Spinal kinematics and chronic low back pain.

Although chronic low back pain (CLBP) is a common medical condition, with major societal repercussions, its pathomechanism is still poorly understood. The contemporary understanding of CLBP suggests a multidimensional nature of the condition, particularly an interrelation between psychological and physical factors. This doctoral project aims at better understanding some underlying mechanisms in this complex condition, focussing on one possible cause of persistence of symptoms and disability in CLBP, spinal kinematics alterations (spinal movements). Furthermore, it aims at examining the relationship between spinal kinematics and psychological factors, such as kinesiophobia.

General objectives:

1) To improve our understanding of spinal kinematics alterations in CLBP patients.
2) To analyse the association between spinal kinematics and pain or disability.
3) To analyse the association between psychological variables and spinal kinematics.
4) To develop strategies to improve spinal kinematics in CLBP patients.

Methods:

Pain-free subjects and patients with chronic low back pain will come to a movement analysis laboratory several times (for some, before and after a multidisciplinary rehabilitation program). Sensors will be installed on the back of the participants and their spinal kinematics will be measured during various movements and activities of daily life (walking, getting up from a chair, ...).

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