Volume 6 Issue 1

April 2008

ISSN 1448-5842

In this edition:
The Powerful Evidence of the Bodies: Ethical Considerations for the Forensic Anthropologist Involved in the Investigation of Mass Graves

Aviation Medicine

So you are going to Court as a Forensic Medical Expert!

Disaster Victim Identification Training: Contributions from the VIFM

The Fight
The VIFM Review

The VIFM Review is a biannual publication that contributes to community understanding and debate of the Institute’s activities. The Review disseminates background information on topical issues and publishes original research reports, case studies and reviews. Articles are contributed by Institute staff and affiliates working in a variety of medical, scientific, legal, law enforcement and human rights fields.

Editorial Team
Melanie Archer
Stephen Cordner
Kerry Johannes
Caroline Rosenberg

Copyright
Material published in the VIFM Review is protected under the Copyright Act 1968. No material here may be reproduced in part or in whole without the written permission of the Victorian Institute of Forensic Medicine.

Disclaimer
The views expressed by the authors are not necessarily those of the Institute. The Institute accepts no responsibility for the content, accuracy or completeness of any material contained in this publication. It is recommended that readers exercise their own skill and care with respect to its use, and should obtain any expert advice they consider necessary.

Privacy
Every attempt has been made to ensure compliance with all relevant Privacy legislation. The VIFM Privacy Policy may be accessed at www.vifm.org/privacy.

Contact
Victorian Institute of Forensic Medicine
57 - 83 Kavanagh St
Southbank 3006
Victoria, Australia
Ph. +61 3 9684 4444
Fax. + 61 3 9682 7353
www.vifm.org
To be added or removed from our publications mailing list, email us at editor@vifm.org
Welcome to this next edition of the VIFM Review. I would like to thank the editorial committee for bringing together such an interesting group of papers. We apologise that we were unable to publish the second issue for 2007. Please enjoy this first issue for 2008.

The application of the forensic sciences generally to the international context is an enterprise still in its infancy. It first started in an organized way in Argentina. The Argentine Forensic Anthropology Team started the work in the early 1980s reuniting families with the remains of their relatives who had gone missing and were killed during General Galtieri’s reign of terror. This work continues even today, indicating one of the realities facing those who commit themselves to unraveling such events. That such work will remain with us and develop further is evident from the advent of the International Criminal Tribunal for the former Yugoslavia and Rwanda, and, more recently, the International Criminal Court. As is obvious, much of this work happens within a justice framework, but there are other interests at stake. For example, the interests of families in wanting the identified remains of their loved ones returned to them. These interests, however, may not coincide: justice may not require the remains to be identified in order for justice to be fulfilled. This is but one of a myriad of ethical considerations taken up by Dr Soren Blau in her piece.

She and Dr Tony Hill have got together in another paper to outline the Institute’s contributions to disaster victim identification training, especially in Indonesia. This is work that I believe the Institute can be very proud of. People with special knowledge have a special responsibility to put it to good use. I would like to point out that, in this work, we have been strongly supported by AusAID and by the Australian Federal Police, and for this we are grateful. It is a particular example of how teaching helps to maintain us at a high level of readiness in our own service capability.

Each time we teach DVI, we remind ourselves of how we should function in Victoria should the need arise.

Dr Shelley Robertson has been one of our forensic pathologists here at the VIFM virtually since our beginning. Many of our pathologists and physicians have developed particular special areas of interest, and Dr Robertson’s is aviation medicine. She has, in fact, joined the RAAF Specialist Reserve as a squadron leader. Her piece is a succinct and useful overview of what is encompassed by aviation medicine.

We include in the VIFM Review on occasion essays from our Graduate Diploma Programme. Dr Wake is the Clinical Director of Primary Care Services to Tasmanian prisons and he completed his Masters of Forensic Medicine here in 2007. His essay in the medical evidence subject was in the form of a letter to a nephew going to court for the first time as a forensic medical expert. It is an engaging approach to an important subject. For all the quality assurance that goes on in forensic scientific and forensic medical institutions, quality assuring expert evidence is really left in the hands of the court. I think it is well accepted that the adversarial system does not necessarily have all necessary tools to prevent miscarriages of justice resulting from the provision of poor expert evidence. This puts an even greater burden on those providing such evidence to ensure to the greatest extent possible that their disciplines are well represented when they give evidence.

I hope you enjoy reading this edition of the Review.
The Powerful Evidence of the Bodies: Ethical Considerations for the Forensic Anthropologist Involved in the Investigation of Mass Graves

SOREN BLAU IS A FORENSIC ANTHROPOLOGIST AT THE VIFM. SHE HAS BEEN INVOLVED IN DOMESTIC AND OVERSEAS CASEWORK AS WELL AS CONTRIBUTING TO INTERNATIONAL DISASTER VICTIM IDENTIFICATION (DVI) TRAINING COURSES. THIS ARTICLE IS BASED SUBSTANTIALLY ON A PAPER PUBLISHED IN THE INDIAN JOURNAL OF PHYSICAL ANTHROPOLOGY AND HUMAN GENETICS.

Introduction

While medical ethics is a discipline in its own right, there has been much discussion in the literature about the ethical responsibilities of the medical and scientific forensic practitioner (e.g., Mario 2002; Barnett, 2001; Sapir 2001; Lucas 1989). More recently these discussions have included forensic anthropology (e.g., Turner 2004), specifically how ethics apply to forensic anthropology education (Thompson 2003) and research (e.g., Blau In press; Hunter and Cox 2005; Hunter et al. 2001; Thompson 2001). Despite the well-cited notion that forensic practitioners (including forensic anthropologists) do not work in a social, legal or ethical vacuum, codes of ethics for the forensic anthropologist have been largely focused on technical aspects of practice with relatively little concern for the wider social impact of their actions. The aim of this paper is to consider the multi-layered relevance of ethics to forensic anthropology practice, both in terms of codes of conduct and broader social contexts. The paper will focus specifically on issues related to the role of the forensic anthropologist in international investigations of mass graves.

