7 Essentials To Prove “Soft Tissue” Whiplash Injury For Maximum Recovery

Don’t make your injury experience worse. Demand the right testing to properly evaluate your injuries.

Presented to you by DMX Imaging, LLC • Ashburn, VA • (703) 777-1234
#1 - If you suffer from recurring neck or back pain there is a good chance you have a spinal ligament injury that has yet to be discovered.

Upon hearing spinal ligament injury, your first thought may be "that can't be the problem, it sounds too benign." Well these injuries can be hidden from most traditional assessment tools and result in life of pain and disability.

While this report cannot teach you everything about this type of injury, it will improve your ability to be a much better consumer and help you shop the market in locating an educated, informed doctor to accurately determine if you have spinal ligament injury and its severity.

If you think that you have injured your spine in an auto accident, work activity, sports activity, slip and fall or any of the hundreds of other ways to injure your spine, this report is for you!

I am going to share with you what too many doctors that treat back and neck injuries simply do not know or maybe just overlook.

When spinal ligaments are damaged they allow the spine to significantly misalign (move abnormally or excessively) during use. This is the number one reason why so many people suffer ongoing back and neck problems following an injury.

The first thing you need to know is that ligaments are tissues that hold your bones together. Wherever two or more bones are held together they form a joint and those joints are connected by a set of connective tissues called ligaments. The bones that make up your ankle, knees, ribs, wrist, shoulders and, of course, your spine are all held together and properly aligned by ligaments.

In the case of your spine, spinal ligaments perform two functions:

**First,** they hold and support the vertebra (spinal bones) in alignment during activity; allowing smooth, controlled joint motion while preventing the bones from moving too much and causing injury.

**Second,** spinal ligaments have another powerful function. Ligaments contain very advanced pressure receptors called mechanical receptors (or mechanoreceptors). These imbedded mechanoreceptors convert pressure from the ligaments into an electrical signal that tells the body to make instantaneous muscle adjustments around the joint according to need. These adjustments are instantaneously made.
during every movement to protect the spine from injury. Mechanoreceptors tell the muscles exactly how much or how little to contract or relax during every movement. However, ligament damage can significantly alter this communication and produce long term degenerative changes and pain!

Some of these receptors are designed to cause pain when the ligament has been overstretched and damaged. Pain serves as a warning signal telling you to protect the joint and cease activity that could cause further damage.

When a force, like the impact of an auto collision, suddenly overwhelms a spinal joint and forces it out of alignment, the ligaments are often overstretched or torn. This can leave joints looser, lax and can more easily move out of alignment. In turn, this excessive motion activates pain receptors. Even though the activation of pain receptors serves as a protection mechanism, it unfortunately causes a chain of negative consequences. When there’s pain, the muscles around the site usually tighten in attempt to splint and protect. But this compression of the joint to help provide stability further irritates local nerves, thereby causing more pain.

The common term for a spinal ligament injury caused by an auto collision is often referred to as a sprain or whiplash injury. That is because of the "whipping" motion that occurs during the accident. Sprains provide you with a very sharp pain or a very attention grabbing dull ache. Anyone that has sprained their ankles knows how painful a simple injury to the ligaments can be. It is unbelievable how much pain is received from the mildest form of an ankle sprain. And even worse than an ankle sprain, damage to the ligament of the spine can cause a significant degree of chronic instability and recurring pain.

Medscape¹ one of the top medical sites in the world openly educates the public about spinal ligament injuries to the neck or lower back and the following symptoms:

- Neck pain
- Back pain
- Lower back pain
- Shoulder pain
- Scapular pain
- Pain going down the arms
- Pain going down the legs
- Headache or Dizziness
- Numbness, tingling or a sense of weakness or heaviness in the legs or arms
- Visual disturbances
- Ringing in the ears
- Difficulty swallowing
- Difficulty breathing

Unfortunately each one of these conditions can become permanent if you do not reduce your risk by working with a knowledgeable doctor that completely understands how to properly diagnose and treat this type of injury early. Early is the key! The sooner the better!

