

# Backhealthy men, 45–55 years old, their characteristics and environment compared to men with intermittent and chronic low back pain

## A cross-sectional study

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The aim of the present study was to identify and investigate men with healthy low back, with respect to individual, occupational and social characteristics and to compare them to men with intermittent and chronic LBP. The criteria for low back health were stringent and verified through questionnaire, clinical evaluation, interview and records from Social Insurance Office.

Study I (n=2 782) and II (n=21) were conducted to collect background information of backhealth and to determine variables and methods to use in Study III-VII. Study I and II confirmed that there were men with healthy LB and that they distinguished themselves with respect to certain workplace and lifestyle factors. Subjects in studies III-VII were recruited from a larger manufacturing industry (n=1100) and from the outpatient clinic at the Department of Orthopedics, Karolinska Hospital. Included in the studies were 150 men 45–55 years old, divided into 3 groups according to low back status: Healthy LB (Group 1), Intermittent LBP (Group 2) and Chronic LBP (Group 3).

Individual characteristics investigated were anthropometry, spinal mobility and configuration, flexibility of hamstring muscles, trunk strength and endurance, cardiovascular capacity, lifestyle and personality. Occupational factors studied were perceived and expert assessed physical workload and perceived psychological workload. Social factors such as marital status, economy, educational level, and LBP in family were collected. Spinal canal width, cross-sectional area and density of erector spinae muscles, bone mineral content and blood analyses of factors related to bone metabolism were investigated in a random sample (n=77).

There were no differences between any of the study groups with respect to anthropometry, cardiovascular capacity, and bone mineral content. The healthy LB group had the lowest level of osteocalcin which was the only distinguishing factor related to bone metabolism.

The healthy LB group performed the best in strength, endurance and mobility tests. They perceived their physical workload as less in comparison to the 2 control groups and had been exposed to less physical workload according to expert assessment. They had the most positive perception of present and future health and they perceived the lowest level of muscle tension. The greatest differences were seen between the healthy LB group and the chronic LBP group while the results from the intermittent LBP group fell in between.

This study concludes that there are men 45–55 years old who have healthy LB and that they have special individual and occupational characteristics while social factors mostly are insignificant. The deconditioning syndrome in relation to severity of LBP is supported. This study suggests that perception of physical workload and level of muscle tension should be considered in prevention of recurrency and chronicity in LBP subjects.