

CERVICAL PAIN: A COMPARISON OF THREE PILLOWS.

Robert A. Lavin MD, Marco Pappagallo MD, Keith V. Kuhlemeier PhD

From the Department of Physical Medicine and Rehabilitation (Drs. Lavin, Kuhlemeier) and Department of Neurology (Dr. Pappagallo), The Johns Hopkins University School of Medicine, Baltimore, MD, USA

Abstract:

Objectives: To compare three pillows with regard to pain intensity, pain relief, quality of sleep, disability, and overall satisfaction in subjects with benign cervical pain. The three pillows evaluated were the subjects' usual pillow, a roll pillow and a (Chiroflow) water-based pillow.

Results: The (Chiroflow) water-based pillow was associated with reduced morning pain intensity, increased pain relief, and improved quality of sleep. The duration of sleep was significantly shorter for the roll pillow. Overall SIP (Sickness Impact Profile) findings showed a significant advantage for the (Chiroflow) water-based pillow over the roll pillow and standard pillow.

Conclusions: Proper selection of a pillow can significantly reduce pain and improve quality of sleep.

Results:

There was a significant effect of pillow type on morning pain intensity scores ($p < .01$), but not evening pain intensity scores ($p > .01$). Turkey's tests for multiple comparisons revealed that pain intensity in the morning was not different for the roll and standard pillows ($p > .05$) but less with the (Chiroflow) water-based pillow than either the roll pillow ($p < .005$) or the standard pillow ($p < .025$). Average pain relief was influenced by pillow type in the morning ($p < .01$) and the evening ($p < .05$) with greater pain relief being seen in patients using the (Chiroflow) water-based pillow compared to patients using the roll pillow.

The daily sleep questionnaire results...In all five items surveyed, the rank order from best to worst was: (Chiroflow) water-based pillow, roll pillow, then standard pillow. The rank order was worse than average in all five items for both the standard and roll pillows. In contrast, the (Chiroflow) water-based pillow was significantly better than average in overall sleep quality ($p < .01$) and perception of sleep compared to normal ($p < .005$).

Discussion:

In this crossover study, the (Chiroflow) water-based pillow was consistently associated with statistically significant improvements in the overall quality of sleep in the SIP and sleep questionnaire. The (Chiroflow) water-based pillow pain relief and morning pain intensity mean VAS scores were consistently better than the other pillows...

Consequently, adequate head and neck support during sleep might have a beneficial carryover effect on daytime pain relief. Possibly the significant improvement in the physical dimension score and the home management subscores for the (Chiroflow) water-based pillow on the SIP may reflect this phenomenon.

Studies by Nicassio and Wallton found that enhanced quality of sleep may also help an individual to improve coping skills and to better deal with associated stress. The presumed positive effects of the (Chiroflow) water-based pillow may be due to its ability to spontaneously conform to the position of the head and neck. The polyester fiber is compressed by the head and neck, and it transfers this weight to the supporting non-compressible water-filled pouch. This water-filled pouch spontaneously redistributes the weight of the head and neck during changes in sleep positions. The movement between the head and the fluid-filled pouch may also be dampened by the compressible polyester fiber. The flat surface of the bed was considered to be important for maintaining the appropriate orientation of the pillow during use.