

Our occupations are a key defining feature in our everyday lives. We spend majority of our week there, and this takes a toll both mentally and physically. The nature of your occupation may place you at a high risk for musculoskeletal disorders, and combined with other comorbidities and risk factors the workplace can become a hazard in itself. In general, smoking, employed less than a year, working longer hours, and having 2 or more jobs are risk factors for injury at work (1). Complimentary to this, overweight and obese workers are 26% and 45% more likely to experience a workplace injury respectively (1).

Arguably the most common injuries occur in the lower and upper back, with high risk factors in the occupations of manufacturing, clerical, and nursing (3). The percentage table can be seen in Table 1.

	Manufacturing	Clerical	Nursing	Others
Stiff shoulder (m)	87%	86%	83%	80%
Stiff shoulder (f)	69%	96%	72%	88%
LBP (m)	72%	79%	79%	81%
LBP (f)	69%	78%	71%	100%

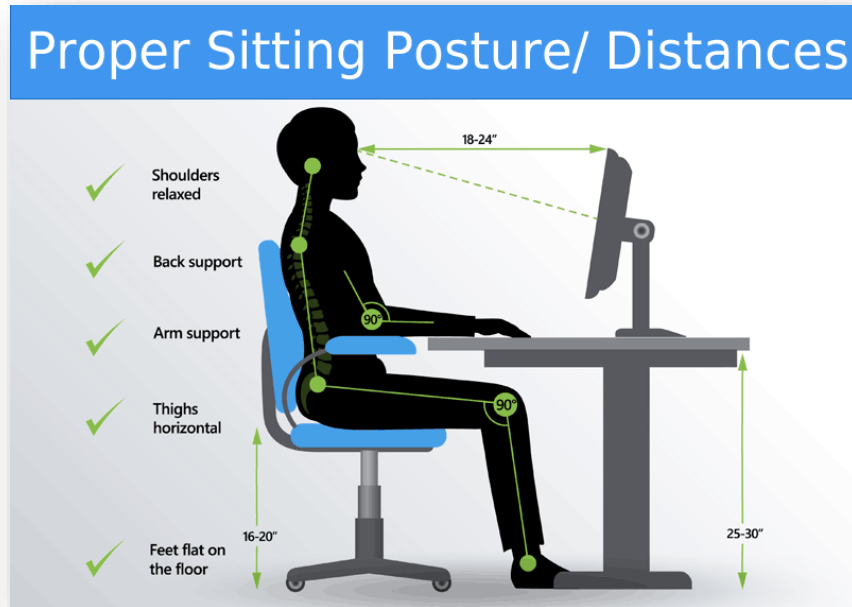
Table 1: Percentage of individuals with stiff shoulders/lower back pain by occupation and gender

Complimentary to this, risk factors for lower back pain can be identified as not only lifting heavy loads repeatedly (45.5% of manual workers), but combined with awkward lifting posture (86.4% of manual workers) (2).

Despite all the risk factors associated with occupational injury, there is two definitive protective factor; exercise and workplace modification. Exercise has been shown to reduce the intensity of lower back pain and stiff shoulders (3). By targeting the core muscles of the abdominals and spine stabilisers, pain can be reduced and mobility improved. See the article “Lower back pain” for specific exercises to treat lower back pain.

There are many ways to modify a seated position station. The guidelines for correct station positioning are as follows;

- Seat height allows free-movement of lower limbs to reduce separation of upper and lower halves
- Elbows parallel with table height to reduce lumbar lordosis and thoracic kyphosis
- If possible, sloped desk to assist in the ease of fine motor skills
- Focal distance of 20-40cm to reduce neck and eye strain
- Focal angle to be level with top of screen, allowance of 15-20 degrees downwards



Adjustment to the chair of the workstation alone is enough to reduce musculoskeletal pain immediately after intervention (4).

There are also guidelines for how a workstation should be set up, these are known as the reach guidelines. For highly repeated tasks, objects should be placed within 35-45cm of the individual. Less common tasks can be located a little further out at 55-65cm. In total, your reach should not exceed 50cm. These recommendations are so that the worker does not overreach, placing excessive strain on the back.

For injuries related to seated positions, The RISE health club runs DeskFit with Joel. These small group training classes aim to improve functional strength and mobility of the core and upper back, and strengthening the muscles that tend to be ignored in a seated role. For injuries from manual handling roles, FMS with Steve is recommended. There, our rehab specialist can identify specific areas to be improved upon, and aid in recovery from musculoskeletal injuries and ailments to improve lifting and carrying technique.

For further information, contact the RISE on 9208 2415, Bayswater Waves on 9276 6538, or pop in to consult with our qualified trainers.

## References

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2. Lukman, K.A., Jeffree, M. S., & Rampal, K.G. (2018). Lower back pain and its association with whole-body vibration and manual materials handling among commercial drivers in Sabah. *International Journal of Occupational Safety and Ergonomics*, 25(1), p.8-16. DOI: 10.1080/10803548.2017.1388571
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4. Van Niekerk, S.M., Louw, Q.A., & Hillier, S. (2012). The effectiveness of a chair intervention in the workplace to reduce musculoskeletal symptoms: a systematic review. *BMC Musculoskeletal Disorders*, 13(145). DOI: 10.1186/1471-2474-13-145