SURGERY IN NINETEENTH CENTURY CHRISTCHURCH, NEW ZEALAND, 1850-1900

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September 2020

Not all surgery in nineteenth century Christchurch took place in a hospital. There was no hospital in Christchurch until 1862, and before that date minor surgery was performed by medical practitioners wherever the patient or surgeon chose. Hospitals were feared by poor people as places where the chronic sick went to die. People who could afford the services of a surgeon preferred to have their operations in their own homes, or in the doctor's consulting rooms, which is why the latter are still called surgeries. It seems likely that a large number of minor operations – lancing boils, draining abscesses, removing moles or ingrown toenails – took place outside the hospital and have left no record.

The scope for surgery in the 1850s and 1860s was extremely limited. Repair of cuts and wounds, removal of foreign bodies such as splinters or shotgun pellets, amputations and bone-setting, and operations on accessible cancerous growths of breast, skin, jaw or tongue accounted for most of the range. While most surgeons at least washed their hands before a procedure (and, one hopes, the relevant portion of the patient's anatomy) some old-fashioned doctors never did. Ordinary street clothes were worn, though some surgeons wore an apron to catch any unexpected spurts of blood. There were no gloves or masks recorded in New Zealand surgery before the 1890s, though operating gowns were used in the 1880s.[1]

Before the advent of Listerian antiseptic surgery (first performed in New Zealand in 1868 but rarely practised before the 1880s) few surgeons dared enter the abdominal cavity.[2] The risk of post-operative 'inflammation' (for which read infection) was simply too great. There is a famous anecdote about the great English surgeon Sir Astley Cooper (1768-1841) on a visit to Paris, where Napoleon's chief surgeon asked him how many times he had performed a particularly difficult procedure. Cooper replied, thirteen times. 'Ah, but Monsieur, I have done him 160 times! How many times did you save his life?' Cooper pondered for a moment, then replied 'I saved eleven out of thirteen. How many did you save out of 160?' 'Ah, Monsieur, I lose them all – but the operation was very brilliant!'[3]

The most common major surgical procedure in the pre-modern era was amputation. The Royal Navy had this down to a fine art in the late eighteenth century, with

remarkable survival rates. Speed was essential to lessen the shock, rum helped mask the pain, and hot tar was used to cauterize the exposed blood vessels and flesh. Fractures were common on land as well, from accidents with horses to being run over by an iron-shod cartwheel, but survival rates were poor. Almost all cases of compound or comminuted (crushed bone) fracture died, and about half of all amputations, before the 1860s.

By the 1860s, however, surgeons had an important advantage over their predecessors. Chloroform offered an effective and generally safe anaesthetic, better than ether or nitrous oxide ('laughing gas') which had been popular in the 1840s. Chloroform encouraged bolder surgeons to amputate where limbs had been crushed beyond any hope of natural healing, and if the surgeon insisted on cleanliness the patient had a one in three chance of survival.[4]

There was little call for the surgeon's skill in early Christchurch. It was a youthful and generally healthy population of British settlers, and apart from the usual winter colds there was very little infectious disease. However, a pioneering life had plenty of scope for accidents, especially in felling timber and building houses. Gashes from knives or axes needed sewing up, and a horse's hoof could do considerable damage to a face or a knee joint. Severe toothache called for extraction, and a crushed digit might need amputation. But most of the work of an early medical practitioner was that of a physician rather than a surgeon. Doctors relied on the sale of pills and drugs for most of their income.

The earliest example of surgery in Christchurch in the 1850s comes from Dr John Shearing Willis who came out in the *Isabella Hercus* in 1851. He settled in Opawa and developed a large estate at 'Hawford'. One day a Māori man came to him with a large wen or cyst on his neck. Dr Willis removed it successfully, and the grateful patient thereafter slept on the verandah to protect the family when Dr Willis was away. He told all his friends, 'You go to Dr Willis – he cut your throat and make you better!'[5]

The *Lyttelton Times* has several reports of surgical events in Britain in the 1850s, but has no mention of any local operations or amputations in this decade. There were a number of suicides by arsenic or strychnine, suggesting that colonial life proved too hard for some, but the ones who cut their throats were all beyond any surgical repair by the time the doctor arrived. With so many former ship's doctors in the settlement it was hard to make a living from medicine. Dr Thomas Richard Moore was an experienced surgeon who settled at Charteris Bay, but when his farming venture failed in 1857 he had to sell his furniture and books, including a number of medical texts.[6] He tried general practice in Christchurch but he died suddenly from apoplexy in 1860 aged 44.

Dr Samuel Beswick settled at Kaiapoi and in August 1861 had to treat a man who had attempted to commit suicide by hitting himself on the head with an axe.[7] The outcome of this case is not recorded. Sewing up wounds and lancing boils was probably as close as most doctors got to surgery in those early days.

Surgery in Christchurch was probably confined to minor operations on boils and carbuncles before the advent of a proper hospital. The port of Lyttelton had a cottage hospital from November 1851, when the former home of the Reverend Octavius Mathias was rented for £40 a year, but this was mainly used as a maternity hospital. Two years later the former customs house was renovated and used for nine years until it too was condemned for its leaky roof and lack of space. The Canterbury Provincial Government funded a grand new hospital on the slope above Dampiers Bay, with six wards and three nurses, but it was long delayed and by the time it opened in 1863 Christchurch had a new hospital and it was superfluous to the community's needs. It was converted into the Canterbury Orphanage Asylum, a grim place that burned down in 1904.[8]

The best available summary of early surgery at Christchurch Hospital was made by the late Dr Francis O. Bennett in his history, *Hospital on the Avon* (1962), pp. 58-60. There he lists the notable 'firsts' in Christchurch surgery, but before that he remarks on the hazards of that pre-antibiotic (and pre-asepsis) era.

> Accidents if producing open wounds carried a bad prognosis. The dread of the doctor was infection and septicaemia. The dread of the patient was amputation. Both fears were real. (In the Crimea war a decade earlier every man with a compound fracture of the femur died.) The doctor arguing statistically that the best figures for survival of three limbs followed a sacrifice of one was opposed by the patient who argued that his individual case could have no bearing on a statistical group and that he would prefer his four limbs. He often resisted the doctor and made a good recovery and raised doubts in the minds of the amputees as to whether their operations had been necessary.
>
> As time went by the public steadily hardened in its insistence on conservative treatment and when asepsis became possible the doctors agreed. Simple fractures were set and splinted and alignment of the parts was controlled by inspection and palpation. Boils, carbuncles and quinsies were incised and abscesses, cysts and pleurisies were aspirated. Every doctor carried at least one cannula [tube] with a neat nest of trocars [3-sided cutting point in a tube]. Wounds were sutured usually without anaesthetics. When anaesthetics were used chloroform was the one of choice and some later doctors could quote personal series of thousands of anaesthetics without any accidents.
>
> The first doctors in Christchurch to explore new fields in surgery were Dr Prins and Dr Turnbull. The more spectacular operations were reported in the daily papers often with progress notes from time to time. No hospital records of surgical cases were kept and the history of the gradual expansion of surgery in Canterbury is now lost forever. From various sources the following fragments survive:

Removal of malignant upper jaw (Dr Turnbull 1864) [Wrong date: should be 1868.]

Amputation of hip joint (Dr Turnbull 1865) [In fact, it was Dr Prins.]

Removal of malignant breast (Dr Prins 1866)

Lithotomy on a boy (Dr Prins 1879) [Wrong date: should be 1866.]

Removal of malignant tongue (Dr Prins 1879) [Wrong date: should be 1873]

Removal of cheek and jawbone (Dr Prins 1879) [Wrong date: should be 1873]

Ovariotomy (Dr McBean Stewart 1883)

Transplant of cornea from rabbit to man (Dr Wilkins 1883)

Strangulated hernia (Dr McBean Stewart 1884)

[This last patient died, and the operation led to a public inquiry and a celebrated action for libel against Dr Nedwill after which Dr Stewart was awarded just one shilling in damages.]

Suturing fractured patella (Dr Leahy, Ashburton, 1890)

Hysterectomy (Dr de Renzi 1891)

Cystoscopy (Dr Fenwick 1895)

Gastro-jejunostomy (Dr Fenwick 1899)

Splenectomy (trauma) (Dr Crooke 1902)

Caesarian plus hysterectomy (Sir Hugh Acland 1904)

Thanks to *Papers Past*, however, we can add a large number of additional cases to Dr Bennett's list, from newspaper reports of the time. The early Admissions Registers occasionally notice fractures and amputations, but they are frustratingly vague about diseases and injuries, and no diseases were recorded for admissions between 1867 and 1875. There are also a few rare descriptions of surgery conducted in Christchurch that were published in the *Lancet*. As we shall see, the survival rate from early surgery at Christchurch Hospital was fairly dismal.

Christchurch Hospital was opened on 1 June 1862 without ceremony. Apparently the staff moved in as the builders walked out. It was an odd-looking wooden building, designed by an architect who had no idea of what was needed in a hospital. It was in fact little more than a large house, with eight rooms to serve as wards. It had no operating theatre and no dead house. Living quarters for the resident surgeon were added in 1864, and in 1866 a new block doubled the size of the establishment with a

men's ward above a combined consulting, operating and lecturing room. Silas Stedman MD was the first physician, appointed by the Canterbury Provincial Government, and Burrell Parkerson MRCS was the first surgeon.[9] Parkerson built one of the first houses in Sumner in 1852, and there trained his namesake son in medicine, but the son never made the trip to Britain to gain formal qualifications.

Though the *Lyttelton Times* mentions Dr Parkerson a few times in the early 1860s, there is no mention of any surgery at the hospital performed by him. The Admissions Register records two cases of diseased knee joints, one disease of jawbone and two fractured scapula (shoulder bone) in 1863 but there is no hint of surgery involved. Nor do we know what was done about an enlarged testicle in November 1863, though it must have been a temptation for any aspiring surgeon to remove it.

