



**MODERN CHIROPRACTIC
CENTER**

X-RAY Report of Findings

Prepared for : Bad Spine

Evaluation Date : 7/19/2019

Date X-Ray Taken: 7/19/2019



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Welcome

Welcome back! Your doctor has reviewed your X-rays. Because your posture was shifted, it is likely that your spine may be shifted as well. Your X-rays were used to verify your postural and physical exam findings. However, because an x-ray is a 2-dimensional shadow of a 3-dimensional object several specific views were used. As many as 41 different measurements and 21 different angles were used in analyzing your spinal x-rays. With this information your health care provider can design a treatment plan specific to your spinal configuration.

What is normal for a spine?

Your doctor performs several levels of analyses on your spinal x-rays. First, an overall evaluation of your alignment in front-to-back radiographic views and your side radiographic views is performed. In the Front view, your spine should be straight or vertically aligned with gravity. In the Side view, your spine should have four natural curves. These four curves should be a convex forward curve in the neck (termed lordosis), a concave curve in the rib cage area (termed thoracic kyphosis), another convex forward curve in the low back (termed lumbar lordosis), and a concave curve in your sacrum-tailbone area. Figure 1 illustrates this alignment.

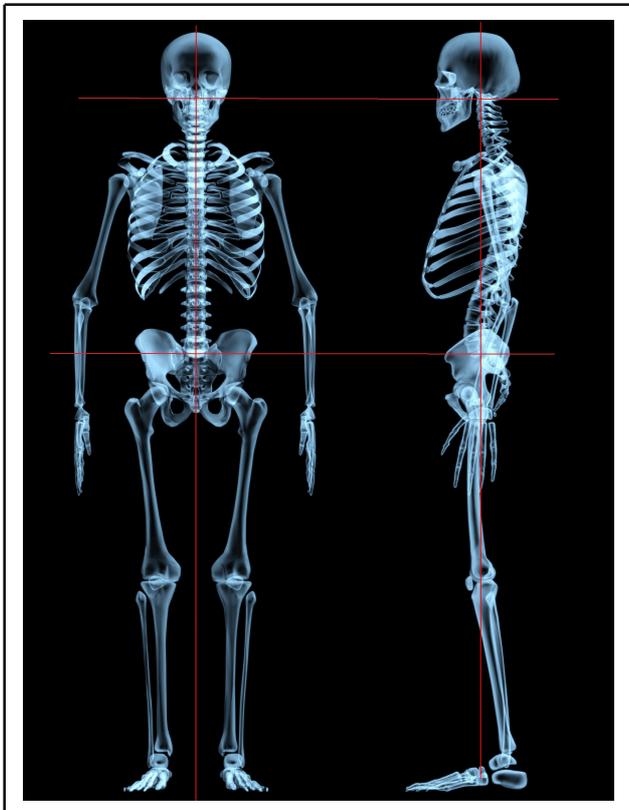


Figure 1.

Normal spinal alignment is depicted in both the front and Side views. In the front view, the center of mass of the skull, thorax, and pelvis are in a vertical line which falls between mid-stance. The spinal column is vertically aligned with respect to gravity. In the side view, the center of mass of the skull, thorax, and pelvis are in vertical alignment over the ankle. The cervical spine is lordotic, the thoracic spine is kyphotic, and the lumbar spine is lordotic.



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Your doctor looks for any obvious spinal ligament damage by observing individual spinal vertebra for any left or right misalignments in the front view and any forward or backward misalignments in the side view. Figure 2 illustrates cases of spinal ligament damage.

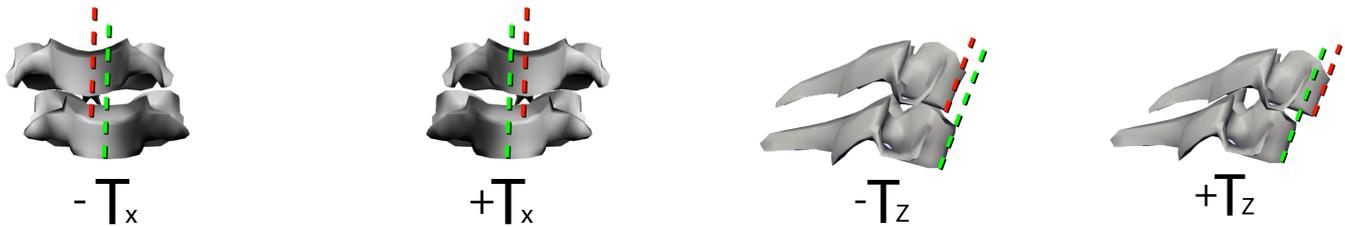


Figure 2.

Ligament damage is present when a spinal vertebra does not align properly with either the vertebra immediately above it or immediately below it. In the 1st and 2nd picture, abnormal alignment of a vertebra translating left and right, signifying spinal ligament damage, is illustrated for the front view. In the 3rd picture, in the side view, forward slippage of the top vertebra is depicted. In the 4th picture, in the side view, backward slippage is shown.

When your spine loses the normal structure of the spine, decay of the bone can occur. Your vertebrae should be well defined. If this is disrupted this determines signs of possible spinal arthritis which can be seen below.



Just as decay can occur to the bone, the soft tissue structures such as the spinal discs can also be assessed for narrowing. When this narrowing is present this is called vertebral disc disease. Figure 4 presents an example of disc narrowing and disease.



Figure 4.

Between the top and middle vertebrae, a normal disc spacing is seen. However, between the middle and lower vertebrae, the disc space is narrowed. This indicates that the disc has begun to decay. While disc disease can have several causes, generally, it is a result of abnormal stress (pressures) applied to the disc from abnormal spinal alignment.



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Your doctor determines the alignment of each spinal region (neck, rib cage, and low back) compared to the region immediately below by comparing each region to a vertical line in both the front view and side view. The skull should be balanced over the entire spine when looking at both the front and side views. Figure 5 illustrates this alignment for the three separate spinal regions, neck, rib cage, and low back.

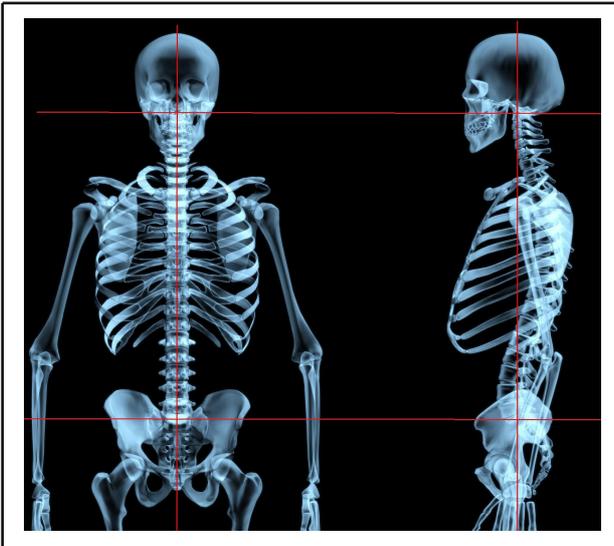


Figure 5.

