Inside This Issue:

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editorial</td>
<td>3</td>
</tr>
<tr>
<td>Nelson's Column</td>
<td>6</td>
</tr>
<tr>
<td>Leading Article</td>
<td>8</td>
</tr>
<tr>
<td>Responding to major trauma in distant parts: a personal overview</td>
<td></td>
</tr>
<tr>
<td>Alexander D</td>
<td></td>
</tr>
<tr>
<td>Original Articles</td>
<td>15</td>
</tr>
<tr>
<td>Heat Cramps and salt in hot desert worksites.</td>
<td></td>
</tr>
<tr>
<td>Nelson N. Al-Mesabi SH</td>
<td></td>
</tr>
<tr>
<td>Developments in Remote Health Care</td>
<td>20</td>
</tr>
<tr>
<td>International Conference &quot;Innovation trends and future developments in industrial medicine and healthcare of working population&quot; and its value for medical society of Siberia</td>
<td></td>
</tr>
<tr>
<td>Kudasheva L</td>
<td></td>
</tr>
<tr>
<td>Introducing Medical Training and Competency in Ukraine</td>
<td></td>
</tr>
<tr>
<td>Cranton T</td>
<td></td>
</tr>
<tr>
<td>Developments in the IRHC</td>
<td>20</td>
</tr>
<tr>
<td>What's happening in the IRHC?</td>
<td></td>
</tr>
<tr>
<td>Bolam AKB</td>
<td></td>
</tr>
<tr>
<td>Remotely Useful</td>
<td>38</td>
</tr>
<tr>
<td>Notes for Contributors</td>
<td>40</td>
</tr>
</tbody>
</table>

Editorial

'The Journal of the Institute of Remote HealthCare (IRHC) exists as a means by which information can be published and ideas exchanged among the International Remote Health Care Community. Provided as a benefit to IRHC Members, Affiliates and Corporate Members, it seeks to broaden understanding of the specialty of Remote Medicine and to promote the interests of all the practitioners and others involved in supporting remote health care provision. The Journal provides a platform for publication of material that will contribute to the quality development of remote health care. is focused on issues relevant to wherever there is remote health care provision – all ‘corners’ of the globe. The Journal has now acquired its own status as a significant contributor to quality development in international remote health care. Further information on publication requirements are listed towards the end of the journal'.

Welcome to the January 2017 edition of the Journal!
Healthcare in general provides a wide-ranging area and priorities change with advancing knowledge, techniques and changes in disease presentation and prevalence. This is also true of remote healthcare for the oil and gas industry. Deep diving provided a central medical problem in the early days of North Sea exploration but this is now of secondary interest following careful research and the emergence of ROV technology. Emergency medicine was a central theme in training until the developing experience of the industry together with its establishment of training and a safety culture reduced accidents to reasonable levels. The advancing age of the experienced workforces has also underlined the importance of the general medical problems of advancing age and indicated that the principles of general practice are more needed than those of emergency medicine or occupational medicine in the generation of the educational requirements for a competent remote healthcare practitioner.

The most recent hazard of the remote environments is that caused by war and terrorism and while training covers the immediate care of the casualties there has been little attention paid to the management of the immediate psychological and long term consequences of such episodes in the training of remote practitioners. In this issue, Professor David Alexander provides his extensive knowledge and experience of this area. This provides a good introduction for an increasingly important aspect of the knowledge base for a competent remote healthcare practitioner.

The growing international, collaborative base for remote healthcare is underlined by the report from Liudmila Kudasheva on the conference held in Tomsk in Siberia by the Centre for Corporate Medicine (CCM). This was on the medical requirements of the vast industrial areas of Russia, with reference to the far North. It was attended by a truly international group of experts and there was emphasis and agreement for international collaboration in educational development particularly. The close collaboration shown between the State University of Siberia and the commercial company provided a welcome indication of what can be achieved by such collaboration.

The very full and thoughtful paper from Tim Cranton on training of the armed forces of Ukraine emphasizes the positive results which can readily be obtained by basic training of laypeople in a variety of international areas both inside and outside the military such as the workforce of the Arabian desert or scientists exploring the Antarctic. He also stresses the need for international collaboration in educational development employing widely available knowledge and experience rather than, “Re-inventing the wheel”.

