

The medical history of South Georgia

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Received April 2008

ABSTRACT. The first landing on South Georgia was made in 1775. Sealing expeditions arrived soon afterwards, and during the 18th, 19th and 20th centuries men plundered the beaches and seas surrounding the island for seals and whales. Sealing and whaling ceased in the 1960s, when declining whale numbers and the increasing use of other forms of oil made the industry uneconomical. Although an isolated island with a small population and a severe climate, South Georgia has a rich history. Its medical history has not been previously studied. This paper aims to look at some aspects of the medical history of the island, from early expeditions of discovery, through to the 20th century whaling industry. Surviving whalers and whaling doctors were interviewed. Published material with any relevance to South Georgia, including academic texts and personal memoirs, were searched for details of hospitals, doctors and medical events on the island. Documents archived in South Georgia, the Falkland Islands and the United Kingdom revealed much useful information, and occasional documents came to light from other sources. Aspects of the provision of medical services over two centuries from 1775 to the beginning of the 1960s are described. Morbidity and mortality are summarised and discussed, as are differences between medical care in South Georgia and standard care.

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Introduction

South Georgia is one of the most remote inhabited islands on earth. It is 160 kilometres long and is situated at 54° S, 1450 km from the Falkland Islands, the nearest landmass. Even in the 21st century South Georgia has no air access, and it takes a minimum of three days to reach by ship. Captain James Cook is credited with the first landing in 1775, describing it as follows. ‘Land doomed by Nature to perpetual frigidness: never to feel the warmth of the sun’s rays; whose horrible and savage aspects I have not words to describe’ (Beaglehole 1961). Sealing for fur seals (mostly for their skins) and elephant seals (for oil) started as early as 1778, and continued at varying levels over the following two centuries. In 1906 the island became a base for whaling, which continued until the 1960s, when decreasing whale catches and the increasing use of alternatives to whale oil made whaling uneconomical. The peak whale catch was in the 1920s, when up to 8000 whales were taken each summer season. At that time there were a few thousand men working on the island.

During the period of whaling and sealing South Georgia was the focus of continuing exploration and scientific study and the island was a stopping-off point for many of the early Antarctic expeditions. The small settlement at King Edward Point continues to be inhabited by a small

group of scientists, government officials and support staff, who study and monitor fishery and tourism on the island.

While overviews of Antarctic medical history have been written (Lugg 1975), very little detailed research has been published. Almost nothing has been written about medical aspects of the southern whale fishery, although Case studied the incidence of disease in a whaling expedition consisting of a factory ship and associated whale catchers in 1946–1947 (Case 1948) and Beltramino estimated, from an examination of the graves, that the mortality for the whaling station on Deception Island was five per 1000 (Beltramino 1966). As far as the authors are aware, nothing has previously been written on the medical history of South Georgia. However, from that point of view South Georgia is unique, in terms of its remoteness, severe climate and the heavy industry that took place on the island.

Methods

Many sources were used to document South Georgia’s medical history. Surviving whalers and whaling doctors were interviewed, and provided insights and suggestions for further sources of information. These men mostly worked in South Georgia in the late 1950s and 1960s, but a few survive from earlier days. Archived documents, including coroners’ reports, found in the archives of the Scott Polar Research Institute, the Falkland Islands Government (FIG), South Georgia Museum and Edinburgh University Special Collections were searched, and all the published material that could be found about South Georgia was examined for references to the provision of medical care. Diaries and memoirs of South Georgia doctors were also read.

With regard to ethical issues, efforts have been made to preserve the confidentiality of those who worked on the

island. We have made an exception for information that has been published previously.

Exploration and sealing

Information regarding the early medical history of South Georgia is sparse. The first doctor to visit the island was James Patten, Cook's senior surgeon. The main medical problem to afflict expeditions at that time was scurvy, but Cook largely avoided this condition by encouraging the consumption of fresh plants and meat at every opportunity, and regular provision of sauerkraut (Beaglehole 1961). James Weddell anchored off the island in 1823 after his visit to the sea to be named after him, and described his crew eating 'plentifully' on native plants, which he felt were anti-scorbutic (Weddell 1827).

It is unlikely that many 18th and 19th century sealing vessels carried surgeons, and it is possible that any surgeons with these expeditions were only partially trained, as occurred at the same time in the northern whale fisheries (Struthers 1856).

Thomas Smith, a sealer, published an account of several voyages, which included an expedition to South Georgia in 1816. His descriptions of prevailing conditions are harsh:

I suffered much with the severity of the cold, which affected my feet to a great degree. I had neither shoes nor stockings, having previously worn them out, and it was impossible to obtain from the slop chest, as it was empty, or from the crew. (Smith, 1844)

On Smith's voyages men died as a result of freezing, drowning and falling down crevasses. (Headland, 1984)

The earliest grave on the island is dated October 14th 1820 and is that of Frank Cabriel, a steward on an American sealing ship. The only doctor recorded as having died on the island was WH Dyre (of the ship *Esther*) whose grave, dated 1846, was found at Grytviken. He was said to have died of typhus.