DigitalMotionXray.com  copyright© 2015
However, finding a doctor that understands how to properly diagnose this type of injury is not easy. It is estimated that 90% of the doctors treating these injuries do not know how to determine the severity and locate the exact ligaments that have been injured. If your doctor does not know how to properly diagnose and determine the severity and location of your spinal condition, your chances for an optimal outcome are significantly reduced.

This means that your risk of having any of the conditions listed above becoming a permanent part of your life is greatly increased!

#2 – Spinal ligament injury is a common cause of pain, disability, and expense.

Research explains the horrible results that people with spinal ligament injuries have retained in the past. The results have not been good! For example,

One of the longest studies ever performed was on the status of patients 17 years after injury. **55% of the patients still suffered from pain caused by the original trauma.**

This research illustrates the significance and pervasive nature of spinal ligament injuries.

Another interesting bit of research addressed the myth that your pain is created "from your mind".

The study found that essentially **100% of those who are suffering from chronic pain caused by a whiplash injury will have an abnormal psychological profile with standard assessments.** The only way to resolve the abnormal psychological profile was to successfully treat the chronic spinal pain; psychotherapy was not able to improve the abnormal psychological profile nor was it able to improve the patient's chronic pain complaint.

Thus, your pain is **not being caused by the abnormal psychological profile; rather your pain is causing the abnormal psychological profile.** If your doctor seems to be indicating that it is "all in your head," then perhaps it is time to remove that doctor from your care.

It is really important to understand that in order to avoid being among the 55% you have to find a doctor to help you as quickly as possible.
#3 – To seriously reduce your risk of pain, disability, and expense; you must work with a doctor that specializes in this condition.

With moderate to severe spinal ligament injuries, the one constant is *excessive joint motion*.

Spinal ligament injuries are a major source of pain and disability in the world today. Unfortunately, too few doctors know how to properly diagnose or manage them.

So the question remains, how do you diagnose the spinal ligament injury?

Remember, spinal ligaments do two things: they keep protect the bones of the joint from moving too much and they coordinate all muscle activity via their mechanoreceptors communication.

**As discussed, when a force suddenly overwhelms the spinal joints and forces them out of alignment the ligaments are over-stretched or torn leaving the joints looser or lax. The mechanoreceptors that communicate with the muscles are adversely affected and pain receptors are activated.**

Since the job of ligaments is to support proper motion and alignment of a joint, they are best evaluated during movement. And the best way to see a joint while in motion is with Digital Motion Fluoroscopic X-ray (DMX) including a Computerized Radiographic Measurement Analysis or (CRMA) for short.

From these images (x-rays) we can accurately measure your spinal alignment patterns and look for the *excessive motion* which is the strongest indicator of this type of injury.

Spinal ligaments hold vertebra (spinal bones) together and keep the joints aligned; when they are damaged they cannot keep alignment and the joint will show excessive motion in one of two forms: a "back and forth" motion called **translation** motion or bending motion that causes excessive joint **angulation**.
Translation is how much the vertebra moves or slips front to back. There is a normal range, an abnormal range and a severely damaged (ratable) range. The ratable range indicates a permanent impairment by the American Medical Association (AMA). This term will be discussed in greater detail under section #5.

Here is a look at computerized radiographic measurements from a DMX study.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Flexion Translation</th>
<th>Extension Translation</th>
<th>Excursion</th>
<th>Normal Limit</th>
<th>Ratable Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2-C3</td>
<td>1.2 mm</td>
<td>-2.1</td>
<td>3.3 mm</td>
<td>1.0 mm</td>
<td>3.5 mm</td>
</tr>
<tr>
<td>C3-C4</td>
<td>0.6 mm</td>
<td>-2.8</td>
<td>3.4 mm</td>
<td>1.0 mm</td>
<td>3.5 mm</td>
</tr>
<tr>
<td>C4-C5</td>
<td>1.8 mm</td>
<td>-2.1</td>
<td><strong>3.9 mm</strong></td>
<td>1.0 mm</td>
<td>3.5 mm</td>
</tr>
<tr>
<td>C5-C6</td>
<td>1.7 mm</td>
<td>-0.9</td>
<td>2.6 mm</td>
<td>1.0 mm</td>
<td>3.5 mm</td>
</tr>
<tr>
<td>C6-C7</td>
<td>0.6 mm</td>
<td>-0.3</td>
<td>0.9 mm</td>
<td>1.0 mm</td>
<td>3.5 mm</td>
</tr>
</tbody>
</table>

