# Médical Practice in New Zealand 1769-1860

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#### Summary

New Zealand was discovered by Captain Cook in 1769. Over the next ninety years, increasing numbers of medical practitioners visited and began to settle in what became a British colony. The first medical visitors were usually naval surgeons or served on board whaling ships. The major influx of doctors occurred at the behest of the New Zealand Company between 1840 and 1848, although Christian missionaries, army doctors, and individual medical entrepreneurs also emigrated and provided services. This paper describes the pattern of medical settlement in the colony's earliest years and relates this to the health of the population and the development of medical and hospital services.

#### Résumé

Le Capitaine Cook découvrit la Nouvelle-Zélande en 1769. Au cours des quatre-vingt-dix années suivantes, un nombre croissant de médecins se rendit et s'installa dans ce qui allait devenir une colonie britannique. Les premiers visiteurs furent, le plus souvent, des chirurgiens de marine, ou des médecins affectés sur des baleiniers. Outre l'immigration de missionnaires chrétiens, de médecins militaires, et de médecins particuliers, aventuriers, venus découvrir une nouvelle vie et délivrer des soins, le plus grand afflux de praticiens se produisit sur l'ordre de la New Zealand Company, entre 1840 et 1848. Cet article décrit les modalités d'implantation de ces différents groupes médicaux, dans les premières années de la colonie. Il met aussi en relation ces éléments avec l'état sanitaire de la population et le développement, dans le pays, de services médicaux et hospitaliers.

#### Introduction

The first médical practitioners to visit New Zealand were the ship's surgeons who accompanied naval and exploratory expéditions to the south Pacific. The doctors who accompanied Captain Cook on his first voyage to the Pacific (1768-1771) were William Brougham Monkhouse and the surgeon's mate William Perry. 1 Monkhouse's first act on arriving in New Zealand was to shoot dead a Maori warrior who was stealing a sword.2 Also on board during Cook's first voyage was Daniel Solander, a Swedish botanist from Uppsala who had been a student of Linnaeus. Solander was medically qualified but was employed as a naturalist.3 Often ship's surgeons doubled up as naturalists - thus on Cook's second voyage the surgeon's mate William Anderson made an important collection of shells and botanical spécimens.4 Later examples include Robert McCormick who sailed with Sir James Ross to the Antarctic 1839-435 and Thomas Huxley who sailed in the Rattlesnake as assistant surgeon between 1846 and 1850.6 However, the main rôle of naval surgeons during this period of exploration was the prévention of scurvy and the treatment of venereal disease. Scurvy in particular was a major problem on long sea voyages. Although James Lind published his treatise recommending the juice of oranges and lemons to treat scurvy in 1753, this was not adopted as a preventative by Cook. Rather, he used fresh vegetables at every opportunity and issued the crew with supposed anti-scorbutics such as wort and sauerkraut.8 Cook's success in avoiding scurvy had the effect of delaying the introduction of citrus juice as a routine preventative for another 25 years. After 1770, exploration of the Pacific by the English and French

increased at a great rate. However, European settlement in New Zealand was slow due to the warlike nature of the native Maori. By 1840 there were only around 2000 settlers. Thèse were a mixture of missionaries, traders, escaped convicts, sealers and whalers. At the same time the population of indigenous Maori was probably over 100,000.

# The whaling doctors

Whaling (and sealing) were important commercial activities in New Zealand in the early nineteenth century. Whilst American whaling ships did not usually carry a surgeon, British ships did." As well as hunting whales from ships, a number of shore stations were established and by 1840 there were around 300 whalers résident in New Zealand. 12 Joseph Crocome (1811-1874) was one of the earliest médical settlers in New Zealand, living and working as a doctor to the whalers and their families. Born in Bath in 1811, the son of a West Indian planter. Crocome qualified in London as a Member of the Royal Collège of Surgeons in 1833.Two years later he embarked as ship's surgeon on the whaling ship Lucinda. He settled at the Otakou whaling centre in the South Island of New Zealand in 1836.13 In 1838 the whaler Johnny Jones persuaded him to move to another whaling centre, Waikouaiti, where he worked for the rest of his life providing médical care to Europeans and Maori in the district.14 Much of his practice would have been surgical as the whalers could suffer serious wounds including burns from boiling the whale oil, cuts from the huge razor-sharp flensing knives or injuries received in the chase. For many years Crocome was the only doctor in the district, but in the 1850s other médical men came over the ranges from Dunedin.<sup>15</sup> In the 1860s he was joined by a Dr. William Chapman LSA, MRCS (1797-1867) who had emigrated from London to Christchurch in 185 I with his wife and seven children. Chapman's two older daughters married sons of Johnny Jones, which no doubt prompted his move from Christchurch. Chapman died in 1867<sup>16</sup> followed by Crocome a few years later. Both were buried atWaikouaiti.

