

# Evaluating Chronic Pain Patients Using Methods from Johns Hopkins Hospital Physicians

BY gcb' <YbX'Yf'

reproduces the pain the patient normally feels) on multiple discs in each patient. Ynfound that for discs with negative discograms, 37% were reported as abnormal on MRI [16].

Another anatomical assessment is vertebral body endplate signal intensity changes on magnetic resonance (MR) images. YgY are one of several bX|b|g a radiologist uses to diagnose degenerative disk disease and spondylosis of the lumbar spine. YgY signal intensity changes were fgh described and Wgg| YX by Modic et al. [17].

ca dg|bz and his colleagues found that Modic type 1 changes had a high correlation with a positive provocative discogram [17]. Y Modic type 1 vertebral body endplate change seen on MRI is described as endplate neovascularity which is hyperintense on T2-weighted images and hypointense on T1-weighted images [17]. |gradiological bX|b| is c Yb missed by less experienced radiologists

Additionally, Braithwaite studied 90 patients using both MRI and provocative discograms. In the patients with positive provocative discograms, only 23% had Modic changes on MRI and 77% had no changes in MRI [18]. YfYZ:fYZ Braithwaite found a 77% false negative rate for MRI. Sandhu, and his group at Cornell, studied 53 patients with severe neck pain using both MRI and provocative discograms. Of these patients, 79.5% with concordant pain on provocative discograms had no endplate changes (Modic) on T1 and T2 MRI images [19].

YfYZ:fYZ in this study, the MRI has a 79.5% false negative rate.

YgY studies Wb fa that MRI is of little use in determining which cervical or lumbar disc is damaged, since MRI has a 28%-37% false positive rate (28%-37% of the time the MRI tells you something is wrong when there is nothing wrong), and a 77%-79.5% false negative rate (77%-79.5% of the time, the MRI reports nothing is wrong when there is something wrong).

Y explanation for this type of error is simple. A disk is like a jelly doughnut, with the jelly being analogous to the nucleus pulposa, and the that doughnut portion being analogous to the annulus [20].

Yannulus has pain Vf|g in the rear one 1/3 of doughnut portion

applied, the patient will continue to have pain. Only 3% of the patients told that they had RSD actually had just this disorder [8].

The clinical features of CRPS or RSD are very discrete, and have been well described. The pain must have both thermal and mechanical allodynia. Allodynia is defined as a painful response to a normally non-painful stimulus. It is mistakenly called hypersensitivity, but this is not allodynia. Typically, the RSD limb feels cold to touch, but subjectively may feel either hot or cold. Another essential clinical feature of CRPS or RSD is that observation that pain is in a circumferential distribution, which means the pain is equal all around a limb [8]. Unlike pain from nerve entrapment syndromes, where the pain is present in a discrete path of a well described sensory nerve, and CRPS has only mechanical hypersensitivity. The Hender test to differentiate RSD from nerve entrapment is simple and inexpensive. A physician uses an alcohol swab, and drops alcohol on the affected limb, and gently blows on it. If the patient says this is painful, then the patient has thermal allodynia. The cotton over alcohol pad is used to swipe the affected limb.

patient to ask the questions. It gives diagnoses with a 96% correlation with diagnoses Johns Hopkins hospital doctors [40].

Based on the proper diagnosis from the Diagnostic Paradigm, the

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