Dr Parkerson resigned his post at the hospital early in 1864 and was replaced by Dr Henry Horsford Prins, who was born in Ceylon and had studied medicine in Calcutta and London. He came out as surgeon/superintendent on the *Cashmere* in October 1859. The Christchurch Hospital Admissions Register records that in early April 1864 Dr Prins amputated the gangrenous arm of a patient named Orlando Cox, who was later discharged 'cured'. On 17 May Prins amputated the leg below the knee of a patient named William Goodwin.[10] We know from the *Lyttelton Times* that he treated two leg fractures in September and October 1864 without amputation.[11]

In the latter month Prins was appointed to sole medical charge of Christchurch Hospital on the princely salary of £500 a year.[12] Stedman was retained as a visiting consultant. This appointment meant that Prins had to give up his growing private practice, which disappointed many of his patients. In January 1865 he announced that he would be giving his vaccination fees (against smallpox) to purchase books for the hospital library.[13] His salary went up to £650 a year when he was also appointed medical officer to the Immigration Barracks and the Lunatic Asylum.[14]

At the start of 1865 Prins attended a man named Henry Thorpe who had been thrown from a cart in which he was taking some of his friends to the Riccarton races. A wheel had passed over his leg. The leg was badly broken, with the bones having emerged through the skin. He was removed to Christchurch Hospital, where Prins set the fracture and sewed up the wound. However, 'mortification set in' and the man died on 24 January.[15]

In April 1865 Prins attempted to repair the 'frightful gash' on the throat of a patient named Simpson who had cut his throat with a razor while in the toilet. He had been admitted with fever and severe headaches, and seemed 'very much depressed in spirits'. Prins did his best to sew up the cut, but the jugular had been severed on the right side and there was a hole in the trachea. The man had lost a lot of blood and lived for only another eight hours.[16]

In July 1865 a man named Traunce was brought to the hospital from the Upper Rakaia basin via Lake Coleridge with a severe gunshot wound. The bullet had gone through his upper thigh, shattering bone and muscle. He was admitted in 'a dangerous condition',

and Prins decided that the only way to save his life was by amputating the shattered limb at the hip. Dr Stedman and 'other medical gentlemen' gave advice and Prins performed the operation the next morning. Traunce remained 'very precarious' and died four days later.[17]

In the same issue of the *Lyttelton Times*, there was a brief but revealing appeal from the hospital: the staff would welcome donations of old linen, 'as there are so many surgical cases'.

In August 1865 Prins asked the government to alter the terms of his appointment to allow him to attend private patients. A meeting of the medical men was held and they protested that this was a breach of the understanding on which his appointment had been made, and that urgent cases demanded the attention of a resident medical officer, not one who was away attending his own private patients.[18] After dealing with another fractured leg in September, Prins resigned his hospital appointment in October, but the Provincial Government refused to accept it.[19]

In December 1865 Prins performed an amputation on a man named Knowles who had fallen from the buffers of a moving train while intoxicated. A wheel had run over his arm. Consultation with other medical men resulted in a decision to amputate. The patient was anaesthetised with chloroform, and Prins removed the arm at the shoulder joint.[20] The operation was successful and the patient survived for another three weeks, and seemed to be doing well, until he suddenly sank and died the next day. Prins told the inquest that Knowles had suffered a compound comminuted fracture of the right arm, extending from the shoulder to below the elbow.[21]

The leading medical men in Christchurch set up a Medico-Chirurgical Society in December 1865, and elected Dr Burrell Parkerson as their first president. Drs Coward and Turnbull were vice-presidents, Dr Deamer was treasurer, and young Dr Powell was appointed secretary. Drs Prins and Leach joined the officers of the society to form a committee of management.[22] However, after only a few meetings, the society had collapsed by the end of the year in a welter of recriminations between Dr Coward and Dr Frankish. The other doctors took sides, and quarrelled bitterly over Coward's role as coroner. Dr Prins later quarrelled with Powell over his share of post-mortem examinations, accusing Powell of using his friendship with Coward to gain the lion's share. Powell calmly refuted these accusations by publishing the actual figures. In fact Prins had done more than anyone else. Turnbull and Deamer joined in a short-lived partnership, but both were declared bankrupt by the end of 1867.[23] Christchurch's medical men became notorious for their squabbles over 'medical etiquette'. The basic problem was that the city had too many doctors for its population in the 1860s, and they all struggled to make a living.

On 1 June 1866 Prins performed the first lithotomy in Canterbury, removing a stone from a six-year old boy. Considering the age of the child, the stone was 'thought to be large'. Doctors Parkerson, Turnbull, Deamer, Coward, Frankish, Leach, Powell and Rouse observed the operation.[24] The famous diarist Samuel Pepys had survived this operation in 1658, but many others did not, as the risk of infection was high. Presumably Prins again used chloroform as an anaesthetic. Without a name it is impossible to check whether the boy lived or died.

A few days earlier (the exact date is not recorded) Prins had achieved another surgical first in Canterbury, performing a trephining operation on a 23-year old man named Collier. For several years this young man had been afflicted with neurological symptoms, including occasional loss of speech and hearing, and paralysis of the lower limbs. His father had taken him to several medical men, who were all baffled by his symptoms. He then consulted Christchurch's resident clairvoyant, galvanist and mesmerist, one George Hosgood Wilson, a former ship's captain. His treatments appeared to give the young man some relief, but the symptoms returned with more severity. Under hypnosis the young man said that all his ailments proceeded from the pressure of a piece of bone from an old fracture, pressing on his brain. He demanded an operation to remove it. Several medical men were asked to perform the operation, but they refused to attempt it on such flimsy evidence. Collier's father resolved to take his son to Melbourne in search of a braver surgeon, but Prins finally agreed to attempt the operation.[25]

Prins invited most of the same medical men to observe, and the patient insisted that his friend Captain Wilson hold his hand during the procedure. The assembled doctors had no objection, but when Dr Turnbull joined them he objected strenuously to Wilson's presence, saying he was not a family member and had no professional claim to be present. Wilson was bundled out, under protest, and the operation proceeded.[26]

Collier's father wrote to the *Lyttelton Times* on 4 June, and his letter was published on 9 June. He said that his son had become 'fearfully excited' when Wilson left the room, and the outcome might have been very sad had the case not been 'under the management of a most skilful operator'. [Prins] 'The result, however, was all that we could desire. When the scalp was removed from the spot indicated by the clairvoyant, there, sure enough, was found a fracture causing a splinter of bone to press upon and disturb the action of the brain'.[27]

Five of the doctors present at the operation then wrote to the *Lyttelton Times* in a letter published on 11 June, explaining why Dr Turnbull had ejected Captain Wilson from the operating room and denying that the patient became 'fearfully excited'. He did not 'betray as much excitement as is frequently exhibited during the administration of chloroform'. No fracture of the cranium was detected, and there was no splinter of bone, except one that was 'accidentally produced by the trephine during the operation'. No distinct cause for the young man's symptoms was found.[28]

Later that month Dr Frankish wrote again to the papers to contradict various rumours that were circulating in the town. The doctors had in no way intended to undermine the reputation of Dr Prins as a surgeon or to diminish 'his skill as an operator'. Frankish could not understand how anyone could place that construction on their letter. The operation had been undertaken because the patient's symptoms were consistent with a previous injury to the skull. Though no fracture or splinter had been found, the operation had apparently relieved some pressure on the brain, because the previous symptoms had now disappeared.[29]

Drs Parkerson and Turnbull also wrote to the *Times* with their version of the operation. Five years before, young Collier had been riding in a hurdle race and had been thrown by the horse, which kicked him in the head. From that time on Collier had suffered pain at the spot where the horse had kicked him, and other symptoms consistent with pressure on the brain. Dr Prins had naturally selected that spot for the trephining, and the successful outcome for the patient proved that their collective decision to proceed with that procedure had been the correct one. They had not been at all influenced by Captain Wilson's claims of clairvoyance, 'because we do not believe in the existence of such a power . . . We were guided in our advice solely by the principles and practice of surgery'.[30]

In August 1866 Prins had another gunshot wound to deal with. Michael Tuck had been cleaning a gun which he believed to be unloaded when it went off and the bullet embedded itself in his thigh. He was admitted on 11 August. Prins found the thigh very swollen, and may have extracted the bullet, but after a few days the wound began to bleed profusely. In consultation with other medical men, Prins decided to amputate next day, but Tuck died that night. Prins made a post mortem examination, and found a torn artery.[31]

Most of the cases in the papers involving Prins were not surgical. In July 1866 he helped patch up the victim of a stabbing, but left his assistant, Edmund Welsh, to dress the wounds, as they were superficial flesh wounds.[32] He examined several suspected lunatics, and found that they were suffering from delirium tremens from excessive alcohol consumption. When a painter fell from a ladder, Prins gave him 'every attention', but the man later died.[33]

Prins resigned from Christchurch Hospital in November 1866 when Dr Llewellyn Powell was appointed house surgeon, but retained a role as visiting surgeon. Dr Turnbull was the visiting physician.[34]

Prins missed another opportunity for a trephining in January 1867. One John Darby had suffered a head injury in a boxing match, and suffered violent headaches. He had been treated by Dr Deamer with 'blisters and powders', but Deamer gave up the case when the patient would not follow directions. Dr Turnbull also gave up on him when he found that Darby was drinking heavily. Prins was called and ordered the man's head to be shaved, suggesting he intended another trephining, but Darby suffered convulsions and

died. Drs Powell and Turnbull conducted the post mortem examination and found a large blood clot pressing on the brain.[35]

Powell was an ophthalmologist, later declared by Dr Turnbull to be 'the best oculist' in the country, but he had few opportunities for eye surgery. He was preoccupied by an epidemic of typhoid fever in 1867. Bennett's analysis of 75 medical cases at Christchurch Hospital between 1866 and 1869 revealed a 44% incidence of fevers, mostly typhoid. The other cases comprised 'roughly equal numbers of pneumonia, delirium tremens, heart diseases, phthisis and rheumatism'.[36]

In November 1868 Dr Turnbull presented a paper to the Philosophical Institute, illustrated by photographs, describing the removal of a malignant right upper jaw.[37] It is a great pity that this operation was not reported in the newspapers, as virtually nothing is known about it. The use of photography at this early date is especially noteworthy.

The late 1860s were a period of great excitement in medical and scientific circles. Experiments with oxygen and fermentation by the French chemist and biologist Louis Pasteur had led him to discover bacteria and to propose the germ theory of disease in the early 1860s. Joseph Lister had applied this new knowledge to surgery and pioneered the use of carbolic acid (now known as phenol) as an atomised spray over the operating table. This work had been reported in several issues of *The Lancet* during 1865 and 1867. The link between Pasteur's germ theory and Lister's antiseptic surgery had been fully explained in the *Otago Daily Times* of 11 January 1868. This was not copied by the Christchurch papers, but it seems likely that the news spread rapidly among the medical fraternity of New Zealand.

The Listerian antiseptic method was first used in New Zealand by Dr Rutherford Ryley at Hokitika Hospital early in 1868, with remarkable success. Ryley had assisted at some of Lister's operations, and carefully followed the procedure laid down by the man who was to become Britain's most celebrated surgeon of the nineteenth century. Ryley's operation was reported in the Christchurch *Press* on 16 March 1868, so now there was no excuse for local surgeons to claim ignorance of the procedure.