# The Missionaries in New Zealand

The early settlement of New Zealand was much influenced by missionaries. The Church Missionary Society and the Wesleyans from England and the Catholics from France (under Bishop Pompallier) all started missions in the North Island. The missionaries did their best to provide health care both to their own families and the local Maori population. One of the most famous was Henry Williams, a former naval officer from the Napoleonic war who settled at Pahia in the Bay of Islands. His wife Marianne was a midwife, whilst Henry's younger brother William who arrived in 1826 had been apprenticed to a surgeon before studying at Oxford. William had also walked the wards in London. 1718 Between them the Williams ran a dispensary and were the first Europeans to provide health care on a regular basis. In 1839 William Williams set up a mission at Turanga on the East Coast of the North Island where he continued to offer medical advice. 1920 The first qualified doctor resident amongst the missionaries was Adolphus James Ross, an elderly and somewhat hazy figure who was in practice in Waitangi in May 1833. Ross antagonised the local Maori who stripped him of all his possessions. As a result of this he was glad to accept shelter and a small salary from the local missionaries for his professional services. In emergencies he was also expected to attend the Wesleyan mission at Whangaroa. 21 In the late 1830's there were calls from the New Zealand missionaries for medical men to join them. Whilst the Wesleyans never responded to these calls, the Church Missionary Society sent Dr. Samuel Hayward Ford to the mission settlement at Pahia in 1837.22The purpose of his mission was to give medical treatment and advice to the Maori. In 1841 after only four years, his health failed and he retired to Wahapu across the bay from Pahia, and in 1845 he moved to Auckland.23

The next medical missionary to New Zealand was Dr Henry Francis Butts who accompanied Bishop Selwyn on his arrival in 1842.<sup>24</sup> Butts lectured missionary students on medicine and surgery at the Bishop's College atWaimate. He was ordained in 1847 and later moved to Nelson where he spent the rest of his life.

Another missionary doctor who worked under Bishop Selwyn was Arthur Guyon Purchas who first visited New Zealand in 1845. Purchas trained at Guy's Hospital and had both college and hall (MRCS, LSA) - the usual qualifications for a general practitioner of the period.25 His first role was to attend St. John's Theological College and take charge of the hospital. In 1847 he was ordained as a minister to the Parish of Onehunga in Auckland where he worked for 28 years as a minister. Throughout this time he provided free medical care to his parishioners. Towards the end of this period in the early 1870's he carried out a remarkable series of major operations including the removal of a number of large ovarian cysts. These were carried out by a surgeon whose training had been undertaken 30 years before, who had no operating theatre and no trained assistance. Yet all 13 of his ovariectomy patients survived the operation and only one subsequently died of malignancy. Purchas died in 1906 at the age of 82 from pneumonia whilst taking a holiday on a coastal steamer.23

#### Medical entrepreneurs

Many of the medical men to arrive in New Zealand in the 1840s were entrepreneurs looking for a new life. After 1820 medicine in Britain became an overcrowded profession.<sup>26</sup> The Scottish medical schools, particularly Edinburgh, continued to produce more practitioners than were needed. Many young doctors emigrated to the colonies. One famous early New Zealand doctor was John Logan Campbell. Born in 1817, he graduated from the University of Edinburgh Medical School in 1839. Rather than join his father in practice he decided to travel and explore the opportunities presented in Australia. He joined a ship, the Palmyra, as ship's surgeon where he met his future partner William Brown who convinced him to try his luck in New Zealand. Logan Campbell, whilst always calling himself 'Doctor' in fact became an extremely successful business man and later mayor of Auckland.27

