
**REPORT ON THE EXAMINATION OF
SKELETAL REMAINS FROM CHRISTMAS ISLAND**

1. My name is Johan Duflou. I am a specialist forensic pathologist. My professional qualifications are:
 - Bachelor of Medicine, Bachelor of Surgery
 - Master of Medicine in Forensic Pathology
 - Fellow of the Royal College of Pathologists of Australasia
 - Fellow of Faculty of Forensic & Legal Medicine of the Royal College of Physicians (London).
 - Diploma in Aviation Medicine.
2. I hold a variety of professional appointments, including Chief Forensic Pathologist of the Department of Forensic Medicine at Glebe NSW, Conjoint Associate Professor in the School of Medical Sciences and the National Drug & Alcohol Research Centre of the University of NSW, Clinical Senior Lecturer in the Department of Pathology of the University of Sydney, Wing Commander in the RAAF Specialist Reserve and consultant forensic pathologist. As a forensic pathologist I investigate and report on skeletal remains located in a variety of circumstances, and have previously investigated a number of deaths of military personnel from the Second World War.
3. I have been asked to provide an opinion on the appearances of skeletal remains thought to be the remains of a sailor presumed to be from the HMAS Sydney. The HMAS Sydney was engaged in battle with the German cruiser HSK Kormoran on 19 November 1941. The HMAS Sydney was struck multiple times and is believed to have sunk as a result, with loss of all sailors on board. In February 1942, a Carley float was found in the waters off Christmas Island, containing the body of a presumed sailor from the HMAS Sydney. No detailed description of the deceased is available, and no autopsy was performed prior to burial.

4. A grave containing human remains was located in the Old European Cemetery, Flying Fish Cove, Christmas Island in October 2006. These remains were excavated and returned to the University of Sydney by SQNLDR Denise Donlon, RAAF-SR, for further investigation.
5. A detailed examination of the characteristics of these remains has been performed by SQNLDR Donlon, and a detailed dental examination has been performed by a number of forensic odontologists. The current report is limited in scope to an examination of the injuries sustained by the deceased.
6. A substantially complete skeleton was received. There was moderate fragmentation of bones, consistent with a prolonged post mortem interval. No soft tissues were observed on the skeleton, and the general features were consistent with death having occurred 50 to 100 years prior to examination.
7. The cranial vault was almost intact. The following injuries were noted:
 - A fragment of corroded metal measuring approximately 1.5 x 1.2 x 1.3 cm was embedded in the left frontal bone. There was a degree of irregularity in the shape of the fragment of metal. The fragment of metal was removed from the skull and was retained for the purposes of metallurgical analysis – I understand that the metal fragment has characteristics consistent with a German shrapnel origin. Detailed examination of the skull wound revealed bevelling of the inner table of the skull. There was no bevelling of the outer table, nor were there any radiating fracture lines centred on the defect in the frontal bone in the skull.
 - There was an 11.5 cm sagittally aligned perimortem undisplaced linear fracture extending from the right superior orbital ridge to the coronal suture. Radiating off this fracture were two transverse linear fractures on the right measuring 35 and 23 mm in length and one transverse linear fracture on the left measuring 32 mm in length.
 - There was extensive fracturing of the left squamous temporal bone, with associated loss of bone fragments. It is possible this area of fracturing may be the result of a perimortem bony injury to the skull.

- There was extensive fragmentation of the bones of the base of the skull and the face. It is not possible to indicate with any degree of certainty whether all or some of this fragmentation is the result of perimortem injury.
8. Examination of the post-cranial skeleton revealed the following:
- The post-cranial skeleton was substantially complete.
 - There was fragmentation of many bones, in the main as a result of deterioration of the skeletal remains after death.
 - No foreign objects, including projectiles were identified.
 - There was extensive fracturing of ribs. It was not possible to determine whether many of these fractures were the result of perimortem injury secondary to acute compression of the trunk, or whether the fractures occurred well after death after burial of the deceased with collapse of the grave. Many fractures of ribs would be expected to have generally similar appearances in both circumstances.
9. I conclude with the following opinion:
- The only definite antemortem/perimortem injuries in this case were found on the skull, although I cannot exclude the possibility of injuries to the ribs of the deceased.
 - The projectile injury to the left frontal bone has physical characteristics indicating a direction of the projectile from anterior to posterior without passage through the cranial vault, i.e. the fragment of metal lodged in the front of the skull on impacting with the head of the deceased. The lack of radiating fracture lines and the physical nature of the projectile are consistent with a fragment of shrapnel impacting with the front of the head with a moderate degree of force.
 - The presence of the sagittally aligned fracture is consistent with having been caused at the time of impact by the piece of shrapnel or may have been caused by impact with a second, probably larger, object.
 - If the damage to the left squamous temporal bone of the skull is a fracture, then either a separate blow to the left side of the head caused this injury or it was sustained when the deceased fell over with significant force on being struck to the front of the head – I am unable to determine which of these scenarios is more likely.

- Assuming the only cranial injuries are as described, then these injuries need not have been immediately fatal. It is not possible to indicate, however, how long the deceased would have survived such injuries. It is entirely possible that associated brain damage would have resulted in a very rapid death, but it is also possible that the deceased may have survived a number of days if there was no significant brain damage.



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