The paper by Norman and Al-Mesabi on salt requirements in the Arabian summer demonstrates the mistakes which can be made by blindly accepting the results of research carried out in one environment and applying them into another environment without adequate testing. It also provides yet another example of the need for collaborative research in remote healthcare but on the theme of environmental medicine in this case rather than emergency medicine.

International remote healthcare thus provides a moving scene of challenges for the remote practitioner and indicates that he must keep abreast of changes and advances if he is to remain competent to cope with the challenges which face him.
The directors of the Institute of Remote Healthcare and the Advisory Council have been engaged in reappraising the founding concept of the Institute – the improvement of healthcare for those who live and work in remote and hostile places - while continuing to discuss the best possible professional development route for remote healthcare practitioners. Meanwhile some wise and experienced advisors have been lost with the passage of time and there is a real need for the emergence of the next generation of advisors and directors if the IRHC is to maintain its relevance and thrust. An easy route to indicate interest in involvement is the expression of views and opinions as letters or short articles in this journal and such interest is both encouraged and appreciated.

In the development of any organisation it is useful to review its history from time to time. In the mid-1970s the medical directors and managers of BP got together with the University of Aberdeen to determine what steps could be taken to counter the unacceptably high rate of mortality and morbidity which accompanied the initial exploration of the North Sea for oil. This resulted in the emergence of a system of remote healthcare which has stood the test of time and has subsequently been shown to be equally applicable in very different population groups and working in a variety of different remote and hostile environments.

It had been accepted at the time that any new development in medicine requires simultaneous involvement of provision of medical service, education and research. This was the basis on which the Institute of Environmental and Offshore Medicine was established in Aberdeen University and it was an exciting concept since it was one of the first collaborative initiatives between commercial and academic institutions in a research endeavour. This is clearly the way to achieve the best answers as has been affirmed nearly forty years later by Oxford University. Experience over these has, however, shown that academic and commercial animals are fundamentally different and thus true partnership is difficult to achieve. When a joint commercial and University company was established in Aberdeen in the 1970s it failed to achieve its objectives because it ignored the founding principles on which it was established and concentrated on commercial activity, placing the educational and research aspects it was set up to promote in second place.

The best way forward in any endeavour is firstly to identify and prioritise the problems and then to proceed to solutions. That process is called research and research should have a leading role. Effective research needs the infrastructure of a university or a major research company and the Institute of Remote Healthcare in fierce pursuit of independence does not have that infrastructure. The leading position achieved in Remote Healthcare by the Institute of Environmental and Offshore Medicine and the Centre for Offshore Health and RGIT Survival Centre Ltd in the last century was entirely based on research but both were based in Universities and had access to university research infrastructure.
The importance of this approach has now been recognized by the IRHC and having agreed that the value of any system of healthcare is based on the knowledge, skill and competence of those who practise it a research project was established to determine the education required for the emergence of a fully competent remote healthcare practitioner for the international oil and gas industry. Following many conferences, workshops and discussions with universities, oil and gas companies, providers of medical services and medics it published a consensus opinion backed by a Delphi study in this journal in 2015. This was designed to allow the institutions interested in providing training to design appropriate curricula, while the IRHC continued to discuss the appropriate nature of courses, their accreditation and the awards towards the emergence of a recognized and qualified new specialist.

As pointed out in the last issue the 2015 consensus document is only a beginning if we are considering an international practitioner capable of functioning in a variety of different environments with different diseases, local laws and dangers. This clearly requires the establishment of collaborative, international research. This has been difficult to establish but progress is now being made.

