Chapter 5.2.5

THE MAKING OF A RURAL GENERAL SURGEON

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Charles S Curtis Memorial Hospital, Canada

"The value of experience is not in seeing much, but in seeing wisely."
Sir William Osler (1849 – 1919)

My experience as a general surgeon, hard won a case at a time over a lifetime of service in a small rural hospital, has certainly shaped my thinking. Whether my opinions convey wisdom I leave to the reader to judge.

Background

I was in fact born, raised and educated in Toronto and am a proud graduate of the Gallie Surgical Training Program. As a medical student I had the opportunity and good fortune to spend the summer months between 3rd and 4th years at The Charles S Curtis Memorial Hospital in St Anthony, Newfoundland (Figure 1).

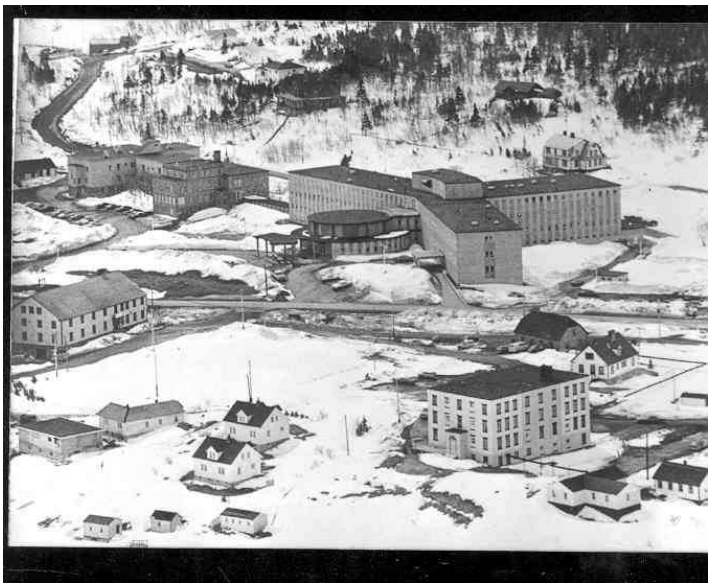

Figure 1:
The Charles S Curtis Memorial Hospital in St Anthony, Newfoundland

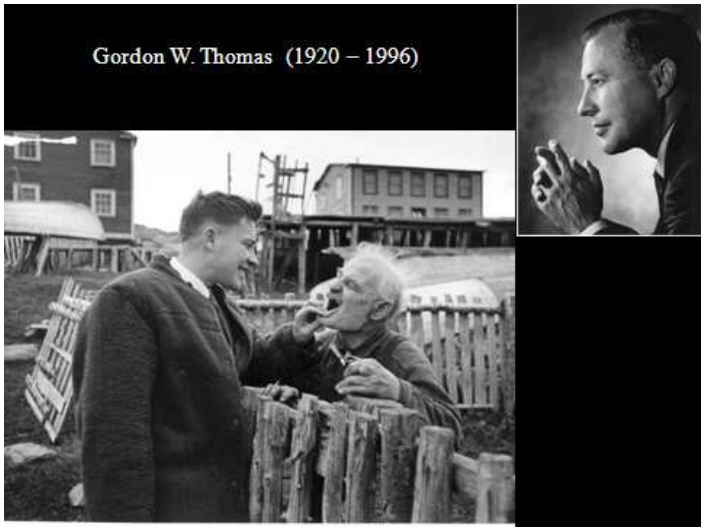

Figure 2:
Dr Gordon W Thomas – an impromptu consultation

There I met and was immensely influenced by Dr Gordon W Thomas, master surgeon who became my mentor and, in time, my colleague and friend (Figure 2).

I was that summer introduced to a demanding and eclectic surgical practice in a sub-arctic environment serving a population living in small communities scattered over a vast area the north-south extent of which is equivalent to the distance between Toronto and Quebec City.

Origins

The Grenfell Mission, as it was then called, was founded by a young London (England) trained doctor, Wilfred Grenfell. In 1892 Grenfell, a dynamic, charismatic muscular Christian of the Victorian era, was sponsored by the Royal National Mission to Deep Sea Fishermen to bring medical aid and spiritual succour and, I might add, tobacco(but not the demon rum) to the seasonal fishing fleet plying the waters off Northern Newfoundland and The Labrador (Figure 3).