Following a brief examination of codes of conduct in forensic anthropology, different ethical considerations that arise as a result of working for different organisations will be discussed. This will be followed by an examination of the ethical issues associated with reasons for working on mass graves. Finally, the relationship between ethics and politics will be considered. The paper raises a number of issues for consideration rather than providing definitive answers.

Ethics and Codes of Conduct

Ethics as applied to professions have traditionally been understood in terms of competence and conduct (e.g., Mario 2002; Webb 2006). Although there are many forensic anthropologists practising throughout the world, there are relatively few national and international associations with formal codes of ethics. In the US, forensic anthropologists (similar to biological and physical anthropologists) have been relatively slow in discussing, debating and developing codes of ethics (Fluehr-Loban 2006: 268). The American Board of Forensic Anthropology (ABFA) offered certification to American forensic anthropologists as early as 1977, but did not adopt a code of ethics until 2001. In the UK, foundations such as the International Forensic Centre of Excellence for the Investigation of Genocide (INFORCE) have relatively recently adopted a code of ethics (Hunter and Cox 2005: 27).

Typical of most professions, such codes stipulate appropriate codes of conduct. Ethics is associated with appropriate practical actions: practitioners should, for example, render opinions and conclusions in confidence and make certain that statements are technically correct (ABFA). Individual behaviour is codified in accordance with professional standards of the discipline. While such codes of ethics have been written with the intention of practitioners applying them in any setting, they typically relate to the forensic anthropologist undertaking domestic casework rather than those involved in international work. The lack of attention given to codes of ethics for practitioners working in an international setting has been noted (e.g., Webb 2006).

Codes of ethics that focus on practical conduct (such as existing codes of ethics for forensic anthropologists) support the empirical view that the role of the forensic anthropologist is simply to undertake a scientific investigation for service provision in a medico-legal context: the practitioner arrives, excavates and/or analyses the remains, and writes a report with the possibility of being called to give evidence in court. A review of the literature associated with the investigation of mass graves by forensic anthropologists (and archaeologists) supports this view.

Much has now been written for the forensic anthropologist (and archaeologist) on the technical aspects of locating and excavating mass graves (Wright et al., 2005, Skinner et al., 2003; Williams and Crews 2003; Haglund et al., 2001;
Skinner 1987). While such technical information is pertinent to the ethical aspects of conduct (e.g., appropriately collecting evidence, acting professionally at all times, documenting the body, contributing to understanding issues related to manner of death, and so on), there has been little attempt to move outside this realm of physical practice to the social and/or political ramifications of the work of a forensic anthropologist. Consequently, many are of the opinion that “… there exists no difference between a lone burial feature in the middle of a cornfield in Iowa and a large mass grave in Bosnia.” (Dirkmaat et al., 2006: 16). However, such a view denies the ethical and social contexts within which investigations occur and brings into question ideas of objectivity versus neutrality (Venezis 1997: 282).

While discussions about ethics in forensic anthropology have largely been defined in terms of codes of conduct, more recently the need to go beyond codification has been recognised. Can practice really be ethically undertaken in a social, cultural and/or philosophical vacuum (e.g., Jones 2000)? As Weber (1948) highlighted, scientific investigations tell us nothing about the meaning of the world or the objects within it. Empirical methods “… exclude the subjectivity of victims, perpetrators, and bystanders” (Wilson 2006: 80). There may be practical conduct (actions) that an organisation will dictate as part of its code of conduct (e.g., the need for confidentiality, chain of custody, etc.), but it has been argued that a true appreciation of ethics involves the need to explicate responsibilities rather than rights (Meskell and Pels 2005: 3). For the forensic anthropologist practicing in an international setting this may include a responsibility to agencies, courts, families, and/or communities. Each responsibility has different, but not mutually exclusive ethical obligations.

Ethics and the Role of the Institution

Ethical considerations vary depending on the institutional context within which the forensic anthropologist works. Since the formation of the Argentine Forensic Anthropology Team Equipo Argentino de Antropologia Forense - EAAF in 1984 to investigate mass graves for evidence of “the disappeared” (e.g., Doretti and Fondebrider 2001; Doretti and Snow 2003), forensic anthropologists (along with archaeologists and pathologists) have been involved in numerous international investigations. The United Nations and non-government organizations (each with a different rationale for their existence – Cox 2003; Steadman and Haglund 2005), have employed archaeologists, anthropologists, pathologists and odontologists to investigate mass graves to provide evidence to be used by:

- international criminal tribunals e.g., the International Criminal Tribunal for the Former Yugoslavia (ICTY) and the International Criminal Tribunal for Rwanda (ICTR) (Stover and Shigekane 2002: 851; Connor 1996; Sterenberg In press),
- national courts, e.g., Argentina (Snow and Bihurriet 1992); Guatemala (Stover and Ryan 2001: 8-11; Fondebrider 2002: 886-887; Kirschner 1994: 451; Stover and Shigekane 2002: 850) Honduras – (Haglund 2001: 30-31) and,

Whether employed by a local institute of an international agency, there exists an established legal framework for a particular investigation within which the forensic anthropologist
must work. For example, forensic anthropologists working for the United Nations have collected evidence for international war crimes tribunals that focused on cause and manner of death rather than evidence associated with identification (e.g., Fondebrider 2002: 889; United Nations. 1991). Such precedence raises a number of ethical questions: does evidence collected for identification (usually undertaken as part of a humanitarian investigation) become secondary to evidence collected for formal prosecution (e.g., Skinner and Sterenberg 2005: 231 cf. Burns 1998: 82)?; why should resemblance be enough for some (e.g., Kadhim 2006) while positive identification is given to others (e.g., Budimlija et al., 2003)? should the focus of human rights be on the individual (Franklin and Lyons 2004: ix) or the collective group (Wilson 2006)? Such questions pose ethical dilemmas for the discipline, if not always for the practitioner. However, because the practitioner’s professional (ethical) responsibility is to work within the remit of their organisation, such dilemmas may be abrogated. Such a framework, rightly or wrongly, allows individuals to defer responsibility. Consequently, the forensic anthropologist should be aware of the framework in which they work: the ethics of power provided by the Institution must be considered (Vanezis 1997: 280). This is reflected in the International Committee of the Red Cross (ICRC) awareness that “[p]articipation in processes related to obtaining knowledge is easily perceived as taking sides” (Cordner and Coupland 2003: 1325).

