Kitson's line as a useful visual aid in spinal magnetic resonance imaging interpretation

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Interpretation of spinal magnetic resonance imaging is a difficult skill and one in which trainees often lack confidence. We have developed a quick and reproducible means of diagnosing pathology by dividing a T2 weighted axial image.

Kitson's line is drawn through the midline of the disc or vertebral body, extending through the canal to the tip of the spinous process, thus bisecting the axial image. The same applies if there is vertebral rotation due to scoliosis.

This is useful to highlight canal asymmetry and immediately reveals unilateral stenosis. Figure 1a shows a diffuse broad-based disc bulge but when Kitson's line is added (Fig 1b), thickening of the ligamentum flavum and facet joint hypertrophy are more clearly seen causing left-sided canal stenosis. Figures 2a and 2b show use of the line in an 88-year-old patient with a degenerative lumbar scoliosis with left-sided canal stenosis at L1/L2.

Figure 1a Axial T2 weighted image through the lumbar spine at the L5/S1 level

Figure 2a Axial T2 weighted image through the lumbar spine at the L1/L2 level in an 88-year-old patient with a degenerative lumbar scoliosis

Figure 1b Kitson's line (A) showing flavum hypertrophy (B) and facet joint hypertrophy (C) resulting in left-sided lateral canal stenosis

Figure 2b Kitson's line (A) revealing combination of degenerate disc, facet joint arthropathy (B) and scoliosis leading to left-sided lateral canal stenosis