A significant first step was the establishment of a branch of the Institute in Siberia in association with the Centre for Corporate Medicine (CCM) which allows the possibility of establishing collaborative research with the University of Tomsk. A second step is the developing relationship between the IRHC and the Zayed Centre for Health Sciences in the UAE University in Abu Dhabi and the third is the current interest of certain commercial corporate members of the IRHC. A proposal is now being prepared on the comparative educational requirements to function effectively in the North Sea, Russia and the Middle East. This needs a central university connection for co-ordination and the assurance of academic research rigour together with a recognised, international institution to accredit the courses resulting from the research and the examination of the trainees. Discussions are underway with two such bodies and hopefully further information on the results and progress will be provided in the next issue of the journal.
Resonding to major trauma in distant parts: a personal overview

Author: Emeritus Professor David A Alexander MA (Hons), PhD, FBPS, FRSM, (Hon) FRCPsych

Affiliations: Emeritus Professor Robert Gordon University, Aberdeen
Associate, Scottish Police College
Associate, Scottish Institute for Policing Research
Honorary Professor, National University of Sciences and Technology, Islamabad, Pakistan

Abstract: Providing help for survivors, and others affected by major trauma, including armed conflict, is a challenge but a rewarding one. “Tender loving care” is not enough, and neither is it appropriate to deliver that help merely by personal whim without regard to the interventions recommended. There are a number of respected guidelines which are evidence-based, evidence-informed, or eminence-based. There is also a risk of causing harm and offence particularly when working in foreign lands, through ignorance.

Keywords: Trauma, disaster, military combat, PTSD, interventions.

Responding to major trauma in distant parts: a personal overview

Preface

I was invited by the Editor to provide an overview of my 25 years as a trauma specialist with particular experience as an Adviser after disasters and military conflict.

This is not a comprehensive literature review but I have provided selective reference as well as “Further Reading”.

Introduction

(a) What is “trauma”? A “trauma” is an event or circumstance which overwhelms or threatens to overwhelm a person’s or a community’s ability to cope. A common distinction is between “natural” disasters and “man-made” ones (including armed conflict), but it does not always stand up to scrutiny. Earthquakes are natural events but they themselves do not kill in huge numbers: poorly constructed buildings and other constructions do.

“War”, strictly speaking, is armed conflict between sovereign states: other armed confrontations are merely “military conflicts”. (I doubt if victims of these events care too much about semantic niceties.)

The impact of a major disaster should not be measured just in terms of the toll of death and injuries (as awful as they are), but also in terms of damage to the environment and the infrastructure. This was brought home to me when I visited the epicentre of the 2005 Pakistan earthquake. The figures and images were close to overwhelming. At least 80,000 died; at least 124,000 were injured; mountains literally collapsed; bridges, roads, schools, homes, hospitals and other institutions were demolished;
livestock and local industries were no more, and about 4 million people were displaced. All of this occurred over an area the size of Belgium. An excellent read is Professor Niaz’s book: “The day the mountains moved” (Niaz, 2006).

When I was invited to Sri Lanka as an Adviser, after the 2004 tsunami, I was confronted with a new risk factor for children after major trauma. It was reported that several vehicles had been in the area of the disaster, the occupants of which were attracting the attention of many children (whose parents were either known to be dead or at least “missing”) by means of various inducements including toys, food, shelter and clothing. Was this the effort of a humanitarian corps? No, it was the work of some exploitative human traffickers seeking fodder for the European sex trade.

Another risk for children is their possible recruitment as “child soldiers” (the term used to be “boy soldiers”, but, unfortunately, young girls are increasingly deployed as combatants). The motive of such young persons is as varied as it is complex. However, it would be simplistic to assume that they are hapless “victims”. Ominously, there is evidence that some such children, compared to adults, are: less fearful; have less respect for life, and less respect for the “rules” of military combat (NATO, 2008).

(b) “We must do something”

Our natural concerns for others sires this attitude. However, doing “something” does not mean “anything”. Enthusiasm and altruism must always be tempered by realism and careful assessment. The 19th century medical ethicist, Chomel, delivered a cautionary principle originally for doctors, but it is relevant to all “helpers”: “Primum non nocere” (Above all, do no harm).

