

THE COLLEGE OF
FAMILY PHYSICIANS
OF CANADA



LE COLLÈGE DES
MÉDECINS DE FAMILLE
DU CANADA

OCCUPATIONAL MEDICINE • MÉDECINE DU TRAVAIL



Occupational Medicine

Table of Contents

- 1 Introduction
- 4 Identifying Occupational Health Hazards
- 6 Concussion in the Workplace
- 7 Taking an Occupational History
- 9 Making Sick Notes Work for You and Your Patient
- 10 The Medical Benefits of Work
- 11 The Family Physician's Role in Return to Work

Disclaimer: Please note that this newsletter/communication has been developed by the volunteer members of the Occupational Medicine Community of the Member Interest Groups Section (MIGS) of the College of Family Physicians of Canada (CFPC) with administrative support from CFPC staff. The newsletter content is provided for the express purpose of conveying information and opinions relevant to the Occupational Medicine (MIGS) domain of practice to other CFPC members and health professionals. It is not to be considered as medical advice. Content does not necessarily reflect the interests or positions of the CFPC.

Introduction

Dear colleagues,

Thank you for reading the College of Family Physicians of Canada (CFPC)'s Occupational Medicine Snippets. They were developed and written by members of the CFPC Occupational Medicine Community to share with the members of our Member Interest Groups Section (MIGS). We try to make the snippets brief, relevant, and practical, and they are sent out to members on a regular basis, who can provide comments and feedback whenever they desire. Feedback from readers so far has been positive, with comments indicating that the information is useful for their practices.

We have compiled many of our snippets into this eBook and hope you find them helpful as you manage occupational medical issues, whether you are in a family medicine office, in industry, or in any other health care setting. This collection includes snippets written in collaboration with groups such as the [Occupational and Environmental Medical Association of Canada](#), the [Occupational Medical Medicine Specialists of Canada](#), and the [Canadian Board of Occupational Medicine](#), as well as other CFPC Member Interest Groups.

If you are a CFPC member and wish to join our community, please visit [Member Interest Groups Section](#) pages on the CFPC website for more information.

Thank you for caring about your older patients.

Joel Andersen, MSc., MD, CCFP, FCBOM
Chair, Occupational Medicine Program Community

List of Contributors

Name	Role	Timeline
Dr. Douglas Hamm	Academic Representative	2015 – 2018
Dr. Ron Gorsche	BC/AB Representative	2015 – 2018
Dr. Joel Andersen	Committee Chair	2015 – 2018
Dr. D. Burton McCann	Atlantic Representative	2015 – 2018

Identifying Occupational Health Hazards

Dr. Douglas Hamm

June 2017

Family physicians are skilled in determining health hazards for their patients related to personal lifestyles and other factors. However, assessing health hazards for a workplace population requires a different toolkit and approach.

An occupational health hazard is any agent, activity, or environment with the potential for adverse health outcomes. One of our key tasks in occupational medicine is identifying health and safety hazards in workplaces, which is foundational for assessing occupational health risks. Workplaces are diverse and their occupational hazards reflect their varied mix of processes, products, and services.

Traditionally, occupational health hazards have been categorized as:

- Physical: such as thermal, radiation (ionizing and non-ionizing), vibration, sound, ergonomic, electrical, built environment
- Chemical: such as gases, fumes, vapours, liquids, solids (dusts, fibres, metal and other particulates), pharmaceuticals, pesticides
- Biological: such as bacteria, viruses, fungi, parasites, plants and animals or their products, venoms, and toxins, humans
- Psychological: such as stress, fatigue, work-life conflict, harassment, adaptation issues

It's helpful to look at workplace hazards with these

broad categories in mind. It's also good to know as much as you can before visiting a work site about work processes, products, and the workforce's organization, demography, and corporate occupational health history (e.g., patterns of illness, injury, absenteeism, short and long term disability).

