

Understanding Back Pain

Referred Pain

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The human nervous system is extremely complex. Pain impulses arrive from different locations of the body may converge on the same area of the spinal cord or brain leading to some overlap in the perception of pain. This mechanism can lead to confusion about the primary source of pain. For example, some of the nerves from the left arm, shoulder and jaw converge on the spinal cord in the same area with nerves from the heart. The pain associated with heart disease (angina pectoris) may be perceived as being distant from the heart being felt in the jaw, left shoulder or in the left arm. This also occurs with spinal problems. At each level of the spine, the intervertebral disc, the spinal joints (facets) and the nerve roots are supplied by sensory nerves that transmit the sensation of pain to a similar central pathway in the spinal cord. Inflammation and pain involving any of these spinal structures can lead to the feeling of generalized discomfort or pain over the involved spinal region making it somewhat difficult for a physician to narrow down the primary source of pain.

Pain, which radiates down into the leg is referred to as sciatica. In some cases pain in the leg may represent referred pain originating from inflamed structures of the low back and in other cases it may be the result of compressed or damaged nerve in the back with radiating nerve pain. There are many causes of leg pain that are not associated with the spine.

Heart disease and mid back problems can both result in mid-back discomfort or pain. Some people die because of unrecognized heart disease, because they did not feel pain in their chest. Some of these people believe they have a shoulder problem or possibly a pinched nerve in the neck and, therefore, do not follow through for a timely and aggressive cardiac workup. A comprehensive examination with a good history and appropriate imaging studies may be necessary to help differentiate the cause of referred pain. There are many internal medical conditions, which can refer pain to the back. Diseases of the chest and upper abdominal region can refer pain to the mid-back. Diseases involving structures of the lower abdominal area or pelvic region tend to refer to the low back.