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Dr. Jacob Lazarovic
SVP/Chief Medical Officer

WORK IS GOOD FOR YOU (MOSTLY)

TAKING OUR PULSE

It is generally-accepted, and evidence-based knowledge that it is important to return-to-work as soon as possible after an injury or illness, or even to attempt to stay-at-work throughout the healing process, if it is at all prudent and possible to do so.

As stated in this American College of Occupational and Environmental Medicine) guideline:

Urgency is Required Because Prolonged Time Away From Work Is Harmful

“Unnecessary prolonged work absence work can cause needless but significant harm to a person’s well-being. While on extended disability, many patients lose social relationships with coworkers, self-respect that comes from earning a living, and their major identity component – what they do for a living. Many key players in the stay-at-work/return-to-work process do not fully realize the potential harm that prolonged medically excused time away from work can cause. Many think that being away from work reduces stress or allows healing and do not consider that the worker’s daily life has been disrupted. With these attitudes, system-induced disability becomes a significant risk.”¹

However, as noted in a recent series of articles in the Journal of Occupational and Environmental Medicine, which we will review, there may be some conditions or risks (other than the obvious traumatic/musculoskeletal ones), which can arise from, or be exacerbated by, occupational demands. Paradoxically, some of these are related not to over-exertion, but to under-exertion.

JUST WHAT THE DOCTOR ORDERED

There has been significant research on the negative impact of a sedentary lifestyle, and the fact that many of us are predominantly desk-bound in our occupations. A just-published Chinese-American study has contributed to this literature by demonstrating that the risk of metabolic syndrome (MS) is **four times higher** in low-physical activity occupations, with a corresponding rise in the cardiometabolic risk score.²

Metabolic syndrome is a cluster of conditions — increased blood pressure, high blood sugar, excess body fat around the waist, and abnormal cholesterol or triglyceride levels — that occur together, increasing your risk of heart disease, stroke and diabetes.

Long working hours and their presumed correlation with stress and "burnout" have also been extensively evaluated. Burnout is characterized loosely as "emotional and mental exhaustion caused by excessive and prolonged stress." A recent JOEM article concludes that this phenomenon tends to occur when work hours exceed 40 per week, and particularly at 60 hours. Physical inactivity also contributes to burnout.³

Another article probed the very specific dose-response relationship between working hours and the incidence of cardiovascular disease (CVD). The authors determined that CVD risk rises above baseline levels at 46 hours per week, over a 10 year period, and that it increases incrementally at higher work hours per week.⁴

Finally, there has been long-standing concern about the impact of night and shift-work on overweight/obesity and consequent medical morbidities. However, a recent study discovered minimal impact on workers' weights, with one exception.⁵

In summary, recent data shows that while work contributes to health and productivity in many ways, we do need to be mindful of certain unfavorable aspects of work when it is excessive, unduly stressful, or promotes physical inactivity. Generally, measures can be taken to mitigate these risks in the workplace and ensure the optimal health status of employees.

CIRCULATING IN THE PRESS

Why is work important?

"An article by Harris in the *Journal of the American Medical Association* reconfirmed that workers receiving disability benefits recover less quickly and have poorer clinical outcomes than those with the same medical conditions who do not receive disability benefits. The researchers reported that 175 of the 211 studies meeting their inclusion criteria reported worse surgical outcomes for patients on workers compensation or involved in litigation. (Only one study reported better outcomes in compensation patients; 35 studies reported no difference.) Of the 86 studies that excluded patients in litigation, the odds of an unsatisfactory outcome were nearly four times higher for the patients on workers' compensation than for those not receiving compensation. These findings are similar to those of other studies, including two previous meta-analyses of outcomes studies, one for workers with chronic pain and the other for closed head injuries.

Early intervention is the key to preventing disability. Research confirms that people who never lose time from work have better outcomes than people who lose some time from work. Studies have shown that the odds for return to full employment drop to 50/50 after 6 months of absence. Even less encouraging is the finding that the odds of a worker ever returning to work drop 50% by just the 12th week. The current practice of focusing disability management effort on those who are already out of work rarely succeeds." ¹

Do sedentary occupations increase cardiometabolic risk?

“Objective: The purpose of the study was to examine the longitudinal influence of sedentary behavior on the development of metabolic syndrome (MS) and cardiometabolic risk in professional workers.

Methods: Study participants were 203 professional workers (55.6% female; mean age = 41.9, SD = 11.2) in low physical activity occupations. Participants’ height, weight, waist circumference, fasting plasma glucose, triglycerides, high-density lipoprotein, total cholesterol, and low-density lipoprotein were measured at the baseline and follow-up over 12 months. Accelerometry was used to assess the sedentary time and moderate and vigorous physical activity.

Results: High level of sedentary behavior at baseline significantly predicted incident MS (odds ratio 4.07, 95% confidence interval 1.69 to 9.76) at follow-up. Similarly, the change in sedentary behavior significantly predicted the change in the cardiometabolic risk score (B = 0.12, SE = 0.06, P = 0.03) from baseline to the follow-up.