You can learn a lot about the hazards of a workplace by keeping a checklist of key topics in mind as you go through the site. Talk to managers and employees about their work. Pay attention to signage, lighting, people and equipment traffic, materials storage, physical and process organization, clutter, safety equipment, and the flow of materials and waste. Use your senses of sight, sound, and smell as you go through a workplace. Ask to see Material Safety Data Sheets (MSDSs) for chemical hazards. Are employees working at desks, service counters, or on assembly lines? Are they on the road doing sales work, policing, municipal infrastructure maintenance? What hazards might they face in jobs outside of a factory, office, or hospital?

There is surprisingly little in the literature or in standard occupational medicine textbooks about walk-through surveys for identifying occupational health hazards. Although it may be tempting to focus exclusively on chemical and physical hazards, also pay close attention to ergonomic and psychological hazards, which have become major causes of occupational illness and injury in our modern workplaces.

Categories of ergonomic hazards in the workplace^{2,3}

Workstation layout	Cognitive ergonomic factors	Built environment
<ul style="list-style-type: none"> • Access and reaching • Obstructions and clutter • Stability and adjustability (e.g., tools, displays, chairs) • Repetitive movements • Postures and positional awkwardness • Physical forces and durations of effort • Access and accommodation for people with disabilities 	<ul style="list-style-type: none"> • Degree of self supervision • Time or deadline pressures • Attention to detail • Multi-tasking • Distracting stimuli • Reading literacy • Numerical skills • Writing literacy • Memory • Computer skills • Ability to work cooperatively with others 	<ul style="list-style-type: none"> • Slipping, tripping hazards avoided • Proper storage of chemicals, gases • High voltage sources labelled • Machine guards • Proper lighting • Engineering controls for sound • Proper equipment maintenance

Categories of psychological hazards in the workplace^{4,5}

Task factors	Role factors	Organizational factors
<ul style="list-style-type: none"> • Workload or multi-tasking • Pace and peaks • Autonomy and control • Isolation • Shiftwork • Exposure to confrontation at work 	<ul style="list-style-type: none"> • Role ambiguity • Expectations • Responsibilities • Conflicting demands • Supervisory support • Training and skills development 	<ul style="list-style-type: none"> • Job security or satisfaction • EFAP and benefits plans • Labour relations climate • Corporate culture • Occupational health and safety standards/practices • Public or private sector

References

1. Moen EB. The Importance of Walk-Through Surveys at Workplaces. *Occup Med Health Aff* 2014;2(4):171. Available from: www.esciencecentral.org/journals/the-importance-of-walkthrough-surveys-at-workplaces-2329-6879.1000171.pdf. Accessed 2017 June.
2. City of Toronto. *Definitions and Rating Scales for the Behavioural/ Cognitive Demands Categories of the City's Job Demand Analysis (JDA) and Functional Abilities Evaluation (FAE)*. Toronto, ON: City of Toronto, Ergonomics Program, Occupational Health, Safety and Workers' Compensation. Available from: <https://tinyurl.com/y8fbqmb2> (preview <http://preview.tinyurl.com/y8fbqmb2>). Accessed 2017 June.
3. OSSTF/FEESO. *Inspection Checklist*. Toronto, ON: Ontario Secondary School Teachers' Federation; 2013. Available from: www.osstfd20.ca/PDFs/health-and-safety-inspection-checklist.pdf. Accessed 2017 June.
4. Occupational Health and Safety Teacher Resources. Chapter 7: Psychosocial Hazards. In: *Work Safe Alberta Occupational Health and Safety Teacher Resources*. Edmonton, AB: Ministry of Labour; 2011. Available from: <https://work.alberta.ca/documents/OHS-Teacher-Resource-Binder-Chapter07.pdf>. Accessed 2017 June.
5. CSA Group and BNQ. *Psychological health and safety in the workplace – Prevention, promotion, and guidance to staged implementation*. Ottawa, ON: Mental Health Commission of Canada; 2013. Available from: www.csagroup.org/documents/codes-and-standards/publications/CAN_CSA-Z1003-13_BNQ_9700-803_2013_EN.pdf. Accessed 2017 June.

