

Concussions and return-to-work considerations

To better understand concussion and optimize care of concussion patients injured at work, there are two valuable resources: the Concussion in Sport Group consensus statement that arose from the Berlin Conference of October 2016;^{1,2} and the Ontario Neurotrauma Foundation's Guidelines for Concussion and Minor Traumatic Brain Injury and Persistent Symptoms,³ which includes advice for returning to work after concussion and many helpful algorithms for the management of common symptoms. The following concepts are emphasized in these documents.

Rest is no longer recommended for an indefinite period of time.⁴ After an initial 24 to 48 hours of rest, the worker should be activated. Activation begins using a concept of symptom threshold wherein key symptoms are provoked at certain levels of aggravation. Producing a slight aggravation of symptoms is not harmful and is thought that, over time, will set the threshold higher and higher until normal activities both in and out of work are no longer symptom provoking.

Individuals should gradually resume normal physical and cognitive work-related activities. While this is sometimes difficult to initiate and understand, a rule of thumb that I have incorporated into my practice is to begin with the 10-20-30 rule. Cognitive activity can be initiated in 10-minute periods followed by 30-minute rest periods. If doing this three successive times does not exacerbate the symptoms, progress to 20-minute activity periods followed by 30-minute rest periods, three times. Once the 30-minute level is reached without symptom

exacerbation, the injured worker can consider returning to work part-time, with adaptations to the work environment (sunglasses, earplugs, quieter workspace, area with less movement) for specific symptoms.

Early introduction of aerobic physical activity is a major factor in rapid recovery. Lawrence and colleagues reported that, "for each successive day in delay to initiation of aerobic exercise, individuals had a less favorable recovery trajectory."⁵ Dr John Leddy of the University of Buffalo Concussion Clinic pioneered the concept of subsymptom exercise threshold rehabilitation.⁶ Patients can be exercise-challenged to determine the level, duration, and intensity of activity at which symptoms appear and peak no more than 2 out of 10 above their baseline symptoms. The doctor can then prescribe an individualized exercise regimen, gradually increasing intensity and duration to the endpoint of submaximal heart rate exercise for 30 minutes without symptom exacerbation. This has been shown to accelerate recovery.

Interventions that are associated with better outcomes include early education and early psychological and physical support.^{7,8} Setting a patient's expectations of recovery and reentry into the workplace and establishing a goal of returning to their previous job early in the course of treatment and management is recommended. Occupational therapists have a 4-P strategy for assisting return to work: prioritize, pace, plan, and position (that is, change positions frequently and switch up activities).⁹ This approach can be initiated by the patient's primary care physician and supported by allied health care professionals such as physiotherapists or occupational therapists.

Primary care physicians can play a significant role in identifying injured workers with significant multiple risk modifiers who should be considered for early referral to a multidisciplinary clinic, such as WorkSafeBC's Head Injury Assessment and Treatment Service (HIATS). Significant modifiers include a history of prior concussions or migraine headaches, and patients for whom headache is the predominant symptom.

For more information or assistance with treatment of work-related concussion in a worker patient, or to discuss referral to HIATS, please contact a medical advisor in your nearest WorkSafeBC office.

—**David J. Rhine, MD, FRCPC**
WorkSafeBC Medical Advisor and
HIATS Medical Consultant

References

1. Gerschman T. Canada advances concussion education. *BCM J* 2017;59:325-355.
2. McCrory P, Meeuwisse W, Dvorak J, et al. Consensus statement on concussion in sport—the 5th international conference on concussion in sport held in Berlin, October 2016. *Br J Sports Med* 2017;51:838-847.
3. Ontario Neurotrauma Foundation. Guideline for concussion/mild traumatic brain injury & persistent symptoms. 3rd edition, for adults over 18 years of age. Accessed 26 October 2018. <https://braininjuryguidelines.org/concussion>.
4. Howard A, Schwaiger T, Silverberg N, Paneka W. This Changed My Practice (UBC CPD). Concussion management: Time to give "brain rest" a rest. Accessed 22 October 2018. <http://thischangedmypractice.com/concussions-and-rest>.
5. Lawrence DW, Richards D, Comper P, Hutchison MG. Earlier time to aerobic exercise is associated with faster recovery following acute sport concussion. *PLoS One* 2018;13:e0196062.

References continued on page 94

This article is the opinion of WorkSafeBC and has not been peer reviewed by the BCMJ Editorial Board.

Continued from page 93

communities that makes a critical difference to survival. Participants will gain practical experience through laboratory and problem-solving exercises. Register early as space is limited. More information at www.spph.ubc.ca/continuing-education/tgm2019/. Contact: spph.ce@ubc.ca, tel 604 822-9599.