A measurement greater than 1 millimeter of translation is abnormal and measurements more than 3.5 mm of combined motion is a severe ligament sprain.

In this case, all segments from C2 through C6 exhibit excessive motion. The C4-C5 level measuring above 3.5mm is the most severe and qualifies as a ratable impairment.

In addition to the translation (back and forth motion), the AMA consider angular measurements. These measurements show the amount of intervertebral angulation (or tilting between two vertebrae) during each movement. A value over 7º of angulation is abnormal. Over 11º of angulation indicates evidence severe permanent ligament damage.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Flexion Anqulation</th>
<th>Extension Anqulation</th>
<th>Normal Limit</th>
<th>Ratable Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2-C3</td>
<td><strong>0.4º</strong></td>
<td>-4.7º</td>
<td>7.0º</td>
<td><strong>11.0º</strong></td>
</tr>
<tr>
<td>C3-C4</td>
<td>6.2º</td>
<td>-16.9º</td>
<td>*</td>
<td>7.0º</td>
</tr>
<tr>
<td>C4-C5</td>
<td>8.3º</td>
<td>-16.9º</td>
<td>*</td>
<td>7.0º</td>
</tr>
<tr>
<td>C5-C6</td>
<td>9.9º</td>
<td>-2.8º</td>
<td>7.0º</td>
<td><strong>11.0º</strong></td>
</tr>
<tr>
<td>C6-C7</td>
<td>8.7º</td>
<td>6.6º</td>
<td>7.0º</td>
<td><strong>11.0º</strong></td>
</tr>
</tbody>
</table>

You can see in the above case, the C3-C4 and C4-C5 levels indicate severe damage. The point is; the location and degree of a spinal sprain injury is determined by the amount of abnormal or excessive motion in the individual vertebral motion units. Another spinal motion measurement assessed in determining ligament stability in...
The upper cervical spine is lateral cervical flexion (side to side bending of the head). If the first vertebra (C1) shifts greater than 1.7mm it indicates a hypermobile subluxation.\(^4\) Shifting of greater than 3.0mm indicates laxity/instability of the Alar and/or Accessory ligaments.

Clinical correlation is advised with shifting greater than 1.7mm.\(^4\) Instability of the alar or other atlanto-axial ligaments may cause episodes of Vertebral Basilar Insufficiency (disturbance of blood flow to the brain) provoked by turning of the head.

**Lateral Translation Values - C1 on C2 During Lateral Cervical Flexion**

<table>
<thead>
<tr>
<th>Description</th>
<th>Patient's Value</th>
<th>Clinical Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1-C2 Lateral Translation on Left</td>
<td>2.5 mm</td>
<td>C1-C2 Hypermobile Subluxation</td>
</tr>
<tr>
<td>C1-C2 Lateral Translation on Right</td>
<td>4.1 mm</td>
<td>C1-C2 Ligamentous Laxity/Instability</td>
</tr>
</tbody>
</table>

DMX with CRMA is the most accurate method to identify the location and degree of spinal ligament injury, proving an independent and unbiased determination. Since these motions that are measured in small increments of millimeters and degrees, it is impossible for doctors and radiologist to rely on simply eyeballing an x-ray.

In addition, excessive spinal motion is not determined on regular MRI. The primary focus of an MRI is to determine injury to the discs (cartilage spaces between the spinal bones).

In fact, there are no discs in the upper cervical spine between the C0, C1, and C2, where ligament damage is often found for people suffering from headaches and dizziness following an injury. That's 30% of the cervical spine is held together and supported by ligaments, not discs. Therefore, an MRI is not comprehensive enough to fully assess spinal ligament injury.