Later expeditions usually included a doctor, who often had dual roles. Karl von den Steinen, the doctor and zoologist on the German South Georgia Expedition of 1882/3 reported on the avifauna of the island. (Headland, 1984) Other doctors also studied geology or wildlife. August Szielasko's ship *Fridtjof Nansen* came to grief on the rocks in 1906 and he chose to stay whilst the rest of the crew were repatriated. Ludwig Kohl was unwell when he arrived in 1911 with Filchner's German Antarctic expedition, having had his appendix removed on the ship on the voyage south. He recuperated on the island and later married a daughter of Grytviken manager Carl Larsen and returned for further exploration. (Kohl-Larsen, 2003) Both men have geological features named after them.

South Georgia's best-known doctor is Alexander Macklin, who was one of Ernest Shackleton's physicians. He visited the island in 1914 at the start of the *Endurance* expedition. He was not on Shackleton's epic voyage from Elephant Island in 1916, but later described that one of the three men who crossed the island on foot incurred

frostbite of the penis. However, the unfortunate victim was not named (Macklin 1921). He revisited the island in 1921 on Shackleton's *Quest* expedition and was present when Shackleton died in January 1922, performing a post mortem examination, and certifying his death. A mountain, and the current King Edward Point medical centre are named after him.

Whaling

Provision of medical care

At the height of the whaling industry, there were eight whaling stations on the island, leased to various whaling companies by the FIG. There were no roads on the island and communication between stations was by telegraph and sea.

From the earliest days of whaling, the whaling companies employed doctors. The first physician was Stal Olaf Eggen, a 28 year old Norwegian employed by *Compañia Argentina de Pesca* in 1907. In the tradition of remote medical staff, he had a dual role, and was contracted to help with office work in the station (Hart 2001). Dr Michelet was on the island a few years later, and had been there two and a half years when he was asked to leave by the Grytviken station manager, who considered that his delayed diagnosis was responsible for the outbreak of typhus which killed up to eight men during the winter of 1912.

A register of doctors, kept by FIG, was started in 1926. Most doctors were either from Norway or the United Kingdom (the majority of whom were Scots). Finding doctors to work in such a remote location was not always easy. Most had been qualified less than five years and one in five had been qualified one year or less. (FIG undated a). It is doubtful whether the early whaling practitioners were fully qualified. Most doctors stayed only a season, or two seasons with a winter, and were also employed on whaling factory ships travelling to and from the island. Some notable long stayers were Dr Aarburg, who served for six years in the 1920s, and Dr Loveid, who was in Grytviken and Husvik between 1912 and 1918 and whose daughter was born on the island in 1916.

Doctors remained difficult to recruit after the Second World War and those appointed have been described as 'either newly qualified men, or persons with a history' (Elliot 1998). In the late 1950s consideration was given to the employment of a female doctor, but that was felt to be ill advised by FIG.

During the first half of the 20th century doctors were also responsible for dental work, finding that it took up as much time as did medicine. The first dentist was not appointed until the 1950s. Doctors also found themselves helping out with the veterinary care of pets and farm animals kept on the island and were contracted to 'assist in such suitable employment as may be mutually agreed upon between him and the Master of the transport vessel or Manager of the Principals' South Georgia Station' (Gilkes 1947). Managers were also able to impose limitations

on doctors' freedom, such as their ability to travel from the station for non-work reasons. (Gilkes, 2006) They were often assisted by Norwegian male nurses, known as diakons, and also by untrained mess boys. In times of need other men would be asked to help, particularly those with any background of service in the military medical corps.

Hospitals were built at six whaling stations, but only three survived past the 1930s. The largest was built at Leith Harbour in the 1950s, and had four wards (with 20–25 beds), two operating/examination rooms and a dentist's room (Basberg 2004). At times capacity within the hospitals was not sufficient for the number of sick men. A wintering whaler in the 1950s recalls a notice saying that no more skiing would be allowed until beds became available in the hospital (Fraser 2001).

Patterns of illness and injury

Very few medical records exist but a death register was kept from the early 20th century, and coroners' reports have been archived. Other descriptions exist in the form of doctors' diaries and memoirs, and published papers. Most consultations were for minor injury and illness, but substantial numbers of men were hospitalised (possibly about ten percent of wintering men) at some time (Andersen 1953). Hospitalisation rates in this type of environment are always high as, without admission, there is nobody to look after the ill or injured patient.