Concussion in the Workplace

Dr. Ron Gorsche

December 2016

Concussions are the most common form of traumatic brain injury in workers: they made up 80 per cent of reports in Ontario in 2013. Most reports came from agriculture, mining, and forestry industries.

Concussions are the result of direct closed external head trauma, or any event causing acute motion change, that results in the forceful contact of the brain with the bony skull. They can be a complex set of neurological symptoms and signs related to a traumatic brain injury.

Following an event that produces a concussion there is an immediate reduction in cerebral blood flow and an increase in glutamate, glucose, potassium, and calcium levels. Glucose tends to normalize within 30 minutes then falls below normal for up to 10 days. Calcium then rises to up to 500 per cent of normal and can take up to six days to return to baseline.

Most mild traumatic brain injuries (mild concussion) resolve within hours or days. However, up to 80% of workers who experience moderate to severe concussion may develop post-concussion syndrome. The syndrome can involve a cluster of symptoms such as memory loss, headaches, vertigo, cognitive delay, anosmia, phonophobia, photophobia, anxiety, depression, and fatigue. Post-concussion syndrome following unconsciousness (severe concussion) usually lasts more than three months.

The sports concussion assessment tool (SCAT3) is recommended for the initial evaluation. Symptoms lasting more than three months require further investigation or referral. Diagnostic imaging is not recommended as results are often normal. Test results based on c-spine and Canadian CT rule guidelines should return as negative. An excellent clinical guide to signs and symptoms

common to all degrees of concussion was published in *Canadian Family Physician*.

Those diagnosed with a concussion should not return to work on the same day. The recommended duration of rest appears to coincide with neurobiochemical changes returning to normal. Current evidence does not support full physical and mental rest for longer than six days. Prolonged full rest may be detrimental to early and full recovery, and may increase the possibility of developing post-concussion syndrome.

Ask the following questions to help determine a worker's fitness for work and/or whether modified duties are required:

- Do your symptoms worsen with increase in physical activity?
- Do your symptoms worsen with increase in mental activity?

Workers with symptoms that are present but do not change with an increase in activity can begin a transition return to work. Workers with prolonged symptoms may require accommodations such as supervision, modified hours, work from home, reduction in sound, and modified work load or reassignment.

References

1. Giza C, Hovda D. The Neurometabolic Cascade of Concussion. *J Athl Train* 2001;36(3):228-235.
2. Satz P, Alfano MS, Light R, Morgenstern H, Zaucha K, Asarnow RF, et al. Persistent Post-Concussive Syndrome: A Proposed Methodology and Literature Review to Determine the Effects, if Any, of Mild Head and Other Bodily Injury. *J Clin Exp Neuropsychol* 1999;21(5):620-628.
3. Marshall S, Bayley M, McCullagh S, Velikonja D, Berrigan L. Clinical practice guidelines for mild traumatic brain injury and persistent symptoms. *Can Fam Physician* 2012;58(3):257-67.
4. Silverberg ND, Iverson GL. Is rest after concussion "the best medicine?": recommendations for activity resumption following concussion in athletes, civilians, and military service members. *J Head Trauma Rehabil* 2013;28(4):250-259.

Taking an Occupational History

Dr. Joel Andersen

August 2016

Taking an adequate occupational history is an important tool for identifying whether an illness or condition is occupational (ie, whether it is work related).

As with other medical history taking, two important lines of inquiry are questions designed to uncover the symptoms that may point to existing underlying pathology, and background information that may result in concluding there is a higher likelihood of the presence of such pathology.

When taking occupational and environmental medical histories, it is just as important to ask which patient has the symptoms as it is to ask what symptoms the patient has.

The occupational history is an integral part of a thorough medical interview, but the history may be difficult to interpret. The occupational history can be used on four levels:

- Basic—knowledge of the patient's current occupation and industry, and implications of the present illness for employment
- Diagnostic—investigate an association with the present illness, for compensation considerations
- Screening—individual surveillance
- Comprehensive—investigate complex problems in depth, usually in consultation with other occupational health professionals

If you decide that a detailed (comprehensive) occupational history is not necessary, it is still important to obtain the simple, basic, and screening occupational histories on all patients to help determine job type and potential exposures.