Forensic anthropologists working for an institution such as the United Nations are in a very different ethical position to those working, for example, for a non-government organisation that chooses to undertake work outside the control of statutory bodies. There are numerous examples where states and/or governments have denied “disappearances” but forensic investigations have provided evidence to the contrary (e.g., McEvoy and Conway 2004: 554-561). Undertaking work at the request of victimised communities without state/government sanction (e.g., Fondebrider 2004) raises a number of equally important ethical questions. First, what gives some people (forensic anthropologists) the right to do work that might undermine a government’s sovereignty? Second, because such community-led investigations are not often state-endorsed and therefore resource-poor, can the same standards be applied as to those undertaken by a government-backed institution (e.g., Cordner and Coupland 2003)? On the other hand, is it ethical to defer to political concerns in all cases and wait for endorsement?

The Ethics of Decisions Making

Ethical issues for the forensic anthropologist revolve around reasons for undertaking work on mass graves. Is it enough for the forensic anthropologist to avoid taking responsibility for their actions through deference to codes of conduct or an institutional role? Practitioners need to ask themselves why they choose to engage in international work. Is it for purely altruistic reasons to contribute to the investigation of human rights abuses, gain experience, earn money, be exposed to danger, or a combination of these reasons? Such questions throw up a number of ethical issues. Is it an appropriate way to ‘earn a living’ or ‘gain professional experience’? For example, the forensic anthropologists should consider the types and broader social context of the projects in which they participate. Contrast for example, working for the US military in Iraq under the Coalition Provisional Authority in 2003-2006 (e.g., US Department of State 2003; Simons 2006; Johnson 2004; Cox 2003: 227) with working for the community-led investigations conducted in Iraq under Saddam Hussein’s regime in 1991 (e.g., EAAF 1992). The latter was undertaken without official government permission: both were undertaken on fragile legal foundations. Appreciation of the importance of the context is paramount given the power of knowledge (Vizner 1996: 660). Practitioners should, therefore, be aware of the propensity for mass graves and the deceased who lie within them to be used politically (Kadhim 2006; McEvoy and Conway 2004: 561; Parks 2001).

Ethics and Politics

The relationship of the forensic anthropologist to mass grave investigations brings the ethical and political together. While many atrocities result in the creation of mass graves, media coverage is given to some more than others (Ferllini 2003: 219). Why are some satellite images of mass graves released to the public while others are not (Parks 2001: 597)? Why are the investigations of some mass graves prioritised over others? Some may provide a pragmatic answer that there may be ample intelligence to support a particular investigation, e.g., the UN investigation into the Srebrenica massacre (Parks 2001). However, there are many reported yet officially unrecognised mass graves (e.g., Blau and Skinner 2005; Blau 2007). Others argue it is an issue of manageable scale with figures of 30,000 missing in the Bosnian (which resulted in the establishment of the ICTY to investigate these missing) compared with an estimated 300,000 missing in Iraq which has no formal exhumation programme (Cordner 2005: 5; Stover et al., 2003). However, figures of up to one million are quoted for those massacred in Rwanda (Parkes 1996), which also has an International Criminal Tribunal established to investigate these atrocities.

Why are some identified while hundreds of thousands remain nameless and faceless (Cordner 2005; Kadhim 2006)? While money is often cited as a legitimate explanation, realpolitik must be acknowledged. Consider the fact that over $US 970 million was spent on the emergency resulting from the September 11th 2001 terrorist attacks on New York City which involved the recovery and identification of approximately 3000 deceased (289 bodies found intact and 19,858 other body parts) (Marchi 2004). The analysis of remains continued (and still does) for more than three years after the events (Tun et al., 2005) despite the number of deceased being a small percentage of the US population (Williams and Crews 2003: 251). Does such prioritising mean that some people are seemingly more important than others?

From the geopolitics that results in selective investigation of mass graves to issues of funding sources for investigations (Burns 1998: 72), the realpolitik of human rights work cannot be ignored (Wilson 2006; Parks 2001; Ryan 1996). Consider for example, the politics behind the focus of the ICTY on the crimes allegedly committed by Serbs as opposed
to those allegedly committed by Croats and Bosnian Muslims (see Black 2000 and Wald 2005 for details). Further, the effectiveness of international courts hinges on adequate funding. After 1998, the budget for the ICTY was over $US 50 million (Barria and Roper 2005: 364), however, the international community was reluctant to establish another ad hoc international tribunal for the atrocities committed in Sierra Leone due to the cost implications preferring, instead, a special court (Linton 2001: 232). The special court for Sierra Leone was forced to rely on voluntary contributions and received up to $US 33 million (Human Rights Watch 2005). While in 1997 the budget for the ICTY allowed for the largest forensic investigative operation in the world to be undertaken in Bosnia, with large scale forensic excavation and anthropological examination continuing until the end of 2001 (Sterenberg In press), in Sierra Leone some 32 sites of possible forensic interest have been identified but it has been argued that it is a resource intensive exercise to bring in experts making in financially unviable (Tavenor 2006). Such outcomes result in the forensic community being asked to adapt their practice to fit available resources. The obvious question following this is does such adaptation result in the lowering of standards?

And what of the reluctance of East Timor to establish an ad hoc tribunal (Blau 2007)? While some justify such reluctance on the importance of ‘moving forward’ rather than seeking retribution for past crimes, such an attitude implies “that pursuit of those responsible for these crimes would involve ‘revenge’, not justice” and that “it is up to victims to decide whether justice is to be pursued. Such a stance is entirely contrary to the fundamental premises of Australian and International law” (Aarons 2006: 28).