Other doctors to arrive in Auckland in the early 1840s include Drs John Johnson, Thomas McGauran, Samuel Martin, and Daniel Pollen. John Johnson (MD Edinburgh) was appointed the first Colonial Surgeon in 1841, as well as the Coroner and Health Officer. He was let go from these positions two years later due to lack of funds and left the colony for a time before returning and being re-appointed Colonial Surgeon by Governor Grey. Thomas McGauran (MRCSE, LM Dublin) arrived in 1843 as a ship's surgeon and advertised his practice in Lower Queen Street. He prospered and was appointed Assistant Colonial Surgeon in 1851 and Provincial Surgeon in 1856. Samuel Martin (MD Glasgow) arrived

in 1839, but bought land in the Coromandel and became a journalist and editor of the New Zealand Herald. He later was given a seat in the Legislative Council. Daniel Pollen, from Dublin, was a witness to the Treaty of Waitangi, and entered practice in Auckland in 1841. He became the Auckland coroner in 1844 and in 1847 was appointed medical officer to the copper mining company on Kawau Island. He later entered politics and became Prime Minister of New Zealand in 1875.

#### The New Zealand Company

In 1840 a naval officer, William Hobson, was sent to New Zealand to be the first Governor General. One of the reasons for the British Government to form a colony in New Zealand was the activity of an English entrepreneur Edward Gibbon Wakefield, who had formed a company - the New Zealand Company - to settle the country. Wakefield's idea was to set up English communities in the South Pacific. He bought large tracts of land from the Maori and chose prospective settlers carefully, making sure there was a balance of wealthy owners, craftsmen, and labourers. He made sure there was an equal number of men and women - something unusual in most pioneer settlements - and he ensured that there were medical men amongst his settlers.<sup>29</sup>

The first New Zealand Company ship to arrive was the *Tory* in 1839 and the ship's surgeon, Dr. John Dorset stayed on at the settlement of Port Nicholson. New Zealand Company surgeons aboard the emigrant ships received payment of ten shillings for every adult passenger (payable in New Zealand), five shillings for every child aged between 7 and 14 years, and 3s 6d for every infant from birth to 7 years. One pound was deducted for every death and one was added for every birth, with a bonus of £50 usually granted at the end of a successful trip.<sup>30</sup> In February 1840 Dorset wrote to his brother:

'I am in full swing as Surgeon of the Colony with lots to do and I've only one fault to find with E.G.W's system (and that's quite a personal one as it gives me an immense deal of work). I can assure you a hundred of the married females have arrived in the family way and I have brought several into the world already so that medical men, though they'll not have much to do in the way of sickness, will still find their hands well employed in bringing young ones into the world. I've had several accidents from men chopping themselves with axes and I've one serious one for which I expect I'll be obliged to amputate the thigh.<sup>131</sup>

Other doctors who emigrated to Port Nicholson (later Wellington) and who were in the first five ships to arrive, were Drs. Isaac Earl Featherston, William

Fitzherbert, and John Patrick Fitzgerald. By 1845 there were thirteen qualified doctors living in Wellington out of a population of 1620.<sup>32</sup>

Featherston was an Edinburgh graduate who purchased land in Wellington. As well as practising medicine, he became involved in many of the new settlement associations and later became superintendent of the Wellington Province and a political opponent of the Wakefields.33 Dr. Fitzgerald was an Irish Catholic although he too qualified in Scotland (MD Glasgow 1839). He was appointed physician to the infirmary and later, coroner and health officer to Port Nicholson. In 1847, he was appointed the superintendent of New Zealand's first public hospital by Governor Grey. He was an innovative doctor and carried out the first ether anaesthetics in New Zealand on 27th September 1847. However he attracted critics - and was attacked by his medical colleagues who accused him of 'gross quackery' and fraudulent use of medical qualifications. He left the colony in 1854 after the death of his wife and returned to Britain. In 1856 he was appointed by his friend Sir George Grey, then Governor of the Cape Colony, as superintendent of the Grey Hospital in South Africa. 3435