When evaluating the spine, your doctor looks at regional areas of your spine. This gives a global picture of both your posture as well as your overall spinal alignments. A line dropped from the center of your skull should drop evenly through your spine. When this is not present this can cause abnormal biomechanics leading to an accelerated break down to your health.

Any spinal shift and rotational displacements are measured against the optimal spinal alignment.



X-RAY Report of Findings

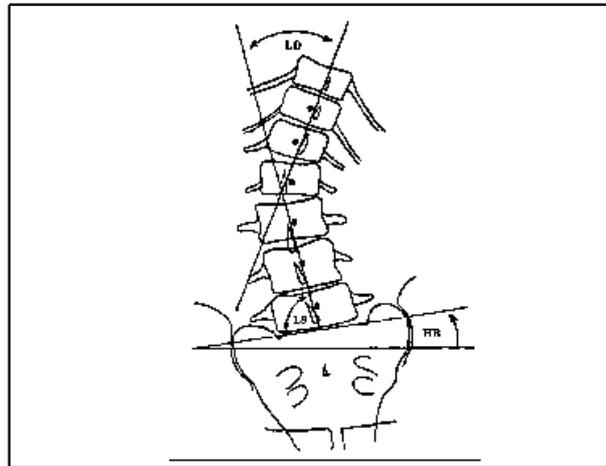
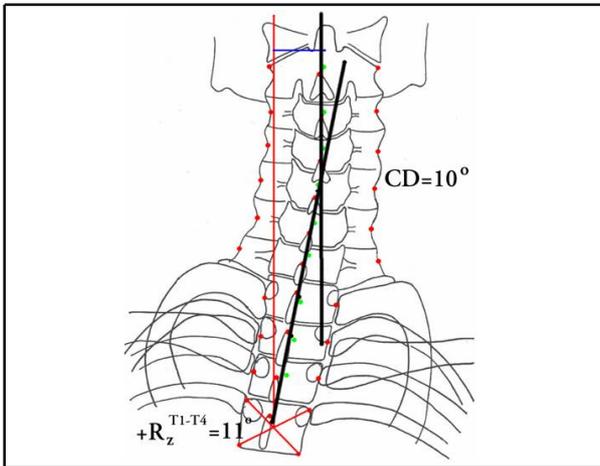


Figure 6. In the front x-ray views, lines are drawn through the centers of mass of each spinal vertebra to measure your abnormal spinal alignment. In A, an example of an analysis of abnormal spinal alignment of the neck in the front view is provided, and in B, an example of an analysis of abnormal spinal alignment of the low back is shown.

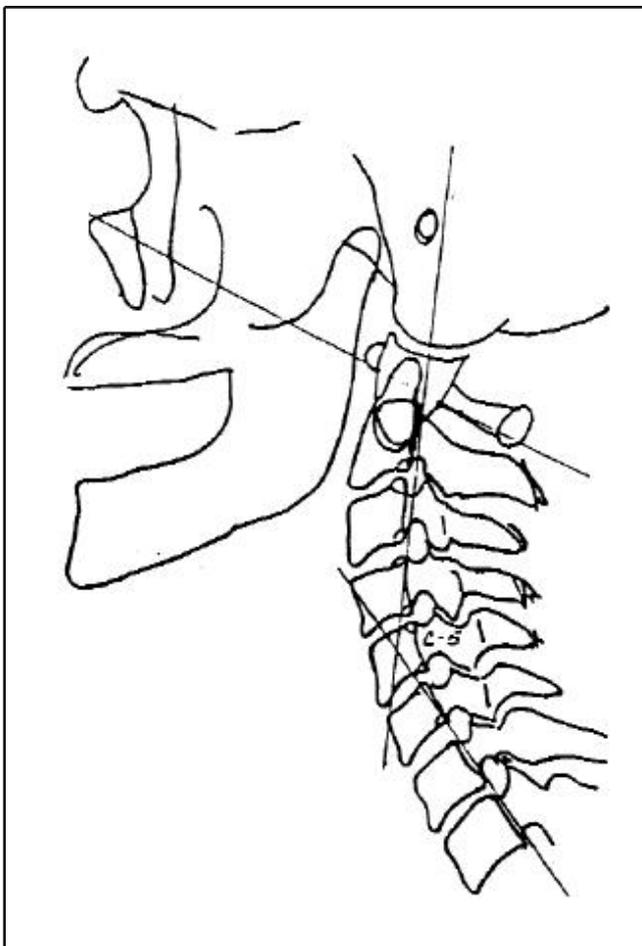


Figure 7. From the side views, a line is drawn on the back of the vertebrae. This side alignment is compared to published normal values to determine the loss of normal lordotic curves.



What Are the Risks of X-ray Exposure?

While we must constantly work towards the reduction of health risks in all endeavors, we may be led to accept a minimal level as normal. While there is no data indicating diagnostic radiology has a present risk, any radiation dose must be compared to the benefits of useful information gained. The necessity for appropriate treatment selection is indeed an acceptable trade-off when put into perspective. The need for x-ray imaging is especially clear when one considers that radiographic (xray) imaging is the only valid method for determining abnormal spinal alignment and the presence of any spinal degeneration. However, since 1990, there has been a growing knowledge base that suggests medical x-rays may have health benefits. While an actual benefit from radiation exposure may seem outrageous, there is much scientific evidence for this phenomenon. This phenomenon/field of study is termed Radiation Hormesis.^[58-67,67-87]

Radiation Hormesis is the stimulatory or beneficial effect of low doses of ionizing radiation. This topic is in direct conflict with the "Linear No-Threshold Hypothesis" (LNT), which has been assumed to be true for more than 50 years. This LNT model comes from estimating the risks at lower doses of radiation, in the absence of data, by extrapolating in a linear model from the extremely large doses of radiation from atomic bombs dropped on Japan in the 1940s.

This LNT model has been used to set limits of radiation exposure by all official and governmental associations around the world.^[63] Recently in 2003, Kauffman^[58] reiterated that authors critical of exposure from diagnostic radiation always use the LNT model. This use of the LNT model includes the recent 2005 report by the USA National Research Council.^[28] This report stated, "there will be some risk, even at low doses (100 mSv or less), although the risk is small" and "there is no direct evidence of increased risk of non-cancer diseases at low doses."^[67] This 2005 report ignored and contradicted an earlier 2003 review by Kant et al.^[68]

For a comparison of exposures, USA citizens are exposed to an average annual natural background radiation level of 3 mSv, while exposure from a chest x-ray is approximately 0.1 mSv and exposure from a whole body computerized tomography (CT) scan is approximately 10 mSv.²⁸ Also it is noted that 10mSv = 1,000mrem, which equates to about 46 cervical series or 8 lumbar series. Thus, the x-ray views taken to evaluate your spine in this office constitute a very small exposure compared to a CT scan or even annual background radiation from your natural environment.

Thus, it is obvious that the extremely small health risks (and maybe even some health benefits), associated with the x-ray exposure, needed to determine the state of health of your spine in this Report, are small indeed compared to the knowledge gained from this information. From your radiographic examination at our office, we have determined the state of degeneration of your spine, and have determined the exact displacements of your spine. This knowledge not only gives us a working Clinical Impression/diagnosis of your spinal condition, but also determines the type of treatment that is needed to improve your spinal health condition.