This reminds us that all interventions and decisions, however well-intended, carry the potential to cause harm. One way in which the principle is breached is by certain volunteers who parachute themselves uninvited into tragedies in foreign lands, usually the under-resourced countries. For example, after the 2004 Sri Lankan tsunami, I witnessed many “counsellors”, “de-briefers” and other helpers arriving at the scene. Most had no verifiable credentials; most displayed no knowledge of the national or regional religio-cultural mores, and political influences (terrorism was rampant in the northern area), and very few had any command of the local languages. Most had no clear intervention strategy, and many were equipped with Western standardized mental health measures. (Many Sinhala in Sri Lanka use the concept of “depression” quite differently from Westerners.)

It was clear some persons were genuinely motivated to help, despite their naivety and lack of preparation. However, it was equally clear that for some the disaster offered an opportunity to carry out some “research” for some degree or qualification. Not all even sought legitimate permission to carry out their work. Two personnel “just asked a local police officer” before they set up camp.

Apart from the genuine risk that some such persons may cause harm, they also consume valuable resources. They need food, drink, accommodation and transportation. Some even expected security cover. Not surprisingly, those who descend during the “convergence” phenomenon, witnessed so often after major incidents, tended to stay only briefly, rarely to return to re-stimulate the disaster response or to evaluate their earlier efforts.

There may also be something paternalistic or patronising about inviting oneself to a 3rd World or under-resourced country. Would a ‘plane-load of Sri Lankan “helpers” have been welcome after the recent terrorist incidents in Europe?

Over the years, I have developed two checklists for those going out to disasters and military conflict zones. The first addresses personal welfare issues, and the second deals with administrative ones. Respectively, these are represented in Boxes 1 and 2.
Box 1: Welfare matters

- Are you in a suitable physical and emotional state?
- Are your medical prophylaxes are up to date, and appropriate? *(remember the value of different anti-malarials can vary across regions even within the same country.)*
- Have you sufficient adequate clothing and footwear? *(remember the “4 seasons in a day” phenomenon.)*
- Have you an up-to-date and relevant First Aid kit?
- Do you have available and easily accessible details of your blood group and essential medical history *(e.g., allergic reactions to anaesthetic agents)*?

Box 2: Administrative matters

- An update passport *(you commonly require 6 “extra” months after intended departure)*?
- An update and accurate visa *(dates of arrival and departure can be crucial)*?
- Letter of invitation from authorized person?
- Suitable and up-to-date health insurance?
- “hostage profile” *(This may be optional depending on what country is to be visited. I nearly always complete one and leave it with a trusted and reliable person. It contains many detailed personal data about, e.g., domestic, health, social and educational/professional matters. In addition, you record about 10 “Proof of Life” questions, the answers to which could be answered only by yourself or by a select number of persons very close to you. These are invaluable if you are taken hostage, particularly to the Foreign and Commonwealth Office and the Metropolitan Police who deal with the UK nationals abducted abroad.)*
- A confirmed liaison person and a base?
- Evidence of suitable training and experience?
- Adequate level of knowledge about local political, socio-cultural and religious matters?
- Sufficient understanding of socio-cultural, political and religious factors which prevail in your area of deployment? *(You could try to identify a “cultural adviser” in that area.)*
- A realistic view of what you hope to do, where, when and with what outcome?
- A person in the country of the disaster area to whom you will be responsible?
- A clear idea of what resources will be available to you that you might require?
- A full CV and a brief biography?

Addressing these issues before departure will make life easier after arrival, and will increase your credibility.
Myths about disasters

Particularly before one’s first invitation as an Adviser, it is worth checking one’s beliefs and expectations. My namesake, Professor David E Alexander, University College, London, (2007), has identified 56 so-called “myths” about disasters. Here are four examples.

(i) Looting is common
It does occur but not commonly. I admit that after the Hurricane Katrina (2005) individuals were seen to be removing unpaid goods from local shops. However, what do survivors do? There were no shop staff; there was no electricity to power ATMs or checkouts, and families were desperate for essentials, e.g., water, food and warm clothing (Gheytanchi et al, 2007).

(ii) The effects of disasters are indiscriminate
They certainly are not. The poor and the disadvantaged suffer most as do the children, women, the elderly and the sick.

