CLINICAL INSIGHT: Myths of the Lumbar Spine

CLINICAL AND REHABILITATION SERVICES TEAM

In this week's Clinical Insight, we wanted to engage with some of the myths surrounding the lumbar spine that we sometimes encounter as clinicians.

Working with students in Clinical and Rehabilitation Services encourages us to think about, describe and interpret what we are doing every day as clinicians. This is great learning for both educator and student.

Our clinical discussion covered four topics regarding the lumbar spine and what we say and think in spinal pain. Here are some outputs:

MYTH ONE: Sitting for long periods is not good for our back and there is a 'right' position.

You are not going to do any harm in sitting other than being a little less healthy.

Slump, sit up, sit to the side: it's all fine if you remain comfortable. Being more variable is possibly linked to less pain whilst those with longer symptoms tend to remain in the same position.

There is not perfect way to sit: be comfortable and don't worry how it looks.

Further Reading:

Bontrup, C., Taylor, W.R., Fliesser, M., Visscher, R., Green, T., Wippert, P.M. and Zemp, R., 2019. Low back pain and its relationship with sitting behaviour among sedentary office workers. Applied ergonomics, 81, p.102894.

Hartvigsen, J., Leboeuf-Yde, C., Lings, S. and Corder, E.H., 2000. Is sitting-while-at-work associated with low back pain? A systematic, critical literature review. Scandinavian journal of public health, 28(3), pp.230-239.

MYTH TWO: Palpating the spine and pushing down on it is a measure of spinal stiffness and pain from structure.

The depth of joints and transverse processes is too deep to palpate so gaining any knowledge of zygapophyseal joint movement through palpation makes little sense.

The possible response (described as stiffness) felt is possibly a muscular protective response rather than joint which can be due multiple reasons and contexts. You can't feel the joints.

Further Reading

Kawchuk, G.N., Prasad, N., Parent, E., Chapman, S., Custodio, M., Manzon, M., Wiebe, A. and Dhillon, S., 2011. Spinal landmark depth in relation to body mass index. Manual Therapy, 16(4), pp.384-387.

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MYTH THREE: When someone bends forward you can assess lumbar flexion.

Bending forward involves numerous mechanisms, and although it includes the lumbar spine to a greater or lesser degree, it is just a test of how someone moves and feels about it. It is not lumbar flexion per se.

When rehabilitating bending, working on shifting the centre of gravity is perhaps a better reference rather than over-focusing on the specific lumbar spine mechanics.

There are multiple reasons and contexts for lacking bending forward – the skill is to work that out with the patient.

Further Reading:

Alexandrov, A.V., Frolov, A.A. and Massion, J., 2001. Biomechanical analysis of movement strategies in human forward trunk bending. I. Modeling. Biological cybernetics, 84(6), pp.425-434.

Mok, N.W., Brauer, S.G. and Hodges, P.W., 2011. Changes in lumbar movement in people with low back pain are related to compromised balance. Spine, 36(1), pp.E45-E52.

MYTH FOUR Spinal mobilisations mobilise the spine.

That depends on what you mean by mobilise. If the patient is moving then things are being moved, however if they are on their front and the clinician is pressing into their spine, then the joints as such are probably not doing much.

Pressing directly on them might move parts of them but not selectively. The changes you feel are a tissue "stiffness" response which inherently is a tonal response.

The mechanism for this is not known and is once again multi-factorial and context specific. Pain and tone probably link together as protection: if less protection is needed, we see less tone and stiffness etc.

Further Reading:

Hamilton, R.I., Garden, C.L. and Brown, S.J., 2022. Immediate effect of a spinal mobilisation intervention on muscle stiffness, tone and elasticity in subjects with lower back pain–A randomized cross-over trial. Journal of Bodywork and Movement Therapies, 29, pp.60-67.

McGregor, A.H., Wragg, P. and Gedroyc, W.M.W., 2001. Can interventional MRI provide an insight into the mechanics of a posterior–anterior mobilisation?. Clinical Biomechanics, 16(10), pp.926-929.

McGregor, A.H., Bull, A.M.J., Lee, R. and Wragg, P., 2004. Dynamic response of the human spine to anteroposterior mobilisation manual therapy: an interventional magnetic resonance imaging study. Physiotherapy, 90(3), pp.165-166.

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