

Celebrate Wellness!

X-ray/Diagnostic Imaging

What's inside our bodies? It's a question that's fascinated most of us since we were children. Even so, when we go to the doctor we tend to approach x-ray and other forms of diagnostic imaging with a mixture of fascination, trepidation, and unreasonable expectations. How do chiropractors use x-ray and other forms of diagnostic imaging? Here are some answers, courtesy of the Virginia Chiropractic Association.

Over 100 years ago, a German physicist named Wilhelm Roentgen discovered mysterious rays that could travel through solid objects, or even people, creating images on film.ⁱ The value of these "X" rays soon became apparent, and doctors used them to diagnose fractures or to locate bullets and shrapnel from war wounds.

X-rays are just one form of diagnostic imaging. Modern diagnostic imaging includes, but is not limited to:

- X-ray
- MRI, and variants (MRA), with and without contrast media
- CAT scans
- PET scans
- SPECT scans
- Bone scans
- Doppler flow studies
- Diagnostic ultrasound
- Thermal (heat) & electrical conductivity studies
- Instrument and/or computer-assisted motion analysis

These tests are all designed to be non-destructive, meaning that the patient's internal structures can be viewed with little or no damage or discomfort. For example, powerful computers can assemble cross-sectional "slices" of a brain or spine using x-ray (CAT scan) or MRI, without actually physically slicing the patient. Once doctors have the information from those images, they can render an opinion (diagnosis) regarding what they see; as well as an opinion regarding treatment (a prescription, abbreviated Rx).

Modern diagnostic imaging has come a long way over the decades. Advances in computers and other technology have greatly improved patient safety, as well as the clarity of information. For example, the original x-ray images of a patient with a hip fracture were so fuzzy that it's hard to see what body part was being imaged. Today, modern diagnostic images are the equivalent of high-definition television vs. the old, fuzzy first televisions. This image clarity is of great value to the patient and his/her doctor.

Doctors of Chiropractic (D.C.) use diagnostic imaging to find the same things any

medical (M.D./D.O.) doctor might: tumors, fractures, obstructions, and other abnormalities. That having been said, chiropractors will tend to search for


abnormalities that might be overlooked by other professionals. An x-ray that might be read as a "normal study" by a medical physician might be read by a chiropractic doctor as negative for tumor or fracture, but with evidence of early disc degeneration, weight-bearing abnormalities, and regional rotation of spinal segments that may be interfering with optimal function of mechanics, nerve function, or both. It's all a matter of training and perspective: If you bring your car to the best auto detailer, they're unlikely to comment on the engine compression or the chassis' alignment. Similarly, doctors of chiropractic cast their specially trained eyes upon diagnostic images to seek out their areas of specialty: the spine and nervous system. There are specialty-trained chiropractors who read diagnostic images and do not treat patients; yet despite whether the radiologist is an M.D., D.O., or D.C., the same "read" should come out regarding life-threatening conditions. The difference is in the subtle -- and sometime, not-so-subtle -- nuances of the chiropractic specialty training.

When can you expect to be "imaged?" The answer is simple: If and when you need it. "Guessing" is unacceptable. If your chiropractor's techniques require it, you can expect diagnostic imaging to be used to document the condition of your spine, as well as problem areas. If you've experienced a physical trauma such as whiplash, x-ray is often a logical first-line diagnostic tool. Chiropractors may use special systems to compare your diagnostic images to established norms. For example, in the case of whiplash, your chiropractor may analyze every bone in your neck to be sure that it's moving properly (too much, or not enough).ⁱⁱ Only when armed with complete information will your chiropractor design a plan to address your unique needs.

Is diagnostic imaging necessary in all cases? Is it the final answer? Most experts would agree that diagnostic imaging needs to be used judiciously. The right tool needs to be used for the job (think of how ridiculous it would be to use a telescope when searching for underground power lines). Though we're all curious to see what's inside, diagnostic testing is to be carefully selected so that each test's unique advantage can be exploited. Your chiropractic doctor may order advanced tests, but he or she will never forget that diagnostic imaging is not the be-all and end-all. Two well-trained hands, guided by a highly trained mind, are still the main tools the chiropractor will use to find and address your unique needs.

ⁱ <http://www.aip.org/history/curie/resbr1.htm>

ⁱⁱ Dvorak et al. "Functional Radiographic Diagnosis of the Cervical Spine: Flexion/Extension. Spine, 1988; 13:748-755.



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