The Falkland Islands are probably best known for their unspoilt countryside, abundant wildlife, and the war between Argentina and the UK in 1982.

Stanley, the capital of the Falklands, is situated 300 miles from the South American mainland and 8,000 miles from the UK. Its hospital, the King Edward VII Memorial Hospital (KEMH), the most southerly British hospital in the world, is the only medical facility covering about 120,000 square miles of the South Atlantic.

Receiving referrals from South Georgia, Antarctica and the military garrison at Mount Pleasant, 35 miles away, KEMH has an enormous responsibility for emergency care provision.

As well as the local fishing crews, KEMH provides care for thousands of tourists who visit the islands each year (Diggle 2003).

In any week, an injured fisherman can be brought in by Royal Air Force (RAF) helicopter, an ambulance can be needed locally, or nurses can be required to attend a patient with suspected cardiac arrest on an island more than an hour away by air.

These unpredictable situations regularly test the clinical and nursing skills of the KEMH casualty staff.

A 999 call from patients or concerned relatives can mean that, within 30 minutes, a pilot, engineers and air traffic control staff are informed, and a casualty nurse has
loaded one of the government’s fixed wing aircraft with all the life saving equipment needed to care for patients in remote settlements and bring them back to Stanley for further care if necessary.

Such fixed wing aircraft are the Falkland Islands government’s first choice for aeromedical evacuation, although in difficult weather conditions, or in cases where fixed wing planes cannot land safely, an RAF helicopter can be used. Fixed wing aircraft are used in all other emergency cases, which occur on average eight times a year.

AIR AMBULANCE

The first air ambulance flew in 1910, seven years after the Wright brothers completed their first flight, when two United States army officers modified a biplane to carry a stretchered patient (Austin 2002). Since then, the preferred means of transferring patients to hospitals in remote places around the world has been by helicopter (Thomas et al 1990). Fixed wing aircraft are used in some remote areas such as the Falklands however because they can be up to four times cheaper (Lockey and Weller 1999).

THE GOVERNMENT AIR SERVICE

Established in 1948, the Falkland Islands Government Air Service (FIGAS) is the islands’ civilian airline. It acts as a vital link between more than 30 remote settlements on the islands by moving people, delivering post and vital goods, and providing an air ambulance service similar to the Royal Flying Doctors Service of Australia (Diggle 2003). The air service has six fixed wing Britten-Norman Islander aircraft.

At any time, two of these are used to police the fishing industry and three to convey goods and passengers around the islands, while the remaining one is serviced. When an emergency arises, one of these is diverted to Stanley to be converted into an air ambulance.

Each of the government’s six aircraft requires a single pilot and can normally carry up to nine passengers. It can manage a maximum speed of 140mph, has a range of 500 miles and needs only 350 metres of grass airstrip or flat beach to land.

When these planes are used as air ambulances, the passenger seats are replaced by a patient loading utility system (PLUS). Taking only a few minutes to install, this provides the casualty nurse with suction equipment, a high flow oxygen supply and facilities for intravenous (IV) infusion.

With PLUS in place, there remains enough room for two crew members and two clinical staff with good access to a single patient.
Mounted to the PLUS system is a stretcher specially designed to fit into small aircraft and this enables patients to be secured without feeling restricted. When patients cannot be moved from their stretchers, the PLUS system can be swung out of the aircraft to act as a ramp, allowing the stretcher to be loaded and unloaded with little manual handling (Blake 1998).

A case study of a typical emergency care episode involving the air ambulance and the role undertaken by casualty nurses is described in Box 1.

**AIRBORNE NURSING**

All nurses who attend to emergencies in the Falklands must undergo pre-hospital trauma training. Similar to an advanced trauma life support course, the Falkland Islands trauma scheme was developed locally to provide staff with tailored training in emergency trauma care (Tremayne and Vincent 2007).

The three casualty nurses at KEMH have completed this scheme and, by regularly practising practical disaster rehearsals and updating their immediate life support skills, are ready

**Box 1. Case study**

**Friday**

1800 It's a dry and windy day, and chief medical officer Roger phones me. A man called Simon, one of only two occupants of an island more than 200 miles away from Stanley, has had a motorbike accident leaving him with a suspected broken leg. The Falkland Islands Government Air Service has been tasked to fit the air ambulance for departure in 30 minutes

1805 I pack a Land Rover with monitoring equipment, emergency rucksack, portable oxygen, a defibrillator, immobilising splints and controlled drugs for analgesia, before Ali, the driver, takes me to Stanley Airport

1825 I brief the pilot, Eddie, about Simon’s suspected condition while he carries out pre-flight safety procedures. I also check the on-board oxygen supply

1830 We take off, and head west. Eddie warns me that the grass landing strip is surrounded by hills so we will need a fast turn around to ensure a safe take off in the diminishing evening light

2000 Eddie contacts the island's other occupant, who provides a radio report of the weather and wind conditions. Despite the diminishing light, both are fine at the airstrip

2005 We make a smooth landing and I am driven for a bumpy 20 minutes to Simon's settlement. I meet the patient, who recognises me by my voice from his calls to arrange medical supplies to the island. Simon's clinical signs appear normal, although his left ankle is outwardly rotated and he reports some pain. I feel his pulses and find that he has good circulation in his left foot. I then give him 75mg diclofenac intramuscularly before fitting a full-leg splint

