

### **THE DEVELOPMENT AND VALIDATION OF A NEW COLOUR VISION SCREENER FOR USE IN OCCUPATIONAL HEALTHCARE AND VISUALLY DEMANDING OCCUPATIONS**

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The use of colour coding in transport and other visually demanding working environments has increased significantly in recent years and it has become more important to be able to screen efficiently for colour vision deficiency. The Colour Vision Screener (CVS) test was developed to address the issues present in conventional methods of colour vision screening which often fail to pass all normal trichromats and correctly identify those with congenital and / or acquired colour vision deficiency. A multi-centre study was carried out to validate the CVS and establish the test-retest reliability, sensitivity, and specificity. These statistical measures were then compared to the 'gold standard' reference for screening for red/green congenital colour vision deficiency - the Ishihara pseudoisochromatic plate test. Results from an exploratory study indicated that only a small percentage of those with congenital colour vision deficiency are expected to pass the CVS (~0.5% of deuterans and less than 0.1% of protans). The CVS test was found to have high test-retest reliability, sensitivity, and specificity. Critically the results of the multi-centre study demonstrate that CVS can achieve a high sensitivity without sacrificing specificity.