The New Zealand Company set up further settlements at New Plymouth (with settlers mainly from Devon), Nelson, and Christchurch. The doctors who settled in Nelson included Drs. David Monro, Alexander MacShane, George Bush, and John Danforth Greenwood. Monro had studied with his father Alexander Monro, the Professor of Anatomy at Edinburgh. After qualifying, young David set up practice in Edinburgh but in 1841 he decided to emigrate to New Zealand. He did not travel with the other settlers but set off earlier to visit his brother in Australia, travelling as the ship's surgeon on the Tasmania. His only record of a patient on the voyage to Australia was a passenger with appendicitis who was successfully treated with vigorous purging and enemas. After visiting Australia, Monro travelled on to Nelson. On his arrival however, like Logan Campbell in Auckland, he devoted himself to business. His diaries record him treating friends and family and acting as a consultant to his colleagues but he did not set up in practice.36

Less is known of Dr MacShane. He arrived on the *Whitby* in October 1841 and settled into practice.<sup>37</sup> One of his noted acts was the amputation in 1843 of the leg of a Maori who had been wounded some years before the patient smoking his pipe throughout the operation.<sup>32</sup> In 1847 MacShane was awarded the tender for looking after Maori patients - his bid of £6 5s a month undercutting that of his rival George Bush.<sup>38</sup> In September

1848 he was appointed as the colonial surgeon to the newly built colonial hospital at New Plymouth with a salary of £180 per year. However, on his arrival it was obvious to Dr Peter Wilson that MacShane was a sick man.<sup>39</sup> He died of consumption on 6th July 1849.Wilson, who had been a wealthy landowner and farmer in both Wanganui and New Plymouth, took over from MacShane and remained the colonial surgeon at the hospital until his death in 1863.

# British Army Medical Services in New Zealand

The first British Imperial troops to arrive in New Zealand accompanied the Governor, William Hobson in January 1840. Patrick Gammie was the Assistant Surgeon to the 80th Staffordshire Regiment and was the first army surgeon to serve on active duty in New Zealand. 40 He also provided services to the civilian population and was called on by the coroner to provide a medical opinion in a number of deaths where a coroner's court had been called.41 In 1845 clashes between the Maori and the settlers led to the need to send to Australia for reinforcements. The regimental surgeons, Dr. Chilley Pine (58th Regiment) and Dr. George Galbraith (99th Regiment), are recorded as having attended to the wounded in the first clashes between Maori and Europeans. 40 Dr. Chilley Pine joined the army as assistant surgeon in 1833, served in China and then New Zealand. Later he was a Staff Surgeon in the Crimean war where he died in 1855 of typhus. 42 Another doctor who arrived with the new troops was Dr. Thomas Moore Philson who joined the 58th Regiment in 1845 and also served in the campaigns in Wellington and Taranaki.<sup>23</sup>

In 1847 the country entered a period of relative peace. The army had very little to do and doubtless their surgeons were under employed. Civilian doctors such as Dr Thomas McGauran who had been taken on by the army were let go. 43 Four years after the end of the troubles Dr Philson retired from the army and took up private practice in Auckland. 23 He was one of the few regimental surgeons to leave the army and settle in New Zealand.

Another notable army surgeon was Dr. Arthur Saunders Thomson. 44 He was appointed to the 58th Foot in 1847 and proceeded to New Zealand where he stayed until 1858. He therefore served during a period when there was no fighting. He turned his attention to scientific observations and published a number of papers. In September 1848 Thomson announced smallpox vaccination plans for Maori and in 1854 the Colonial Government established a 'Central Board of Vaccination for the Aborigines of New Zealand'. This board consisted of clergymen, doctors, and gentlemen.