Figure 3:
Northern Newfoundland and The Labrador

Grenfell had been a 'dresser', as residents were then called, to the famous Sir Frederick Treves of the London Hospital who, on the eve of Edward the Prince of Wales' coronation in 1902 had the temerity, when such operations were not fashionable, to operate on the future King for acute appendicitis thereby delaying the ceremony but probably saving his life. Much to the chagrin of my own students, I am reminded of the Treves / Grenfell connection every time I do an appendectomy and encounter the *ileocolic fold of Treves*.

Grenfell administering open drop ether anaesthesia on a kitchen table

It was never intended that the seasonal fishermen would over-winter on the Coast of Newfoundland and Labrador. Many chose to do so, however, preferring these deprived circumstances with all their uncertainty to the certain hardship of the British slums (Figure 4). It was the plight of these settlers and the indigenous peoples of The Labrador that prompted Grenfell to return the following year and to establish the first hospital on the coast at Battle Harbour on The Labrador.

From this modest beginning grew a system of hospitals and nursing stations providing comprehensive, integrated, interdisciplinary health care and social services. These included schools and orphanages, a dry dock, a fishermen's co-operative, and an industrial / handicraft department (roughly equivalent to occupational therapy) where the injured and other challenged individuals could learn skills that translated into a means of making a living. Attempts to introduce similar regional integrated comprehensive care elsewhere in Canada today often are met with considerable resistance, largely based on protection of 'turf'. This is unfortunate given the stresses on the system.

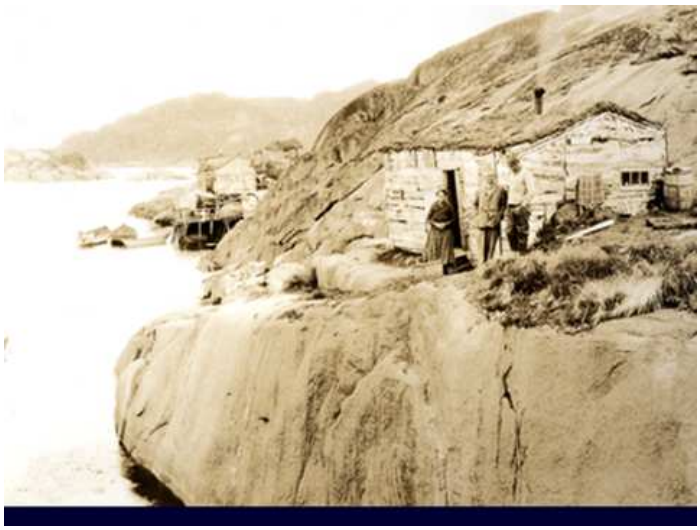

Figure 4:
A fisherman's dwelling on the coast of Labrador, early 1900s

The medical records of the Mission which now span more than a century are a rich source of social commentary. The following are entries from the early 1900s:

- Father died of gangrene following a wound to the leg.
- Father drowned.
- Father died of paralysis having been struck by a ship's boom.
- Mother died during childbirth.
- Has five brothers and five sisters three of whom died in infancy of whooping cough.
- Mother died of a gathering in the bowels, an abscess or tumour with foul suppurative discharge, following a blow received from the horns of a cow.
- Mother paralysed for six years, has cough and spits blood all the time. Father is crippled in the knee with 'rheumatism'. One brother and one sister died of consumption.

Although in the early days every doctor was expected to turn his hand to surgery as circumstances required, Dr John Mason Little was the first surgeon to arrive on the coast. Little was trained at the Massachusetts General Hospital and subsequently toured the clinics of Europe as was then fashionable. He spent ten years in St Anthony from 1907 – 1917. In January 1909 he was confronted by a teenaged girl with Jacksonian epilepsy. Her seizures began as an *aching queer feeling in the right index finger* and progressed in time to full blown generalised convulsions. She had experienced episodes of status epilepticus lasting up to 28 hours. *Owing to the increasing severity and frequency of the attacks and their localising character operation was strongly advised and accepted.* (A stellar example of *informed consent*!)