Deaths

230 deaths are recorded as occurring either on, or close to, the island between 1820 (the year of the first recorded death) and 1962 (the last recorded death during the whaling years), including those which are on the official register and, prior to that, those whose graves are on the island. There are also other deaths recorded by individuals, but not documented in the official records or confirmed by the presence of a grave. Undoubtedly more deaths occurred, particularly in the days prior to the register starting. It is not possible from this data to estimate the mortality rate. The majority who died were Norwegians, aged between 20 and 40 years old, presumably reflecting the population of workers. The most common causes of death (Table 1) were injury (particularly head injury), cardiac disease (which became more common in later years, possibly as the age of whalers rose) and infection

Table 1. Causes of death between 1820 and 1962.

Recorded cause of death	Number of deaths
Head injury	27
Other injury	10
Avalanches	6
Death in water	13
Exposure to cold	3
Cardiac disease	35
Infections	35
Nutritional deficiency	5
Suicide	7
Other	89

(FIG undated b). All deaths were subject to coroner's enquiry but post-mortem examinations were rare.

Infectious diseases

Infectious diseases were a problem during the earliest days of whaling, although they became gradually less common, and death from infectious diseases ceased in the 1950s. After the outbreak of typhus previously mentioned, it became routine practice for ships to be boarded by the medical officer on arriving at South Georgia. Outbreaks of pneumonia and tinea corporis (a highly infectious fungal skin infection) were also recorded, and tuberculosis was an ongoing problem throughout the whaling years, with occasional deaths from the disease.

Injury

Whaling is a heavy industry and injuries were common. Head injuries happened as a result of recoiling harpoon guns, explosions and being hit by heavy equipment. Horrific injuries were described, with a coroner reporting a skull being 'frightfully crushed' and half of the brain having disappeared. Other injuries could be just as severe, for example those of a man who was caught in a steam winch which pulled him into the turns of a chain and took him three times around the barrel. At times doctors were challenged by multiple casualties resulting from one incident, such as when a breaking mast killed resulted in 18 men falling 14 feet into a tank, killing one. The nearest doctor may have been many hours away, and might have had to deal with ill-advised first aid, such as when the stump of an amputated limb was put into a sack of flour in an attempt to stop bleeding.

Many deaths were preventable, and in 1913 the local magistrate began to comment formally on the lack of safety in working practices on the island. In 1929 three men died as the result of an avalanche, which destroyed buildings built on the site of a previous avalanche in 1920.

Recreation, particularly skiing and hill walking, also resulted in injury. Hypothermia often contributed to death in the mountains. Other men died as a result of falling into the water, sometimes when working but often late at night, and in association with the consumption of alcohol. Survival times in the water during the winter were limited to minutes.

Depression and suicide

References to mental upset occur in almost every South Georgia text, memoir, and official document. During the whaling years, seven men were officially recorded as having committed suicide, including a Shetlander who was only eighteen years old. This number is undoubtedly an underestimate. Hanging was the most common method of documented suicide, but suspicion must exist over many cases of men who just disappeared, or were who found dead in the water.

'Whale sickness' is frequently described, a melancholic disorder which affected large numbers of men during times when the whale catch was poor, and which could be cured by a good day's whaling. Many other causes of

depression in South Georgia have been suggested, including 'frequent atmospheric changes, blizzards, absence of any sunshine' (Hillenbrand 1953b) and 'the despair and loneliness of working in an isolated, sometimes soulless, community devoid of female company' (Hart 2001). Living conditions undoubtedly contributed, with a whaling station being described as 'a sordid habitation' with its first impression being 'received violently through the nose' (McLaughlin 1962). It has been noted that up to eight men shared a room, with only 2.5 square metres each (Basberg 2002).

Drugs and alcohol

Alcohol consumption was implicated in many injuries, disappearances and cases of mental illness. In 1907 Grytviken manager Larsen stopped drinking, and banned alcohol for everyone except the manager, gunners and officers. However it continued to be manufactured from boot polish and industrial alcohol, and smuggling and stills were common. At various times financial inducements were offered to ships' masters to encourage them not to import alcohol, and whalers found in the possession of spirits were fined heavily (Hart 2001).

Many medical men who went south were heavy drinkers. In 1926 it was noted by the Colonial Surgeon in the Falkland Islands that almost all British doctors who had served on South Georgia had been 'sent home before the end of their agreement owing to the abuse of intoxicating liquors,' and in 1957, another doctor was sent home after being 'on the most monumental "bender" for the past 3 weeks' (MacIntosh 1956–1957). It is also thought likely that some doctors abused the cocaine which was provided for medicinal purposes. In the late 1940s a large quantity of solid cocaine was found in the attic of the Leith Harbour hospital (Gilkes 2006).

