Evolution of thoracic surgery in Canada

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Canada's contributions toward the 21st century understanding and practice of thoracic surgery are both unique and multilayered. Scattered throughout are tales of pioneers who treaded where none had gone before, in which opportunities were greeted by creativity, and iconic figures followed one another in a rich mix of research, teaching and practice.

The surgical treatment of pulmonary tuberculosis using thoracoplasty was pioneered by Dr Edward W Archibald (1872-1945, McGill University, Montreal, Quebec), who is also credited with performing the first successful pneumonectomy for lung cancer with individual ligation of hilar structures (1) on July 7, 1933 (Figure 1). The operation was performed at the Royal Victoria Hospital in Montreal only a few months after Dr Evarts Graham's celebrated case (April 1933, pneumonectomy with mass ligation of the hilum).

In 1936, the outbreak of the Spanish Civil War gave Dr Norman Bethune (1890-1939, McGill University) the opportunity to fight directly against fascism; his greatest innovation was the design of a mobile blood bank that was used on the battlefield and helped save thousands of lives. The 'Para-Medics' created during World War II became an extension of his idea. His heroic actions in 1938-1939 in China led him to become the only foreigner to have been made a national hero in that country.

The epidemic of lung cancer that began in the early 1950s led to the successful use of pulmonary resection as a treatment. Over subsequent years, great strides were made to appropriately select patients for surgery, and mediastinoscopy was introduced in the early 1960s by Dr F Griffith Pearson (1926-, University of Toronto, Toronto, Ontario). During those same years, there was also a widely accepted trend toward conservative resection of lung cancer. Operations, such as sleeve resections, were popularized by Canadian thoracic surgeons such as Drs Pearson and Jean Deslauriers (1945-, Laval University, Quebec City). In the early 2000s, adjuvant chemotherapy after resection of stages 1B and 2 disease became standard of care because the BR-10 NCIC-supported trial showed a significant benefit in overall survival. Dr Robert J Ginsberg (1945-2003, University of Toronto) is rightly considered to be the father of clinical trials in thoracic surgical oncology in North America.

In 1968, Dr Pearson was the first to demonstrate that high cuff pressure in tracheostomy tubes led to the development of tracheal strictures, and he became one of the most important contributors to the field of resection and reconstruction of damaged airways.

Figure 1 Photograph taken during the first successful pneumonectomy with individual ligation structures performed for lung cancer. The procedure was performed on July 7, 1933 by Dr Edward Archibald (operating on the left) at the Royal Victoria Hospital in Montreal, Quebec. Dr Archibald's assistants were Drs Norman Bethune (facing Dr Archibald) and Dr Arthur Vineberg (to the left of Dr Archibald)

The importance of and attention to research have always been the defining qualities of Canadian thoracic surgery. This is best illustrated in the area of lung transplantation, beginning with the use of chimera twin calves for experimentation in the early 1960s by Dr Darrell Munro (1909-2012, McGill University) to the first successful human lung transplant performed in 1983 by Dr JD Cooper (University of Toronto) (2) to ex vivo organ preservation introduced by Dr Shaf Keshavjee (University of Toronto) in the early 2000s.

The recognition of thoracic surgery as a primary specialty, to the exclusion of cardiac or general surgery, is a Canadian model now followed worldwide.

The full-length article can be viewed at the *Journal's* website at www.pulsus.com

REFERENCES

1. Archibald E. The technic of unilateral pneumonectomy. *Ann Surg* 1934;100:796-811.
2. Cooper JD, Pearson FG, Patterson GA, et al. Technique of successful lung transplantation in humans. *J Thorac Cardiovasc Surg* 1987;93:173-81.

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