Conclusion

Forensic anthropology as an objective and impartial discipline (Rogers and Allard 2002) and a detached and unemotional science (Wright 2006) has an important role to play in the investigation of mass graves (e.g., Chapman 2006). It forms part of establishing “… the baseline of understanding regarding past violations” (Wilson 2006: 80). However, forensic anthropology is practised in the world and therefore requires movement beyond the baseline. Consequently, forensic anthropologists, ever increasingly engaged in the investigations of mass graves, must develop multifaceted ethical awareness.

Acknowledgements

This article is based substantially on a paper published in 2006 in the Indian Journal of Physical Anthropology and Human Genetics (UPA HG) 25(2): 247-258. I would like to thank the Editorial Board of the UPA HG for permission to reproduce the article.

I would like to thank Tim Denham for inspirational discussions about the topic of this paper and comments on draft manuscripts. I am grateful to Melanie Archer and Stephen Cordner for their comments on a draft, Kerry Johannes for her assistance with obtaining articles and Dennis Dirkmaat for permission to cite his article.

Endnotes

1. Similar dilemmas have been recognised in the medical profession where governments dictate that practitioners put aside allegiance to their patients (e.g., The International Dual Loyalty Working Group).

2. cf. AFHR which cite a figure of 1.3 million missing in Iraq (AFHR).

References


Cordner, S. 2005. The missing: Action to resolve the problem of those unaccounted for as a result of armed conflict or internal


Wright, R. 2006. Tales of atrocity from the grave. The Australian 17th May.

What exactly is Aviation Medicine? As someone who has a great interest in the subject, I am often asked this question. Very broadly, Aviation Medicine includes those areas of medicine that are in any way related to aviation. To quote the forward to the first edition of the classic aviation medicine textbook edited by Air Vice-Marshal John Ernsting (Honorary Civil Consultant in Aviation Medicine to the Royal Air Force) and Air Vice-Marshal Peter King, (Consultant Otolaryngologist, King Edward VII Hospital, Midhurst), “Aviation Medicine (is) a branch of occupational medicine, developed from the need to adapt man to the hostile environment of the air”.

Today, this definition has expanded to include such diverse aspects of medicine as travel medicine, aircrew resource management, occupational health and safety matters relating to workers in all aspects of aviation industry, physiology with respect to hypoxia, hypobaria and gravitation, fitness standards for pilots, aero medical evacuation in the setting of emergency medicine, neurology and psychology of spatial disorientation, space travel and the effects of zero gravity, military medicine and aviation accident investigation. I will attempt to describe each of these areas briefly.

1. Travel Medicine
Air travel means that vast distances can be covered in relatively short periods of time. This means that infectious diseases for example, now have the potential to be rapidly disseminated before they are contained, perhaps before having even been identified. Recent outbreaks of SARS and DXRTB (extreme drug-resistant tuberculosis) fall into this category. Medical practitioners seeing potential travellers need to be aware of these conditions so that they can give appropriate advice. Vaccination advice and management of common conditions encountered whilst travelling also form part of travel medicine. Travel by elderly persons is becoming increasingly common, and some airlines may require medical assessments to be carried out before allowing those persons to board in order to avoid costly in-flight diversions should a passenger become incapacitated.

2. Aircrew Resource Management
The days are long past when flight attendants (or ‘air hostesses’) were trained nurses. However, the primary role of the flight attendant is to ensure passenger safety (not just dispense drinks) and they must be trained accordingly. It is also important that flight crew, cabin crew and air-traffic controllers are operating at optimum levels, which means that issues such as fatigue, intercurrent illness and physical fitness must be addressed. Aviation medical practitioners have roles in assessing fitness to perform duties, fatigue management and rostering details. An example of a disaster where flight crew fatigue and rostering of air-traffic controllers may have played a part in causing the accident was the 1977 runway collision of two Boeing 747 aircraft, Pan Am Flight 736 and KLM Royal Dutch Airline Flight 4805 at Tenerife in the Canary Islands, Spain. Five hundred and eighty three people died.

3. Occupational Health, Environment and Safety
This well-established area of medicine has particular relevance to airport workers whose work involves handling of heavy loads, exposure to noxious fumes, temperature extremes and high noise levels. Similar problems are encountered in military aviation. Doctors working in these areas need a comprehensive understanding of the type of work and conditions experienced by the worker, in order to provide recommendations for a safe working environment.

4. Physiology
Physiology is derived from the Greek word “physiologia” which is the study of living things. In medicine, it refers to the study of the physical and biochemical functions of the body. Human body functions, including respiration (breathing) and gas exchange (oxygenation of blood), are designed to operate optimally on the ground at sea level. When this ideal state is changed, for example, flying at an altitude of 10,000
feet, body systems must adapt accordingly or harmful effects can occur. Aviation medicine studies these systems and the effects of altitude, where atmospheric pressure decreases and the oxygen content of air is reduced. Another area of physiology important in aviation is the effect of ‘g’ forces, experienced by pilots in high performance aircraft. The human body normally is subject to 1g, that is, the force of gravity. Acceleration in aerobatic aircraft or high performance jet fighters can result in very high ‘g’ forces, 10-20g. These forces can have profound effects on the human body, causing loss of vision, loss of consciousness and even death. It is therefore important that pilots potentially subjected to these forces understand the effects and how to minimise or avoid them.

5. Pilot Licensing
The International Civil Aviation Organization (ICAO) and the various aviation regulating authorities in each country require pilots to meet certain health standards before being licensed to fly. In Australia, the Civil Aviation Safety Authority (CASA) requires Designated Aviation Medical Examiners (DAMES) to carry out this function. DAMES are usually general practitioners who have undergone a training program in aviation medicine and have a special interest in aviation. They examine pilots and review their medical history before making a recommendation to CASA that the pilot satisfies the medical standards and should be licensed to fly.