Little went on to perform a craniectomy under chloroform and local anaesthesia and attempted, unsuccessfully, to identify the epileptogenic focus by stimulation of the surface of the brain. He nonetheless removed a divit of motor cortex. The patient recovered *uneventfully* and when seen up to two years later had had no further seizures. All this is meticulously documented in the chart complete with a diagram of the home made electrode (Figure 5). Two other similar cases are on record. These probably represent the first such cases ever attempted in what is now Canada.

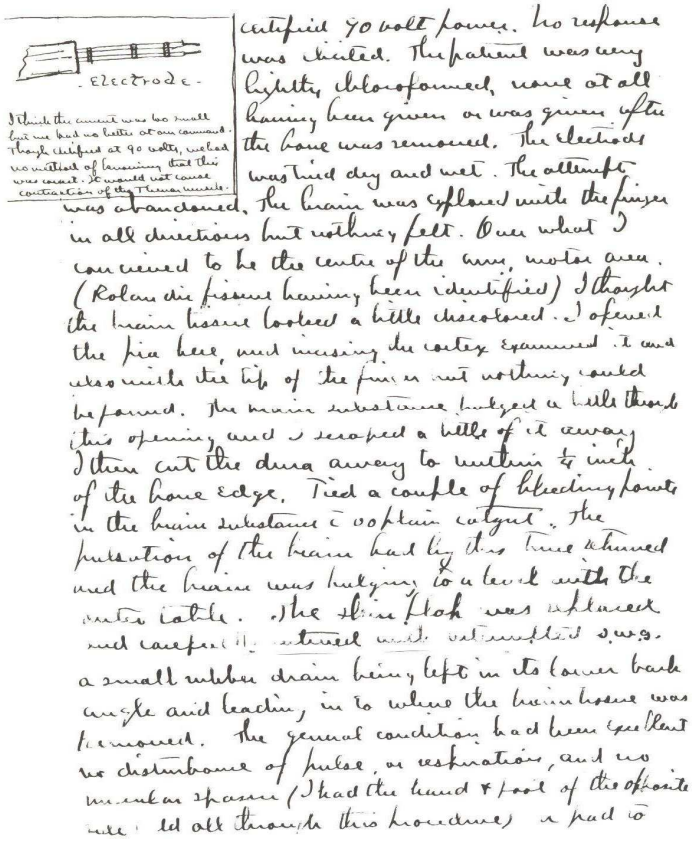

Figure 5:
Dr John M Little's Operative note, 1909

Recent history

By the time of my arrival in St Anthony in the late 1960s, TB was on the wane and the pattern of disease was beginning to reflect that seen elsewhere in Canada. What was emerging was an astounding number of, often young, patients with chronically infected draining ears. Occasional visits from ENT[1] surgeons were not satisfactorily addressing the problem. Typically the specialist would arrive, see a hundred patients, operate on a dozen of them and disappear at the end of the week leaving me holding the bag – itinerant surgery at its worst. At the completion of my general surgery training I would have recognised blood behind the drum in a trauma victim but knew precious little else about the ear!

[1] ENT = ear, nose and throat (surgeons)

Fortunately the hospital had a very enlightened sabbatical programme which allowed one to reflect, refresh and renew and acquire new skills provided one was prepared to return for at least one year. Accordingly I spent a year studying ENT surgery with Dr Jim Baxter and colleagues at McGill in Montreal. They were at that time providing ENT services to the Baffin Zone and were familiar with the problems we were confronting. I have passed many fascinating hours doing mastoidectomies and other ear surgery. Fortunately this problem figures less prominently as living conditions on the coast improve and residents enjoy the benefits of safe warm houses with running water and less overcrowding.

Other sabbaticals have been spent in Toronto and Halifax and in Nigeria and Uganda. The African experience was an education in every sense of the word and I highly recommend it. You learn far more than you teach – often about yourself - and that, sometimes, not very flattering! I went for altruistic motives but also because an increasing number of students and young doctors coming through our facility intended doing overseas work and I wanted to learn first hand what they most needed to know.

I beg the reader's indulgence in the foregoing reflections for I believe they illustrate several important issues.

General surgery in rural areas

Definition: General Surgery

The definition of 'general surgery' is itself contentious. Some facetiously suggest 'general surgery' is what remains after all the lucrative bits have been lopped off! To be sure a generalist in any field must be broadly skilled and exhibit a demeanor that revels in variety and the unraveling of the patient with undifferentiated problems.