The occupational history

When taking an effective occupational history, consider asking questions to determine:

- The organ system and type of pathological process involved
- The exposure
- The patient's job description; a job title is not adequate and a full description of what the job entails is a bare minimum, which includes the question, "what do you do at work and how do you do it?"

- The identity of any chemical exposures or other hazards (colloquial terms may be used for chemicals; for example, 'trike' for trichloroethylene, 'perc' for perchloroethylene, or 'monkey dung' for brown asbestos); confirming the identity of a chemical might involve asking the patient to bring in a label or a Material Safety Data Sheet (MSDS); for example, if the history suggests exposure to formaldehyde, a drum label or MSDS could confirm
- The duration and intensity of exposure; determining when exposure started, finished, and how often it occurred may be tedious but not difficult

Determining the intensity of exposure by history taking is difficult; use these questions as guides:

- How was the task performed? (e.g., did the patient apply an adhesive with a paint brush, while leaning over the area)
- Was the dust concentration so thick that no one could see through it clearly?
- Was the noise so loud that communication was difficult?
- What quantity of the chemical was handled?
- Was there any attempt at segregating harmful tasks, or providing local exhaust ventilation?
- Was personal protection used? (different categories of harmful agents tend to have different and specific forms of personal protection; for example, masks and respirators designed for respirable dust will not protect from sulphur dioxide or solvent exposure)
- What control measures to reduce exposures are in place? (e.g., local exhaust ventilation and personal protective equipment need to be regularly maintained; ask whether they are maintained and who is responsible for the maintenance)

Processing historical information and further questions

There are a number of similarities between processing information in a clinical occupational medical history and making decisions regarding criteria for causal

association that physicians encounter in epidemiology. Analogies exist between determining causality in an epidemiologic context in population studies (groups) and when dealing with an individual patient in a clinical context.

The analogies are:

- Temporality: Relative to exposure, when do/did the symptoms start?
- Reversibility: Do the symptoms improve when the patient is no longer exposed? (e.g., on holiday)
- Dose-response/gradient: Are the symptoms worse when performing specific tasks/in areas with high exposure?
- Strength of association: Do other workers/patients suffer from similar symptoms associated with the same exposure?
- Specificity: What other exposure/causal factor could be responsible for the same symptoms? (e.g., smoking)
- Consistency: Are there other reports of the same symptoms associated with or caused by the same exposure?
- Analogy: Even if there is no evidence of identical exposure, circumstance, or chemical structure, resulting in the same symptoms, have other agents/chemicals of similar structure been implicated in producing the same symptoms? (e.g., dermatitis, asthma)

- Biological plausibility: Do the symptoms add up in terms of what is known about the mechanisms of disease?

Conclusion

While taking an occupational history, explore various avenues:

- Confirm suspicions by seeking links between various aspects of the history
- Determine evidence of corroboration, such as similar symptoms in other workers
 - Explore alternative explanations (e.g., is the patient a smoker?; does the patient engage in any do-it-yourself activities at home, hobbies, or moonlighting?)
- Formulate a working diagnosis in your mind
- Ask further relevant probing questions, such as:
 - What is the patient's attitude?
 - What is the employer's attitude?
 - Did the patient receive an MSDS? (ask to see it on follow-up visit)

Acknowledgement

Parts of this paper have been adapted, with written permission, from: "Taking an Occupational History." Health, Environment & Work website. 2014. www.agius.com/hew/resource/occhist.htm. Accessed: 2016 July.

Making Sick Notes Work for You and Your Patient

Dr. Joel Andersen

March 2016

Sick notes are powerful tools for communicating your patient's current and evolving restrictions and capabilities to an employer. They are also tools for allowing a patient's early return to work, specifying accommodations when required.

