



## Psychosocial Factors & Musculoskeletal Injuries

Psychosocial risk factors in the workplace can affect not only one's mental health, but can also increase the risk of musculoskeletal injuries (MSIs). The term "psychosocial factors" refers to the **non-physical aspects of the job** including both the objective demands as well as the employee's subjective assessment of his/her ability to perform those demands.

### Psychosocial Risk Factors

- Time Pressure
- Role Ambiguity
- Monotonous Work
- Emotionally demanding
- Unfavourable environment

### Protective Factors

- ✓ Autonomy
- ✓ Rewards/Recognition
- ✓ Co-worker/Supervisory support

Positive psychosocial factors can have a positive effect in reducing the risk of musculoskeletal injury (MSI) while negative psychosocial risk factors have the potential to increase MSI risk through both physiological and behavioural changes.

The physiological changes are complex, but in essence the initial stages of a stress response are characterized by high levels of hormone production, energy release, muscle tension and increased heart rate (Selye 1956 in Smith & Carayon 1996). For example, a lot of us experience increased tension in the upper trapezius musculature, located at the base of the skull to the tip of the shoulder, when we are under stress. This response occurs unconsciously for most people, but we can learn to mitigate it by becoming more aware of what our bodies are telling us. The next time you are working under heavy time pressure, consider pausing momentarily to focus on your shoulders and make a conscious effort to relax them. Repeating this every 20 minutes can help you feel better at the end of the day. Unfortunately, this is difficult to put into practice when under pressure. Other physiological changes also are not so readily within our control. Hormone production may also affect not only our muscle tension but also our sleep patterns and thus may inhibit muscle tissue repair (Theorell 1996).

### How Psychosocial Risks Impact MSIs

#### *Physiology:*

- Increased cortisol levels
- Increased muscle tension (hiking shoulders)
- Increased mechanical load (pound keys harder)
- Sleep Disturbance

#### *Behaviour:*

- Skipping breaks (insufficient recovery time)
- Drinking too much caffeine, alcohol or smoking

Behavioural changes, such as skipping breaks and using more force than necessary, can occur when working under high workloads or time pressures. Think back to a time when you were frustrated or stressed; did you start pounding the keys harder or clench the steering wheel tighter? The combination of increased muscle tension, using more force than necessary to complete a task, poor sleep and insufficient recovery increases our risk of developing musculoskeletal injuries particularly if they occur in conjunction with physical risk factors such as repetitive movement.



The potential impact of these factors may be mitigated or exacerbated by the presence, or lack thereof, of suitable resources which include autonomy, supervisory and/or co-worker support and recognition/rewards, to name a few (Bakker & Demerouti 2007). Understanding the relationship of these factors can assist us in developing more successful musculoskeletal injury prevention programs. UBC provides Healthy Workplace Initiatives Program Funding (HWIP) to help departments/units address the unique demands of their workplace environments and cultures.

**Resources:**

| Staff & Faculty  | Students  |
|--|---|
| <a href="#">UBC EFAP Program</a><br>Employee & Family Assistance Program             | <a href="#">UBC Counseling Services</a> (Brock Hall)                            |
| <a href="#">Responding with Respect</a><br>Free interactive training for departments | <a href="#">UBC Mental Health Network</a>                                       |
| <a href="#">Thrive.ubc.ca</a><br>Building mental health at UBC                       | <a href="#">Thrive.ubc.ca</a><br>Building mental health at UBC                  |
| <a href="#">Healthy UBC Newsletter</a><br>Free Newsletter                            | <a href="#">Live Well to Learn Well</a><br>Student resources for healthy living |

**References:**

Bakker, A.B., Demerouti, E. (2007). The Job Demands-Resources model: state of the art. *Journal of Managerial Psychology*, 22(3), pp. 309-328

Smith, M. & Carayon, P. (1996), 'Ch.2-Work Organizations, Stress and Cumulative Trauma Disorders' In *Beyond Biomechanics-Psychosocial Aspects of Musculoskeletal Disorders*, Editors Moon, S.D. & Sauter, S.L., Taylor & Francis, London, pp. 23-42

Theorell, T. (1996). Possible mechanisms behind the relationship between demand-control-support model and disorders of the locomotor system. In Moon, S.D., Sauter, S.L. (Eds). *Beyond Biomechanics: Psychosocial aspects of musculoskeletal disorders in office work* (pp.65-74). London: Taylor and Francis.