

The C.H.R.I.S. (Chin Hip Rib Impaction Syndrome) Theory of Back and Lower Limb Injuries. An Anthropometric and Biomechanical Study That Supports the Theory.

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A history of Back Pathology was shown in the Western Australian Sports Injury study 2001 to be a significant predictor of sports injury incidence. The aim of this study is to examine 40 people who present with back pathology and musculo-skeletal problems for which the C.H.R.I.S. theory may be a contributing factor. Height and weight is measured and the width of the gap between the 11<sup>th</sup> rib and the iliac crest is measured with callipers in the supine position. Callipers are also used to measure skin fold thickness. These measurements are added together to give a total gap between the two bones. The results are charted for discussion. The soft tissues around the area of the tip of the 11<sup>th</sup> rib, iliac crest, lower costovertebral joints and sacroiliac joints are palpated for tenderness as evidence of impaction and biomechanical consequences predicted by the theory. The results show that all predicted tender areas were in fact present in all cases and the average gap between the 11<sup>th</sup> rib and the iliac crest in this population is approximately 53.8 mm in the supine position. The size of the gap and the pattern of tender areas and myofascial trigger points found is consistent with the fact that the ribs are impacting on the iliac crest. Further study into the practical application of these results to area of sports injury prevention, sports performance and extrapolation to the public health arena of back pain management and falls prevention is warranted.