We hope that you appreciate our thoroughness in examining and diagnosing your spinal health problems. In the next few pages, for each x-ray view obtained, we will present a normal view on the left hand side to compare to your x-ray on the right hand side. A table of values of normal measurements and your abnormal alignment will be provided on a Summary page.



This Analysis Has Been Researched

We are proud to state that the normal spinal alignment presented in this report is the result of many research projects on spinal alignment in normal subjects.^[1-7] Normal values for all spinal angles and distances, utilized in this report, have been reported in the most prestigious journals. Your abnormal spinal alignments will be compared to these normals.

These measurements of spinal displacements, utilized here, are mathematical utilizing geometric methods. This geometric line drawing analysis has been shown to be very reliable (repeatable) and valid (accurate).^[8-15]



X-RAY Report of Findings

Side View of Your Neck (Lateral Cervical View)

The normal healthy curvature of a neck from the side.

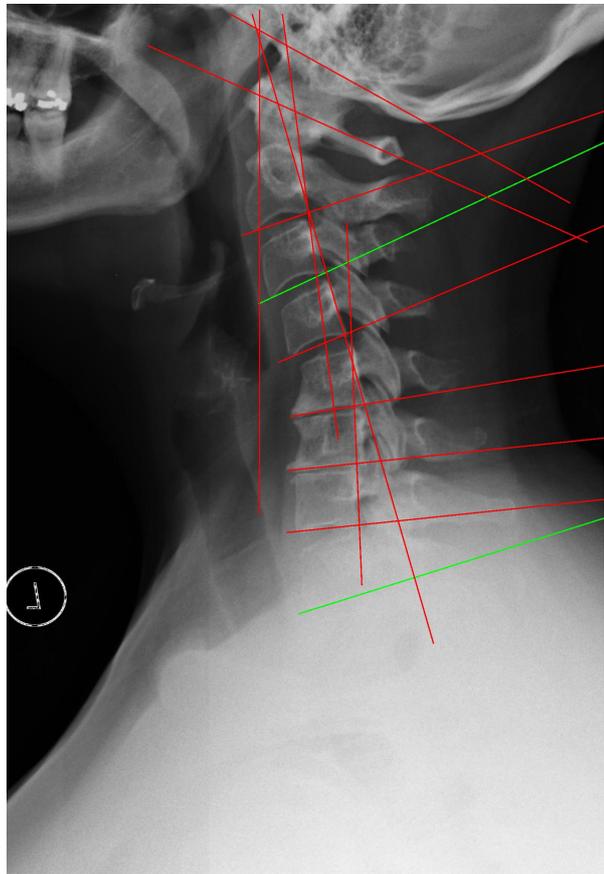
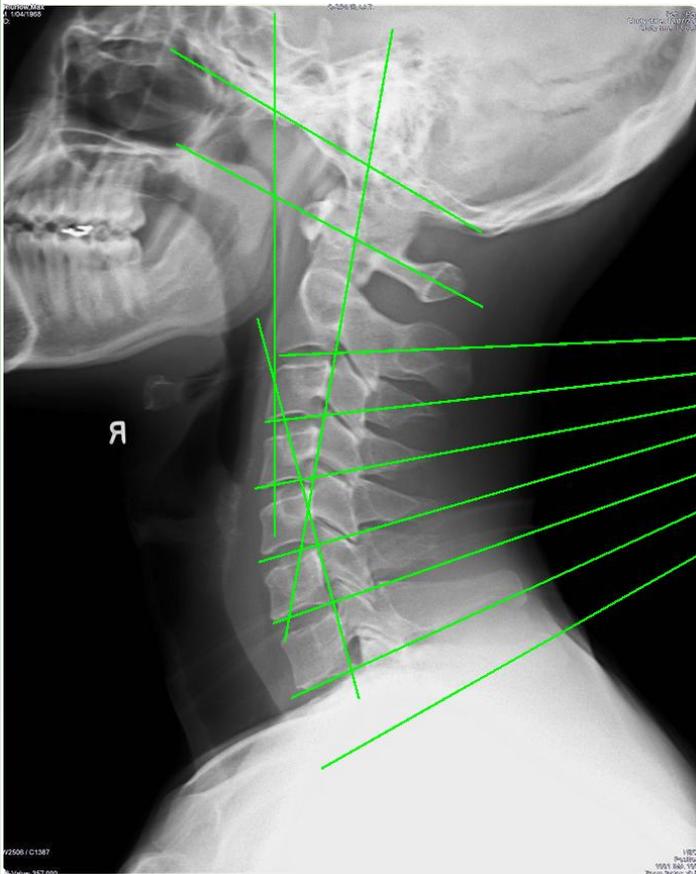
The green lines represent the normal, healthy position for your neck.

No spinal arthritis is apparent and healthy disc spaces are visualized.

Your neck position from the side.

The green lines represent where your neck is currently positioned.

The red lines represent where your neck is currently positioned with some abnormality.



Front

Back

Front

Back

Notes about your condition:

Your head is positioned 0.6" and you have 214% hyperlordosis because it is Lordotic 8.6° and Kyphotic 13.6°.

This type of abnormal neck curve is usually caused from a traumatic event. This position is predictive of chronic neck and upper back pain statistically. The good news is our unique rehab methods have been shown effective for improving this abnormal position.

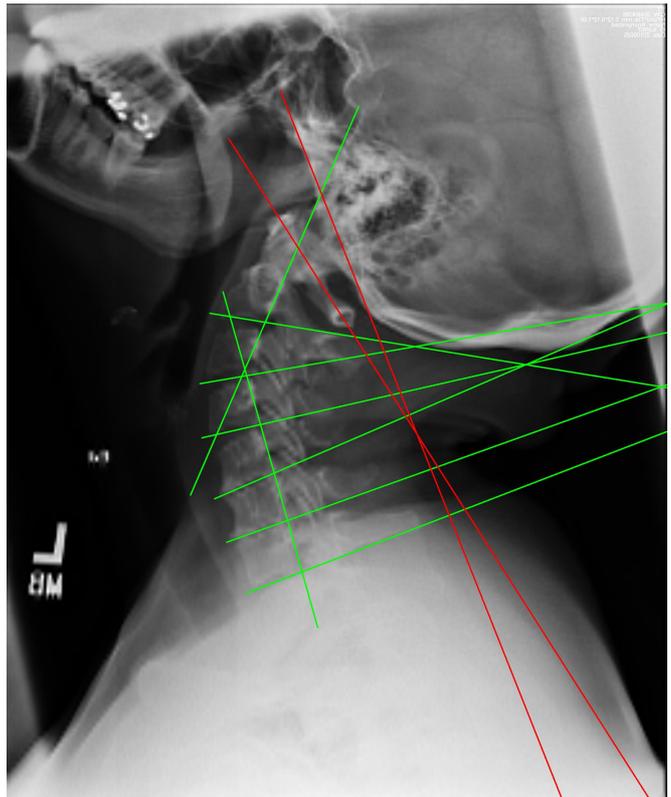
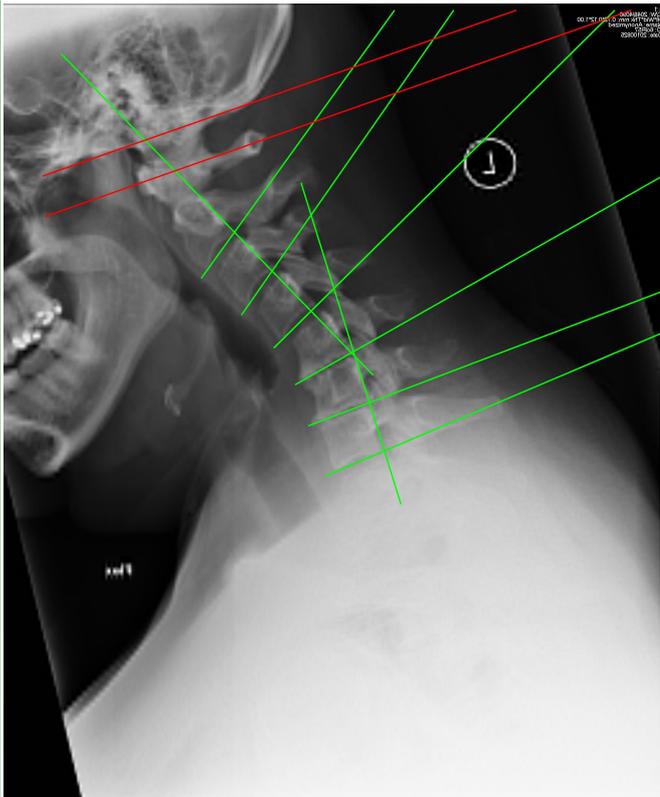


