

obvious to an outsider. Clinicians offering longitudinal care will certainly find that a great deal of time is spent on this latter piece of work, sometimes waking us in the night with the solution.

Sir William Osler said, “The practice of medicine will be very much as you make it—to one a worry, a care, a perpetual annoyance; to another, a daily job and a life of as much happiness and usefulness as can well fall to the lot of man, because it is a life of self-sacrifice and of countless opportunities to comfort and help the weak-hearted, and to raise up those that fall.” I most closely identify with the latter, and I believe that Canadian physicians work tirelessly 24/7 to live up to this ideal. We look in the eyes of patients seeking our advice and treat-

ment every day. This is both an honor and a privilege. Unfortunately, in our current environment, multiple barriers routinely get in the way, such as limited access to investigations and treatments or limited clinic time to fully address all of our patients' concerns because of a lack of resources.

Working in this situation is causing a crisis in physician wellness and our ability to deliver the care we want in a timely manner. We feel the weight of this increasingly difficult burden compressing our profession. Doctors recognize that we need support more than ever to do our work. We cannot continue to work alone into the wee hours of the night. It simply isn't sustainable. We need support to tackle the leading health care delivery issues that

are preventing access and causing barriers to care.

Over the course of my year as president I hope we will continue to engage all partners within physician groups, health authorities, communities, and of course our patients, families, and caregivers who ultimately receive our care to collaborate effectively to eliminate these barriers. The secret to success now and in the future is to listen to all voices and perspectives. This approach is essential to lead meaningful change and to ensure our profession continues to be a profession of influence both individually for our patients, and generally in the assembly of a sustainable health care system.

—Kathleen Ross, MD
Doctors of BC President

letters to the editor

Infection control in BC operating rooms

There is little difference between the practice of infection control in an operating room and religious dogma. Here are three examples that are patently ridiculous. Sinus surgery done by an ENT surgeon in the operating room is basically through snot but we make sure that the patient is prepped and draped. Hemorrhoidectomies are done by general surgery on a patient's anus but we prep and drape the patient. Maxillofacial surgeons do mandibular osteotomies where the oral mucosa is cut into, the mandible is sawed in two, then plated with screws and closed, but we prep and drape this patient also. “Antibiotics for the lawyers” are sometimes given in the first example, never given in the second example, and always given in the third example.

In the big picture, the infection control practices in operating rooms have a very bad effect on the planet as most waste winds up either in the ocean or the atmosphere.

Even though much has been written about this, very little has been done about it, basically because the power structures in place in hospitals are just fine with the status quo. And the prime purpose of these power structures is to employ people, not to decrease infections.

A small first step in British Columbia would be to stop the surgical prep and draping for the three aforementioned examples.

The same can be said (i.e., that it is patently ridiculous) about the strict enforcement of dress codes in operating rooms in British Columbia. There is no evidence for this, but signaling

who is in charge is very important to the power structures in hospitals, usually under the rubric of standards.

—Mark Elliott, MD
Vancouver

Re: myoActivation for the treatment of pain and disability

Dr Suzanne Montemuro's letter to the editor (*BCMJ* 2019;61:111) states that “[myoActivation] has been shown to be effective in treating chronic pain originating in the soft tissues in the elderly as well as children.” However, my searches of PubMed and Google Scholar yielded no studies to support this. In fact, the only publication I could find was the descriptive paper cited in Dr Montemuro's letter, containing only hypotheses and a few

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case studies. This scarcely qualifies as evidence of efficacy, let alone effectiveness, of this intervention. While Dr Montemuro has had pain relief in association with this intervention, personal experience is simply that. As Hippocrates is quoted, “experience [is] fallacious, and judgment difficult.”

Chronic pain is poorly understood and interventions are challenging to evaluate. Nonetheless, while good study design can be difficult and certainly should have biostatistical advice in the planning, the scientific method remains public domain software. Isolated case reports are no substitute.