6. Aeromedical Evacuation
Australia was one of the pioneering countries in this area, with initiation of the Royal Flying Doctor Service. This brought medical and nursing practitioners to remote areas of the country, where permanent medical services didn’t exist. Whilst the RDNS still operates, the need to transport very sick patients such as burn victims to specialist treatment centres has been recognized. Some major hospital emergency departments and the Australian Defence Forces have on-call teams of specialist nursing and medical staff prepared to carry out such emergency medical evacuations. A knowledge of the problems associated with aerial transport of such patients and the best ways of dealing with them, are a specific facet of aviation medicine.

7. Spatial Disorientation
Flying an aircraft is a complex task requiring specific motor and cognitive skills. In IFR (Instrument Flight Rules) conditions, a pilot is completely reliant on instruments within the cockpit to navigate and fly the aircraft, as distinct from VFR (Visual Flight Rules) when the pilot relies on his or her own vision. Whilst flying IFR, the pilot still receives signals from the body’s various sensory organs, but the information these organs are relaying may not be correct. It is important for both pilots and aviation accident investigators to be aware of the sensory illusions that a pilot might be experiencing, as they could lead to the pilot disbelieving the information displayed by the instruments and ‘trusting’ incorrect information supplied by his or her own senses. Aviation medicine covers these sensory illusions, explaining the neurophysiology causing them and identifying the psychological responses to them, so that pilots can be aware of the pitfalls of ignoring instruments.

8. Space
The exploration of space has created new challenges, many of them medical, such that the field of aviation medicine is probably better named ‘Aerospace Medicine’. Subjecting the body to a low or absent gravitational environment can have deleterious effects (eg loss of bone density, muscle wasting). These effects are compounded by the duration over which they are experienced. Missions to the moon and International Space Station have closely monitored these effects, enabling prediction of the result of extremely long-haul missions and future planning for a manned mission to Mars. Also to be considered are the psychological and psychiatric implications for persons on such a mission (which may take several years).

9. Military
Aviation medicine is practiced in all of Australia’s three military forces because aircraft play an important role in each of them. In addition to pilot licensing, fitness to fly and occupational health and safety concerns, fatigue management, alcohol and drug use and physiological/psychological well-being of both pilots and the troops they may be transporting are considered.

10. Aviation Accident Investigation.
When investigating a fatal aviation accident, ascertaining the cause of death is usually not the main issue for the forensic pathologist. Other issues may come to the fore, such as whether the pilot was suffering from a medical condition leading to incapacitation whilst in control of the aircraft. It is important to ascertain whether the pilot was under the influence of ethanol or drugs or whether the pilot was likely to have been subject to some of the sensory illusions previously described. If there were passengers on board, who was actually in control of the aircraft? Investigators of an international airline accident found the pilot’s small son was said to have been ‘flying’ the aeroplane at the time. Was there a problem with altitude or pressurization of the aircraft which may have affected the pilot? These are the questions that need to be answered and an understanding of aviation medicine greatly assists the pathologist.

In conclusion, aviation medicine covers a wide range of medical issues which affect the aerospace industry and all who work in it or rely on it for transport. It has a sound physiological basis and incorporates facets of many other medical specialties.
My dear George,

So you are going to court as a forensic medical expert! I hope you will accept some advice from an old hand who has been more times than he cares to remember. You know that I have followed your career with considerable interest over the years and even more so since your father died. Having reached the age of the average mortal male perhaps I am also a little over-burdened with accumulated wisdom. It has always struck me as a sad thing the loss of knowledge that comes with the passing of a true expert like your father. You will understand that so much of that knowledge is inside the individual’s head; it is largely not captured in the written word, or at least not all in one place where it is accessible.

Thus my boy, as you begin the journey that your father and I began forty years ago, I am going to try and capture some of that head knowledge all in one place – this letter. I’ll even throw in a few references just to give it some backbone.

For your part on the journey you should concentrate on your report writing and how to do it well. You must understand the special status given to the medical report in the court. Who is an expert and what is their role? You will need to consider how you present yourself to the court, how to best prepare for your appearance, and then of course, there are a few do’s and don’ts of giving evidence.

The first essential is to understand that you are called to assist the court and not as a representative of any party to proceedings, even though you are summoned into the midst of an adversarial system. The second essential is that you must always steer clear in giving your evidence of the ultimate issue before the court that is – whodunit!

You will be called by either the prosecution or the defence. Indeed, you may only ever be called by the prosecution as a forensic expert but your duty is to assist the Court, not the prosecution as such. Note that all of the Australian legal jurisdictions except the Northern Territory publish advice for expert witnesses; you can access them on the Internet at www.austlii.edu.au. It is difficult not to get caught up in the adversarial nature of proceedings, at least to some degree, and in this regard it is easy to slip into bad ways! The issue here is, I think, that it is human nature to identify with the side by which one is retained. The reasons for this include the establishment of rapport with counsel and counsel’s need both consciously and unconsciously to have you as the expert “feel” the justice of their cause. You may be swayed by what the police or the patient tells you about the alleged circumstances of an incident. This can lead on to your interpreting clinical findings through particular spectacles that only see what they think they should see. Most sets of clinical findings do have various interpretations and you should be prepared to discuss all of them. It is for the court to decide which explanation it prefers. Try not to lose that edge of independence, objectivity and clarity that the quality expert will always seek to preserve.

You may wish to turn your mind to what a medical expert is and what their responsibilities are. Such a person has accumulated knowledge that is beyond the reach of the ordinary person and is thus given special permission to bring that knowledge before the court in the form of an opinion. The expert is not there to tell the court what the outcome of their deliberations should be, but to explain complicated medical and forensic evidence in such a manner that the court is informed when making up its own mind. Makita v Sprowles is one of the leading cases in Australia with regard to expert evidence. The case established the need for the process of expert reasoning to be adequately explained and understood. It also requires that the expert reveals any medical literature or other information relied upon in forming their opinion. It says that the tribunal of fact must as far as reasonably possible be put in a position where it can make some independent assessment of the reliability and accuracy of an expert’s opinion. Also: It should be a rigorous obligation on all experts to give the court, as clearly as they can, the limits of accuracy of their evidence, whether it is experimental or theoretical, and to disclose, if it be the fact, that other views exist in their profession. It should also be their duty to the court, to indicate what inferences cannot properly be drawn from their evidence. Stick to these principles and you cannot go far wrong!
Since the 1920’s in United States courts, the evidence provided by an expert has been subject to the Frye test which relies on a “general acceptance” of a scientific technique within the scientific community for determining its admissibility as evidence. In 1993 this test has changed in the US with the Daubert case such that the following factors must be considered in regard admissibility of medical evidence:

- Has the theory or technique been tested?
- Has it been subject to peer review and publication?
- Is there a known error rate?
- What are the standards for the method or technique?
- Does the method or technique enjoy general acceptance in a relevant scientific community?