X-RAY Report of Findings

**Side View of Your Neck Flexed and Extended
(Lateral Cervical Flexion and Extension View)**

This line represents where your neck is currently positioned with normal displacements.

This line represents where your neck is currently positioned with abnormal displacements.



Front

Back

Front

Back

Notes about your condition:

These x-rays were taken to show the stability of the ligaments supporting your neck as your head moves forward and backwards. Ideally there should be minimal shifting of one vertebrae relative the vertebrae adjacent. When spines are injured, it is common to see abnormal increase in displacement slippage forwards and/or backwards as well as an

In your spine when you tip your head down (flexion position), you show possible damage at the C2-C3, C3-C4, C4-C5, C5-C6, C6-C7 spinal levels.

Ligamentous damage such as you demonstrate here is usually related to a traumatic event.

In the head backwards position (extension position), your spine demonstrates possible ligament damage at the C2-C3, C3-C4, C4-C5, C5-C6, C6-C7 spinal levels.

Ligamentous damage such as you demonstrate here is usually related to a traumatic event.



X-RAY Report of Findings

Front View of Your Upper Neck (AP Open Mouth View)

The normal healthy position of the neck from the front.

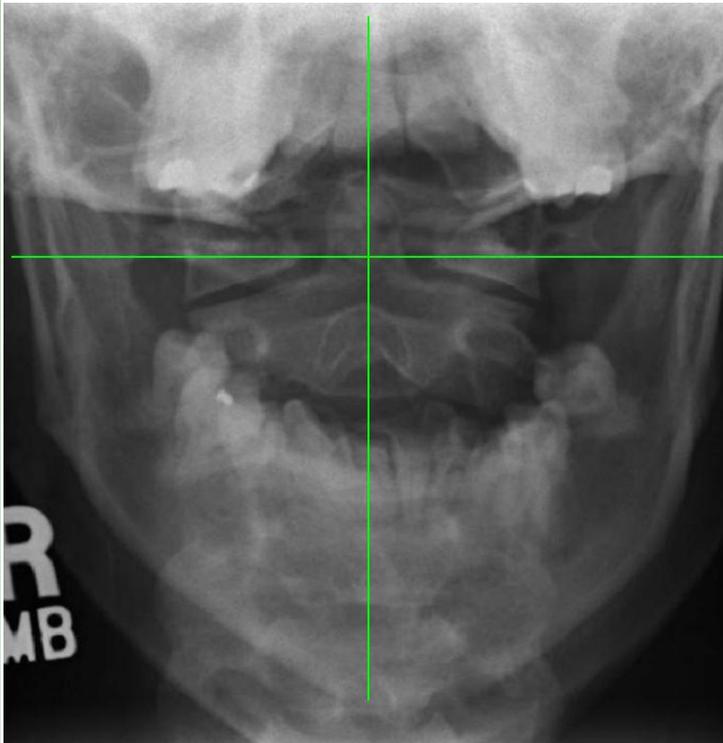
The horizontal line represents the normal atlas position. The vertical line is a plumb line, also indicating normal vertical spinal alignment.

No arthritis is apparent and healthy joint spaces are visualized.

Your neck position from the front.

The green line indicates the normal position for your spine.

The red line indicates the abnormal current position for your spine.



Right

Left



Right

Left

Notes about your condition:

This x-ray is taken to mainly observe your upper neck position, the Atlas C1 Vertebrae) and Axis (C2 Vertebrae). Ideally the Atlas should rest upon Axis in a perfect vertical and horizontal alignment as viewed on the normal x-ray example. Your spine demonstrates that the left side of your Atlas is shifted 0.3 mm ?DirectionRight? off of the Axis (C2), and on the right side is shifted 1.3 mm to the ?DirectionRight? of the Axis.

Your Atlas known as C1 is the most important area of your spine. This abnormal alignment can contribute to symptoms you display.



X-RAY Report of Findings

Front View of Your Neck (Nasium Cervical/Thoracic View)

The normal healthy position of the neck from the front.

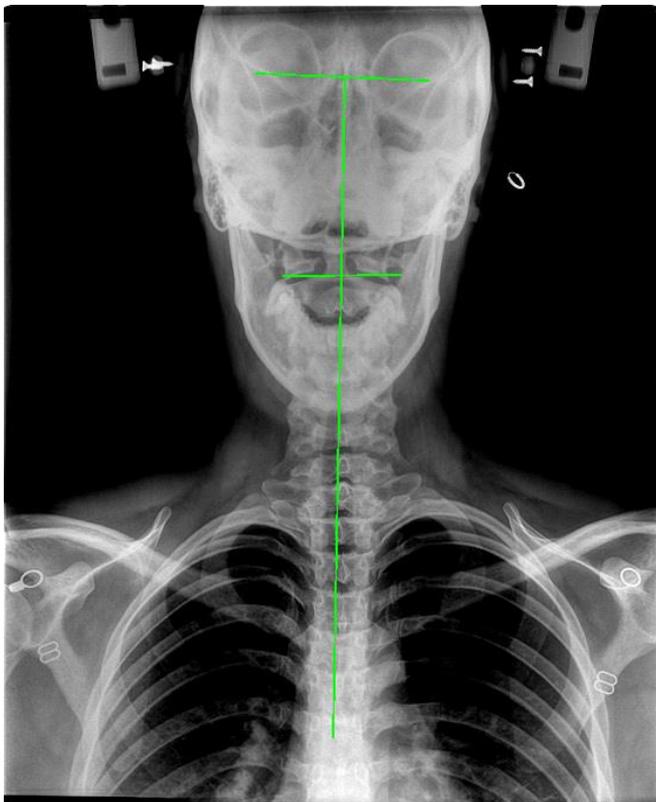
The green lines represent the normal, healthy position for your neck.

