

MEDICAL ADVISORS, INC

TECHNICAL NETWORK CONSULTING SERVICE®

THREE DIMENSIONAL RECONSTRUCTION

Medical Aspects of Three Dimensional Reconstruction
By Radiologist in Delaware

Over the past decade, medical imaging with three dimensional reconstruction (rendering) has become a valuable tool for not only the radiologist in diagnosing various pathologic conditions throughout the body, but more recently as an adjunct for the attorney in demonstrating the specific etiology for the pain caused by a particular injury. The concept of three dimensional imaging has been utilized to detect and confirm subtle findings suggested on more common 2-D images. This concept starts with a two dimensional CT or MRI image and then we stack contiguous two dimensional images in various planes which are modified by software algorithms via a highly sophisticated work station monitored by experienced technologists and radiologists who analyze the images of the desired area. Conventional medical imaging techniques such as CT and MRI are used for diagnosis and treatment of different types of injuries or illnesses but with the additional three dimensional reconstruction we can now visualize the particular body part in exquisite anatomical detail rather than in a two dimensional plane. Three dimensional volume rendering offers forensic views of just about any part of the body to present visible proof of the area of injury that can readily be seen and easily understood by members of the jury.

It is difficult to explain to laymen various pathologic findings on conventional two dimensional CT or MRI images; however, if we present a three dimensional view of the area of concern it allows the lay person to better understand the injury. The accuracy of three dimensional reconstruction has improved considerably over the past several years because the resolution of the more conventional 2 D images has continued to improve. The construction of the 3 D images varies greatly depending on the 2-D images that are available. Additionally, when we only have a few 2-D images to reconstruct, more time and expertise is needed to obtain better 3-D images by manipulating the highly technical advanced software. Subtle fractures of the extremities especially the joints (shoulder, hip, knee and ankle) provide a nice example of 3 D images for trial lawyers to utilize in court in demonstrating to the jury that this fracture is the cause of the patient's pain. The fracture line is easier to see and allows the injury or area of pathology to become more vivid.

Examples of fractures of the ankle or wrist can be easily demonstrated with 3 D reconstruction. Disc herniations are better demonstrated and show extension into the neuroforamen causing pressure on the exiting nerve roots that can be more readily appreciated by the jury. Lung tumors as well as abdominal and head and neck cancers can also be better utilized with 3-D imaging showing the pathology much more clearly for the jury to understand.

There are numerous experts who are more than willing to provide testimony for medical malpractice and personal injury litigation cases. Finding the right one is crucial to the strength of your particular case.

Since 1983, Medical Advisors has assisted in the selection of expert witnesses in several thousand cases. Working with plaintiff and defense bar, we have provided medical opinions and testimony which have resulted in competent preparation and in-court support for cases involving medical malpractice, hospital negligence, personal injury, workers' compensation and product liability.

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