—**Barry Koehler, MD, FRCPC**
Delta

Author replies

My experience with myoActivation was the stimulus for writing the letter to the editor. As a skeptical physician I was impressed that it worked well and I wanted to learn more about the technique. I believe that myoActivation is an innovative methodology that can significantly benefit people living with chronic pain.

In your December 2018 letter to the editor in the *BCMJ* (regarding Dr Cadesky’s article) [*BCMJ* 2018; 60:480] you stated “It’s all about the patient . . . If change starts with what will benefit the patient and not what is perceived to benefit the system, better health care will ensue. We need flexibility and readiness to change as we try out any system. Indeed, that’s how

we practise patient care.” I wholeheartedly agree!

Certainly more studies need to be completed to truly demonstrate myoActivation’s effectiveness; myoActivation does, however, have similarities with other commonly practised myofascial release and needling techniques. One difference with myoActivation is that MSP covers it and it is carried out by physicians trained in the technique. I have included references to studies on myofascial release and other needling techniques below.

A number of studies are ongoing in BC. I felt that including them in my previous letter would turn a letter to the editor into a full article. Studies are being carried out in Prince George (Dr Cameron Grose), at BC Children’s Hospital (Dr Gillian Lauder), and at Vancouver Coastal Health (Barb Eddy, NP). Vancouver Community Pain Service has started a 1-year pilot program for chronic pain patients using myoActivation and other therapies in marginalized populations with mental health and addictions.

In your profile in *UBC Medicine* (Vol. 2, No. 1, Fall 2005) you say, “It’s all about seeing the patient and making observations.” Making careful clinical observation of abnormal anatomy and dysfunctional movement in chronic pain patients is the focus of myoActivation.

I encourage you to take a closer look at the myoActivation methodology.

—**Suzanne Montemuro, MD, CCFP**
Victoria

Disclosure

Dr Koehler and I worked together at the Port Arthur Clinic in Thunder Bay, Ontario, in the 1970s.

Suggested reading

Muscle activation

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We welcome original letters of less than 300 words; they may be edited for clarity and length. Letters may be emailed to journal@doctorsofbc.ca, submitted online at bcmj.org/submit-letter, or sent through the post and must include your mailing address, telephone number, and email address. All letter writers will be required to disclose any competing interests.

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A revolution in medical imaging is coming

MRIs can cost millions to buy, hundreds of thousands yearly to maintain, and have a resolution of a few millimetres. Compare this to a machine that is a thousandfold cheaper to buy that provides images that are a million times cheaper to produce with a billion times the resolution. That is like buying a cellphone to take a picture at the resolution of an individual neuron.

And this technology is closer than you may think. The technology I am referring to is based on near-infrared light. Biological tissue scatters red light and silicon chips manufactured by the billions for cellphone cameras are very sensitive to it.

Remember when you were a kid in a tent in the backyard shining a flashlight onto the palm of your hand to make your hand light up? For illustration, take a laser pointer and shine it onto your finger. Your finger becomes translucent red because the laser's red light is scattered by the tissue. The scattering is random, so no information can be obtained about the tissue that it went through. But what if you could accurately measure both the angle of each ray of light and how faded in intensity it was by the finger it just went through? You could then reconstruct a holographic picture of the tissue that the beam of infrared light passed through.

In April 2018, Mary Lou Jepsen gave a TED Talk in Vancouver in which she described a prototype machine developed by her start-up, Open Water, which does exactly this. Basically that 30-ton MRI machine with its large magnet and liquid helium cooling system can be replaced with a wearable sensor weighing a few pounds.

When you shine red light onto a beaker of blood no light passes through. The blood totally absorbs the light. When going through tissue, light is scattered, which is why your finger is translucent red. Your body is 3% blood but a cancer over 1 millimetre or so develops a strange leaky vasculature that increases that amount to 15% in the tumor. This machine will be able to detect this at pretty much the cellular level of resolution.