Unfortunately for the historian, we have no evidence for the first use of the Listerian antiseptic method at Christchurch Hospital. Our first firm evidence comes from 1883, but it seems inconceivable that the method had not been tried out before that time. Chloroform had been adopted as an anaesthetic from the start of the Canterbury settlement, and surely another life-saving practice would have appealed to most doctors. On the other hand, it is clear that not all doctors in Christchurch were persuaded by Pasteur or Lister. Some were still talking in terms of miasma rather than bacteria as the cause of infectious diseases well into the 1880s. The key figure here is that of Dr Prins, the city's leading surgeon. He was an outspoken opponent, along with Dr Turnbull, of the Drainage Board's proposed deep sewer system in the 1870s, and was one of those who insisted that infections emanated from bad smells. If he was scornful

of Lister's technique, he may have delayed the adoption of Listerian antisepsis at Christchurch Hospital for some years. Absence of evidence is not necessarily evidence of absence, but it is curious that the Christchurch newspapers, always so keen to report new medical advances, make no mention of antiseptic surgery at the hospital before 1883.

Dr Powell departed at the start of 1869 for a year's leave to gain his LRCP in London and an MD in ophthalmology from Heidelberg University. His place as house surgeon at the hospital was taken by Burrell Parkerson jnr, and this sparked a furious controversy among the Christchurch medical men, for young Parkerson had no degree. He had been well-trained by his father, and was a capable physician, liked by nurses and patients, but he could not perform more than the most basic surgery as he had not been trained in dissection. The new Medical Practitioners' Act was being debated at this time, and medical men with degrees were outraged that it accepted for registration men like Parkerson who were already on the register and had been practising before 1869 without qualifications. The other doctors protested that the new house surgeon could not even pretend to cope with surgical emergencies.[38]

Early in 1869 Turnbull was involved in a curious case of surgical mistreatment that left a man crippled in one leg. Thomas Roach had suffered a nasty injury to his knee when it was 'opened by an adze'. Dr Robert Iliffe had used leeches and poultices to reduce the swelling, and then probed the wound with a bodkin and squeezed 'oil' from it. When Iliffe was called away up country Dr Leach took over and moderated the treatment. The patient later credited Leach with saving his life. When Iliffe returned and the patient insisted on calling in another doctor, Prins came and examined the wound, but declined to recommend any treatment, so Turnbull was called in, and he recommended making a cut in the shin bone to drain the wound. Iliffe did so, and applied a strong ointment that made the patient salivate so much that his teeth loosened. Turnbull later told Roach that Iliffe should not have made the second cut.[39]

Roach was a member of the Ancient Order of Foresters, and so was Dr Iliffe. Roach was astonished when the Foresters held an 'open court' and exonerated Iliffe from any blame in the treatment of Roach's knee. Iliffe produced a letter from Turnbull which according to Roach was 'in dead contradiction of what he told me himself'. A visitor who took Roach's side and called Dr Prins 'a fool' was quickly hustled out of the room. Roach wrote to the *Times* to explain all of this, and said he was a poor man who did not want the public to think him 'an imposter upon legitimate charity'. But as he was now a cripple for life, he refused to apologise for abusing Dr Iliffe on the street, as he had good cause for 'severe irritation'.[40]

In October 1869 Drs Prins and Turnbull amputated the arm of a man whose hand had been caught in machinery at the Selwyn flax mill. It had been 'fearfully smashed', and they amputated below the elbow, apparently with success.[41] Later that month Prins attended a railway worker who had been crushed between a locomotive and a water

tank. He had suffered severe compression of the back and spine, and his legs were paralysed. Prins did not expect him to recover.[42]

The medical men of Christchurch had protested against the appointment of Burrell Parkerson jnr as house surgeon at Christchurch Hospital in 1869, and appealed to the Canterbury Provincial Government to increase the hospital staff. The hospital had about 60 beds, was usually nearly full, and was likely to get even fuller with the increasing number of industrial accidents in Canterbury, mostly from flax mills and the railway. They recommended a resident surgeon, three visiting physicians, two visiting surgeons, an ophthalmic surgeon and a pathologist.[43] However, the government disagreed, pointing out that the average daily occupancy was only 35, and many of these were chronic cases that did not need daily medical attention. Dr Prins insisted that he was coping perfectly well with the surgical side of the hospital, and saw no need for additional medical staff.[44]

The provincial government compromised, and increased the number of visiting staff but left the permanent staff at three: Mr Parkerson, Dr Deamer and Dr Powell. In the early 1870s the doctors most connected with the hospital were Drs Prins, Nedwill, Turnbull, Frankish, Campbell and Powell, but they were far from being a happy band of brothers.

One major source of friction arose from the trial of Hugh McLeod for the murder of his rowdy and drunken prostitute wife Jane in January 1871. Drs Prins and Patrick had conducted the autopsy and noticed that two of the knife wounds to the ribs were connected: a finger could be passed between them. The knife had apparently cut the right lung and collapsed it. The right side of the chest cavity was filled with blood, but there was surprisingly little sign of inflammation where the knife had penetrated the lung. Death was attributed to loss of blood and exhaustion.

However, the defence had asked Drs Nedwill and Frankish to conduct a separate post mortem examination, and they came to a different conclusion. The wound to the lung need not have been fatal, as no major blood vessels had been cut. The victim's liver was greatly enlarged, which reflected her years of alcoholism, and her heart was flabby. Nedwill testified that he had known patients with a collapsed lung to survive for many years. He suggested that the cut in the lung had been made by accident during the first autopsy, as there was so little inflammation. Dr Frankish suggested that the knife wound may not have been the cause of death, but rather heart failure from shock or even a blood clot on the brain. The jury was not persuaded, however, and Hugh McLeod was found guilty and sentenced to death. But the case had aroused much sympathy for McLeod. His lawyer had not argued for provocation, but his wife had entertained a succession of other men in her bed while he was working up country. A petition was quickly organised and widely signed. McLeod was released from prison later in 1871.

Dr Prins, however, was outraged that two young doctors had questioned his competence and professional judgement, and he refused to allow Nedwill or Frankish anywhere near the hospital for many months. The quarrel became public in October 1871 with the

publication of correspondence between the provincial government and Drs Nedwill and Frankish in which they called for a public inquiry into the McLeod post mortem. They alleged negligence by Prins for not examining all of the internal organs. They failed to get their inquiry, and Prins was later persuaded to relent and allow them back in the hospital.[45]

Turnbull kept campaigning for reforms at the hospital, but he was handicapped by the intense personal antagonisms between the doctors. When a surgical operation was to be performed, the rules laid down that all of the staff be invited to observe. But the surgeon could then scan the list and strike off the name of any rival or anyone who had criticised the hospital.[46]

The newspapers have no mention of any operations at the hospital in 1870, but in February 1871 Prins was called upon to perform another trephining on a worker from the Styx flax mill who had suffered a severe head injury when struck by a disintegrating metal drum. The young man was brought to Christchurch Hospital in the police waggonette, still unconscious and with a mutilated left hand and broken arm. Prins invited a number of other medical men to observe the operation, and the boy's pulse improved, but he died the following day. Even if he had survived the deep wound to his skull, his left arm would have had to be amputated.[47]

Just two days later Prins was again called to the hospital, this time to attend a farm worker from Prebbleton whose arm had been crushed in a threshing machine. Prins took the arm off above the elbow, and the patient was reported to be 'doing well'.[48]

Amputation always carried a risk of infection, but there was also risk from the anaesthetic. Drs Turnbull and Powell endured every surgeon's nightmare in March 1872 while operating on a popular and respected citizen, Douglas Graham, manager of the Riccarton estate. His finger had become entangled in the reins when a horse shied, and had almost been pulled off. Turnbull and Powell agreed that amputation was needed. Powell administered the chloroform, but as Turnbull made the first incision the patient's heart stopped. Marshall Hall's method of resuscitation was maintained for nearly two hours, but Graham never revived. It was good quality chloroform, and Powell had used only the minimum recommended amount. The coroner noted that the medical journals occasionally reported deaths under chloroform, but they were very rare. The inquest jury returned a verdict of death from natural causes.[49]

A circus troupe visited Christchurch in 1872 and one evening a young performer named Eugene Beda fell from a horse and broke his leg. He did not realise it was broken, and tried to stand, but the broken ends then protruded through the skin. The bones were set, but infection developed and gangrene set in. Prins performed the amputation at the hospital, 'in the presence of five or six medical gentlemen', and the youth was 'doing as well as can be expected'. It was the end of his circus career, however, and a benefit performance raised £100 for him. The circus agent then found him a job on the railway staff.[50]

Prins opened a private hospital in his old dispensary in High Street, and in January 1873 there performed two interesting operations. One was to remove a cancerous growth from a man's face, in which Prins cut away the whole cheek and part of the jawbone. The other case involved cancer of the tongue, and Prins removed the whole tongue. Both patients survived, and were said to be 'almost healed'.[51] Their subsequent fate is, however, unknown.