2045 We place Simon in the back of the Land Rover and drive back to the airstrip. Our return journey takes longer because we are worried about Simon's comfort over the rough ground. Eddie has moved the aircraft and it is ready for take off

2110 I strap Simon into the aircraft stretcher while Eddie repacks the aircraft. The oxygen supply is increased for the flight. Simon reports less pain now as the diclofenac takes effect. Observation shows that circulation continues to be fine

2115 We take off and head for Stanley. Using a torch, I check Simon's clinical and circulation observations, which continue to be fine during flight. He says he has very little pain

2240 We land at Stanley Airport, where an ambulance and its driver, Bobby, are waiting. I call Roger, the chief medical officer, to confirm that we need medical and possible surgical review

2255 Bobby, Simon and I arrive at King Edward VII Memorial Hospital, where Simon's leg is X-rayed. The images reveal that he has two fractures, one to the tibia and one to the fibula. The chief medical officer seeks the opinion of the on-call surgeon and anaesthetist, who start to plan his future surgical care

2330 Simon has a full cast fitted to his leg and he is admitted to the hospital for the night. Care is handed over to ward nurses, although there are longer term plans to fly him to Santiago, the Chilean capital, for surgery

2345 I tidy the ambulance and pack away the equipment in case it is needed again tonight

0010 Bobby gives me a lift home in the hospital Land Rover. It's been an exhausting day so I am especially thankful that my fiancé, César, has made me supper

**Saturday**

1015 I visit Simon after he has undergone manipulation in theatre under anaesthesia to align his fractures. He looks well and is grateful that we brought the air ambulance to him within a couple of hours of his accident. He jokes about what a bad host he has been and how he should have cooked me something before we left in the air ambulance. I find out that he is due to fly to Chile in a week’s time for corrective surgery
for any of the situations they are likely to experience as part of the FIGAS air ambulance crew.

Nursing in the air is generally similar to working in the back of a road ambulance, but nurses must be aware that turbulence can make clinical tasks such as cannulation or phlebotomy difficult and, if flying at dusk, a torch is needed to carry out patient assessment.

In addition, aircraft noise can make audible alarms difficult to hear (Shirley 1996), so air ambulance nurses must rely more on visual cues spotted while undertaking continuous patient assessment, and must always keep an eye on the monitoring equipment.

The FIGAS air ambulance crew equipment is certified for use in fixed wing aircraft, which means that, as well as being able to withstand vibration, these rugged units do not interfere with the aircraft electrical systems. This enables nurses to monitor patients and carry out defibrillation without having to warn the pilot.

PATIENT ANXIETY
Air ambulance nurses should always be aware of patient anxiety. Although most people in the Falklands have used FIGAS before, they can be as anxious as anyone without such experience when secured to a stretcher for an emergency flight.

Demmons and Cook (1997) suggest that the anxiety during flights is greatest before take off, and is steadily relieved as the flight progresses.

To help reduce patient anxiety, air ambulances are arranged so that nurses can see and communicate with patients during take off and landing, and move about freely during flight to carry out patient care.
Because flights can take up to two hours, nurses need good communication skills, even though in the Falkland nurses and patients are often friends.

The simple things such as chatting to patients above the engine noise, holding their hands or giving them a smile puts patients at ease. Cabin temperature should also be controlled and blankets made available for patient comfort.

Meanwhile, the pushing of intravenous fluids or blood products through pressure bags, as well as the monitoring of patients’ oxygenation levels and elimination needs, should be done discretely.

These things often have to be done moreover while tending to the needs of accompanying relatives (Bird and Stover-Wall 2004).

PHYSIOLOGICAL STRESS
Fixed wing aeromedical flights are also often associated with increased physiological stress, caused by the reduced humidity and higher than normal pressure in the cabin, which can lead to hypoxia (Varon et al 1997). However, FIGAS tends to fly at no more than 5,000 feet, so patients are unlikely to experience problems associated with extreme altitude, while the low speeds of the planes mean that patients do not experience rapid acceleration and deceleration.

Close working relationships exist between the casualty nurses and the FIGAS pilots, and both appreciate each other’s role (Bristow and Toff 1992).

The nurses must remember that the pilots have responsibility for safety in the air and should never compromise this to reach patients too quickly (Lockey and Weller 1999). But it is also the responsibility of the pilots to ensure that information provided by the nurses about patients’ conditions, as well as estimated arrival times, are communicated to the hospital in Stanley (Bird and Stover-Wall 2004).

CONCLUSION
One of the many benefits of emergency nursing in the Falkland Islands is that of care continuity.

Nurses, who often know their patients personally, can treat them from the trauma scene all the way through to their hospital admission.

As part of a team of only 15 registered nurses at the KEMH, the casualty nurses often provide further care for the same patients on the hospital wards.

Although air ambulances are required on only a few occasions each year in the Falklands, the nursing team is proud of the service it provides.

Recognition must also go to staff at FIGAS and the aerodrome, who work hard to ensure that the team can be in the air and ready to face the unpredictable challenges of nursing in the Falkland Islands at only a few moments’ notice.

> For more information on nursing in the Falkland Islands, telephone 020 7222 2542 or email reception@falklands.gov.fk

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