**Too many doctors today think that if you have a negative MRI you do not have a spinal ligament injury. But nothing could be further from the truth! Ligament injuries cause excessive motion and excessive motion is not tested with an MRI!**

Having spinal ligament injury accurately and fully diagnosed is the first step to recovery. Do not take this lightly, it is essential to work with a doctor that understands and applies at least the basics explained here. The risk of long term
chronic pain or other chronic problems combined with the long term expenses are far too great!

If a doctor cannot answer these three basic questions you are probably not in the right office. The questions are:

1. Could I have an injury to my spinal ligaments? If the answer is yes then ask:

2. Can spinal ligament injuries cause significant long term problems, especially when they go undiagnosed? If the answer is yes, let them explain. (remember the symptoms listed earlier are associated with this condition) and then ask this most important follow up question.

3. How do you accurately diagnose this condition? They should answer that they utilize radiographic intersegmental motion studies with computerized measurement analysis, followed by an MRI if they feel it is necessary. If they cannot quickly tell you this, then you are probably not in the right place.

Your health is too important to turn it over to a doctor that is unfamiliar with the proper diagnosis and management of spinal ligament injuries. If you had cancer would you try to train your treating doctor or would you expect them to be an expert already? The spinal sprain is no different.

#4 – Don’t let people minimize your recurrent nagging neck or back pain as “just a soft tissue injury”.

When it comes to spinal ligament injuries you will hear some say these unfortunate words: "It is just a soft tissue injury." This phrase is rampant today with ignorant doctors, attorneys, insurance adjusters, and insurance executives. Nearly 100% of the time that individual cannot tell you how this injury is properly diagnosed, how to rate its severity, or even provide a list of common symptoms attributed to this injury.

The reality is; soft tissue injuries are the worst injuries to your body. What is your heart, your brain, your lungs, your liver, if not soft tissue?

Once again, a spinal ligament “soft tissue” injury can cause any of the following conditions that may affect you permanently:
Now let me tell you the story of how neck and back pain got commonly tagged and attempted to be minimized as "just a soft tissue injury".

In the 2000's insurers' instituted programs to reduce the expense of medical and chiropractic procedures with specialized software programs to control costs.

Systemized claims management programs replaced humans with artificial intelligence software, one of the first most known being the insurance industry program called "Colossus". With Colossus the insurance industry could replace human emotion with a calculated and emotionless artificial intelligence that spoke a new language and completely changed the game when it came to issuing monetary compensation for injury. They also calculated the monetary or financial risk of an injury case if it went to court. In other words, it provides a financial value to the injury based on elements called “value drivers” that are entered in to the software.

These programs were successful in reducing the insurance costs for poorly diagnosed neck and back pain injuries. As should be noted, spinal ligament injuries are very common in situations like automobile collisions. But since most healthcare providers are not knowledgeable of how to objectively document a permanent spinal ligament injury, the insurance industry referred to neck and back injuries (without evidence of a fracture, disc herniation or ligament injury) as "just a soft tissue injury"; implying just a muscle strain expected to heal within a couple months and without any future implication or impairment. Thus reducing the claimant's access to benefits that they could have been entitled to if their injury had been accurately documented.

Without knowledge of an objective and measurable way to prove soft tissue ligament injury, personal injury attorneys had no way of substantiating the significance of their client’s injuries. But now with Digital Motion Fluoroscopic X-ray (DMX) and computerized radiographic measurement analysis (CRMA),
The insurance industry is aware of these diagnostic tools but unfortunately there are many doctors and attorneys that have not kept current with these advancements in technology and research.

**#5 – The American Medical Association considers spinal ligament damage to be one of the most significant injuries.**

In the medical-legal arena a big problem that had to be addressed was how doctors standardize and objectively determine if an injury has caused permanent damage and what effect it has on a person’s ability to perform their basic activities of life without pain, discomfort, or suffering.