Effective sick note content has been the subject of numerous position statements by groups within and outside of Canada. One important position is the Canadian Medical Association's 2013 policy. The policy reviews the roles of the family physician, employer, patient/employee, and other stakeholders (government, unions, insurers, etc.) in promoting a safe, effective, and early return to work. The policy addresses:

- Diagnosing and treating the illness or injury, and advising and supporting the patient
- Providing and communicating appropriate information to the patient and the employer
- Working closely with other involved health care professionals to facilitate the patient's safe and timely return to the most productive employment possible

In essence, your role in supporting your patient's early and safe return to work is to provide continuing, accurate, and detailed impairment information and its impact on your patient's function at work. With this in-

formation, the employer can then deal with medically required restrictions and limitations and provide appropriate accommodation, all with the goal of timely and appropriate return to work.

Sick notes that do not contain meaningful functional or impairment information can significantly delay the return to work process, and negatively affect your patient.

Providing accurate, continuing impairment information as your patient's medical condition mends and ultimately reaches maximum medical improvement allows continuing, appropriate, and progressive work activities. The shared goal is a return to full regular activities, including work activities, when safe and feasible.

This successful process of early and safe return to work positively benefits everyone. When family physicians follow this guidance patients can return to work without worsening their medical condition and avoid the negative consequences of a delayed return to work.

References

1. Workplace Health, Safety & Compensation Commission of Newfoundland and Labrador. Early and Safe Return-to-Work (ESRTW) website. www.workplacenl.ca/EMP_EarlyAndSafeRTW.whscc. Accessed February 2016.
2. Canadian Medical Association. The treating physician's role in helping patients return to work after an illness or injury (Update 2013). Available from: <http://policybase.cma.ca/dbtw-wpd/Policypdf/PD13-05.pdf>. Accessed February 2016.

The Medical Benefits of Work

Dr. D. Burton McCann

January 2016

Though the ever-quotable Mark Twain once quipped “Work is a necessary evil to be avoided,” the words of inventor Benjamin Franklin are more likely to resonate with those of us in occupational medicine: “It is the working man who is the happy man. It is the idle man who is the miserable man.”

To put this in a more modern context, consider a description by Dr. Gordon Waddell, a researcher at Cardiff University, of the effects of worklessness on health:

“... [L]ong term worklessness is one of the greatest risks to health in our society. It is more dangerous than the most dangerous jobs in the construction industry, or [working on an oil rig] in the North Sea, and too often we not only fail to protect our patients from long term worklessness, we sometimes actually push them into it, inadvertently.”

Every major medical organization that has explored this issue, such as those from the United States, the United Kingdom, and Australia, has reached the same conclusion: On balance, work is beneficial to our health.

In a 2013 policy document, the Canadian Medical Association states: “The CMA recognizes the importance of a patient returning to all possible functional activities relevant to his or her life as soon as possible after an injury or illness. Prolonged absence from one’s normal roles, including absence from the workplace, is detrimental to a person’s mental, physical and social well-being. The treating physician should therefore encourage a patient’s return to function and work as soon as possible after an illness or injury, provided that a return to work does not endanger the patient, his or her co-workers or society.”

In a Canadian review of 46 original studies, researchers demonstrated a strong positive association between unemployment and a number of adverse health-related outcomes, including overall mortality, death due to cardiovascular disease, and death due to suicide.

Swedish Twin Registry information on more than 20,000 men and women showed that unemployment was associated with a relative risk of mortality for men

of 1.43 with a 95% CI of 0.91 to 2.25, and for women an even higher relative risk of 1.98 with a 95% CI of 1.16 to 3.38.

A 2012 American study involving more than 160,000 person years of observation demonstrated the risk of an acute myocardial infarction was significantly higher for the unemployed, with a hazard ratio of 1.35 and a 95% CI of 1.10 to 1.66.

For a comprehensive United Kingdom–focused review of the literature, see also Waddell and Burton’s 2006 treatise.

What does this all mean for your practice?

Think of the provision of a sick note as a medical act. Use the same professional rigour you would employ before ordering an investigation, writing a prescription, or performing a procedure.