The Daubert change essentially allows for legitimate differences of opinion that have emerged within various fields of evolving expert knowledge. Although it was generated in the American courts, this precedent can still provide a useful test for Australian legal proceedings.

When, as will most certainly happen, experts express a different opinion to yours make sure that you observe all the proprieties and try and clarify those differences of opinion to help the courts deliberations. Sometimes a meeting between experts before the court case can be helpful.

There is none of us who can be the fount of all knowledge and you therefore need to be aware of going outside your area of expertise. Do not hesitate to point out to the court when you feel you are being asked questions that are inappropriate in this regard.

It is important to note that modern medicine is of such vast scope that what one might describe as “sub-expertise” is common. An example of this would be the number of DNA experts who have minimal experience of low copy number [LCN] DNA. There is only one laboratory in the world that does this test. The clear danger when you provide advice outside your scope of expertise is that you unintentionally mislead the court and become integral in a miscarriage of justice. Some experts can talk rubbish very convincingly and poor expert evidence can produce damaging outcomes for those in court!

Consider the recent case of Sir Roy Meadow, a UK expert in SIDS. He was a most convincing lead expert in R v Sally Clark. This woman having two SIDS cases in her family aroused suspicion of foul play. Meadow said that the rate for SIDS in the UK was about 1 in 8500 and therefore the rate for two SIDS cases in one family was 1 in 8500 times 1 in 8500 or about 1 in 70 million, a once in a century occurrence. He was such a powerful authority the defence did not take him on in cross examination. The problem was that the evidence was just plain wrong! There is no relationship between the two events; the rate for the second would be the same as that for the first event. Whilst Meadow was disciplined and struck off by the General Medical Council he subsequently won on appeal and was reinstated to the register. His appeal against the GMC ruling highlighted the fact that Meadow had made an honest mistake and that his evidence was not directly related to the overturning of Ms Clark’s conviction. This is sad business for Meadow but highlights the need for extraordinary standards in our area of endeavour. The Sally Clark conviction was eventually overturned because of the failure of Dr. Alan Williams the pathologist to perform to an acceptable level of competence. It was Dr. Williams who performed the autopsies on the two children Christopher and Harry Clark aged twelve and eight weeks respectively. It was Dr. Williams who had first alerted police to what he described as “overwhelming evidence of a double child murder” caused by shaking. The autopsies performed on the children were found to be manifestly inadequate and Williams was found to have withheld information in regard an infection found at Harry’s autopsy. “Yesterday the General Medical Council said that Dr. Williams had failed in his duty to consider all the possible causes of Christopher’s death. It said that his post-mortem examination of Christopher was so impaired that it could not be considered reliable. “You failed to discharge the duties of a competent pathologist in such circumstances” a written judgment said.”

Or consider the case of Dr. Alan Clift, a forensic scientist giving evidence in the alleged rape and murder of Helen Wills by John Preece in 1973. Clift claimed to be able to differentiate blood grouping reactions between sperm and vaginal fluids “on the basis of his experience” and this was despite his never having published the method or otherwise allowed it to be assessed. Dr. Clift failed to mention at trial his certain knowledge that the blood group of Helen Wills and John Preece were in fact the same, blood group A. This knowledge negated the whole thrust of Dr Clift’s evidence which sought to link Preece with the blood stains and sperm found on Helen Wills. At the appeal Clift gave the reason for this failure to divulge his full information as “nobody asked me”. He had expected that this knowledge would be extracted from him by the court process! The appeal court said that Dr Clift had failed to meet the standards expected of expert witnesses and his results were unreliable. The court noted editing and non-divulgence of all the tests and results in his report. The court criticized him for only presenting factual information saying that the scientist has a duty to provide an interpretation of findings to the court. Finally the court remarked that the use of a novel and unpublished technique in this circumstance was not appropriate. Dr Clift was suspended from duty and many of his cases revisited on appeal.

I must just mention the IRA bombings in the UK of 1973-74. I think I will write at length on these cases later on. They live in infamy for many reasons, not the least of which is the bastardized medical expert process involved. Have a look at the summary I have cited at your leisure and you will be astounded!

Now when you practice medicine as a forensic physician your medical reports are your major tools of trade; they are your hammer and your chisel. To write a report that is average or worse happens by default; to write something of quality takes practice. A well structured report says to the court that you have knowledge and expertise and it is the basis of a good experience in court. I have always used a standard clinical note taking proforma that includes every aspect of information that I might need [not that I use every item on every occasion].
The important point about this is that when both the examination and the note proforma document are complete your medical report is essentially written. Your clinical notes and final report should have a high degree of concordance and indeed sometimes both are presented in court. Make sure that your report outlines your qualifications; any publications, relevant experience, what questions you have sought to answer, and what assumptions underlie your opinion. The medical history may be thought of as the assumptions that underlie your opinion. It is for the lawyers to prove the truth of the history by means of other admissible evidence. Keep notes that are full, accurate and demonstrably contemporaneous. You may refer to these notes in court as an invaluable aide memoire.