Generalism is simply a patient-centred philosophy of care with an undertaking that the patient's problems will be identified and addressed. In many cases the generalist will take on an advocacy role, collaborating with other health care professionals in the management of the case. It does little for the patient or the system if I, as a general surgeon, operate on the ingrown toenail ignoring the fact that this diabetic patient has blood sugars wildly out of control, has a serum creatinine of 500 μmol/L , is a paranoid schizophrenic with substance abuse problems and is about to be evicted from her boarding house!

Exposure

When it comes to the production of surgeons willing and able to work in rural Canada the system has largely failed. We have in fact been training in the same way for years, hoping for different results. That is Einstein's definition of insanity! Not surprisingly residents trained mainly in tertiary teaching centres and mentored mainly by sub-specialists turn out to be, mainly, sub-specialists who feel comfortable working only in tertiary teaching centres! And, not surprisingly we now have graduates of Canadian programmes who cannot find a job.

To some degree this is symptomatic of a system that has evolved to convenience the profession. To be sure it is more efficient to deal with a large number of like patients within a narrow field. One becomes very comfortable and expert within these parameters but one soon finds oneself decidedly uncomfortable if confronted by patients with problems outside one's usual practice - even if they present with problems that would traditionally be dealt with by general surgeons and are included in the training objectives for our residency programmes. Had I not been exposed to the challenges and rewards of remote surgical practice in my formative years, my career would have taken a completely different course. I had intended to pursue neurosurgery – and as it happens, lumbar disc disease and spinal stenosis constitute a significant part of my practice. I do not crack heads except in extreme emergencies but believe every well trained community surgeon should be prepared to deal with the acute, life threatening haematoma.

I believe it important that students and junior residents be exposed to rural settings early in their training. It is also important that senior residents receive training in the rural setting where they may be expected to return to practice. This gives them a realistic idea of the demands of that community, allowing them to tailor their training to meet the same. It also allows the senior trainee to take a major role in the surgery and care of the case, building both competence and confidence.

Community surgery requires expertise in related specialties such as orthopaedics, urology, minor plastic surgery, obstetrics and gynaecology and interventional radiology. These basic skills must be offered during residency training. It is unreasonable to expect individuals to pursue postgraduate fellowships to acquire them. If we cannot turn out a surgeon safe to be let loose on the unsuspecting public after five or six years (or more) of residency training, that same tax paying public has the right to ask why not?

Other developed countries including the USA, Australia and Great Britain face similar challenges. Many, including Canada, resort to poaching surgeons from less wealthy nations to provide the required services in rural and remote locales. To me this is unconscionable. Canada, a rich western nation should be a net exporter of health care professionals.

Is there a role for the general practitioner surgeon?

I believe there is a role for the general practitioner with added surgical skills. I believe, however, they should be trained and mentored by general surgeons and, though expected to work independently within their scope of practice, they should have ready, reliable access to general surgical backup, mentoring, advice and timely referral.

Mentoring surgeons

I have related how Treves promoted Grenfell, who recruited Little, who passed the baton to another Bostonian, Charles Curtis (after whom our hospital is named) and who himself mentored Thomas, who so influenced me. One may find a mentor anywhere – indeed sometimes in the most unlikely of places – but only if one visits that place and does so with an open mind.

"If I have seen further it is by standing on the shoulders of giants"

Sir Isaac Newton (1642 – 1727)

This quotation is very apropos. Surgery is a profession in which apprenticeship continues to play a very significant role. We all have our mentors and with this advantage comes the responsibility to mentor others. Indeed the very word 'doctor' means 'teacher'. We teach our students, our colleagues, our patients, ourselves, our communities. We teach, often formally, but we teach for better or worse, by example.

Medical or surgical expertise and operative technique are certainly important but it is the soft competencies of the CanMEDS daisy that are hardest to mentor. Unethical behaviour, the squandering of resources, lack of professionalism, inability to communicate with patients and colleagues or to collaborate in a team, unwillingness to advocate on behalf of a patient are the issues that often come back to bite us in court and lead to dysfunctional relationships with patients and

colleagues. Our example is more apparent in a smaller community where our identity is well known and our influence may therefore be relatively greater. This is particularly true when it comes to lifestyle and the issues that influence the true determinants of health.