Whaling and sealing related illnesses

Illnesses specific to whaling and sealing have also been described. Whalers were subject to a wide range of bacterial skin infections, particularly affecting the index and middle fingers and varying from cellulitis to abscesses and erysipeloid (a not uncommon infection in those who handle fish and pigs, caused by *Erysipelothrix rhusiopathia*). Infections were not usually related to puncture wounds, but 'wire stings' from gripping wire ropes used to move the whales on the flensing platforms. In the 1950s a doctor described treating 34 such cases during a summer season and also 16 winterers who were preparing whaling equipment for the following season (Hillenbrand 1953a). Puncture wounds sustained during flensing also had a high rate of infection.

Whale finger may have been different to a condition known as seal finger, which was common amongst sealers in the northern and southern hemispheres. It has been described as being similar to a tuberculous finger, often occurring without any skin injury, and causing a locally destructive lesion. Also described were conjunctivitis, which occurred in men who worked with whale oil fume

emitting separators, and dermatitis in those who used soap made from whale oil (Hillenbrand 1953b).

Nutritional deficiencies

Nutritional deficiencies continued to occur in some whalers during the twentieth century. Vitamin C is contained in most fruit and vegetables in varying quantities, and also in fresh meat (particularly non-muscle sources). After a few cases of scurvy in the early part of the century one doctor encouraged whalers to eat the roots and young leaves of tussock grass. In the 1950s a 23 year old was certified as dying as a result of scurvy, after eating a diet (by his own choice) of tinned food, salt meat and salt fish. However, records show that he did not respond to treatment with vitamin C, suggesting that other factors such as other dietary deficiencies, may have played a part in his demise. Beri-beri was also common in the early part of the twentieth century, although interestingly no deaths were noted until the 1930s, by which time it was well recognised as a deficiency disease.

Differences in remote medical care

In many ways, the care provided in South Georgia during the early part of the twentieth century would not have been too different from that received by the majority of the population living in a densely populated country. Differences may have increased over the years, with increased specialisation and advancing technology but, in the earlier whaling days, both drug and surgical therapy were relatively limited, and the training of doctors was more general than it is now. Despite similarities in care between remote regions and more highly populated areas, several differences undoubtedly existed.

The vast majority of the population were male though a few station managers took their wives and families with them. During the twentieth century the population living on South Georgia was medically screened prior to leaving Europe, and each whaler was re-screened prior to wintering on the island. It is not clear which conditions were considered to make a man unfit for work, but documents suggest that it was felt that it was inappropriate for a man with a history of peptic ulceration or psychiatric disease to work on the island. During the first part of the twentieth century the whaling companies used a blacklist to exclude some men from employment, and included illness such as asthma and bronchitis, in addition to laziness, drunkenness and nervousness (Borresen 2006).

Doctors from different whaling stations would assist each other, particularly when anaesthetic and surgical intervention were required but this was not often feasible as there were no roads, and severe weather conditions often made travel by sea impossible.

Evacuation of sick or injured men did occur, although sometimes men had to wait until the beginning of the summer season, or until a time that was convenient for the whaling company. As in the present day, companies were criticised for putting economics ahead of workers' health. One whaling company replied to an enquiry about evacuation with a statement which suggested that

evacuation was often ‘... impracticable ... unsuitable for the conditions ... and economically impossible’. It was considered by the company that this was accepted by the whalers (Robertson 1956).

Conclusion

This study describes the medical history of South Georgia from Cook’s first visit until the end of the whaling years, in the 1960s. South Georgia’s medical history has been influenced by its remoteness, climate and heavy industry. The provision of medical care in such an environment remained problematic from the earliest days, throughout the whaling years. Many medical problems were related to infection or injury, and depression and alcohol use were common. Illnesses specific to whaling and sealing were also treated.

This paper has some limitations. The most obvious is that written information, such as medical records, was often not preserved (or if it has been kept, its location is not known). Documents written in Norwegian and filed in Norway were not searched, although archived Argentine documents were read. In addition, verbal history from survivors may have been limited by their advancing years.

Acknowledgements

Many thanks for all the time, information and kindness shared by Gibbie Fraser and the Shetland Whalers, Ann Prior, Ian and Yvonne Cummings, Sir Gerald Elliot, John Cummings, Dr Michael Gilkes, Robert Burton, Professor David Walton, Tim and Pauline Carr, Professor Michael Hillenbrand, Dag Borresen, Betty Biggs and the staff at the archives of the Falkland Islands Government and Scott Polar Research Institute. Thanks are also due to two anonymous referees for their valuable comments. This paper is based on a dissertation submitted by the senior author to the Peninsula Medical School at the University of Plymouth. Copies of the fully referenced dissertation (Keys 2008) have been filed at the Scott Polar Research Institute and South Georgia Museum libraries. The project was supported financially by the Shackleton Scholarship Fund.

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