No arthritis and healthy joint spaces are visualized.

Your neck position from the front.

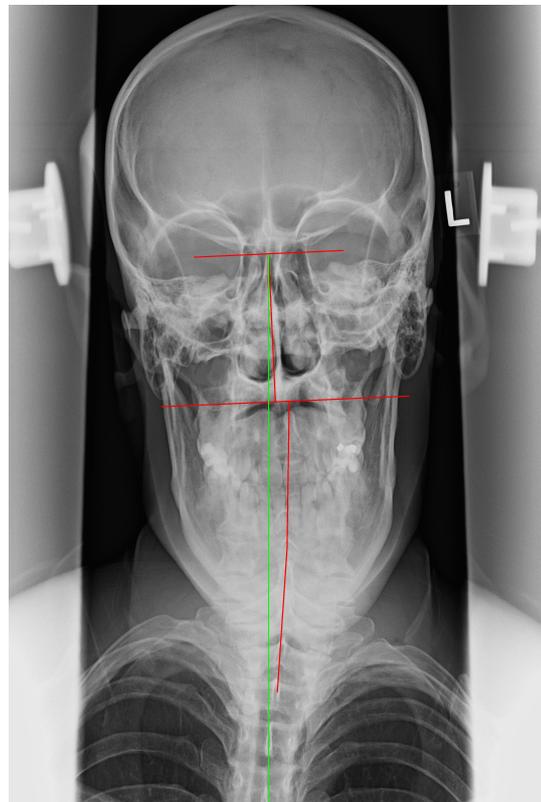
The green line indicates the normal position for your neck.

The red line indicates the abnormal current position for your neck.



Right

Left



Right

Left

Notes about your condition:

You do not appear to have Alar Ligament instability as the Para-Odontoid Space doesn't exceed 1.7mm with a value of 0.0mm.

Your Atlas known as C1 is the most important area of your spine. This abnormal alignment can contribute to symptoms you display.



X-RAY Report of Findings

Side View of Your Mid Back (Lateral Thoracic Spine)

The normal healthy curvature of a mid back from the side.

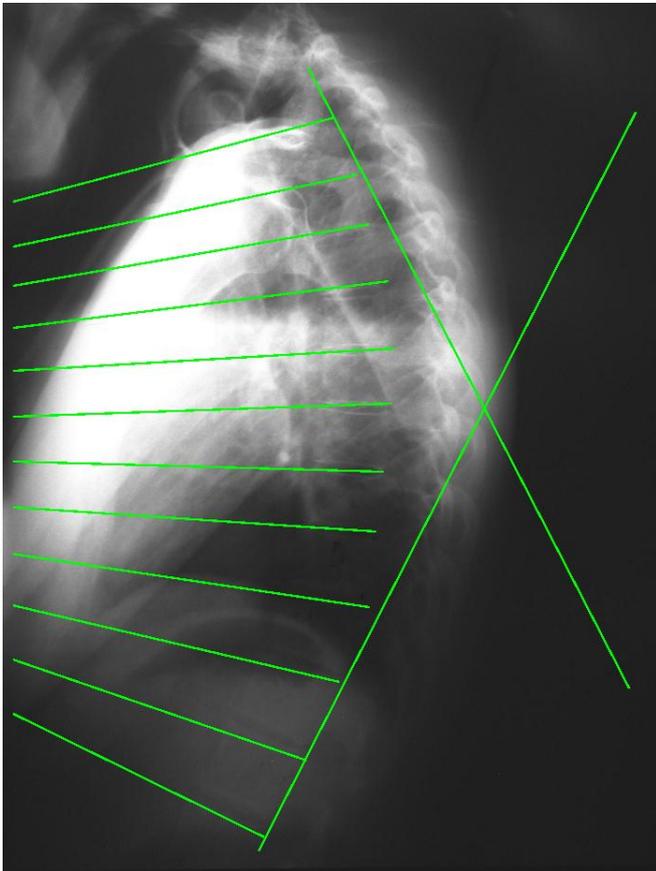
The green lines represent the normal, healthy position for your ribcage.

No spinal arthritis is apparent and healthy disc spaces are visualized.

Your mid back position from the side.

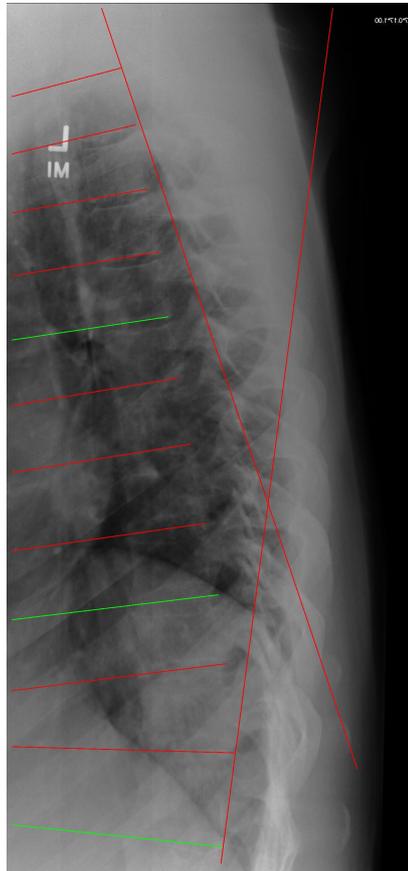
This green lines represent where your mid back is currently positioned.

The red lines represent where your mid back is currently positioned with some abnormality.



Front

Back



Front

Back

Notes about your condition:

Your spinal curve's T1-T12 dorsal kyphosis measures 25.8° and should be 45°. This represents a 42.7% decrease compared to normal. The T4-T12 dorsal kyphosis measures 17.6° and should be 40°. This represents a 56.0% decrease compared to normal. The global translation for T1-T12 is 49.0mm.

This abnormal spinal position can cause increased pain and accelerated degenerative changes in your spine.



X-RAY Report of Findings

Front View of Your Thoracic

The normal healthy position of a mid back from the front.

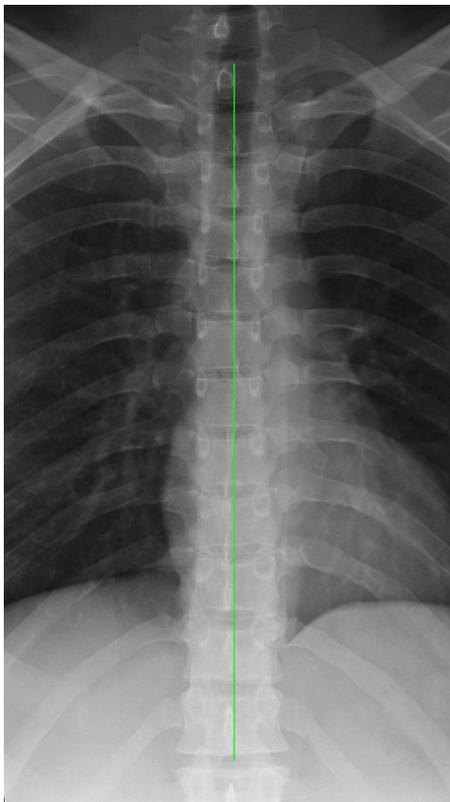
The green line represents the normal, healthy position for your ribcage.