This monumental task was accomplished in 1970’s when the AMA published the first *Guides to the Evaluation of Permanent Impairment* which could be easily renamed the "Guides to the Evaluation of Permanent Injury" because that is exactly what impairment is: a condition that injures the person’s ability to function.

This book is the *"Kelly Bluebook"* of body damage and every doctor treating injuries and every attorney representing injury cases should be very familiar. The primary purpose of the Guides is to qualify and quantify physical impairment and assist adjudicators and others in determining the financial compensation to be awarded to individuals who, as a result of injury or illness, have suffered measurable physical and/or psychological loss.

If it is found that you have excessive motion of the spinal segment from a ligament injury that is ratable, the ratable impairment for the injury will be reported in the Guide book. Ratable meaning provided a percentage of impairment in your physical abilities. In the case of spinal ligament injury, this is referred to as an **Alteration in Motion Segment Integrity (AOMSI)**. The Guides state that AOMSI can have a negative consequence of 25% impairment of your activities of daily living, which is reported as a 25% whole person impairment. 25% whole person impairment means 25% of you activities of daily living may be negatively influenced by this injury. The *Guides confirms and provides consensus that the spinal ligament damage exists and has significant negative consequences.*

To further substantiate the impact of spinal ligament damage is the fact that it’s not just the opinion of the treating doctor —IT IS supported by THE AMERICAN MEDICAL ASSOCIATION!

Mark Blane, a San Diego personal injury attorney, states in his book *How to Effectively Document Your Patient's Personal Injury Case from A to Z* "...This (spinal
ligament damage) is probably the worse soft tissue injury diagnosis you could have from an accident. Such damage can affect your vertebra’s proper range of motion. Blood can stagnate and cause poor blood supply in the spine, which can lead to degenerative conditions such as bone degeneration and early arthritis. You could also experience continual pain long after the accident. Post-accident, you should make sure to seek medical attention and the advice of a knowledgeable injury attorney. Some doctors and injury lawyers routinely miss these medical diagnoses. 

The bottom line is; you should always work with a doctor and attorney that know how to properly evaluate and manage spinal ligament injury and effectively communicate its severity to insurance companies.

#6 – The insurance industry has very specific documentation requirements for both your doctor and attorney to properly substantiate your injury.

The insurance industry is often made out to be the bad guy in injury work and in my experience this is usually not the case, even though they too have caused huge issues in this area! When it comes to your benefits, documentation is the absolute key!

Insurers still use artificial intelligence to adjudicate claims, which means that the adjuster who is going to complete a claim will be asked a series of questions from a computer. Computer Sciences Corporation owns the Colossus insurance software program and this is what their company states about that program on their company website:

Adjusters can quickly interpret medical reports and look up definitions of injuries, treatments, complications and permanent impairments using AMA 5th edition data. Through a series of interactive questions, Colossus guides adjusters through an objective evaluation of medical treatment options, degree of pain and suffering, degree of permanent impairment to the claimant’s body, and the impact of the injury on the claimant’s lifestyle. At the conclusion of a Colossus consultation, a summary of the claim is provided, including a recommended settlement range.

Understand that in order for an adjuster to easily answer the questions that the computer is giving them, the answers have to be found in BOTH your doctors' reports and your attorney’s report. In other words, the attorney also has to state the
same documented facts if they are involved in the claim resolution process. So here are the typical questions.

1 What are the injured parties' documented injuries? All injuries are coded with an international coding system language called the International Classification of Disease (ICD). All injuries need to be properly identified, coded and entered into the program.

2 What are all the care procedures that were delivered to the insured by any health care provider? These are also specifically coded in all of your medical records with international procedural codes.

3 Does the injured party have any permanent injuries identified with a Permanent Impairment Rating? This is the way the insurer identifies that you have some sort of permanent problem; no impairment rating, no permanent problem.

• If you have a permanent impairment it will ask how much? This is in the form of a number i.e. 2%, 10%, 25% etc.