My own introduction to St Anthony was as a student - and over the years, literally hundreds of students and young doctors from Canada and around the world have rotated through our facility. Our affiliation with Memorial University ensures this experience is formally recognised. I would not be practicing in St Anthony today were it not for my continuing interaction with the bright young inquiring minds of our students and residents. There are physicians and surgeons across Canada and indeed around the world who cut their teeth in St Anthony . This is a great source of satisfaction and, when they have become my teacher, the greatest compliment. There are many community surgeons who would feel similarly. They are a valuable but underutilised teaching resource.

Research / academia

Academia is more a state of mind than a place of residence.

Research in the community or rural setting is likely, however, to be case-based and to focus on local problems rather than basic science or bench research.

In St Anthony we have an interest in Hereditary Non Polyposis Colon Cancer (HNPCC) going back more than thirty years. The journey from clinical recognition of the phenomenon to collaboration with the molecular biologists at Memorial in the application of increasingly sophisticated genetic testing has been a fascinating one that has benefited literally hundreds of patients and their families. There are some 35 families in the region who fulfill the Amsterdam Criteria for HNPCC and many other families of clinical concern. Some 1 000 patients participate in our HNPCC Screening Programme which includes a two-yearly colonoscopy and endometrial aspiration biopsy and other investigations depending on family history and clinical circumstances. This is an example of collaboration between a community hospital and a university centre at its best.

Sabbatical leave is most often associated with the ivory towers. I have demonstrated how the concept was used to advantage in my practice and suggest, with the emphasis of upcoming generations on balanced lifestyle (and rightly so) that sabbatical time will increasingly figure in contract negotiations. This I applaud.

Professional associations

Professional bodies such as The Canadian Association of General Surgeons and The Royal College of Physicians and Surgeons of Canada strive to represent members working in all locales. They can speak to the concerns of community surgeons only insofar as this constituency is represented and active in the life of these organisations.

My own experience in this sphere on the executive of The Canadian Association of General Surgeons and of the Royal College have been immensely rewarding personally and professionally. I have made contacts and fast friends with individuals across this country whom I otherwise would never have met. To have had a hand in the success of the now established and growing Canadian Surgery FORUM and to have attended the birth of the Canadian Association of General Surgeons Residents' Association has been greatly satisfying.

History

At the outset I spent some considerable time detailing the history of the hospital in which I work. Contrary to oft touted opinion, Canada is rich in history. Every hospital and every community in this country has a history worth knowing. Making that history your own gives you ownership of that place and deepens your appreciation of your role in its unfolding story.

Lifestyle

In a small community, striking a balanced lifestyle is not always easy, and limiting clinical demands on one's time requires collaboration with colleagues on whose judgment one can depend. Just as in larger centres, operating room (OR) time is an issue. In my case, however it's how to get out of the OR!

In a smaller hospital one often has more influence when it comes to getting things done.

Schooling for the children and employment and / or fulfillment for your spouse are important considerations. The internet has made a tremendous difference in lessening the isolation of rural practice. Professionals in the periphery still require enhanced access to on-line textbooks and full text journals. This is a project I would dearly love to see the Royal College and National Specialty Societies tackle together on behalf of all specialists.

There are countless advantages to rural life that are beyond monetary value. Our living room window overlooks the harbour and catches the sunrise over the Atlantic. Within minutes we can be on a wilderness hike or on the cross country ski trails. We have no smog alerts, no traffic jams, no parking meters.

On returning from sabbatical in Montreal in 1980 I asked my four children – then still in early grade school – whether they would prefer to live in St Anthony or move to a larger centre. Unanimously and without hesitation they chose St Anthony. Why? Because St Anthony offered so much more freedom! Wisdom from the mouths of babes!

Indeed the extremes of weather we are increasingly experiencing as a result of climate change I suspect will encourage many people to move from our large, vulnerable, increasingly crime-ridden metropolitan centres to the relative security of rural Canada thereby increasing the demand for capable, broadly trained community surgeons. The same is true as the citizens of this country force governments to move from a resource-based economy with profit as the bottom line to sustainable development including security of food supply, reliable infrastructure, safe drinking water, housing and health care and equal opportunity for all Canadians.