In the second week of May 1873 two 'serious operations' were performed at Christchurch Hospital. One was the removal an entire eyeball from a patient named Corry, who had been treated, or rather mistreated, by a travelling oculist named Solomon in April. Dr Powell had declared the ointment prescribed by Solomon as likely to cause serious harm to a diseased eyeball. Corry had sued Solomon in the Magistrate's Court and won £20 in damages, but the quack oculist had already fled. It is almost certain that Powell performed the operation to remove the eyeball. The other operation was the removal of the entire knee joint from a boy whose father was a tenant of Leonard Harper at the Ilam homestead.[52]

Later in May 1873 Dr Nedwill amputated the badly fractured leg of one William Dearden, who had been injured in a coach accident at Sumner. Dr Deamer administered the chloroform, and the operation was witnessed by the hospital's medical staff.[53] This report prompted a scornful letter from 'Chirurgeon' in the *Press*. He said that not all of the staff were present, as Drs Prins and Parkerson had not been invited, in defiance of the Provincial Government's regulations passed just the week before. As for Dr Turnbull's 'formidable operation' to remove a boy's knee joint, 'This is nothing new, as the same operation has been performed twice by Dr Prins and once by Dr Campbell'.[54]

In May 1873 a passenger on Cook's coach which ran between Christchurch and the Papanui railway station suffered a badly broken leg when he fell from the coach and one wheel ran over his leg. He was brought to Dr Prins's private hospital with a compound comminuted fracture with severe laceration and the bones protruding. Prins set the bones and repaired the torn flesh (one hopes under chloroform) and was hopeful of saving the leg. He predicted a four to six months' recovery, but if that failed he could always amputate.[55]

Only one operation was noticed by the newspapers during 1874. A lighterman at Lyttelton was helping to collect ballast stones from Rhodes Bay when a large boulder was dislodged and rolled down on him, crushing his right leg. He was brought back across the harbour to Lyttelton, and stretchered to Dr Macdonald's house, but the doctor told them to take him down to the new Casualty Ward on Norwich Quay. There Dr Rouse administered the chloroform while Dr Macdonald amputated the crushed limb. The patient recovered, 'though suffering great pain', and was doing as well as could be expected. This was the first serious operation at the new Casualty Ward.[56]

A letter to the *Lyttelton Times* in 1875 from the eccentric Dr Earle of Opawa, inventor of the supposed vital fluid 'cerebrine' and advocate of radical remedies for inflammation, reveals a surgical procedure that took place in late 1874. According to Dr Earle, three

years earlier a carpenter named John Hall had sprained his knee and developed severe inflammation of the synovial membrane of the joint. He 'suffered for many months' under Dr Campbell at the hospital, who discharged him as incurable. Then in December 1874 he went back to the hospital and a consultation of 'five of our leading surgeons' decided to cut out the knee joint: 'this piece of barbarity was actually performed'. The man was now crippled for life.[57]

Christchurch Hospital lost its controversial house surgeon (the one who was not a surgeon) in 1875. Burrell Parkerson jnr died from typhoid fever after being 'greatly overworked' dealing with a typhoid outbreak. The hospital was 'crowded' with cases and he did not take to his bed at the first onset of symptoms in late April. As his condition worsened he became delirious and was 'insensible for several days', finally dying on 2 May at the age of 45.[58]

His place was taken at once by Dr Donald Campbell, at the request of the Provincial Government, who paid him £2 a day to sleep in the hospital. This arrangement lasted less than a month, but he took advantage of the opportunity to make some much-needed reforms in the matter of record-keeping, which had been very slack before this time. A new Hospital Admission and Discharge Book was started which gave name, address, religion, nationality, disease, date of admission, under whose charge, date of discharge or death, charge for maintenance, amount paid on leaving, and balance returned to the government. While the motivation may have been financial, the record of disease and cause of death is useful for the historian.[59]

Though Prins employed a debt-collector, his private hospital did not pay, and it was closed by March 1875. He moved his surgery to Hereford Street. In August that year he was called to the hospital to attend a gunshot case. A man had been shooting rabbits on Mr Tisch's farm when his pistol fired accidentally. The ball entered behind his left knee. Prins found that the ball had traversed the lower leg and was lodged in the ankle joint. With Dr Symes assisting, Prins put the man under with chloroform and extracted the ball, which had been 'greatly flattened' by contact with leg bone. Prins was renowned as a speedy surgeon, and he 'made every effort to avoid amputation'. That night the man was 'doing as well as can be expected', but the final outcome is not known.[60]

In December 1875 Prins was called to a stabbing outside the hotel in Gloucester Street also known as 'the Palace'. Theodore Arnold had lured Arthur Faithful outside and attacked him with a knife, calling out 'I'll do for you now!' Two police constables witnessed the assault and separated the men. Faithful was about to step into a cab to be taken to the hospital when Prins arrived, and Faithful asked to be taken to his lodgings at Warners Hotel in Cathedral Square. On the way Prins stopped the bleeding and dressed his wounds. The wound on the left side of Faithful's jaw had missed an artery by a hair's breadth. The knife had glanced off the lower ribs on the left side of the chest, but Prins was more concerned about a third abdominal wound. He wisely decided not to probe it in case it became infected. He attended Faithful for a week, until all danger

had passed. The two men were recent arrivals, having come from Britain on the same ship. They had quarrelled in Lyttelton, where Faithful had been telling people Arnold was a thief. Ironically, this may have been true: it was Faithful's knife. He had lost it on the ship. In the Supreme Court on 4 January 1876 Arnold was sentenced to two years in prison with hard labour, the judge remarking that he was very lucky it had not been a charge of murder.[61]

Drs Nedwill and Campbell lost a patient to chloroform in May 1876, before the operation had even started. Robert Bell Thompson was suffering from stricture of the urethra, an operation Nedwill had performed on him a year before under chloroform anaesthetic. All had gone well, and Thompson had been under Nedwill's care since then, but his condition worsened and another operation was deemed necessary. While Nedwill prepared his instruments, Campbell sprinkled some chloroform on a towel and held it over the patient's face. Thompson 'plunged about a great deal' and pulled the towel from his face. Campbell sprinkled some more chloroform, and applied it to the patient's nostrils for two or three minutes. Then Campbell called to Nedwill, 'He is gone' or something to that effect. The two doctors attempted to revive the patient, but without success.

Dr Powell was sent for, and assisted with the resuscitation, but to no avail. From what remained in the bottle, Nedwill thought the patient had inhaled only a very small quantity of the chloroform. Dr Powell performed the autopsy and found the man's heart 'extremely flaccid' with 'remarkably thin' walls of the right auricle, which may have contributed to his death. Yet he had no history of heart trouble, and had told Nedwill he had 'never felt better'. Nedwill told the coroner that this operation was not possible without chloroform, as the procedure required passing through certain muscles which are normally rigid, but the chloroform enabled them to relax. The coroner observed that there was always a slight risk with chloroform and a certain percentage of deaths could be expected. The jury returned a verdict of 'Accidental death'.[62] However, we may wonder if Campbell had not inadvertently suffocated the man by pressing too hard on his nostrils.

The great medical scandal of 1876 in Christchurch was the trial for murder of William Potter Townend, a pharmacist and 'man-midwife' who was the brother of Dr Joseph Henry Townend. They both came out on the *White Rose* in July 1875, though Joseph had previously visited Lyttelton as the ship's surgeon on the *Rakaia* in 1874. Joseph announced his qualifications and medical rooms in the Crystal Palace building on Colombo Street, opposite the Market Place, in August 1875. His younger brother opened his pharmacy in the same building. However, the ad was repeated endlessly for many months, leading the other doctors to ostracise Dr Townend for advertising 'in the manner of a small tradesman'. He also undercut them by charging only 1s 6d for consultations, whereas the agreed rate was 2s 6d. Dr Townend rapidly built up a large practice. He was a recently qualified doctor, armed with the latest ideas and techniques. He was also a cheerful and likeable man, and his patients loved him. His brother William

also built up a large midwifery practice, assisting his brother with difficult cases. Neither had degrees, but both were LRCPs of Edinburgh. The Christchurch medical men hated them heartily for taking away so many of their patients.

But disaster struck the Townend brothers in May 1876. An inquest into the death of the infant son of Harris and Amelia Isaacs revealed that William Potter Townend had used scissors to cut the foetus, believing it was dead, in order to save the mother. The baby was coming feet first and got stuck. The midwife, Mrs Inglefield, called for Townend's assistance. With forceps he managed to get the baby's head presenting, but by now the mother was exhausted and Townend could not detect a heartbeat from the foetus. He had just commenced cutting when the baby was suddenly born alive. Dr Townend came and sutured the cuts. Next day the baby was still bleeding from the forehead and suffered convulsions. It died the next morning.

Drs Powell and Campbell performed the autopsy and found that the scissors had penetrated the brain. At the inquest they condemned the whole procedure, saying that it was unnecessary to use instruments at all, much less a pair of scissors. Townend said he thought the baby was dead. It had been a long and difficult labour, and a breech presentation. Mrs Isaacs' first child had been born dead, and her second was seven months premature. She had a narrow pelvis and had never given birth to a full-sized child, and was never likely to. The jury, however, found that Townend had 'feloniously and unlawfully' killed the child and Townend was committed for trial in the Supreme Court.[63]

The newspapers printed lengthy verbatim accounts of all the gory evidence. Townend was found guilty in July 1876 and sentenced to four years in prison, but without hard labour.[64] A petition was started by his other patients and many signatures were gathered. By the time it was successful, William had served six months in the Lyttelton Gaol. Soon after his release he was married to Rosa Perkins. He resumed his pharmacy business and lived to the ripe old age of 89, having made a fortune from his herbal medicines.

Prins performed another amputation in June 1876 on a young man named George Robinson, who had been in hospital for some time with a diseased bone in his right leg. Prins operated 'in the presence of the whole medical staff of the hospital', and a few days later the patient was said to be 'doing very well'.[65] Prins amputated an arm in November 1876, and a leg the following month, but neither was reported in the newspapers.[66]

The perils of delaying treatment were demonstrated in August 1876 after an eight year old boy had his fingers crushed in the cog wheels of a chaff cutter on Dixon's farm near Cust. He was brought to Christchurch Hospital, where Dr Robinson decided against amputation. The boy's father took him to a hotel, and that evening returned to the hospital to get some medicine for his son. Early next morning the boy was in 'great pain' and the pair went back to the hospital, but nobody responded to their knocking. It was Sunday morning, after all. They returned to the hotel, and tried again later. Dr Prins

immediately gave the boy a chloroform anaesthetic and amputated the crushed fingers. The lad seemed to be recovering well, but that afternoon he had a convulsive fit and gradually sank, dying the next morning. The inquest jury accepted the medical evidence, but added that the operation should have been done on the Saturday.[67]

The appointment of Dr John Guthrie as acting resident house surgeon at Christchurch Hospital in 1876 might give us a firm date for the introduction of Listerian antiseptic surgery in Christchurch, if only there were some firm evidence to support this possibility. John and his younger brother Thomas ('Tom' Guthrie) both came to New Zealand in the 1870s as ship's surgeons, John on the *Crusader* in 1874 and Tom in 1878. Both had studied at Glasgow after Lister had moved to Edinburgh, but they were trained in the Listerian antiseptic technique and are included in the Listerian cohort analysed by Anne Crowther and Marguerite Dupree.[68] However, John Guthrie did not stay long at the hospital. He was gone by October 1876, having been married on 12 April 1876 to Marion Hay, daughter of the pioneer Ebenezer Hay of Pigeon Bay. They moved to Akaroa, where he practised until 1884, before returning to general practice in Christchurch. He was on the honorary surgical staff at Christchurch Hospital until 1896 when he returned to Scotland for a lectureship in surgery at the Glasgow Western Infirmary, one of Scotland's leading surgical hospitals.[69] By 1884 Listerian antiseptic surgery was well-established in Christchurch, but did he first introduce it in 1876? Or did he suffer the same sort of rebuff that another Listerian, George Gore Gillon, suffered at Wellington Hospital in 1879? As a young (aged 21) house surgeon, he wanted to perform a supra-pubic cystotomy using the Listerian method, but senior staff opposed his diagnosis and the operation. He gave way, and the child died. But the autopsy confirmed his diagnosis, and he kept half of the stone as a reminder.[70]