As a general rule the history should be fairly much verbatim and pertinent to the incident you are investigating. If you record history from individuals other than the victim, then say so! Avoid any tendency to record “who said what to who” style evidence, this is hearsay and not properly admissible. Another example of superfluous history would be recording the prior sexual history of a woman in a rape case. I do not see that it is relevant to rape and under certain circumstances the victim may be painted a scarlet woman by the defence. So be aware that what you record in your written notes may become available in court but make sure you have recorded all that is relevant to the court in your report. Conceal nothing with intent! Sometimes differences will arise between your report and the police record of interview. Be prepared to discuss the reasons for this which might include; stress, alcohol, drugs, time-lapse, interpretation of facts and scope of questions among many others.

The history guides what you will look for at examination and in turn your examination findings guide which specimens you will need to take. Have a reason for collecting each specimen that is based in your history and examination. Document the chain of evidence clearly. Your finished report should be a concise account of the case that flows from beginning to end and finishes with the time and date of signature. It should have a high degree of internal consistency, and as such, help you stand up to examination in court.

Get into the habit of having other practitioners check your reports for both content and presentation. Ideally another practitioner should be able to stand in court and give evidence based on the report you have written.

The immediate preparation for your court appearance falls into two major areas, the review of your report and a conference with counsel. It may well be a number of years since you dealt with the case concerned so clearly you need to review the case notes and your report. Has anything changed in the state of medical knowledge to change markedly during this timeframe. Is such change relevant to the opinion you have previously expressed? If you have quoted references to accompany your report make sure that you are familiar with those references [because the barrister is likely to be] and even better, append these references to your report or take copies to court with you. It is good form to take at least four copies of your notes with you, one for you, one for the judge or magistrate and one for each of the prosecution and defence. If things said in your report have changed, point those things out to counsel so that he or she can deal with them by asking appropriate questions at the beginning of your evidence.

The second area of preparation is developing an understanding of what you are likely to be asked. Clearly if you have a handle on this in advance it takes a lot of pressure off you. Always seek a conference with the counsel who calls you. The prosecution will have a good idea what the defence is up too and vice versa. I have already said that it may be reasonable to meet with the other experts in the case to find out what areas of agreement exist between you. By this time you should have a good idea what you are going to be asked about. Now consider the opinions that you will proffer and what facts they are based on. Can you state or show in some way the facts instead of opinion? Facts are much more difficult than opinions for a barrister to deal with critically. For instance, rather than saying the patient has tonsillitis; say that the symptoms and the fact that the throat swab grew Group A Beta Haemolytic Streptococcus led you to a diagnosis of tonsillitis.

The effectiveness of your evidence in court is not limited to the content of your report or what you say. You might have already considered a familiarization visit to the court when it is out of session. Arranging a suitable time for your evidence and getting there early can remove a lot of pressure from you. Have a bag with you containing documents, diagrams, pens and all the paraphernalia that you think you might require. When you get to court inform counsel that you are there and then empty your bladder!

At all times remember that perception is a major theme in the court and successful witnesses think about their appearance and performance before they get to court.

It should be obvious that if you turn up looking, and even worse, acting like a clown you will be perceived as a clown. On the day dress smartly, neither underdone nor overdone. When called to the witness box move quickly and take the oath or affirmation speaking clearly with a modulated confident tone. Look at counsel when you are being asked questions but address your answer to the jury and as appropriate to the judge. As you go through evidence in chief, cross examination and any re-examination listen carefully to the question, answer only the question and treat the rudest most aggressive cross examiner with patience and courtesy. Avoid levity and argument, counsel has the whip hand in court, not you. Do not be afraid to say you don’t know an answer; it may save you the embarrassment of being caught out talking rubbish. Use lay terminology, point to your body in illustration and do not give long and complex explanations.

To ascertain how well the jury understands your evidence it is a good idea to focus upon one jury member. I always chose someone who looks like mother because I am used to talking to mother and feel a sense of familiarity in that regard; [not that you are likely to find a 95 year old on the jury]. You will be surprised how easily you can read the nodding head, frowns etcetera from “mother” and get instant feedback on whether your evidence is being understood or well received. Remember that the judge has to write notes whilst you are...
speaking. Try and pace your evidence with adequate pauses when the right hand of the judge is writing. The pause is also a good technique if you are feeling a bit nervous. It lets you control your breathing and can add a “considered” feeling to your answer. Don’t forget that it is proper to address the judge directly if you need guidance about aspects of your evidence. Wait to be excused from the court when you have finished your evidence, usually by counsel making a specific request to the judge. After your evidence think about what went well and what did not. This will better prepare you for your next court appearance.12 13 14 15

More than any other thing, those giving medical evidence fear being made to look foolish. This is quite understandable since as professionals, we are used to being in control. When in court, we are on foreign ground and come under the control of the legal counsel. It should be remembered that the opposition barrister is duty bound to put alternate explanations to those that you promulgate, so resist the temptation to personalize the court appearance – it is really not about you. You can often anticipate his or her questions and think in advance how you might answer them. Concede that these alternate arguments are indeed possible but not probable, and then be prepared to say why that is your view. Present a confident demeanour, but above all, relax and act naturally. If you try and contrive a particular witness box “style” you may appear artificial and ill-at-ease.

In the end there is no substitute for long experience as a forensic medical expert witness. You will become familiar with the environment, the personalities and the wiles employed by counsel.

In the end it is a point well made that preparation can make your early court experiences positive and even enjoyable ones. Aunt Hilda sends her love and I am as ever continuing to enjoy my retirement.

Uncle Randolph

PS: Give me a call afterwards and let me know how it all went.

References and Further Reading

Disaster Victim Identification Training: Contributions from the VIFM

SOREN BLAU IS A FORENSIC ANTHROPOLOGIST AT THE VIFM. SHE HAS BEEN INVOLVED IN DOMESTIC AND OVERSEAS CASEWORK AS WELL AS CONTRIBUTING TO INTERNATIONAL DISASTER VICTIM IDENTIFICATION (DVI) TRAINING COURSES.


