time with friends and family enjoying the life and rewards that come with the level of help that you provide to your community.

I hope this paper will assist you with that goal and that is its intended purpose.

If you have any question, or you would like to participate in my webinar on Mastering Depositions please e-mail me at jeffreycronk@charter.net