Another medical scandal in 1877 seriously disrupted the work of the surgeons at Christchurch Hospital. Dr Campbell had been treating a wealthy retired farmer named Robert MacKay for many years for 'pericarditis the result of rheumatic fever', but had rarely been paid for his attendance. MacKay's condition slowly deteriorated and he changed his will in 1876, promising to recompense Campbell for his lost fees. Just before he died he gave Campbell a cheque for £500. However, the bank refused to cash it and the trustees refused to recognise the debt. Clergy and medical men had to be extremely careful about deathbed promises of this nature, as relatives could claim that undue pressure had been placed on a dying person. After a year of frustration Campbell sued the trustees in the Supreme Court in Christchurch in July 1877. It was a complicated case, and it did not go well for Campbell. He suddenly gave up and dropped the case. This left everyone wondering why. It looked as if he had attempted something shady and had failed to get away with it.[71]

Campbell's medical brethren were outraged that he had brought discredit on the profession and refused to work with him at the hospital. It was the nearest thing to a

medical strike in New Zealand history. The government dismissed them all and instructed the board to advertise for new appointments. In the meantime the dispenser Mr Pridgeon was promoted to house surgeon and his wife to the post of matron. Pridgeon had been a veterinary surgeon, and for 18 months proved an admirable administrator. He was assisted by wardsman Brown, a veteran of the Crimean War who was a competent enough surgeon in a rough and ready style. The board received eleven applications, but six of them proved to be blank sheets of paper. Drs Campbell, Ellis, Patrick and Townend were appointed, but Ellis and Patrick immediately resigned, refusing to work with Campbell.

While the hospital apparently functioned quite smoothly under Pridgeon, Brown, Campbell and Townend, the other doctors led by Turnbull and Nedwill demanded an inquiry into Campbell's alleged unethical conduct. A Royal Commission of three was appointed, including Dr Skae, inspector of lunatic asylums, and they found Campbell guilty of 'improper and unprofessional conduct calculated to lower the status of the medical profession'. Campbell was asked to resign and he promptly did so.

When Dr Prins was unwell in 1879 Campbell was asked to take over his duties as surgeon, and two months later when the annual staff appointments were made Campbell was reappointed to the medical staff. This time there were no protests and no fuss from the other doctors. Campbell was a likeable man, much-loved by his patients, and his medical colleagues seem to have agreed to let bygones be bygones. Early in 1881 he applied for leave to take his family on a trip to Europe. They set off in the *Tararua* in April and all were drowned when the ship was wrecked at Waipapa Point. Survivors said Campbell was last seen on deck trying to set the broken leg of the third engineer, before he and his son were swept overboard by a huge wave. The bodies of the family were later returned to Christchurch where Dr Campbell's tomb, raised by public subscription, was one of the most impressive in the Addington Cemetery until it was toppled by the 2011 earthquake.

Though Dr Powell was no longer on the hospital staff he was still regarded as the country's best eye surgeon, and in November 1878 he was asked to comment on the case of a blind man named Jordan who had been treated in the hospital by a Dr Warren, who had since left the colony. Jordan was being charged for his accommodation, but Powell pointed out that the cost should be borne by his North Island local authority, the Patea County Council. Early in December Powell reported that he had successfully performed a double cataract operation on Mr Jordan, who would be well enough to return home in a few weeks.[72] This was New Zealand's first recorded double cataract operation.

Powell died from TB in 1879 at the age of 36. Dr John Wilkins was appointed ophthalmic surgeon at Christchurch Hospital early in 1881, and in May 1883 transplanted the cornea of a rabbit to a man's eye. Dr Frankish was annoyed that nobody had been invited to observe such an unusual operation, and remarked that Dr Powell had always invited colleagues to attend his operations. Since Wilkins had been appointed there had been no invitations. Dr Prins did not think any discourtesy had been intended, and that Wilkins may have thought such a minor operation would be of no interest to other

surgeons. The Hospital Board, however, resolved to call Wilkins's attention to the rules, and asked him to comply with them.[73] Wilkins left Christchurch later in 1883 for Auckland, where he was later charged with manslaughter in an abortion case in 1901. He was acquitted by a third jury after the first two had failed to agree.[74]

Amputations remained the riskiest surgeries conducted at Christchurch Hospital in the early 1880s, suggesting that Listerian antiseptic surgery was slow to be adopted here. Two amputations in December 1881, at the hip joint, lasted only six and seven days after the operation. An amputation of the knee joint in February 1883 ended in death, as did another in June 1884. The amputation of an arm in September 1884 ended fatally. Yet these were the only deaths following surgery recorded among over 200 hospital deaths between 1881 and 1884.[75]

In January 1882 Dr Charles Morton Anderson 'exhibited' a patient from whom he had removed a portion of the lower jaw to a meeting of the newly-established Canterbury Medical Society. Dr Turnbull was in the chair as president, and Dr Francis McBean Stewart read a paper on the application of electricity to a gravid uterus.[76]

On 12 April 1883 Dr McBean Stewart performed the first successful ovariotomy in New Zealand on a 23 year old unmarried woman. This operation had been done three times before in Christchurch, but none of the patients had survived. Stewart operated under strict Listerian antiseptic conditions with a carbolic spray, the first time this was reported in Christchurch. Other members of the hospital staff observed. The operation took only a short time and the stump was ligatured with strong carbolic gut. The cyst was multilocular with very thin walls, which were ruptured in extracting it. The only rise in temperature was caused by a slight burn on the patient's arm from the carbolic spray. The wound healed without suppuration. One of the staff sat up for three nights following the operation, taking pulse and temperature every two hours. As recommended by Sir Spencer Wells, the patient was given only iced milk and water for three days, but on the fourth day she asked for Scotch broth, and soon after was given solid food. The patient made a full recovery and returned to her occupation as a domestic servant. This operation was reported in *The Lancet*. [77]

However, Dr McBean Stewart's first operation for strangulated hernia in December 1884 had a less successful outcome, and unfortunate consequences for himself. A man named Strickland was admitted with a large irreducible hernia and begged for a radical surgical cure. Dr McBean Stewart decided to try a new technique 'as described by Professor Annandale'. The older techniques were the Wood and Watson operations. Annandale's method was to open the sac, empty it, and excise it, before sewing the remaining ends of intestine together. Stewart had never seen this technique done, and swotted it up from Annandale's article the night before.[78]

A hospital by-law required all major operations to be approved by the whole medical staff, but this rule was often ignored. Nedwill's usual remark was, 'Tell Stewart I will agree to everything he suggests'. It was up to the surgeon to decide whether an operation

was minor or major. In cases of hernia there was a significant difference between a reducible and an irreducible hernia. The latter was regarded as a major and risky operation. Stewart seems to have assumed that this was a reducible hernia, only to discover on opening the patient's abdomen that it was much more serious.

This operation was observed by Drs Nedwill, Hunt, Patrick and Mickle, with Dr Robinson administering the chloroform. The nurse of Ward 6, Miss Medlam, was also present. Richard Brown, chief wardsman of the hospital, was present as dresser, passing sponges and instruments as required. Nedwill as the other consulting surgeon should have been the assistant, but he left the room early when called to see another patient. Mickle took his place, and 'put on one of the operating coats'. Stewart did not explain what he was doing – he was a reticent urbane Scottish gentleman – and those watching had difficulty following what he was doing. Stewart exposed the sac and cut into it. The bowel was found to be adhering to the inner surface of the sac, and was freed by blunt dissection. But the bowel could not be replaced in the abdomen. More bowel was brought down and eventually 'it all went back with a rush as it always does'. The sac was then ligatured but bleeding occurred and was arrested with a second ligature. Nedwill had returned by this time. The stump was too short to be grasped, and there was a risk that the ligature could slip. There was yet more bleeding, and at this point Nedwill suggested using a clamp or tenaculum. Stewart ignored this advice. Dr Mickle later agreed with Nedwill that a clamp would have been more effective than a ligature in this instance, but the other doctors all said they preferred ligatures. Brown later said he was glad a clamp was not called for because he did not have one ready. He said they had not been used in surgery at Christchurch Hospital for the past fifteen years, the surgeons all preferring ligatures.

Having had his advice ignored, Nedwill again left the room, and returned as the wound was being closed and the sac in a bowl was being passed around for inspection. There had been considerable bleeding during the operation, and the patient remained semi-conscious even after the anaesthetic had worn off. Back in the ward he seemed well enough next day, but steadily sank and died on the third day following the operation. There seems little doubt that he died of peritonitis, but Stewart insisted he died from haemorrhage and Dr Robinson wrote this on the death certificate even though he said he did not believe it. When questioned later by the board Stewart said he thought the patient had died from shock and 'lack of the will to live'.

Nedwill first complained to the staff committee that Stewart had incompetently performed a major operation without prior consultation with the medical staff. The staff declined to take any action, and Nedwill resigned in protest at this failure to enforce a by-law. The board persuaded him to carry on in the meantime, but both he and Stewart now demanded a public inquiry. The hospital board at first suggested that its medical members, Drs Prins and Turnbull, conduct the inquiry, but Nedwill objected to this, as those two gentlemen were among his sworn enemies. The board then decided to hold the inquiry itself, the mayors of Christchurch and Sydenham moving and seconding this motion.

The Hospital Inquiry took place in January 1885. Henry Thomson chaired the inquiry (another of Nedwill's enemies) which was open to the press and public. For several days Nedwill and Stewart called their witnesses and the operation was described in great detail from their differing perspectives. Nedwill showed that he was up to date with the theory of hernia operations, quoting from *The Lancet* and the 1883 edition of Holmes and Hulk, *System of Surgery*, and could claim several successful hernia operations himself. Stewart was scornful of anything in *The Lancet* and quoted in reply from Annandale and the *Medical Times*. Those who had observed the operation all paid tribute to Stewart's skill as an operator, but Mickle agreed with Nedwill that Stewart's attempts to stop the bleeding had been ineffectual.

When the chairman refused to allow Nedwill to recall two medical witnesses the inquiry ended with Nedwill protesting that he had been gagged. The board predictably expressed its confidence in Stewart as a surgeon and sternly instructed the medical staff to follow the rules about consultation in future. The newspapers, however, saw that Nedwill had raised larger questions that had not been properly answered, and supported his demand for a Royal Commission. Nedwill was now accusing Stewart of gross incompetence and the board of having been intimidated by Prins and Turnbull.