Conclusion: Professional workers in low physical activity occupations were engaged in an excessive amount of sedentary behavior that predisposed them to an increased risk of development cardiometabolic disorders.

Sedentary behavior is an occupational health risk of cardiometabolic disorders for individuals in low physical activity occupations. Workplace health promotion must address sedentary behavior. Future studies should explore intervention options that provide low-intensity non-exercise activity options to reduce the harms of excessive sedentary behavior at the workplace.”²

Does “overtime” cause “burnout”?

“In summary, the present study showed that long working hours and burnout are correlated in a dose-response manner. This correlation was more obvious among those under 50 years old, among females, and among physically inactive employees. Although substantial challenges to causal inference remain, the study indicates that long working hours are significantly associated with burnout, especially in individuals who are physically inactive. This association exists for those working over 40 hours per week and is even stronger for those working over 60 weekly hours. Because the association between long working hours and burnout was similar to that found between long working hours and cardiovascular disease, burnout could be an early marker of the effect of long working hours on cardiovascular outcomes. The study results implied the importance of alleviating or preventing burnout to improve employee health. Our findings may also serve as potential evidence for an occupational control policy of limiting working hours to under 40 per week. Furthermore, physical activity may be an indispensable factor in occupational health promotions for burnout prevention. Future studies that correlate working hours and burnout with biochemistry parameters may provide more evidence regarding the association between working hours and burnout.”³

How long is too long?

⁴ TABLE 4. Risk of Cardiovascular Disease at Specific Average Weekly work Hour Durations Compared With the Risk at 45 Hours of Work per Week, on Average, for a Minimum of 10 Years, as Estimated From Cubic Spline Regression Equation: Panel Study of Income Dynamics, 1986-2011

Weekly Work Hours	Multivariate Model ^{*,†}	
	RR	(95% CI)
45	1.00	Referent
50	1.03	(0.96-1.10)
55	1.16	(1.02-1.32)
60	1.35	(1.07-1.72)
65	1.52	(1.10-2.10)
70	1.74	(1.14-2.64)
75	2.03	(1.19-3.48)

95% CI, 95% confidence interval; RR, relative risk.

* All calculations take into account clustering and probability weighting.

† Model adjusted for age, sex, race/ethnicity, and pay status (hourly vs salaried).

Does night/shift work have a negative impact on health?

“Objective: To prospectively study the association of night and shift work with weight change and lifestyle behaviors.

Methods: Workers participating in the Netherlands Working Conditions Cohort Study (2008 and 2009) ($N = 5951$) reported night and shift work, weight and height. Groups included stable night or shift work, from day work to night or shift work, from night or shift work to day work, and no night or shift work in 2008 and 2009. Regression analyses were used to study association changes in night and shift work with weight change and changes in lifestyle behaviors.

Results: A larger weight change was seen in normal-weight workers changing from day to shift work ($\beta = 0.93\%$; 95% confidence interval, 0.01 to 1.85) compared with stable no shift workers. No further associations of night and shift work with weight change were observed, neither in normal-weight, overweight, and obese workers.

Conclusions: Despite the fact that starting night or shift work is associated with some unhealthy lifestyle habits, this study did not confirm a positive association of night and shift work with weight change over 1 year, except for normal-weight workers moving from day to shift work.

This study did not confirm an association of night and shift work with weight change over 1 year, except for normal-weight workers moving from day to shift work. Some changes in lifestyle behaviors were associated with changes in night or shift work that apparently did not lead to the assumed weight gain. Future studies into the effects and behavioral mechanisms using objective data and more detailed night and shift work data over a longer time frame are needed to get insight into the health risk of night and shift work.”⁵

REFERENCES:

- 1) “Preventing Needless Work Disability by Helping People Stay Employed”, ACOEM Guideline, Copyright 2006 by American College of Occupational and Environmental Medicine.
- 2) “Sedentary Behavior Predicts Changes in Cardiometabolic Risk in Professional Workers: A One-Year Prospective Study”, Zhou, et al, *Journal of Occupational & Environmental Medicine*, April 2016 – Volume 58, Issue 4, p. e117-e123.
- 3) “The Associations Between Long Working Hours, Physical Inactivity, and Burnout”, Nien-Chih Hu, MD, et al, *Journal of Occupational and Environmental Medicine*, May 2016, Volume 58, Number 5.
- 4) “Dose-Response Relation Between Work Hours and Cardiovascular Disease Risk”, Sadie H. Conway, PhD, et al, *Journal of Occupational and Environmental Medicine*, March 2016, Volume 58, Number 3.
- 5) “Relationship of Night and Shift Work With Weight Change and Lifestyle Behaviors”, Bekkers, et al, *Journal of Occupational & Environmental Medicine*, April 2015, Volume 57, Issue 4, p e37-e44.