(iii) All aid is valuable
It is not. Many tents sent after the Pakistan earthquake disaster were totally inappropriate to the climate and terrain. Sometimes inappropriate foods are sent to Muslim and Hindu survivors, and drugs are often sent but prove to be well past their “use by date”.

(iv) Panic is common
It is relatively uncommon and is largely confined to events in which there is a lack of leadership, where there seems to be no escape, and in which help seems to be available on a “First come, first served bases” (Drury, 2012). This seems to have been true historically. When the troopship HMS Birkenhead began to sink after being holed on rocks in 1852, there were as usual in those days insufficient lifeboats for all on board. Two British officers ordered most of their troops to deal with various urgent matters; the rest were assembled military style in silence whilst the women and children boarded the lifeboats. The priority accorded women and children, whilst not enshrined in maritime law, became known as the “Birkenhead Drill”.

Self-care in the trauma zone

(a) Those at risk?
Despite their natural resilience, high motivation for this kind of work, and effective training, it is known that “responders” of various backgrounds have an increased risk of adverse reactions attributable to the extraordinary demands of this kind of work (Alexander and Klein, 2009). Some of these reactions are captured in terms such as “secondary traumatisation” and burnout”. These are not formal diagnoses but they are useful descriptions to represent the same kind of reactions seen in casualties of disaster and conflict.

We should not get “tunnel vision” and focus exclusively on psychological reactions. Responders will also report physical reactions, such as muscular pains, headaches, fatigue and abdominal, dermatological and cardio-vascular problems. This may be because some persons and cultures tend to “somatisise” their emotional distress.

I noted what I described as the “Double Jeopardy” for police officers and military personnel who worked tirelessly after the 2004 Sri Lankan tsunami and the 2005 Pakistan earthquake. Not only were these individuals exposed to horrific and distressing scenes and events during their rescue and body retrieval work, many of them had personally lost loved ones, homes and property.

It should be noted that volunteer helpers, compared to professional ones, seem to be more susceptible to these problems above.
(b) What steps can we take to help ourselves?

• We must address as best we can basic needs such as eating, hydration, sleep, rest and exercise. (Sometimes advice in the field seems counterintuitive.) However, if Army medics tell you to drink between 8 – 10 litres of water in a foreign land, do not argue (as I did), they are right (as I found out in Iraq)!

• Keep one foot in reality. Your trauma work must not overwhelm everything. Check on, e.g., sports scores in your country; the weather; the outcome of elections, and cultural events. This helps to remind you there is a parallel universe, and you still belong to it.

• Keep in touch with family and friends (ensuring there is no security risk). For some, this can be a mixed blessing. One soldier reported to me in Iraq that he did want to speak to his wife and children, but doing so left him frustrated because he could do nothing to help them with any domestic problems which surfaced. However, it is still an important option to be considered.

• “Black humour (or “Gallows humour”) has long been recognised as a way of laughing at awful events to relieve tension and to distract oneself from a disturbing experience. It rarely seems effective when dealing with dead or injured children, and females tend to use it less often than males (Alexander and Klein, 2009). What is unacceptable is cracking “black jokes” outside the original group and setting in which this humour first emerged.

• Identify before you depart, friends or colleagues who would be pleased to hear from you if you wanted “a chat”, formal or informal.

• Maintain a sense of order and control over your own affairs. Disasters and military combat conspire to create disorder, indecision and uncertainty.

Personally, I find it helpful to keep daily notes on work completed; challenges met and not met, and a work plan for the following day. This is similar to Pennebaker’s (1999) advice to trauma patients to write down their experiences.

How do communities and individuals cope with major adversity?

(a) Military conflict

Much has been written about the impact of military conflict. Indeed, much more was initially learned from military than from civilian tragedy. WW1 and earlier wars generated a lexicon of diagnostic terms, including “nostalgia” (reported among 17th century Swiss troops) and with its counterparts “esta roto”, “Heimweh” and “maladie du pays” in Spanish, German and French troops respectively. Other conditions included “disordered action of the heart”, “neurasthenia”, “effort syndrome”, “irritable heart”, and “shell shock”. These differing titles confirm that the nature and aetiology of the effect of combat was not understood. Of that early list, “shell shock” stands out as the most familiar, but the diagnosis was contentious. Was it a physical or a psychological disorder? Was it even a bona fide disorder or was it a label of convenience for cowards and those who lacked sufficient “moral fibre”?