Background

In October 2004, the Centre for Human Identification (CHI) was established within the Victorian Institute of Forensic Medicine (VIFM). Funded for three years by the Victorian Government, the Centre sought to increase the VIFM’s (and hence Victoria’s) preparedness and training capability for Disaster Victim Identification (DVI). Appraisal of responses to managing the identification of the deceased following the 2004 Boxing Day Tsunami indicated that improvement in Disaster Victim Identification (DVI) procedures were required in many affected countries. This article details some of the training exercises undertaken for this reason.

Resources and DVI Training Workshops

A National DVI Training Kit (funded by the National Institute of Forensic Science) was originally created to supplement training in forensic odontology. The original kit consisted of 20 acrylic skulls, 35 mandibles and several partial bones replicated from the remains of individuals of different ages and sex. This kit was first used by the CHI in 2005 at the International Association of Forensic Science conference in Hong Kong. A one day workshop in Forensic Odontology Disaster Victim Identification was presented to 20 participants from 12 different countries. The success of this small workshop highlighted the potential for expanding the kit to include medical and anthropological aspects of identification.

In February 2006, the Victorian Institute of Forensic Medicine in conjunction with the Health Services Authority, Singapore, delivered a DVI workshop for Indonesian forensic specialists (funded by AusAID and the Ministry of Foreign Affairs, Singapore). Participants of this workshop (held in Singapore) included 20 forensic specialists (odontologists, pathologists and anthropologists) from across Indonesia. The aim of this workshop was to supplement the experience of many of these practitioners who, in turn, could become team leaders of further training in Indonesia.

In July 2006, further funding provided by the Faculty of Medicine, Nursing and Health Sciences (Monash University) and the International Committee of the Red Cross facilitated another three day DVI workshop in Galle, Sri Lanka. A total of 65 local forensic practitioners and trainees from across Sri Lanka attended formal lectures and a one day practical session based on identifying three mock deceased. Group discussions focused on how to advance identification procedures in Sri Lanka. The discussions resulted in the formation of a two page document listing workable suggestions and detailing a sub-committee of participants to progress these ideas. This document was delivered to the Minister for Disaster Management and Human Rights.

At the completion of the first workshop for Indonesian practitioners, AusAID and the Ministry of Foreign Affairs, Singapore, provided additional funding for the original participants (Monash University, the Victorian Institute of Forensic Medicine and Health Sciences Authority, Singapore) to run a three day DVI workshop to further increase Indonesian DVI preparedness. The second workshop was delivered in Bandung, Indonesia, in November 2006 in conjunction with Indonesian colleagues who had been trained in Singapore. This workshop included 120 participants and aimed to increase Indonesian operational preparedness in DVI.
In light of the success of the training delivered in Bandung, AusAID and Singapore’s Ministry of Foreign Affairs provided a further allocation of funding for another three day DVI workshop in Surabaya to increase operational preparedness in the Eastern part of Indonesia. This workshop ran from the 26th-28th November 2007 under the aegis of the Airlangga University, Surabaya (East Java). The workshop involved 140 delegates from Indonesia and eight facilitators from Australia and Singapore. The workshop brought together forensic specialists, hospital-based doctors, mortuary-based staff, police and members of the National and Regional DVI Committees.

Building on feedback from previous workshops, Surabaya included a practical session on Phase 1 (Scene Recovery) delivered by the Indonesian DVI team; a session covering Phase 3 (Ante-Mortem information collection), as well as a practical session delivered by the VIFM on Phase 2 (Post-Mortem data collection). These practical exercises provided participants with an excellent opportunity to appreciate the ordered way to approach a chaotic event (“a disaster”) as well as the contributions and limitations of all areas of expertise to the identification process. This reinforced the message that close attention is required for meticulous recording and transcription of detailed information.

As with all previous meetings the workshop in Surabaya provided an excellent forum for practitioners in the region to get to know each other and to work together as a team. Such meetings are of paramount importance for future effective DVI practice. Having the opportunity to repeat the DVI workshop in different parts of Indonesia significantly augmented the effectiveness and content of the programme, most notably the inclusion of Phase 1 (Scene Recovery) delivered by the Indonesian police, and Phase 2 (Post-Mortem data collection) directed by the VIFM and Phase 3 (Ante-Mortem information collection).

There have been several requests from practitioners in other parts of Indonesia to receive similar training in their region. The nature of future training needs to be considered in light of the evolving nature of the original training model: since we first met in Singapore in 2006, the Indonesian facilitators are now taking an active role in the delivery of the course content. Our proposed model of “train the trainer” has been fulfilled. It is important, however, that the collegiate relationship we have established with our Indonesian colleagues continues to be enhanced. Future workshops may, therefore, include more specialist group training.

The experiences of VIFM staff delivering DVI training demonstrated a need to expand the DVI kit to broaden the level and scope of training, therefore facilitating education to larger numbers of people from diverse backgrounds. Funding has recently been secured from the Australian Federal Police. A state-of-the-art DVI training will consist of ten mock deceased, each individual with skeletal and dental remains, clothes, property, personal documents, medical paraphernalia and associated antemortem data (e.g. dental and/or medical records, scars, tattoos, and other identifying features).
The Fight

The pathologist, amidst a busy day, 
Arrives to take his place in court. 
A brief discussion with the lawyer, 
And then he’s left alone in thought.

Hours later, with the usual wait, 
Doctor - the oath, or will you affirm? 
The questions, first so very easy, 
Will soon enough, to hard, all turn.

The public prosecutor is our friend, 
Extracting facts with practiced sleaze, 
He wants our opinions to extend, 
Way past where we would be at ease.

The defence consists of tougher stuff, 
Just how could 47 stabs mean hurt? 
Surely, they could never be enough, 
To cause the death of poor old Bert.

Hours later, and with reeling brain, 
The witness bows, and leaves the court. 
He ponders if it’s all in vain, 
For now, another fight’s been fought.

KEVIN LEE
Affiliates/Partners

Stakeholders

VIFM Review Design: Caroline Rosenberg
Photography: Caroline Rosenberg and Dylan Kelly unless stated.

The cover shows bone texture, photographed by Cielo Fenn.