No arthritis and healthy joint spaces are visualized.

Your mid back position from the front.

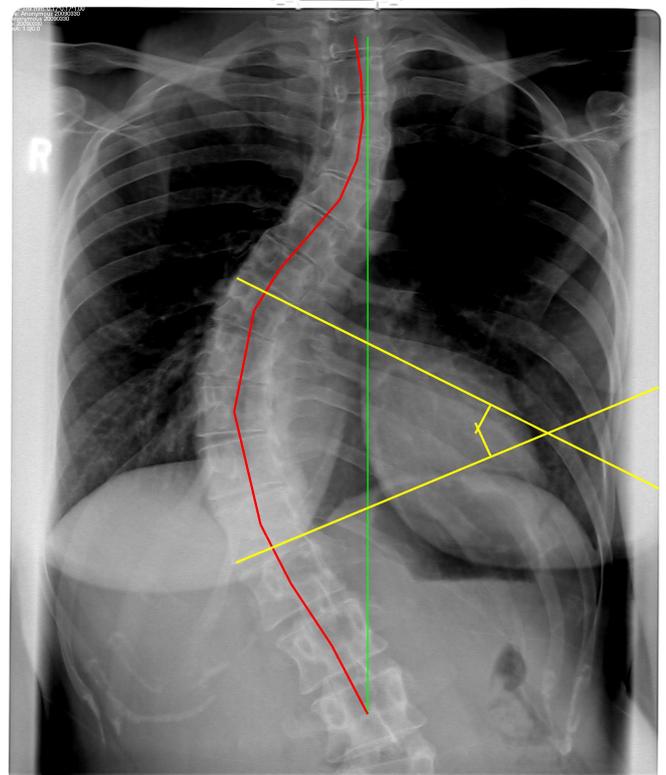
This colored line represents the normal, healthy position for your Thoracic spine.

This colored line represents where your Thoracic spine is positioned.



Right

Left



Right

Left

Notes about your condition:

Your thoracic x-ray demonstrated that you have a scoliosis that consists of one major curvature. Your curve measured from vertebra T8 to vertebra T12 measured -49.2° (severe) using the "Cobb" method analysis and measured -24.2° (moderate) using the "Risser-Ferguson" method of analysis. These methods of analysis are what spine doctors use to measure the severity of a scoliosis.

You have a significant scoliosis which I believe will stabilize and possibly reduce using our rehab methods along with a Scolicare brace as we discussed.



X-RAY Report of Findings

Side View of Your Low Back (Lateral Lumbar View)

The normal healthy curvature of a low back from the side.

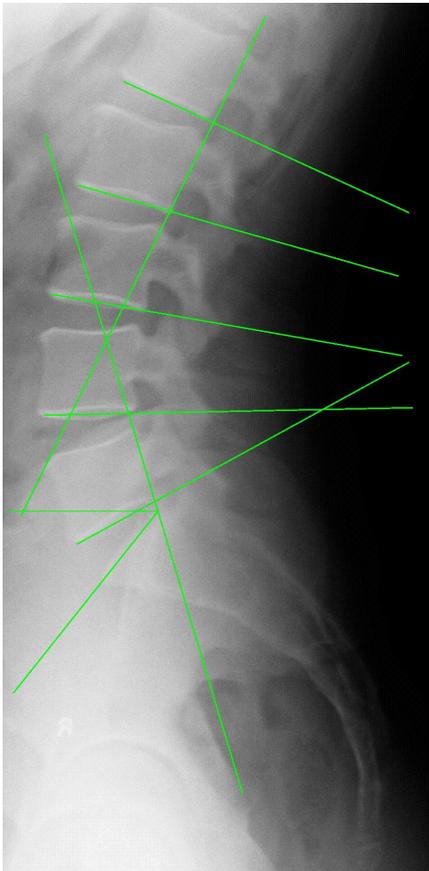
The green lines represent the normal, healthy position for your low back.

No spinal arthritis is apparent and healthy disc spaces are visualized.

Your low back position from the side

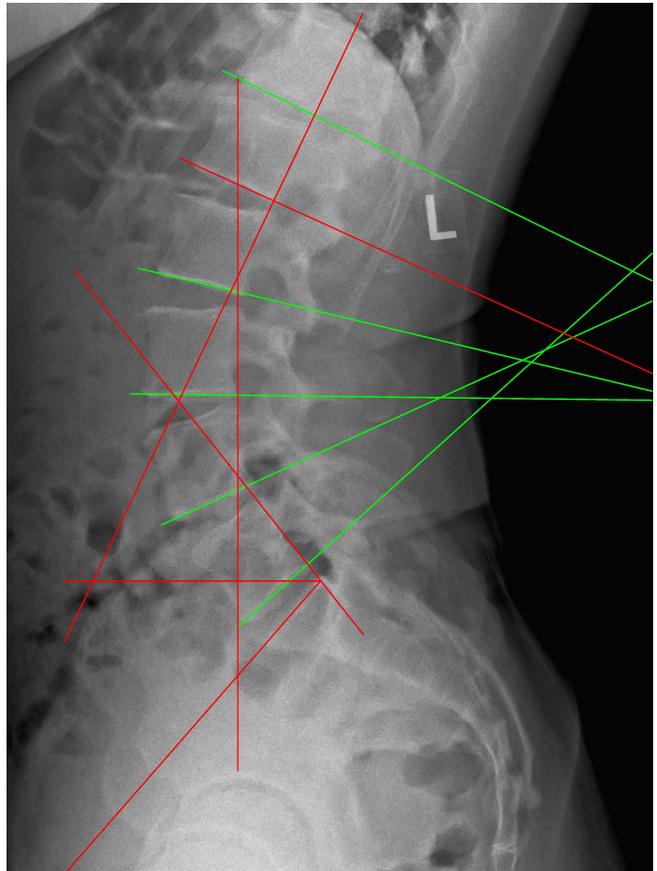
The green lines represent where your low back is currently positioned.

The red lines represent where your low back is currently positioned with some abnormality.



Front

Back



Front

Back

Notes about your condition:

You have loss from normal lordosis by -80% because it is Hyperlordotic 63.4°. Your Lumbar Posture is relative to the Lumbar Pivot point of 0.5".

Your loss and abnormal position of your spine is linked to low back pain but can be improved through our unique rehab methods.



X-RAY Report of Findings

**Side View of Your Neck Flexed and Extended
(Lateral Cervical Flexion and Extension View)**

This line represents where your neck is currently positioned with normal displacements.

This line represents where your neck is currently positioned with abnormal displacements.

Notes about your condition:

These x-rays were taken to show the stability of the ligaments supporting your neck as your head moves forward and backwards. Ideally there should be minimal shifting of one vertebrae relative the vertebrae adjacent. When spines are injured, it is common to see abnormal increase in displacement slippage forwards and/or backwards as well as an

Back
In your spine when you tip your rib cage down (flexion position), you show possible damage at the T12-L1 spinal levels.