This will profoundly alter the business model of screening for breast cancer. In my field of anesthesiology the potential is breathtaking because this imaging can now visualize and also alter the firing of neurons. Why use a pharmaceutical that has to be given in whopping big doses to cross the blood-brain barrier, poisoning the entire brain, to obtain adequate anesthesia in one part of the patient's body, when you can use a photon to pinpoint the anesthesia effect?

—Mark Elliott, MD
 Vancouver

Re: Falling through the cracks

My thanks to Ms Ono, Dr Friedlander, and Dr Salih for their article, "Falling through the cracks: How service gaps leave children with neurodevelopmental disorders and mental health difficulties without the care they need" [*BCMJ* 2019;61:114-124]. It is a powerful reminder that children grow up and develop into adults, with the spectrum of neurodevelopmental disorders continuing into adulthood.

I would like to advocate for the substantial number of adult individuals with neurodevelopmental disabilities presenting with mental health distress. These individuals do not have major neurodevelopmental disorders, but one or more specific neurodevelopmental disorders (e.g., speech, language, or communication disorders; ADHD; learning disorders; motor disorders; and others

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as described in the *DSM-5*). They, however, were either not diagnosed as children, or were diagnosed but the support and understanding of the impact of these disorders on their later functioning (personal, social, and employment) did not continue into

adulthood. Often very capable individuals start to decompensate when their coping mechanisms (to deal with the neurodevelopmental disorder) are overwhelmed. This can have disastrous consequences for the individual and their families (e.g., unemployment, relationship difficulties, social/financial problems). Comorbid mental health disorders can be present or evolve over time. This can often create a vicious cycle of disadvantage and suffering for all involved.

A multiprofessional team should be available to manage the care of the patient and their family. This team should consist of at least a clinical psychologist, a social worker/MCFD social worker, a case manager, an occupational therapist, a therapist/counselor, a pharmacist to advise on complex polypharmacy, and a psychiatrist.

Thank you for creating the platform to participate in discussions.

—Cobus McCallaghan, MBChB
South Surrey

Ultrasound in undergraduate medical education

Beside ultrasound, a term that comes up repeatedly in medical school, is becoming increasingly valuable in almost all fields of medicine.¹ This tool is being integrated into preclinical training, yet it seems that medical students are not using it on the ward. Why is this? Lack of resources? Lack of teaching? It certainly isn't lack of student interest.

Students are beginning to recognize the relevance of bedside ultrasound to their future careers and have begun to question why it isn't a higher priority in undergraduate medical education. Many of our peers are even seeking ultrasound training outside of curricular time. Interestingly, it seems as though students think bedside teaching would improve their skills the most, yet a lack of clinical time and opportunity may be the big-

gest barrier to their learning. Despite infrastructure being available (ultrasound machines and trained faculty), many students have described limited hands-on opportunities and preceptors who were hesitant to share the probes. Admittedly, there are exponentially increasing demands on curricular time² and some faculty believe that teaching ultrasound is not appropriate at the undergraduate level as it could lead to misdiagnosis or to distraction from learning important physical examination skills.³ This raises questions of how high a priority undergraduate ultrasound education should be and who should shoulder the burden of that education. Should students be taking more initiative in their learning, or should we expand the curriculum?

We acknowledge the potential bias our perspective brings and are interested in hearing our preceptors' opinions. Do they feel it is a priority, and are they comfortable enough with techniques to be teaching? One thing is certain: bedside ultrasound is improving patient outcomes and decreasing costs to the system.¹ If students are not receiving the hands-on teaching they need to learn it, who will use it in the future?

—Ali Silver, BSc
—Sarah Fraser, BSc
—Megan Shurey
Kelowna

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Editorial: Mistaken

I often log on to my EMR remotely to check results on days I'm not in the office. At one point, I saw a patient in the office and diagnosed him with a minor illness requiring no treatment. Later, I checked my EMR and there in front of me was the sickening truth that I had made a mistake.

Read the editorial: bcmj.org/editorials/mistaken



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