ORTHOMOLECULAR MEDICINE TODAY CONFERENCE

Vancouver, 31 May–2 Jun

To be held at the Fairmont Hotel, the 48th annual International Orthomolecular Medicine Today conference is a continuing education event for medical doctors, naturopathic doctors, nurse practitioners, pharmacists, and other health care professionals. The conference is presented by the International Society for Orthomolecular Medicine, which brings together orthomolecular associations established in more than 20 countries around the world. Orthomolecular Medicine Today provides a forum for leading clinicians and researchers to present current advances in orthomolecular oncology, immunology, and general medicine. Learn about the safe and effective use of non-patentable molecules for improving patient outcomes. Additional information and online registration at <https://isom.ca/event/omt2019/>. Email: info@isom.ca

EMERGENCY AND CRITICAL CARE CONFERENCE

Parksville, 1–2 Jun (Sat–Sun)

Join us in Parksville on Vancouver Island for this year's Vancouver Island "Top 5 in 10" Emergency and Critical Care conference. This course will be held at the Parksville Community Centre and is geared to emergency physicians, family physicians, registered nurses, residents, and students. This event has been expanded to 2 days and will maintain the same great format of 10-minute lectures,

fun intermissions, contests, entertainment, and videos. Come laugh and learn. Saturday night mixer with special guest Dr Brian Goldman. Course features at the new venue will now include the critical care component. Great speakers: Drs Grant Innes, Peter Rosen, David Williscroft, and more. There may also be an APLS pre-conference course—stay tuned. Accommodation: The Beach Club Resort: <http://bit.ly/viec2019rooms>. Group code: UBC CPD-Vancouver Island Emergency Conference. Booking deadline: 30 Apr. Program details and registration: <https://ubccpd.ca/course/viec2019>. Tel 604 675-3777, email cpd.info@ubc.ca.

PRACTICE SURVIVAL SKILLS

Vancouver, 15 Jun (Sat)

The 12th annual Practice Survival Skills—What I Wish I Knew in My First Years of Practice conference will be held at the UBC AMS Nest and emphasize practical, nonclinical knowledge crucial for your career. Topics include billing and billing forms, rural incentives, MSP audits, medicolegal advice and report writing, job finding and locums, financial and insurance planning, practice management and incorporation, licensing and credentialing, and digital communication advice. Target audience: family physicians, specialty physicians, locums, IMGs, physicians new to BC, family practice and specialty residents, and physicians working in episodic care settings. Course format comprises collaborative didactic lectures and interactive small group workshops; plenty of networking opportunities, and practice-based exhibits. Join us in the afternoon for a job fair and networking reception to meet with colleagues and make career connections. Program details and online registration at <https://ubccpd.ca/course/practice-survival-skills-2019>. Tel 604 675-3777, email cpd.info@ubc.ca.

GP IN ONCOLOGY TRAINING Vancouver, 9–20 Sep and 3–14 Feb 2020 (Mon–Fri)

The BC Cancer's Family Practice Oncology Network offers an 8-week General Practitioner in Oncology training program beginning with a 2-week introductory session every spring and fall at the Vancouver Centre. This program provides an opportunity for rural family physicians, with the support of their community, to strengthen their oncology skills so that they may provide enhanced care for local cancer patients and their families. Following the introductory session, participants complete a further 30 days of customized clinic experience at the cancer centre where their patients are referred. These can be scheduled flexibly over 6 months. Participants who complete the program are eligible for credits from the College of Family Physicians of Canada. Those who are REAP-eligible receive a stipend and expense coverage through UBC's Enhanced Skills Program. For more information or to apply, visit www.fpon.ca, or contact Jennifer Wolfe at 604 219-9579.

worksafebc

Continued from page 92

- Leddy JJ, Haider MN, Ellis M, Willer B. Exercise is medicine for concussion. *Curr Sports Med Rep* 2018;17:262-270.
- Grabowski P, Wilson J, Walker A, et al. Multimodal impairment-based physical therapy for the treatment of patients with post-concussion syndrome: A retrospective analysis on safety and feasibility. *Phys Ther Sport* 2017;23:22-30.
- Putukian M, Kutcher J. Current concepts in the treatment of sports concussions. *Neurosurgery* 2014;75(Suppl 4):S64-S70.
- InMotion Health Centre Inc. Return to work after a concussion. Accessed 26 October 2018. www.inmotionhealthcentre.ca/returning-work-concussion.