This was a splendid medical controversy, and everyone who could read a newspaper had an opinion one way or the other. Nedwill had been a very active Medical Officer of Health and was much-admired for having reduced the city's death rates from typhoid, but he was deeply unpopular with some of his medical brethren, who had done their utmost to obstruct his public health work. While he supplied the House of Representatives with papers in support of his request for a Royal Commission, a journalist from Dunedin who had been following the inquiry had an article published in the Wellington *Evening Post* which was heavily critical of Stewart (without naming him) and supportive of Nedwill.

Stewart responded by starting a libel suit against the publishers of the newspaper, Roydhouse and Wakefield. The libel case was heard in Dunedin in March 1886 before Mr Justice Williams and a special jury. Stewart was claiming £2,000 (about $370,000 in 2020 money) and was represented by Stringer (a future KC) and Fitchett. The newspaper was represented by Wilding (another future KC) and the Attorney-General Robert Stout. As Bennett remarks, it was a contest of medicine versus law. Much depended on the definition of libel. Once again, the newspapers laid bare the details of the operation, with a great deal of extraneous and irrelevant material. Dr Turnbull was one of the witnesses, though he had not been present at the operation, and admitted he was not on speaking terms with Nedwill, whom he described as 'about as bad an operator as ever entered the hospital'. In fact Nedwill was a better surgeon than Turnbull, and more up to date.

The offending article had nowhere mentioned Stewart by name, and the defence argued that technically no libel had been committed. The lawyers succeeded in confusing the jury so thoroughly that the jurors returned the extraordinary verdict that a libel had been committed but that Dr Stewart should be awarded just one shilling in damages.

The *Otago Daily Times* sided with Stewart (a fellow Scot, after all) and said he had been entitled to far greater damages, but the *Lyttelton Times* said many had favoured damages of no more than £2. *The Lancet* commented on the case, and deplored Nedwill's attack on a fellow surgeon, but agreed with the verdict. Stewart was obviously not as skilful an operator as he had been thought to be. Nedwill abandoned all talk of a Royal Commission, and the Christchurch medical profession settled down to its usual pattern of public cooperation and private sniping.

Dr McBean Stewart found himself in the newspapers again in 1888 when he promoted his own secret asthma remedy with no information about its contents. His name was on every bottle. This was fine for any pharmacist, but doctors were not allowed to advertise. He was reprimanded by the Canterbury Medical Association and warned by the two royal colleges in Edinburgh that his licentiates could be cancelled unless he withdrew his product and its advertising. Stewart gave way before this collective outrage and withdrew his asthma cure. He said he had just been trying to make a little extra money for himself and his wife in retirement. He had suffered partial paralysis in one leg, and was afraid that a sudden general paralysis might leave him a helpless cripple, unable to support his family.

Stewart was back in the news in 1895 when a letter in the *Star* severely criticising Christchurch Hospital prompted a high-level inquiry. Almost the first thing it discovered was that the author of the letter was Dr McBean Stewart. The inquiry recommended a raft of minor reforms, but found nothing seriously amiss. The hospital board, however, had his name struck off the list of honorary staff. Stewart had the last laugh, however, when he stood as a citizens' representative for the hospital board and was elected with a large majority. He served his three years, wasting time with many notices of motion for minor reforms that were nearly always defeated on the voices, then faded into obscurity until he died in 1906.

One useful outcome of the McBean Stewart libel trial for the medical historian is that the December 1884 hernia operation was described in great detail. We need not be concerned with the minutiae here, but several features of surgical procedure are revealed that might otherwise have remained obscure. The sutures were soaked in carbolic for ten days before the operation (McEwan's method). The patient was dieted for two weeks to prepare him. The patient was bathed and given an enema on the morning of the operation, and walked into the theatre. The operation site was 'well washed'. The theatre was disinfected with a carbolic spray for an hour or more before the operation was begun. Hands were presumably washed, but there were no gloves or masks in evidence, nor is there any mention of sterile sheets or swabs. Antiseptic precautions included a steam carbolic spray for during the operation. Dr Robinson injected morphia for pain relief before the chloroform was started. Back in the ward a temperature chart was kept and the patient's pulse was checked every two hours.[79]

Neither Nedwill nor Stewart emerges with much credit from this very public scandal. If they had been friends, Nedwill might well have shrugged off the patient's death. After all, half of his own hernia operations had ended with the patient's death. But Nedwill apparently saw an opportunity to knock Stewart off his pedestal as a highly-regarded surgeon, and to embarrass his enemies on the hospital board, Prins and Turnbull. They had called him some dreadful names when he was Medical Officer of Health, and at the hospital inquiry Nedwill said the medical members of the board looked upon him 'as a criminal to be prosecuted by them'. He was also probably motivated by a strong sense of public duty, as he had in his career as medical officer to the Board of Health. Nedwill was outspoken and dogmatic, never suffering fools gladly, and sometimes went too far in his crusading zeal. This affair was probably one of those occasions.

In 1886 Dr Symes decided to operate for the removal of an ovarian cyst. This operation attracted much interest and publicity. However, Symes rejected Christchurch Hospital with its smelly old wooden wards and asked the board for permission to use the small isolation building at Burwood, which had been erected for smallpox cases but had never been used. He even engaged a special nurse, Mrs Bell. Various items of hospital equipment were sent out to Burwood, including the operating table, but Symes declared it so old and dirty that he preferred to use his own kitchen table. Unfortunately the patient got cold feet and decamped to the North Island the day before the operation. The equipment came back to the hospital, Mrs Bell sent in her bill for £3 10s 6d and everyone tried to forget the incident.[80]

The hospital board was acutely embarrassed by this episode, but it was already taking steps to improve its facilities. In May 1886 it called tenders for a new operating theatre designed by the rising young architect Samuel Hurst Seager. He included a sky-light in the ceiling and hot water heating pipes powered by a small boiler. This was a big improvement on the old operating room, and though delayed by late delivery of the sky-light mechanism it was completed and ready for use that November. In 1891 the staff asked for more top light. The board agreed to another sky-light and also to two gas-lights for night work. The board minutes did not usually distinguish between surgical and medical cases in its annual reports, but in December 1887 the board reported 153 surgical and 1,792 medical cases treated that year.[81]

That same year Dr McBean Stewart reported an example of conservative surgery to a meeting of the Canterbury Medical Society. A boy's hand had been partly crushed, and rather than amputate the whole hand he had carefully removed only the damaged part, leaving him with useful fingers.[82] The surgeons were very sensitive to public reports of operations, as this could be seen as self-advertising. In June 1888 Dr Ovenden performed what *The Press* called a 'Clever Surgical Operation', amputating the leg of an accident victim at the hip. The percentage of recoveries for such major amputations was 'very small' but this patient was up and about and 'on a fair way to make a good recovery'.[83] Further down the same column, the death of a Lyttelton 'lumper' (stevedore) named Kelly was reported after an unsuccessful operation for cancer of the tongue. A clipping

in the minute book of the Canterbury Medical Society is endorsed with the words 'also by Dr Ovenden'. At the society's 14 June meeting a letter was read from Dr Ovenden disclaiming any knowledge of or complicity in the newspaper report. The meeting accepted this as a satisfactory explanation. He was just in time, as Dr Hacon had given notice of a motion to reprove Dr Ovenden.[84]

The first issue of the *New Zealand Medical Journal* on its appearance in 1887 was not surprisingly full of articles by Dunedin doctors from the hospital or the medical school, as the journal and its editor were Dunedin-based, but issue No.2 in December had a report from Christchurch. Dr Frankish had successfully performed another ovariotomy on 29 October that year, and described the operation in detail. He had consulted with Drs Nedwill and Guthrie, who assisted on the day. He removed a large multi-locular cyst weighing an estimated 54 pounds. Probing with a cannula had released a pint of straw-coloured fluid from one lobe. Further probing removed about 10 pints of fluid from ten cysts. The adhesions bled pretty freely, and once the cysts had been removed the pedicle was cut an inch from the ligatures. The cavity was washed out with warm carbolised water. No spray had been used, but the 'strictest antiseptic precautions' had been followed. A morphia suppository was inserted in the patient's rectum. The daily log of recovery showed that the patient's bowels moved naturally on 31 October, but she was troubled by sleeplessness and 'flatulent griping pains'. Stimulants were freely used, but as the patient disliked brandy, gin was given instead. From 13 November she made a steady recovery and was able to walk on 26 December.[85]

Two trephining operations were reported in the journal from 1889 and 1890. Dr McBean Stewart performed the first on a former ship's carpenter, who had complained of loss of power and dragging of his right leg. He said that a ship's rigging had fallen on his head some years before and left a depressed fracture. Ether was used as an anaesthetic. The trephining found that the skull bone had thickened considerably around the fracture, and was pressing on the brain. Once the thickened bone had been removed, silver wire sutures were used, and a carbolic gauze dressing. The patient made a full recovery.

The second operation was performed by Dr Ovenden in October 1890 on a young circus rider named Rose, who had fallen and been kicked in the head by a horse. She had suffered a compound depressed fracture, and the centre of the depression was more than half an inch deep. Ovenden trephined on either side of the fracture and raised the depressed piece of bone. There was considerable bleeding, arrested by hot sponges. The wound was then irrigated with a 1 in 20 carbolic solution. The patient was removed to a bed and surrounded with hot water bottles to reduce the shock. She vomited, and her temperature went up to 99.4 degrees, but she made a good recovery and was able to leave hospital a month after the operation.[86]

In January 1890 the first successful colostomy [resection of the colon] was performed at Christchurch Hospital, and the patient was reported to be 'doing well'.[87] The newspapers do not name the surgeon, but it was probably Dr Arthur Castriot De Renzi, who was chief surgeon and medical superintendent of Christchurch Hospital from 1888 to 1892. A letter from 'Surgeon' noted that this was a first for surgery in Christchurch,

and a notable achievement, for as with ovariotomy the surgeon never knew what difficulties he might find once the body was opened. A leading British authority had described this operation as one of 'great delicacy, requiring a good anatomical knowledge, with trained manipulative skill, the preparation of the patient, the hygienic surrounding, and the subsequent treatment of the wound' all necessary for a successful outcome.[88]

Christchurch Hospital recorded 1,104 admissions in 1891, of which just 182 were surgical cases requiring significant operations. These did not include 139 minor operations such as bone-settings and amputation of fingers. The annual report of the Hospital Board rather smugly commented that many of the serious cases 'could not have been operated upon in private houses with anything like the success which has followed the operations at this hospital'. [89]