The future of community general surgery

The patient with the undifferentiated surgical problem presents equally to hospitals of every description - from the large downtown teaching tertiary care facilities to small ‘cottage’ hospitals, and everything in between. The growth of sub-specialty interests in our teaching centres has been at the expense of generalists and community general surgery such that, reportedly, in some instances it may be difficult to find a surgeon in tertiary centres willing and able to take on such cases.

Certainly students and residents have few generalist role models to which to relate in our teaching centres. I would submit, the capable, enthusiastic generalist is best suited to interface with students in their formative years who are, after all, the life blood of the specialty. Furthermore, the university-based generalist is well placed to liaise with colleagues in smaller centres, including rural and remote facilities, breaking down the barriers that exist between town and gown, thereby promoting collegiality and facilitating collaborative practice, teaching and research – truly 'The University Without Walls'.

The tenets of generalism and community general surgery have a place in our teaching centres. These are just as necessary and just as legitimate as that of any sub-specialty in fulfilling our obligations to society under the social contract which confers on us the right to practice as a (largely) self governing profession in return for a guarantee that the medical needs of society will be met. That contract places a direct responsibility on the profession to organise to meet those needs. Failure to do so puts our status as professionals in jeopardy.

In the past I have resisted the idea of dividing our training programmes into 'Academic' and 'Community Surgery' streams for fear of creating two classes of general surgeon. In this day of competency-based education, I have been persuaded otherwise, however. Certainly we are today not meeting the reasonable expectations of the public when it comes to accessible community surgical care.

Community surgeons must possess the skills requisite to their communities of their choice. They must be open to learning from colleagues on-the-job and have access to ongoing traineeships and sabbaticals. Governments must commit to support well equipped and funded rural / community hospitals with sufficient personnel to permit a reasonable lifestyle.

Preserving rural surgical care – a modest proposal

- Establish a division of generalist general surgeons that bridge tertiary, community and rural hospitals intended to legitimise those who are broadly trained in all aspects of general surgery as currently understood. These services should be mandated to adopt a proactive 'Can do' philosophy.
  (Generalist surgical care certainly requires sub-specialty back-up, but can never be replaced by the same. On the other hand any hospital that purports to provide highly sub-specialised care (e.g. orthopaedics, neuro, cardiac) can not do so safely without strong general surgical backup.)

- Include in the scope of practice of practitioners on such units that they deal with abdominal emergencies of every variety, trauma, surgical infection and participate in the surgical ICU.
  In multiple trauma and other complex cases, trainees should have the opportunity to participate/collaborate with consultants in other disciplines (neuro, ortho, plastics, thoracic, vascular etc.) in case management.
  Ensure that opportunities equally should exist for formal rotations on services (such as the above) – with elective/ emergent cases representing the spectrum of general surgery forming the foundation of such a service. Continuity of care should be central to its organisation.
- As appropriate, encourage colleagues to participate in general call such that skills, judgement and confidence do not diminish with time.
- Foster mentoring relationships intended to accompany the trainee into practice.
- Develop imaginative, equitable, alternate funding plans that recognise case volume, on-call commitment, clinical teaching and research, length of service, continuity of care and include provision for sabbatical leave and other CME opportunities.
- Seek to increase exposure of residents in senior years to the challenges and rewards of community, rural and remote practice.
- Explore programmes designed specifically for family physicians with The Canadian Association of General Surgeons, The Royal College of Physicians and Surgeons of Canada and the College of Family Practice of Canada and The Society of Rural Physicians of Canada surgical training. Support the practice of graduates of such programmes.
- Actively promote collaborative outreach projects with rotations of staff and residents to and from developing countries.

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small wages, bitter cold, long months of darkness, unrelenting call, broad responsibilities, return (to sanity) doubtful, honour, satisfaction and the gratitude of those you serve in successful cases.

In closing

Both literally and figuratively I hope soon to sail off into the sunset. I do so with some misgivings, uncertain that current training programmes are producing individuals with the right mix of courage, judgement, attitudes and skills to meet the challenges of community surgery. For me it has been the trip of a lifetime, a journey filled with surprise, satisfaction and infinite reward. Who, in future, will dare to follow on the path less travelled?

Further reading

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