

Trauma at sea. Bilateral femoral fractures in USS Independence off New South Wales ^{1.2}

by
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We had an interesting case recently aboard CV-62 (USS Independence). It was much like the case from CVN-71 (USS Theodore Roosevelt), as described by LCDR Lenny Klein (Spring 1997 NAS Newsletter, Vol. 9, No. 2, pp.14-15).

During routine flight operations off the south eastern coast of Australia, the left main mount on an F/A-18 failed during a catapult shot. The left wing dipped down and hit an open hatch which closed on the legs of an airman. Less than two minutes after calling for the Medical Response Team (MRT), the conscious airman was extracted from the destroyed flight deck hatch. The MRT quickly assessed the extent of damage, applied pressure dressings and immobilised the obvious bilateral open femur fractures. Within ten minutes the injured airman was being assessed by the surgeon (LCDR Gary Schwending, MS, USN) and myself in Main Medical.

The airman arrived spontaneously breathing, coherent and complaining of pain of eight to nine on a scale of 10. In Main Medical, a Propaq and pulse oximeter were used as an adjunct to clinical assessment. Large-bore intravenous lines were secured in each arm and initial blood work was drawn. His haematocrit upon arrival in Main Medical was 33%.

Fluid resuscitation was immediately initiated and the walking blood bank was called for. His injuries included the known bilateral open femur fractures, as well as a right ankle fracture/dislocation, a left knee dislocation and a fractured right thumb.

The surgeon decided that the injuries were beyond our capability to repair on the ship, but not so severe as to warrant amputation or immediate exploration for haemostasis. Fortunately, the carrier was only one-hour steaming, at top speed, outside helicopter range of Sydney (the closest major trauma centre). Additionally, although there was significant ongoing venous bleeding, there was no obvious major arterial injury.

We were fortunate to be within two hours of a major trauma centre and to have a patient who was stable enough to survive an emergency medevac. If we had been any further out, exploration of both thighs to control ongoing blood loss would have been indicated.

Ninety minutes after the initial injury, the patient's haematocrit had dropped to 21%. By this time, the first of the fresh whole blood was available. Our injured man went on to receive three units of warm, fresh, whole blood while in Main Medical (all that was available).

During the administration of the initial units of blood, the ship notified us we were within helicopter range. Bilateral Hare traction splints were placed and the seaman was sent off with a flight surgeon (LT James Cox, MC,USN - soon to be an anaesthetic resident) and our ship's nurse (LCDR Robert Amaya, NC,USN) in attendance.

We sent the airman to Prince of Wales hospital, a major Australian trauma centre, via Sydney International airport.

In all, after fluid volume resuscitation and intravenous morphine for pain management, our airman received a total of six litres of lactated Ringers and four units of warm, fresh whole blood (three in Main Medical and one in flight). He remained conscious, stable and comfortable throughout the resuscitation effort and transport to the Australian trauma centre. Our surgeon assessed that homeostasis, while not optimal was adequate for transport.

More definitive intervention would have required surgical exploration. The consequences of a shipboard exploration (possible double amputation) made this an unattractive option. I was personally gratified that two hours after leaving the carrier, our airman arrived at Prince of Wales Hospital still conscious, comfortable, stable and spontaneously breathing.

Our airman underwent multiple major vascular and orthopaedic operations in Sydney. His first operation lasted approximately eight hours and required so much blood (28 units PRBCs) from the local Red Cross Blood Bank that a planned organ transplant in Sydney had to be cancelled.

He eventually went on to recover and two months later, is in Bethesda undergoing rehabilitation with a walker.

Prince of Wales Hospital credited the airman's survival to our early intervention and skilled resuscitation efforts. The credit for this goes to the skill of our entire team. Our MRT is always fast on the scene and very capable. As soon as the MRT was called away, Main Medical filled with all available providers and corpsmen. Our surgeon is very skilled and provided expert trauma management. Our ace Medical Administration Officer (LT Roy Lockwood, MSC, USN) organised a smooth medical evacuation and later attempted to ensure that the entire department was well recognised for our life-saving efforts. Our corpsmen organised supplies, fluids, traffic flow and blood donations.

As a sideline, the F/A 18 pilot went on to recover from his launch incident and belly land his plane at an airfield in Australia (RAAF Base Williamtown at Newcastle). After striking the hatch, the wing of the aircraft bounced up and grazed the head of the shooter (catapult operator). If the hatch had not deflected the wing up, the shooter would have been decapitated.

Of the fifty-plus anaesthetics that I have delivered during this four month deployment, the resuscitation of this patient was the most interesting case. The rest of our cases have been a mixture of emergencies (appendicitis and trauma) and routine cases. I was able to provide a sciatic nerve block to an Australian female sailor with a fractured ankle. She had been transported to us from an Australian ship and required further transportation to shore. Watching her turn from tears of pain to relief and then smiles made all of that time learning regional anaesthesia seem like time well spent. Providing anaesthesia is a good job. Providing anaesthesia at sea is a great job.

Editor's Note

Independence was visiting Australia following the Combined Exercise Tandem Thrust 97 held off the coast of Queensland in March 1997. The sailor injured in this incident spent several weeks recuperating at Balmoral Naval Hospital in Sydney following discharge from Prince of Wales and prior to being fit for strategic- aeromedical evacuation (carried out by the US Air Force). The Australian sailor with the fractured ankle was from an RAN ship participating in Tandem Thrust. She enjoyed the thrill of being

launched from Independence and being flown into Rockhampton. There, she was processed by the RAAF Aeromedical Staging Facility before being flown south for definitive treatment. What a mix!