• If you have a permanent injury it may ask if this permanent injury now keeps you from doing any kind of activity that prior to the accident you could do. This is called any loss of enjoyment of life factors. These are things that you can no longer do as a result of your injuries. It is very important that they are included and well documented in your doctors’ notes and in what is called your attorneys demand package. The insurer needs to know what you CANNOT do that you could do before the accident.

• The adjuster will also be asked if there are any activities that you can do but only under duress since the injuries occurred. These are called Duties under Duress factors. Things that are now uncomfortable to do, but you can still do—they are just interfered with due to discomfort that is directly the result of your injuries.

• If you have permanent impairment the software may also ask the adjuster to indicate if there is any documented future care needs that will be required to manage your permanent injury. This is called future care expenses that may be projected or anticipated to help manage your situation.

All of this information is factored into a claim to adjudicate what benefits you are rightfully entitled to. These are logical and make complete sense but they are almost never found to be completely or accurately documented in either the doctors’ notes or in the attorney's benefits demand package. This can cost the injured party a lot.
of benefits and leave you with some very large bills that you may end up being personally responsible.

Unfortunately, what may happen is that your doctor and attorney submit documentation to the insurance company that does not support the degree of your injury. Therefore, your rightful injury benefits are unnecessarily denied.

In summary, you doctors and attorney must include these basics in their reports:

1. All of your injuries and care properly coded.
2. Any permanent damage must be reported with an AMA impairment rating.
3. Anything you could do before injury and now cannot do as a result of your injuries, called Loss of Enjoyment of Life Factors.
4. Anything that you could do pain free prior to the accident and now can be done but with painful or difficult to perform is called Duties under Duress Factors.
5. If you have permanent injuries identified, all of your future care your doctor may be advising that you may need has to be formally documented by your doctor (s) and reported by your attorney.

Unfortunately, the files of many doctors and attorneys are missing this basic information. That is why it is so important to find a doctor and, if needed, an attorney that understands these documentation criteria. Otherwise you could seriously suffer financially with loss of rightful benefits that were RIGHTFULLY denied, simply because of documentation blunders that could have been avoided.

#7 – Choose a doctor and attorney that fully understands the significance of spinal ligament injury and the proper way to diagnose, manage, and document your injuries so insurance companies can fairly substantiate your claim.

Select a doctor who knows how to locate and determine the severity of ligament injury.

If you elect to have an attorney represent you in a personal injury claim, you should hire an attorney educated in spinal ligament injury, mild traumatic brain injury, and the proper documentation criteria of your insurance company. They also need to understand the appropriate testing procedures for these injuries, i.e., Digital Motion Fluoroscopic x-ray and computerized radiographic measurement analysis.

Both doctor and attorney need to be familiar with injury coding to make sure all of your injuries are properly listed in their final demand report. They need to
include your impairment rating, your loss of enjoyment of life factors, and any, Duties under Duress factors from your permanent injuries.

**If these critically important items are not submitted properly to the insurer, your chance of receiving the maximum benefits that you could be entitled are slim to none.**

I hope you apply what you have learned here and use the information in the report to help you choose your medical and legal help wisely. Your health and finances can be detrimentally affected, perhaps permanently with the wrong choices. Do not take these spinal injuries lightly. Find a doctor that knows or specializes in this type of injury and closely follow their recommendations.

Always ask questions! Remember these professionals are working for you!

Learn more about the DMX technology at www.DigitalMotionXray.com

Dr. Shandon Thompson, DC  
Director – DMX Imaging, LLC

Citations

3. (Pain, 1997) [http://thechiropracticimpactreport.com](http://thechiropracticimpactreport.com)
5. *How to Effectively Document Your Patient’s Personal Injury Case from A to Z by Author Attorney Mark Blane*
6. Computer Sciences Corp  
[http://www.csc.com/p and c general insurance/offerings/26121/57637-colossus](http://www.csc.com/p and c general insurance/offerings/26121/57637-colossus)

A special thank you to Jeffrey Cronk, DC, JD and CEO of American Spinal Injury & Impairment Consultants for his contribution in writing this report.