Consider using “Fit for work with accommodation” where appropriate. As the UK Department for Work & Pensions noted in its September 2015 guidelines, “Doing the right kind of work is good for your health, including if you have a health condition.”

References

1. Wacławski ER, Lawson I. The Health at Work Handbook. *Occup Med* 2006;56(1):1-2.
2. Gordon Waddell 2007.
3. United Kingdom (Royal College of General Practitioners, Faculty of Occupational Medicine, Society of Occupational Medicine); Australia (Australian Faculty of Occupational and Environmental Medicine, Royal Australian College of Physicians and 77 other organizations in Australia and New Zealand); United States (American College of Occupational and Environmental Medicine, American Medical Association, American Association of Orthopedic Surgeons)
4. Canadian Medical Association. *The physician’s role in helping patients return to work after an illness or injury (Update 2013)*. Ottawa, ON: Canadian Medical Association; 2013. Available from: <http://policybase.cma.ca/dbtw-wpd/Policypdf/PD13-05.pdf>. Accessed 2015 Dec 10.
5. Jin RL, Shah CP, Svoboda TJ. The impact of unemployment on health: a review of the evidence. *CMAJ* 1995;153(5):529-40.
6. Nylén L, Voss M, Floderus B. Mortality among women and men relative to unemployment, part time work, and extra work: a study based on data from the Swedish Twin Registry. *Occup Environ Med* 2001;58(1):52-57.
7. Dupre M, George LK, Liu G, Peterson ED. The cumulative effect of unemployment on risks for acute myocardial infarction. *Arch Intern Med* 2012;172(22):1731-1737.
8. Waddell G, Burton AK. *Is work good for your health and well-being?* London, UK: The Stationery Office; 2006.
9. Department for Work and Pensions. *The fit note: A guide for patients and employees*. London, UK: Department for Work & Pensions; 2015.

The Family Physician's Role in Return to Work

Dr. Douglas Hamm

November 2015

As a family physician you are well-positioned to facilitate timely return to work (RTW) since you have been involved throughout your patients' recovery from illness or injury. You have likely been providing absence from work notes or Workers Compensation Board (WCB) reports as well as coordinating medical care and monitoring clinical progress.

The RTW process also begins long before your patient nears their actual resumption of work. Throughout their recovery period promote an expectation of successful RTW while staying vigilant to those factors that may act as barriers to your patient's re-entry into the workforce. Encourage them to keep in touch with their workplace and help them stay focused on their recovery and expectation of returning to work.

Family physicians are part of a decision-making network of key partners that includes your patients and their employers, the WCB, insurers, unions, disability case managers, RTW coordinators, and various health care and rehabilitation providers. Be clear about your scope of expertise within the RTW process. The family physician's strong suit is in defining the patient's medical fitness for work and any impairment that should be taken into account when they do return to work.

Try to get as much information as you can about your patient's actual work, not just their title or job description. Generic job titles may conceal more than they reveal so ask for specific details about workplace ergo-

nomics; use of machinery and tools; any special "off label" duties at work, unusual or incidental job demands, or cognitive or psychological demands; shift work; travel at work; remote work; safety sensitive work, etc. You'll find it very helpful if your patient brings you a job demands analysis for their position if their employer has one available.

Describe any impairment in terms of limitations—functions your patient is not able to perform—or restrictions—activities your patient should avoid because they could aggravate their medical condition, trigger symptoms or a relapse, or increase the risk of reinjury. Many family physicians find it challenging to provide clear-cut functional determinations so be forthright if you don't have sufficient evidence to make a recommendation. Sometimes functional capacity testing or further specialist review or WCB involvement is needed to refine fitness to work information. You may recommend a graduated return to work (GRTW) if your patient has been off work long enough to need some time to adapt as they resume their job.

Try to maintain an evidence-based approach to any limitations or restrictions required as your patient resumes work. Provide employers with specific recommendations for any medically required workplace accommodations. Be functionally oriented in your advice to employers about fitness to work without disclosing confidential medical information.