One of the original members was Thomson.<sup>45</sup> In his book published in 1859 Thomson commented that 'Smallpox has not yet appeared in the colony, but fortunately two-thirds of the natives have been vaccinated.<sup>46</sup>

# Health problems in the population

Most of the health problems dealt with by the early medical practitioners were those of the settler population. We have a picture of the health of the population from the records from the provincial hospitals and from the accounts of the early doctors, particularly AS Thomson. Recently we have also had access to the coroner's reports from Auckland from 1841 - 1857, which give a fascinating insight into the health of the population at the time.<sup>28</sup> Problems encountered by the early doctors included trauma, infectious diseases, dysentery and typhoid. The coroner's reports provide accounts of people suffering a range of injuries caused by falling from or being kicked by horses, being hit by falling trees, buried by collapsing banks, or having fallen from a cliff. Also there were intentional injuries either due to an assault or self-inflicted, and records of a number of cases of children dying from burns or drowning in wells. Drowning at sea was common and a number of reports describe the resuscitation attempts by local doctors. Many of these episodes of injury and drowning were associated with drunkenness. The coroner's reports list many cases of death due to intemperance. Alcohol abuse seems to have been a major problem in early New Zealand, both in the civilian population and amongst the troops stationed there.

The other major hazard was infectious diseases. Tuberculosis was common and many early settlers suffered from consumption. The Maori had little resistance and large numbers died from pulmonary tuberculosis. Measles was another complaint that was relatively innocuous for the settler population but epidemics amongst Maori on occasion caused fatality rates of up to fifty percent. Epidemics of influenza are recorded with disproportionate numbers of Maori dying from the disease. Bowel disorders such as dysentery were also common, although typhoid fever was supposedly not a problem until the first outbreak in 1860.47 Cholera did not become a problem due to stringent quarantine regulations whilst smallpox was a rarity due to the combination of guarantine and the widespread use of vaccination. In contrast both smallpox and cholera were a major problem in the United Kingdom in the 1840s, 50's and 60's.48

# Early New Zealand Hospitals

Governor George Grey authorised the building of Colonial Hospitals in Wellington, Auckland, Wanganui, and New Plymouth in 1846. The first opened in Wellington on September 15th 1847. Dr Fitzgerald was appointed colonial surgeon. The hospital had three wards and a surgery and could accommodate up to twenty patients. Most of the patients were Maori and Fitzgerald met much opposition, especially from the Church Missionary Society who accused him of trying to convert his patients to Catholicism. 49 The Auckland hospital was staffed by Dr. Johnson who had been reinstated as Colonial Surgeon. Maori and Europeans were initially nursed in separate wards but after the first two years this practice ceased and was never re-instituted.50 Johnson was the first Auckland doctor to carry out an operation under chloroform when he amputated a finger on 1st July 1848.51 The colonial hospital at New Plymouth, as noted above, was first staffed by Dr McShane and later by Dr Wilson. Wilson described it as being tastefully built in the Anglo-gothic style. It had three wards, a surgery, a dispensary, kitchen, storeroom, bathroom, and two pantries. Patients were obviously well looked after - in his first annual report he commented that the diet was 50 ounces a day -I found such well fed patients reluctant to leave.' Wilson was obviously more conservative than his colleagues in Auckland and Wellington, commenting to his friend Donald McLean 'Our Maoris have now got the notion to have Chloroform when they are to be operated on!'52 Wilson was an old soldier and seems to have agreed with his contemporary Sir John Hall, British medical officer in charge in the Crimean campaign who had cautioned his medical officers against the use of chloroform, saying that: 'the smart of the knife is a powerful stimulant and it is better to hear a man bawl lustily than to see him sink silently into his grave'. 53 The colonial hospitals offered access to medical care to Maori and Europeans alike both for inpatient and outpatient services. They were the beginning of a tradition of public hospitals funded by central Government and providing free access to all, which still prevails in New Zealand today.

# Conclusions

In summary, during the first period of settlement we can consider four principal groups of doctor who provided medical services to the settlers and to a lesser extent the indigenous Maori population. These included the surgeons accompanying the armed forces - both the naval surgeons in the first exploration of the Pacific and the army surgeons accompanying the forces sent to

protect the settlers during the New Zealand Wars against the Maori. There were the medical men who were also missionaries and there were the doctors employed by the New Zealand Company. Finally, there were the entrepreneurial doctors who came to the colony for a new life independent of any sponsoring body.

