

It is a pleasure to introduce the third supplement on military medical research published by the *Canadian Journal of Surgery (CJS)*. The release of this supplement is timed to coincide with the centenary of the 1918 Armistice, which ended the First World War. We honour the sacrifice of those who went before us by learning from their efforts in order to make a better future.

The First World War was a catalyst for change. For Canada, the First World War was the first conflict in which medical research was not only conducted and implemented quickly, but also openly published during the war itself. Rapid progress was made in multiple aspects of medical science, including vaccination, surgery, field laboratory services and blood transfusion, just to name a few. For instance, the Canadian medical services entered the war uncertain whether universal vaccination should be implemented to prevent illness among its soldiers. While Canada ultimately decided in favour of vaccinating its troops against typhoid, many Allied countries did not. However, the benefits of universal vaccination quickly became apparent after a ship loaded with typhoid victims had to be quarantined off the British coast. Likewise, Canadian medical services entered the war relying on surgical protocols developed for the previous war in South Africa, and laparotomy techniques for penetrating abdominal injuries were not well established. However, early in the war, surgical teams quickly developed and successfully performed what is now known as trauma laparotomy. When a mysterious gas was unleashed upon Canadian and Allied forces at Ypres, a mobile laboratory from the Toronto Public Health unit determined that it was chlorine, enabling Canadian medical officers to improvise a protective mask using urine-soaked cloth. Finally, resuscitation by fresh whole blood transfusion was introduced into combat casualty care by Canadian medical officers.

These developments were reported during the war in the *Canadian Medical Association Journal* and other journals. The value attached by the Canadian government to research was demonstrated by the establishment of the National Research Council in 1916 and the Medical Research Council in 1938. While both institutions initially had military mandates, they continued as Canada's prime institutes of science and medicine so that the knowledge and skills acquired during wartime could be applied for the benefit of Canadian civil society in peacetime.

The organization of medical care from the point of injury, through the chain of evacuation, to surgical care and rehabilitation, was developed in the First World War in a way that remains familiar today. The two military medicine supplements previously published in *CJS* examined lessons learned during our experiences in Afghanistan. Many of these lessons were also applied in Canada to improve trauma care for Canadians at home. However, as our predecessors learned 100 years ago, we must be cautious of relying too heavily on the protocols arising from the last war. For example, rapid air evacuation in Afghanistan allowed for early surgical care in well-equipped facilities, reducing the case fatality rate to its lowest ever. The researchers in this supplement, however, imagine situations where air superiority and ground security are not necessarily as robust as in Afghanistan. In future conflicts, military medical teams may have to be smaller, providing care closer to the point of injury. Innovations in mobile damage-control resuscitation and surgical care may be required to achieve results equivalent to those attained by the stationary hospitals established in Afghanistan. Such innovations are also likely to improve the care of civilian patients in Canada, especially those living in remote locations, far from advanced trauma centres.

On a final note, in both peace and war, the Canadian Forces Health Services have enjoyed strong partnerships with Canadian universities and hospitals, and with organizations such as the Royal College of Physicians and Surgeons of Canada, the College of Family Physicians of Canada and the Canadian Medical Association. The goal of these partnerships has been to provide the best care possible to those injured in conflict abroad and to advance the quality of medical care at home in Canada. I congratulate *CJS* on a forward-looking supplement that advances us further toward that goal in continued partnership.

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