



## The Police Rehabilitation Centre

Report on a Chronic Low Back Pain Study undertaken by Ashley Gray and Diana Lascelles Senior Physiotherapists at The Police Rehabilitation Centre, Flint House.

**A recent 12 month study into the impact of the treatment received at Flint House for chronic low back pain revealed a sustained improvement in those patients who took part in the study. The average improvement was greater than expected, when compared to information gained from medical literature.**

This study suggests that officers attending Flint House will enjoy improvement in their symptoms and that this improvement is sustained in the long term. On all measures undertaken in the study there was a statistically significant improvement in pain, function and quality of life (when measured by certain indices). This improvement was sustained at three months and six months post discharge. The improvement was significantly higher than that predicted from the literature. There also seemed to be a trend toward improvement in return to work status but the number of patients in this category was too low to draw a definitive conclusion. Time delay from onset of low back pain to treatment had no correlation to the effectiveness of the treatment protocol, indicating that patients who have long term chronic low back pain should enjoy the same results as those whose pain is relatively recent giving hope to patients on recuperative and restricted duty alike.

### **Background and Purpose**

Chronic low back pain (cLBP) is the major musculoskeletal cause of loss of work days in the police force (Winsor, 2012) and one of the major causes of officers being placed on recuperative and restrictive duty. The purpose of this study was to investigate the effect, both short term and long term, of the treatment regime at Flint House Police Rehabilitation Centre on cLBP. Principally of a two week intensive intervention on pain levels, functional status and quality of life (QoL) at 2 weeks, 3 months and 6 months post treatment.

## Method

The study was a prospective audit of outcome measures for 130 cLBP patients attending Flint House Police Rehabilitation Centre for a two week course of intensive rehabilitation. Patients were audited using the Oswestry Disability Questionnaire (ODQ) for function, the Numerical Rating Scale (NRS) for pain levels and the EQ5D-5L for QoL. These were measured on day 1 of their treatment; then again at two weeks immediately post treatment. Postal questionnaires were then sent at 3 months and 6 months post discharge from Flint House. The data generated was compared to pre-treatment levels to analyse the overall effect of treatment.

## Results

Overall there was a significant reduction in 'average pain' post treatment as measured on the NRS. This was, in turn, compared to the Minimal Clinical Improvable Difference (MCID) gained from medical literature. The MCID is a statistical way of indicating when the patient starts to notice that an improvement, as a result of treatment, is taking place. So we want to achieve a result that is equal to or above that level, if possible.

The NRS MCID predicted that the average reduction in pain will be 30%, however our results show a significantly greater improvement, in our patients, of 53% at 2 weeks, 50% at 3 months and 52% at 6 months. The level of 'worst pain' also improved significantly more than the 30% the MCID predicts with 43% at 2 weeks, 43% at 3 months and 42% at 6 months. 'Least pain' also showed a significantly greater reduction of 46% at 2 weeks, 46% at 3 months and 43% at 6 months ( $P < 0.05$ ).

The data also showed a significant improvement in functional status as measured with the ODQ. The ODQ MCID predicted an improvement in functional status of 30%, and once again our data exceeded this to a significant level with 44% at week 2, 42% at month 3 and 44% at week 6 ( $P < 0.05$ ).

The EQ5D-5L which measures overall quality of life showed a significant improvement of 17% at week 2, 15% at month 3 and 14% at month 6 ( $P < 0.05$ ). A Visual Analogue Scale also showed a significant improvement of 18% at week 2, month 3 and month 6 ( $P < 0.05$ ). No MCID exists for the EQ5D-5L.

An audit of the treatment given revealed that education and exercise were given to 100% of patients, manual therapy was given to 95.39% of patients, acupuncture and thermal modalities were given to 20% of patients and electrotherapy was carried out on 0.77% of patients. The timescale was limited to two weeks and treatments were given in parallel rather than one after the other which would be the case in patients attending treatment outside of a residential rehabilitation centre like Flint House.

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