More recently, following its inclusion in the psychiatric taxonomy (The Diagnostic and Statistical Manual [American Psychiatric Association, 1980]) Post-traumatic Stress Disorder (PTSD) has become the most investigated and discussed post-traumatic condition. This will be discussed below.

As stated above, perhaps the most disturbing fact about armed conflict is the extensive and enduring impact on the civilian communities not only in terms of a very high death toll (especially among women and children) but due to the massive destruction wrought on the infrastructure – roads, schools, hospitals, workplaces, bridges, the public utilities, and the displacement of families from their home areas.
The increasing adverse impact on civilians in a war zone is deeply worrying. In WW1, of all the casualties, 5% were civilians. Since the Vietnam war, civilians have constituted about 90% of all casualties. “Soldiers fight: civilians suffer”, seems to be the hallmark of contemporary conflict.

Women and children have emerged as the most common casualties. Rape is an offensive but widely used weapon of war. Children, in huge numbers, are the victims of landmines and unexploded ordnance because of their frequent presence in the fields and open areas, where children are working and/or playing. Sadly, children are attracted to weaponry and explosives as they view them innocently as toys.

(b) Disasters
The study of the effects of civilian disasters has a much shorter history than that describing the effects of military combat. Since the 19th century the UK has suffered many disasters of different kinds, e.g., fires, mining accidents, famines, floods and storms, transportation accidents and maritime disasters. However, very little useful information regarding their specific effects (short term and long term) on persons and communities emerged.

It was mainly since the 1980s (often referred to as the “decade of disaster”) that clinicians and academics have made systematic attempts to research the full impact of major tragedies. The world literature is now enormous, although predictably it is of variable quality.

In this section, I will provide some robust findings. In the “Further Reading” list you will find more detailed descriptions of the effects of civilian disasters on communities and individuals.

(i) Community reactions
These tend to be fairly consistent across cultures and disasters. Tyhurst (1951) has outlined three typical phases. These are displayed in Box 3.

Box 3: Typical community reactions to disaster

(i) Impact phase
• the community is stunned and shocked
• the main needs are for essentials, e.g., nourishment, safety and shelter

(ii) Recoil phase
• as the tragedy unfolds the community begins to recognize what has happened and what is needed
• the community begins to rally, often through ad hoc groups, to address community needs

(iii) Recovery phase
• this usually involves a succession of “high” and “low spells”
  • initially, there is often a “honeymoon” spell during which survivors experience much goodwill, favourable publicity and a spirit of optimism (honeymoons do not last forever)
  • later, harsher realities surface – accusations of culpability, legal issues, intrusive media and group conflicts

Another community reaction is the “Ripple Effect” A disaster immediately creates “primary victims (i.e. those at its epicentre), but others may also be badly affected, e.g., families, colleagues and friends and those who just missed being at the site of the disaster.
Advisers and other helpers must be proactive to identify not only the primary victims but those who may have been more indirectly affected (the “Ripple Effect”).

Generally, I have been very impressed with affected communities’ resilience and resourcefulness. That is why professionals should not attempt to take over or dominate the disaster response. We must not impede the natural healing potential of the community; we should help to develop its natural coping abilities and resources.

(ii) Individual reactions
There are multiple short term reactions, but there are four main groups, as I have shown below. It must be emphasized that these are “normal” reactions. The great majority of persons display such reactions: very few persons develop frank psychopathology in the immediate aftermath of a disaster.