It should be recognised that our perceptions of the medical settlement of New Zealand may be biased by the availability of records. The Missionary societies and armed forces reports have been well preserved, as have the letters and journals of a few eminent men such as David Monro, Isaac Featherston, Peter Wilson, and John Logan Campbell. It may be that there were more doctors such as Joseph Crocome, working as singlehanded practitioners, sometimes in rural areas, whose contribution has been insufficiently recognised. However, it appears that medical practice in New Zealand followed that of the settlement of the country as a whole. After a sporadic start the major influx was at the behest of the New Zealand Company in the early 1840's, followed by the arrival of individual doctors in search of a new life in a rapidly growing colony.

# References

- 1 Snell WE. Captain Cook's Surgeons. *Medical History* 1963;7:43-55.
- 2 Hough R. Captain James Cook a biography, p. 117. Hodder and Stoughton, London 1994.
- 3 Beaglehole JC. The Life of Captain James Cook. p. 144. Stanford University Press, California 1974.
- 4 Snell WE. Captain Cook's Surgeons. Medical History 1963; 7: 50.
- 5 Ross MJ. Ross in the Antarctic, p. 31 Caedmon of Whitby, Yorkshire, England. 1982.
- 6 Huxley J. *TH Huxley's diary of the voyage of HMS Rattlesnake*, p. 9. Chatto and Windus, London 1935.
- 7 Gluckman LK. Cook's voyages to New Zealand in medical perspective. New Zealand Medical Journal. 1969; 70(449): 219-22
- 8 Watt J. Medical aspects and consequences of Cook's voyages. In Captain Cook and his times, pp. 129-158. Edited by Fisher R and Johnston H. 1979.
- 9 Owens JMR. New Zealand before annexation. In The Oxford History of New Zealand, pp. 28-56. Edited by Rice GW. Oxford University Press. 1996
- 10 Pool I. The Maori Population of New Zealand 1769-/97/.Auckland University Press. 1977.
- I I Gordon EC. Sailors physicians: Medical guides for merchant ships and whalers 1774-1864. *Journal of History of Medicine and Allied* Sciences. 1993; 48: 139-56.
- 12 Gluckman L.K. *Tangiwai, Medical history of New Zealand prior to 1860. p.* 15. Auckland 1976.
- 13 Grady D. Sealers and Whalers in New Zealand Waters. p. 180. Reed Methuen, Auckland 1986.