One of the Christchurch surgeons who did his best to keep up to date was Dr Nedwill. He spent several months in London in 1891 and attended all of the major hospitals, asking for notification of important operations and seeking permission to observe them. He was greatly impressed by the high standard of the nurses, so well-trained that they were of more assistance to the surgeon than the average medical assistant in the colonies. He was also much impressed by the abdominal operations now taking place with asepsis in the operating theatre. He had intended visiting Berlin to learn more of Koch's inoculation for tuberculosis, and had letters of introduction from the editor of *The Lancet*, but was dissuaded by Watson Cheyne of King's College, who had repeatedly tried Koch's method without success. When asked if he would prefer to live in London, Nedwill said 'nothing on earth would induce me to live in London'. He had received 'the kindest and most courteous attention' from all of the leading surgeons, but they told him that his occasional reports in *The Lancet* showed that good work could be done in New Zealand as well as in London, and he found Christchurch a much pleasanter place in which to live.[90]

Dr Prins had been Christchurch's leading surgeon for many years but the newspapers fail to report any major operations by him during the 1880s. Younger surgeons were now at the hospital, and Prins was more interested in breeding racehorses and serving on the Jockey Club committee. As he was often on the spot there, he attended a number of accidents at the Riccarton racecourse, when jockeys were thrown from their horses and occasionally broke a bone or two. He continued his general practice, and was enormously popular in Christchurch. In March 1892 his grateful patients presented him with a new Brougham carriage. But his surgical days were not quite over, and in May 1892 he performed another lithotomy, this time on the agent of the National Fire and Marine Insurance Company, Mr Davidson. The operation was observed by Drs Townend, De Renzi and Lomax-Smith. Though it was a 'severe operation' Davidson made a good recovery and was soon able to leave his room.[91] Dr Townend was later a pioneer of aseptic surgery in Christchurch, and one hopes he persuaded Prins at least to adopt the Listerian antiseptic technique in this case. [92]

According to Bennett, surgery at Christchurch Hospital made slow progress in the 1890s:

> In 1891 Dr De Renzi while in England spent £56 on surgical instruments for the hospital and was reimbursed by the board. In 1892 the board agreed to the purchase ('if absolutely necessary') of a bunsen cautery, twelve pressure forceps, a set of trocars and six dozen suture pins. The following year it refused a galvanic cautery but approved of catheters, bistouries, an inguinal truss and a set of dilators. In 1893 it bought twelve dozen clinical thermometers. (This was a difficult year because there was an unpleasant smell in the theatre which remained until 'the heating pipes were cleaned and rendered free from vermin'.) Two incandescent gas lamps were fitted in 1894. But in 1895 the staff asked for a list of instruments costing £175. The board protested. The staff persisted. The board agreed but not very happily and withdrew the house surgeon's right to permit hospital instruments to be used for outside operations on payment of a lending fee. It would seem from this large purchase of instruments that surgeons were now out to explore new fields and that asepsis had removed some of the hazards'.[93]

One of the new fields being explored was that of animal transplants to humans. We have already noticed the 1883 transplant of a rabbit's cornea by Dr Wilkins. In September 1895 Dr Percival Clennell Fenwick assisted Dr John Henry Murray-Aynsley in the transplant of a sheep's ureter into a patient with a stricture. This operation was reported in *The Lancet* that year, and at the February 1896 Intercolonial Medical Congress in Dunedin, but not in the Christchurch papers.[94]

Dr Joseph Henry Townend had now become one of the city's established and respected surgeons, as well as a physician of high reputation (and high fees), but he had competition from Dr Montagu Lomax-Smith, who started practice in 1890, and Doctor F. G. M. Brittin of Papanui, both very capable surgeons. In February 1894 Townend operated on a Mrs Kerr from the Chatham Islands, for an unspecified condition, but infection set in and she died a week later.[95] This loss may have strengthened Townend's resolve to have done with the old and not always sterile operating theatre at Christchurch Hospital.

In October 1895 the papers announced the opening of a 'modern surgical hospital' in Ferry Road, close to the East Belt (now Fitzgerald Avenue). This was known as 'Strathmore' and had been funded by Mrs J. Cochrane Brown, a wealthy philanthropist, but the design was Townend's. The operating theatre was an 18 feet (5.49 m) square room completely lined with plate glass. It had two large windows and three skylights, affording ample natural light. The ventilation system was filtered to render the air aseptic, and the heating could be adjusted by opening or closing a vent. The operating table had been designed by Dr Edelnols and the other furniture had been imported from Richard Knyn and Company of New York. A sterilising chamber meant that all clothing worn by the surgeons and nurses could be made sterile.[96]

The *Lyttelton Times* added that abdominal surgery had been rare forty years before, when it had a 90% mortality rate, even at the hands of a skilled surgeon. But now mortality was less than 8%, and as low as 3% where 'all conditions are favourable'. Lister's antiseptic method had paved the way, but now the aim was to achieve asepsis and render the operating theatre entirely free of germs and infection. The editor remarked that it was a pity this important advance had to be left to private enterprise, which strongly suggests that Christchurch Hospital was still making do with carbolic sprays.[97]

Townend's first successful operation at 'Strathmore' was reported in November 1895. The parents of Miss Bargrove wanted the world to know how grateful they were to Dr Townend for having successfully performed 'the rare and difficult operation' of resection of intestine on their daughter, who was now well on the way to a full recovery.[98]

We may wonder if Townend used the technique pioneered by Dr Henry Widenham Maunsell at Dunedin Hospital in the 1870s. He worked out a new method for intestinal suture after watching his wife stitch the lining in a sleeve. The seamstress's trick is to turn the sleeve inside out. His invagination procedure for intestinal suture was praised as the best technique then devised, by such authorities as Lawson Tait of Birmingham and the great abdominal surgeon Frederick Treves.[99]

The chairman of the hospital board, no less, gave fulsome thanks to Townend at a board meeting reported in the *Lyttelton Times* in December 1895. His niece had had a cancerous growth in the stomach, and was in 'a desperate state', but Townend's surgery at 'Strathmore' had completely restored her to health:

> The precautions taken against the danger to the patients operated on by infection by germs are really wonderful, and aseptic surgery as there practised has been the means of saving many lives which under the old state of things would certainly have been lost. This is especially true in regard to abdominal surgery in which operations can now be safely performed which a few years ago would almost certainly have resulted fatally. The public undoubtedly owe a great debt of gratitude to Dr Townend for having introduced aseptic surgery, which will doubtless be the means of saving hundreds of lives, for now it has begun in Christchurch it is sure to be taken up elsewhere in the colony.[100]

Mr Moor hoped that Christchurch Hospital would send its surgeons to 'Strathmore' to learn more about this 'modern, scientific, aseptic surgery'. All of the country's hospital boards should be providing facilities 'conducted on similar lines'. Operations which could not have been performed a few years ago can now be done with safety: 'suffice it to say that the aseptic surgery of today, as practised at Strathmore, is almost beyond belief'.

The board's reaction this encomium was less than enthusiastic. C. M. Gray objected to receiving the report on the grounds that it referred to a private institution outside the board's jurisdiction. The further quibbling of the board before adopting the report only served to underline its penny-pinching conservatism, and gave 'Strathmore' yet more

publicity. But in due course the hospital joined the twentieth century with two new brick buildings (both gifts from philanthropists) to replace the smelly old wooden wards, and the new operating theatres were designed with asepsis in mind.

At the Australasian Medical Congress in Dunedin in February 1896 Dr O'Hara of Melbourne, president of the surgery section, referred to the recent death of Louis Pasteur, 'who first established the germ theory of putrefaction', and Dr Joseph Lister, who had put it to practical use in the antiseptic treatment of wounds, and the methods of antiseptic surgery. O'Hara said he had come to the conclusion that where sepsis occurred in operations it was in most cases introduced by the operator's hands or the instruments he was using.[101]

Christchurch Hospital only started adding the totals for operations performed under anaesthetic to the House Surgeon's monthly report to the Board in April 1896. The Board minutes record that 37 such operations were performed in March that year, and the figure remains between 30 and 40 for the next few months, until a sudden increase to 54 in August.[102] Unfortunately the minute books between 1897 and 1912 appear to have been lost or mislaid.

Dr Nedwill had two reports of surgery in *The Lancet* in 1897. The first was 'A Case of Hysterectomy with some Unusual and Interesting Complications', a very detailed step-by-step description of the operation and subsequent care, and even lengthier descriptions of 'Five Cases of Abdominal Surgery and a Case of Hydatid Tumour of the Brain'. The first was a stone in the bile duct, the size of a hazel nut, which was almost inaccessible. Nedwill had to lift the ribs with a broad retractor in order to get his fingers on either side of the stone, but he could not move it. He then wrapped his fingers in protective gauze and slit the duct. The stone was so tightly embedded that it came out only with much difficulty. He then sutured the duct with a fine silk ligature. 'The patient suffered neither pain nor discomfort'.

The second case was an acute intestinal obstruction, relieved with ligatures rather than incision. The third was a large ovarian tumour which weighed 16 pounds and had numerous adhesions. A combination of clamps and ligatures was used to free the tumour, but it brought away part of the bowel, which then had to be resected. It was a long and difficult operation, and the patient had to be revived twice when her pulse failed by putting her head down over the end of the operating table. The fourth case was a tubal pregnancy, 'about the size of a coco-nut', with many adhesions. As the left ovary was found to be cystic it was also removed. The temperature remained normal throughout and the woman was discharged six weeks later. The fifth case was another tubal pregnancy which had bled; a quart of a clot was removed. Nedwill carefully sponged out the pelvis, but as an extra precaution he inserted a drainage tube, and over the next few days 'a great deal of sanguineous pus' emerged. After a few days the discharge was 'perfectly sweet' and the tube was removed. The patient was discharged cured two months later.