Back

In the rib cage backwards position (extension position), your spine demonstrates possible ligament damage at the T12-L1 spinal levels.



X-RAY Report of Findings

Front View of Your Low Back (AP Lumbar View)

The normal healthy position of a low back from the front.

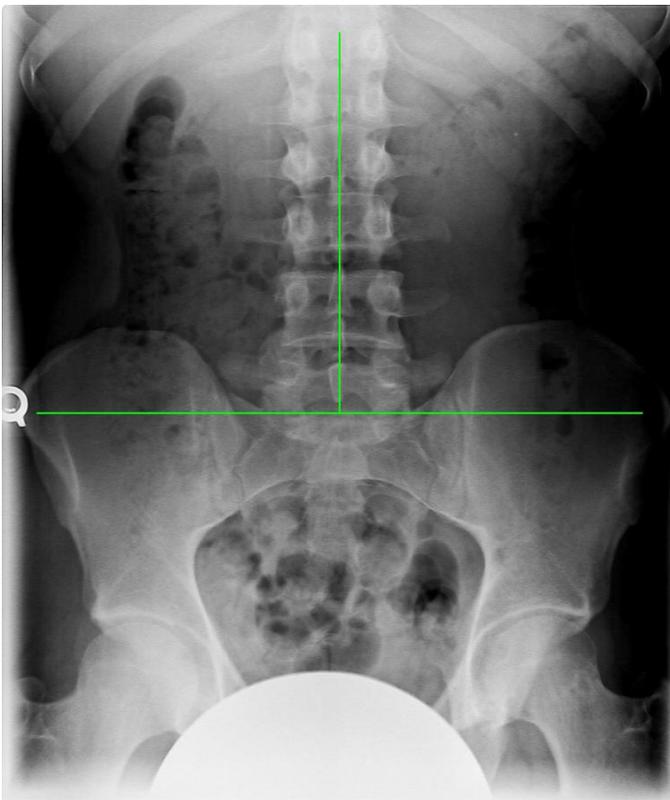
The green line represents the normal, healthy position for your low back.

No arthritis and healthy joint spaces are visualized.

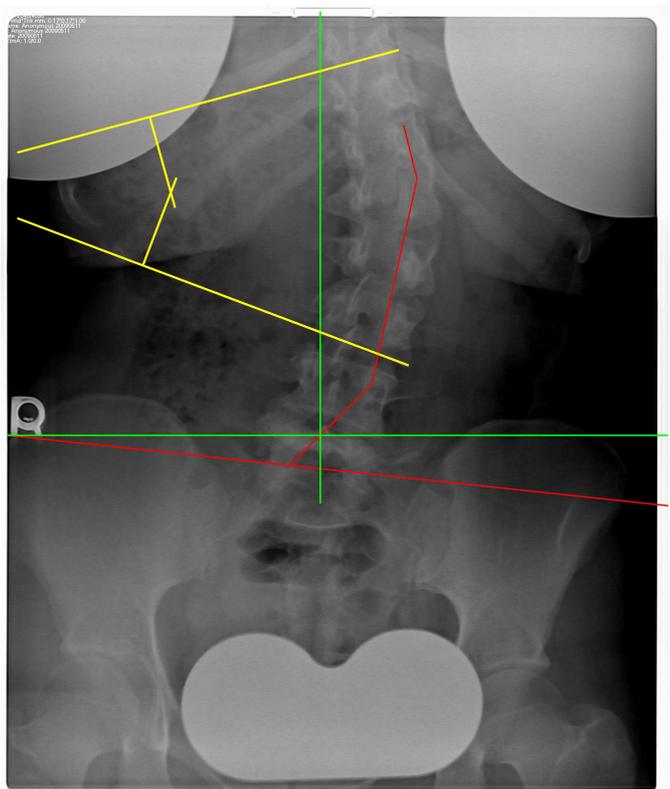
Your low back position from the front.

This colored line represents the normal, healthy position for your low back.

This colored line represents where your low back is currently positioned.



Right



Left Right

Left

Notes about your condition:

Your lumbar x-ray demonstrated that you have a scoliosis that consists of one major curvature. Your curve measured from vertebra T11 to vertebra L3 measured 35.9° (moderate) using the "Cobb" method analysis and measured 21.0° (moderate) using the "Risser-Ferguson" method of analysis. These methods of analysis are what spine doctors use to measure the severity of a scoliosis.



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MEET THE DOCTORS

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MEET DR. JOSEPH FERRANTELLI



Joseph R. Ferrantelli, D.C. graduated with honors from Florida State University in 1995 with a B.S. in Biological Sciences and earned his Doctor of Chiropractic (D.C.) degree from Life University School of Chiropractic, graduating Magna Cum Laude in March 1999. He has been serving the New Port Richey area for the past 5 years. Dr. Ferrantelli is a distinguished Fellow of Clinical Biomechanics of Posture® and a Chiropractic Biophysics® instructor for Chiropractic Biophysics® Technique. Dr. Ferrantelli was named the "2002 CBP® Chiropractic of the Year" Clinical Biomechanics of Posture® Annual Convention. In addition to normal practice, Dr. Ferrantelli teaches CBP® Chiropractic Technique throughout the U.S. and internationally. He is a contributing author for the rehabilitation textbook entitled, CBP® Structural Rehabilitation of the Cervical Spine as well as the soon to be released textbook, CBP® Structural Rehabilitation of the Lumbar Spine. Additionally, Dr. Ferrantelli has been published in the *JMPT* journal for an article focusing

on corrective treatment of chronic Whiplash Associated Disorders. Furthermore, he is a co-author on an original research paper published on normal spinal modeling in the world's most prestigious orthopedic medical journal, *Spine*. Currently, Dr. Ferrantelli has original research in press on postural assessment validity in another top orthopedic journal, the *European Spine Journal*. Dr. Ferrantelli is a regular contributing author for the American Journal of Clinical Chiropractic. Presently, Dr. Ferrantelli is collaborating on several original research studies pertaining to the study of motor vehicle whiplash injuries and their rehabilitative treatment as well as studying posture reliability and validity outcome assessment tools. Dr. Ferrantelli focuses his private practice on whiplash traumatology and has been trained in Auto Crash Reconstruction (LOSRIC) through the Spine Research Institute of San Diego. Dr. Ferrantelli focuses on gentle family chiropractic care, Auto Accident injuries, and CBP® Structural Rehabilitation of the spine and posture. At this time, he is also the vice-president of the FCA's North Suncoast Chiropractic Society. Additionally, Dr. Ferrantelli runs one of the largest chiropractic technique websites (for CBP®) in the world, www.idealspine.com. Dr. Ferrantelli can be reached at 727-848-2663 or through his clinic website at www.normalspine.com.