- 14 Wright-St Clair RE. Names from the past. New Zealand Medical Journal. 1976, 84: 360-2.
- 15 Fulton RV. Medical Practice in Otago and Southland in the Early Days. pp. 7-10. Dunedin 1922.
- 16 Cockerill G. Dr William Chapman. http://freepages.genealogy.rootsweb.com/~nzbound/ nzbound/labuan.htm#Chapman
- 17 Gluckman L.K. *Tangiwai, Medical history of New Zealand prior to 1860.* p. 49. Auckland **1976.**
- 18 Carleton H. The Life of Henry Williams. AH&AW Reed. Wellington (Revised Edition.) Elliott J (ed) 1948.
- 19 Porter, Frances. 'Williams, William 1800 1878'. Dictionary of New Zealand Biography, updated 16 December 2003 <a href="http://www.dnzb.govt.nz/">http://www.dnzb.govt.nz/</a>
- 20 Williams, W. *The Turanga journals*, 1840-1850. Ed. F. Porter. Wellington, 1974.
- 21 Gluckman L.K. *Tangiwai, Medical history of New Zealand prior to 1860,* p. 57. Auckland **1976.**
- 22 Dow DA. Maori Health and Government Policy 1840-1940. p. 19. Victoria University Press. Wellington 1999.
- 23 Roche EH. Some medical pioneers in New Zealand. New Zealand Medical Journal. 1970; 71: 90-93.
- 24 Gluckman L.K. *Tangiwai, Medical history of New Zealand prior to 1860.* p. 94. Auckland **1976.**
- 25 Wright-St Clair R E. A history of General Practice and the Royal New Zealand College of General Practitioners. p. 2. RNZCGP, Wellington 1989.
- 26 Loudon I. Medical Care and the General Practitioner, 1750-1850. p. 208. Oxford: Clarendon 1986.
- 27 Stone RCJ. Young Logan Campbe/Z.Auckland University Press. 1982.
- 28 Gluckman L. Touching on Deaths: a medical history of early Auckland based on the first 384 inquests. Doppelganger, Auckland 2000.
- 29 Bloomfield P. Edward Gibbon Wakefield: builder of the British Commonwealth. Longmans, London 1961.
- 30 Porritt A. The history of medicine in New Zealand. Medical History 1967 II (4): 334-44.
- 31 Manson C, Manson C. Curtain Raiser to a Colony; sidelights on the founding of New Zealand, p. 104. Whitcombe and Tombs, Christchurch 1962.
- 32 Gluckman L.K. *Tangiwai, Medical history of New Zealand prior to 1860. p.* 125. Auckland **1976.**
- 33 Hamer, David. Featherston, Isaac Earl 1813-1876. Dictionary of New Zealand Biography, updated 31 July 2003 URL: <a href="http://www.dnzb.govt.nz/">http://www.dnzb.govt.nz/</a>
- 34 Barber, Laurie. Fitzgerald, John Patrick 1815-1897). Dictionary of New Zealand Biography, updated 4 April 2003 URL: <a href="http://www.dnzb.govt.nz/">http://www.dnzb.govt.nz/</a>
- 35 Donaldson R. Dr JP Fitzgerald: pioneer colonial surgeon, 1840-1854. New Zealand Medical Journal 1988:101:636-8.
- 36 Wright-St Clair RE. Thoroughly a man of the world: A biography of Sir David Monro. Whitcombe and Tombs, Christchurch 1971.
- 37 Hayton AC, Mullon HD. 'The unfortunate Dr McShane of Nelson and New Plymouth'. New Zealand Medical Journal. 1978; 87: 20-3.

- 38 Dow DA. Maori Health and Government Policy 1840-1940. p. 36. Victoria University Press. Wellington 1999.
- 39 Lambert G. Peter Wilson, Colonial Surgeon, p. 170. Dunmore Press, Palmerston North 1981.
- 40 Gluckman L.K. *Tangiwai, Medical history of New Zealand prior to 1860. pp.* **IOI-2.Auckland 1976.**
- 41 Gluckman L. Touching on Deaths: a medical history of early Auckland based on the first 384 inquests, pp. I 19-125. Doppelganger, Auckland 2000.
- 42 Shepherd J. *The Crimean Doctors. A History of the British Medical Services in the Crimean War.* p. 329. Liverpool University Press. 1991.
- 43 Public Record Office. File WO 28 288. New Zealand Brigade Orders 1847-1855 p. I.
- 44 Wright-St Clair RE. Surgeon Thomson of the 58th Foot. New Zealand Medical Journal. 1976,84: 153-6.
- 45 Dow DA. Maori Health and Government Policy 1840-1940. pp. 52-3. Victoria University Press, Wellington 1999
- **46** Thomson AS. *The Story of New Zealand: Past and Present Savage and Civilised.* London, John Murray. 1859
- 47 MacLean FS. Challenge for Health. A history of public health in New Zealand. Government Printer, Wellington 1964.
- 48 Wohl AS. Endangered lives. Public Health in Victorian Britain. Dent and Sons, London 1983.
- 49 Bohan E. *To be a hero:A biography of Sir George Grey,* p. 96. Harper Collins, Auckland 1998.
- 50 Gilmour M. New Zealand and its doctors, past and future. *New Zealand Medical Journal*. 1988; 101 (846 Pt 2): 292-6.
- 51 Gluckman L. Touching on Deaths: a medical history of early Auckland based on the first 384 inquests, p. 82 Doppelganger, Auckland 2000.
- 52 Lambert G. *Peter Wilson, Colonial Surgeon*, p. **180.**Dunmore Press. Palmerston North 1981.
- 53 Shepherd J. The Crimean Doctors. A History of the British Medical Services in the Crimean War. p. 114. Liverpool University Press 1991.

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