The hydatid tumour of the brain was found in a young woman of seventeen who had been suffering epileptic fits with numbness and paralysis on her left side for more than six months. Ophthalmoscopic examination by Dr Fox showed double optic neuritis, intense in the right eye. Nedwill trephined over the motor area of the right side of the brain and found a hydatid cyst four inches in diameter, full of fluid. This was removed, but there was a great deal of haemorrhage, and dressings were used without replacing the bone. When the discharge had ceased the edges of the scalp were brought together with silk sutures. There was immediate improvement in the left arm, but the wound continued to suppurate for some days, with swelling and a brown discharge. Nedwill operated again to relieve the swelling, but a small hernia of brain matter remained. The girl's general condition was much improved, with the exception of her eyesight, which had worsened. When she returned to the hospital two months later the cerebral hernia had entirely disappeared and her gait was entirely normal. Strength had returned to her left arm and leg. However, her eyesight was left impaired with white round spots all over the retina. Nedwill wished that the family had brought her to the hospital much sooner.[103]

Surgery was back in the news in Christchurch in 1899 when a patient sued Dr Arthur De Renzi for £2,000 (the equivalent of $387,000 in 2020) for removing her coccyx without her consent. The details need not concern us here, as the episode has been described elsewhere (Dr De Renzi was acquitted), but the trial revealed various aspects of surgical procedure at the time. The anaesthetic used in this operation was ether, not chloroform. Some surgeons preferred ether as there was less 'plunging' as patients went under and recovery seemed quicker. Piles were being removed with a wire heated from a galvanic battery. The most interesting medical revelation of the trial was the early use of Roentgen or X-rays in Christchurch. Their discovery in 1895 had caused a global sensation during 1896 as the technique was replicated in many hospitals in Europe and the US. It emerged during the trial that Dr Ovenden had obtained the latest apparatus and Dr De Renzi used it in his own surgery. In the coccyx case it showed that the patient had an enlarged liver, but the diagnosis of coccydynia was made in the usual way by rectal examination. Early X-rays were notoriously fuzzy, and their best images were of bony structures. Within a few years the hazards became more apparent, with burns and radiation sickness reported. Yet most hospitals clamoured to get this latest medical equipment. Christchurch Hospital bought its first machine for £80 in 1898, at the urging of Dr Nedwill, but it was a disappointment, and Dr Crooke (who had charge of it) had difficulty getting useful images. He retired in 1909 and the board appointed Dr M. Inglis as its first radiologist in 1910.[104]

Dr Prins died in November 1896, and Townend was one of the six doctors who were pall-bearers. (They did not include Nedwill.) His passing marks the end of an era in surgery in Christchurch. The newspapers no longer bothered to report operations at the hospital, presumably because they had now become so routine and so much less

dangerous than in the past. The new generation of surgeons, typified by Dr Ovenden, Dr De Renzi, Dr Walter Fox, Dr John Henry Murray-Aynsley and Dr Percival Clennell Fenwick, were well-versed in aseptic surgery, and were trying new techniques.

Nedwill retired from the hospital visiting staff in 1906. He had taken up tennis at the age of 50, and at 60 took up hill-walking with Dr Fox as his weekend recreation. In retirement he took up gardening. His obituary said that he had 'retained almost the vigour of youth, and the clear mental outlook of a man in the prime of life, nearly to the end'. He died in April 1920 at the age of 83.[105] His namesake son became a notable Christchurch ear, nose and throat surgeon.

Nedwill had seen remarkable changes in his lifetime. He had witnessed the advent of the telegraph, the telephone and the typewriter. He had seen the astonishing expansion of transport with railways and steamships. In old age he had seen the coming of aeroplanes and motor cars. In his chosen profession he had witnessed the bacteriological revolution which changed the face of surgery as much as it did that of public health. He had urged Christchurch Hospital to purchase its first X-ray equipment. Control of infection now made possible procedures that were regarded as hazardous and usually fatal in 1850.

Christchurch had been well-served by its surgeons in the second half of the nineteenth century. They were a prickly lot, often at loggerheads over 'medical etiquette', and some were more skilful than others, but on the whole they were dedicated to doing their best for their patients, and the best of them had kept up to date with the steady and at times exciting improvements in surgery in this period.

ENDNOTES

[1] R. E. Wright-St Clair, 'The development of abdominal surgery in New Zealand', *New Zealand Medical Journal*, 93 (1981), pp. 270-3.

[2] R. E. Wright-St Clair, 'A Disciple of Lister on the Wild West Coast', *New Zealand Medical Journal*, 85 (1977), pp. 7-8.

[3] *Lyttelton Times* (hereafter *LT*), 27 August 1856, p.6.

[4] Wright St Clair (1981), 271.

[5] David Macmillan, *By-Ways of History and Medicine* (Christchurch, 1946), p.353.

[6] *LT*, 11 July 1857, p.6.

[7] *LT*, 24 August 1861, p.4.

[8] F. O. Bennett, *Hospital on the Avon* (Christchurch, 1962), pp.12-13.

[9] Ibid., pp.20-26.

[10] Archives NZ, Christchurch Office, CH 384, C 764 819, Christchurch Hospital Admissions and Discharges Register, 1863-67.

[11] *LT*, 13 September 1864, p.5; 4 October 1864, p.4.

[12] *LT*, 11 October 1864, p.4.

[13] *LT*, 26 January 1865, p.4.

[14] *LT*, 25 August 1865, p.2.

[15] *Press*, 23 & 26 January 1865, both p.3.

[16] *LT*, 6 April 1865, p.4.

[17] *LT*, 24 & 27 July 1865, both p.2.

[18] *LT*, 25 August 1865, p.2.

[19] *LT*, 7 October 1865, p.2.

[20] *LT*, 20 December 1865, p.2.

[21] *LT*, 13 January 1866, p.9.

[22] *LT*, 4 December 1865, p.2; 5 January 1866, p.2.

[23] *LT*, 7 November 1867, p.4.

[24] *LT*, 2 June 1866, p.2.

[25] *LT*, 9 June 1866, p.2.

[26] *LT*, 11 June 1866, p.2.

[27] *LT*, 9 June 1866, p.2.

[28] *LT*, 11 June 1866, p.2.

[29] *Press*, 26 June 1866, p.2.

[30] *LT*, 28 June 1866, p.2.

[31] *LT*, 24 August 1866, p.2.

[32] *LT*, 6 July 1866, p.2.

[33] *LT*, 16 October 1866, p.5.

[34] *LT*, 2 November 1866, p.2.

[35] *LT*, 5 January 1867, p.2.

[36] Bennett, *Hospital on the Avon*, p.54.

[37] *LT*, 3 November 1868, p.3.

[38] *LT*, 9 July 1870, p.3.

[39] *LT*, 21 & 29 January 1869, both p.3.

[40] *LT*, 23 March 1869, p.2.

[41] *LT*, 25 October 1869, p.2.

[42] *LT*, 29 October 1869, p.2.

[43] *LT*, 29 September 1870, p.3.

[44] *LT*, 28 October 1870, p.2.

[45] Rice, *Christchurch Crimes 1850-75* (2012), pp. 179-190.

[46] *LT*, 10 March 1871, p.3.

[47] *LT*, 13 February 1871, p.2.

[48] *LT*, 14 February 1871, p.2.

[49] *LT*, 11 & 12 March 1872, both p.2.

[50] *LT*, 17 April 1872, p.2.

[51] *LT*, 29 January 1873, p.2.

[52] *LT*, 13 May 1873, p.2.

[53] *LT*, 26 May 1873, p.2.

[54] *Press*, 27 May 1873, p.3.

[55] *LT*, 29 May 1873, p.2.

[56] *LT*, 15 September 1874, p.2; *Press*, 15 September 1874, p.2.

[57] *LT*, 24 May 1875, p.3.

[58] *LT*, 3 May 1875, p.2.

[59] Archives NZ, Christchurch Office, CH 384, C 764 821, Box 226.

[60] *LT*, 27 August 1875, p.2.

[61] *LT*, 23 December 1875, p.2; 5 January 1876, p.3. See also Rice, *Christchurch Crimes and Scandals, 1876-99* (2013), pp. 30-33.

[62] *LT*, 30 May 1876, p.3.

[63] *Press*, 26 May 1876, p.2.

[64] *Press*, 5 July 1876, p.3.

[65] *LT*, 16 June 1876, p.2.

[66] Archives NZ, Christchurch Office, CH384, C 764821, Christchurch Hospital Admission and Discharge Register, 1875-78.

[67] *LT*, 30 August 1876, p.2.

[68] Anne Crowther and Marguerite Dupree, *Medical Lives in the Age of Surgical Revolution* (Cambridge University Press, 2007), pp.272-9.

[69] Macmillan, *By-Ways of History and Medicine*, p.368.

[70] Crowther and Dupree, op. cit., p.133.

[71] The next few paragraphs are based on F. O. Bennett, 'Dr Donald Campbell: a reappraisal', *New Zealand Medical Journal*, 78 (1973), pp. 55-60.

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[73] *LT*, 24 May 1883, p.3.

[74] Rex Wright St Clair, *Historia Nunc Vivat* (2003), p. 399.

[75] Archives NZ, Christchurch Office, CH384, Christchurch Hospital, Register of Deaths, 1881-1911.

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[77] *LT*, 2 November 1883, p.7.

[78] The next few paragraphs are based on F. O. Bennett, 'The Unfortunate Dr McBean Stewart of Christchurch', *New Zealand Medical Journal*, 85 (1977), pp. 186-9.

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[80] Bennett, *Hospital on the Avon*, p.121.

[81] Archives NZ, Christchurch Office, CH 293/58/224, Christchurch Hospital Board Minutes 1885-97, pp. 23, 40, 60, 113, 230.

[82] Cotter Medical History Trust Museum and Library, Hillmorton, Christchurch: Minute Book of the Canterbury Medical Society, I (1881-91), p. 87.

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[85] J. D. Frankish, 'Case of Ovariotomy', *New Zealand Medical Journal*, vol. I, No. 2 (Dec. 1887), pp.92-7; Cotter Medical History Trust, Christchurch.

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[87] *LT*, 20 January 1890, p.6.

[88] *LT*, 28 January 1890, p.6.

[89] Archives NZ, Christchurch Office, CH 293/58/224, Christchurch Hospital Board Minutes 1885-97, p. 260, 2 December 1891.

[90] *Press*, 14 September 1891, p.6.

[91] *LT*, 21 May 1892, p.4.
[92] *LT*, 9 November 1896, p.5.

[93] Bennett, *Hospital on the Avon*, p.120.

[94] *Proceedings of the Intercolonial Medical Congress of Australasia held in Dunedin, February 1896*, pp.198-200; Cotter Medical History Trust, Christchurch.

[95] *LT*, 26 February 1894, p.5.

[96] *Press*, 29 October 1895, p.3.

[97] *LT*, 29 October 1895, p.2.

[98] *Press*, 12 November 1895, p.1.

[99] R. E. Wright St Clair, 'The development of abdominal surgery in New Zealand', *New Zealand Medical Journal*, 93(1981), p.272.

[100] *LT*, 5 December 1895, p.6

[101] *LT*, 5 February 1896, p.6.

[102] Archives NZ, Christchurch Office, CH 293/58/224, Christchurch Hospital Board Minutes 1885-97, pp. 490, 501, 507, 513, 520, 524.

[103] *The Lancet*, 4 December 1897, p.1450; 28 May 1898, pp. 1464-7.

[104] Bennett, pp.192-3.

[105] *Press*, 12 April 1920, p.6.