MEET DR. CARA HACHT

Cara L. Hacht, D.C., L.M.T. graduated with her Doctor of Chiropractic (D.C.) in 1994 from the "Fountain Head of Chiropractic," Palmer College of Chiropractic in Davenport, IA. While at Palmer, she concurrently obtained her Bachelors of Science degree. Prior to her D.C. degree, Dr. Hacht graduated as a licensed massage therapist in 1989. Before becoming a Doctor of Chiropractic, Dr. Hacht worked as a licensed massage therapist for 5 years in the Pasco and Pinellas county. Consequently, when practicing as a chiropractor, Dr. Hacht uses a wide range of different Chiropractic and massage therapy techniques. In addition to gentle diversified chiropractic care, extremity adjusting and the Palmer Package, she also focuses on the Chiropractic Biophysics® (CBP®) technique. While in practice, Dr. Hacht has participated as an active member of the Florida Chiropractic Association and currently the president of the North Suncoast Chiropractic Society, which is a local chapter of the Florida Chiropractic Association. She has been practicing in Pasco, Pinellas and Hillsborough county since 1995. She opened her practice with Dr. Ferrantelli in February of 2001. Dr. Hacht can be reached at Advanced Chiropractic Associates, or through their website www.normalspine.com.

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Joe Ferrantelli, DC

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“When I was young, I went through a series of car accidents,” remembers Sue Skaggs. “In a two-year period I was hit four times, and hit hard.

“It was like I had a sign on me that said, *Hit me.*”

Sue developed severe headaches that nothing could alleviate, and they continued to make her life miserable through her thirties and into her forties.

“The doctors told me I had nerve damage, but there wasn’t much they could do about it,” she explains. “They would give me anti-inflammatory medication and pain pills, but I’m not a person to take medication – I really don’t like to, unless I have to.

“It was very debilitating,” she adds. “If I tried to pick up my grandson, it would trigger a headache immediately.”

Sue had some success with traditional chiropractic care, and when she moved from Long Island to Florida, she consulted a different chiropractor, Joe Ferrantelli, DC. Affectionately known to his patients as “Dr. Joe,” Dr. Ferrantelli provides specific structural-based chiropractic treatment in a comfortable, caring environment.

Chiropractic Biophysics

“When she came in to see me, Sue had already undergone traditional chiropractic care,” confirms Dr. Ferrantelli, “but nothing resolved her problem long term. For quite some time, she still wished to continue with traditional methods as they worked for ‘patching up’ her pain and headaches, but I suggested that she try a more permanent approach through specific structurally-based rehabilitation.”



Joseph Ferrantelli, DC, graduated with honors from Florida State University in 1995 with a bachelor of science in biological sciences and earned his doctor of chiropractic degree from Life University School of Chiropractic, graduating magna cum laude, in March 1999. Dr. Ferrantelli is a distinguished fellow of clinical biomechanics of posture

and certified instructor for CBP Seminars. Dr. Ferrantelli was named CBP Chiropractic of the Year by CBP Seminars in 2002. Additionally, he has coauthored manuscripts published in top scientific orthopedic and chiropractic journals such as *Spine*, *European Spine Journal*, and *Journal of Manipulative and Physiological Therapeutics*. Dr. Ferrantelli is also a contributing author for the *Practicing Chiropractors’ Committee on Radiological Protocols* to be published in 2007. In addition, he is primary investigating researcher in the *International Chiropractors Association’s* up and coming “Best Practices” clinical practice guidelines for the chiropractic profession. Dr. Ferrantelli focuses on gentle family chiropractic care, auto accident injuries, and CBP structural rehabilitation of the spine and posture. Dr. Ferrantelli is also president of the FCA’s North Suncoast Chiropractic Society.



KEEPING IT IN THE FAMILY. Sue, Mike, and Val (left to right) are all doing well again thanks to Dr. Ferrantelli (far right).

Dr. Ferrantelli helps patients with stubborn pain problems like Sue’s heal correctly with Chiropractic Biophysics (CBP) rehabilitation methods. “To use an analogy, I explain that a CBP chiropractor is like the ‘orthodontist’ within the chiropractic profession,” explains Dr. Ferrantelli.

“The best way to restore Sue to proper function, while simultaneously relieving her pain and headaches, was with CBP, which is structural-based rehabilitative care,” states Dr. Ferrantelli.

Dr. Ferrantelli focuses his corrective regimens with *Mirror Image* postural exercises and a specialized form of postural/spinal traction to accomplish rehabilitation of chronic spinal pain, headaches, and other common ailments like numbness, tingling, and sciatica.

“Many patients are surprised that they need traction as part of their treatment, as they only associate traction with being stretched vertically,” says Dr. Ferrantelli. “However, the traction I

use for certain patients is much different and highly specific. Properly applied, *Mirror Image* traction is not simple traction, but is specific to realign the spine towards a more normal, healthier position.

“We began Sue’s treatment with traditional chiropractic adjustments and therapy. Then we promoted her into full spinal rehabilitation. In her case, she had a loss of normal neck curve. The type of traction used was able to apply gentle, yet prolonged, cervical extension, restoring her neck curve, thereby relieving her pain and chronic headaches.” This protocol was augmented by specific chiropractic adjustments for postural correction along with aggressive postural-based corrective exercises.

her family.

“He’s awesome”

“I started to see relief almost immediately,” reports Sue. “Now I just go in once a month for what I call a *tune-up*, and I’m absolutely fine.”

In fact, Sue’s treatment was so successful, she recommended Dr. Ferrantelli to her daughter and son-in-law, Val and Mike Harris.

“I had a loss of curvature in my neck,” explains Val, “and I constantly had headaches. Dr. Joe started me with traction, too, and today I no longer have headaches. That was several years ago.”

Even after being involved in multiple car accidents like her mother, Val has found Dr. Ferrantelli’s treatment to be effective.

“I had two accidents in 2001 and one in 2005,” says Val. “I never actually stopped treatments with Dr. Joe, though, so it’s worked out perfectly.”

And when Val’s husband Mike had a pain problem, both mother and daughter were able to direct him to Dr. Ferrantelli.

“I was having a lot of back pain,” recalls Mike, who boxes recreationally. “It hurt to box for a long period of time.”

The pain affected his activities of daily living as well.

“Just standing at the bed folding clothes, or washing dishes, my back would start bothering me,” says Mike. “I could only do those things for short periods of time.”

After receiving treatment from Dr. Ferrantelli, Mike says, “The results are great. Between work, boxing, and home life, it’s made a huge improvement in my being able to do things for longer periods of time.

“I’m back to normal boxing activities, too. In fact, I just did four rounds of sparring today, with no pain, no problems.”

This family sings Dr. Ferrantelli’s praises.

“Dr. Joe is very committed to his patients,” says Sue, “and he’ll work with you in whatever way he possibly can to make things happen, because he’s trying to make you better.”

“He’s a great person,” adds Val. “Dr. Joe is more than just a doctor, where you go in and get treated and leave. You can tell that he truly cares about you and he wants to help you.

“And everybody in his practice is like that,” she continues, “very helpful and catering to the patients’ needs.”

“It’s definitely a positive experience going there,” agrees Sue. “We need a lot more like him. He’s awesome.”

PHOTO—Michael J. Sabno

Your spine is in great hands

For more information on Advanced Chiropractic Associates’ spinal workshops, or to schedule a consultation, call the office at (727) 848-2663. Advanced Chiropractic is located at 8406 Massachusetts Ave., Suite A2, in New Port Richey.