Emotional
• shock, denial
• fear, anxiety
• helplessness, hopelessness
• “survivor guilt” (“Why did I survive the fire, but my wife was killed?”)
• “performance guilt” (“if only I had known how to do CPR”)
• grief (nearly all trauma entails some loss)

Cognitive
• impaired memory/concentration
• confusion/disorientation
• intrusive thoughts, memories, images
• dissociation (a sense of being “switched off”)
• impaired decision making
• hyper-vigilance (overly aware of risk)

Social
• withdrawal (survivors do not always welcome closeness; sometime they want their own “space”)
• irritability
• interpersonal conflict (often over trivia)
• avoidance (e.g., of any reminders of the tragedy)

Physical
• insomnia (especially due to nightmares)
• headaches
• gastro-intestinal complaints
• reduced appetite
• reduced energy
• hyper-arousal (a constant state of being “on edge”)

Responders must remain mindful of the fact that these reactions are normal in the short term. We must not “medicalise” them. Distress is not an illness nor is grief.
Grief

Some practitioners so dedicated to identifying post-traumatic reactions may fail to recognise that the survivor’s primary problem may be grief, through the loss of a loved one (but can also be due to the loss of a home, possessions and livestock). There is a constellation of reactions to loss.

(a)

Emotional
• low mood
• anxiety
• guilt (“If only I hadn’t persuaded him to take that flight”. [After a fatal air crash.])
• envy (because other families have not lost a loved one [hard to express as a survivor])
• loneliness (not the same as being alone)
• anger (many may become the target, (e.g., those who broke the bad news of the death; those who may be deemed [often falsely] to be responsible for the death of the deceased)

Behavioural
• searching/pining (for the deceased)
• avoidance of reminders (e.g., photographs of the deceased are put away in drawers and cupboards)
• apathy (“I’ve no point in living now.”)
• crying (the evidence suggests that crying is universal – even among the “stiff upper-lipped”)

Physical
• insomnia
• loss of appetite (“I don’t deserve to enjoy my food”.)
• loss of energy
• cardio-vascular problems (it seems we can die of a “broken heart”?)

Cognitive
• impaired concentration/memory
• changed beliefs and attitudes (e.g., to God or to an employer)
• confusion

Perception
• misperceptions (e.g., “seeing” the deceased in a crowd scene or TV or going up in an elevator in the opposite direction to the bereaved)
• “hallucinations”/“illusions” (this is complex. What do we make of seeing “ghosts” or being aware of a “presence” [common in Scotland]? The experiences are “real” to the bereaved; regard them that way – there is no point in debating what was the cause of the experience.)

(b) Adjustment to Loss

Most persons adjust to a loss without professional help. It is impossible to be precise but generally most adjustment takes place within about 6 months after “natural” deaths (e.g., the death of an elderly relative who had not been in good health).

However, following “traumatic” deaths adjustment may take up to 4 years with a fluctuating pattern. That adjustment is made harder if the death was sudden and unexpected; was that of a child; if it involved violence, suffering and mutilation; where there is no body available, or when the death was due to negligence.
Other factors which may lead to a poorer prognosis are: (i) features of the bereaved (e.g.,) poor self-esteem, anxious and previous psychiatric history, especially angry, guilty or unresolved suffering earlier losses; and current problems of living with no or little support), and (ii) features of the relationship (e.g., a volatile “love/hate” one or one in which there had been a high level of mutual dependence).

(c) Pathological grief reactions
Distinguishing/between “normal” and “pathological” grief reactions are not always easy as they are not discrete categories; they are on the same continuum. However, these are the four criteria to achieve a distinction.

• the extreme intensity of the reactions
• the uncommonly prolonged nature of the reactions
• a delayed onset of reactions
• the extent to which the reactions compromise the patient’s ability to function (perhaps the most important single criterion).

(d) Cultural influences
How individuals express and cope with their grief is influenced by personal cultural and religious factors. Helpers (lay and professional) must acknowledge these influences. Failure to do so may cause harm and offence and reduce their credibility.

(e) Management
Pathological grief reactions are probably best left to the skills of specialists, usually mental health professionals. This is particularly true with regard to children and adolescents (e.g., Yule et al, 2010; Dyregrov and Dyregrov, 2013).

However, the other bereaved can be helped in various ways.

• Provide comfort
• Enable the bereaved to express their feelings (they should not be forced to do so)
• Emphasize the normality and legitimacy of their reactions
• Identify what is required for readjustment
• Facilitate their mourning practices

NB: Most important: LISTEN

NB: At all costs avoid clichés such as:
• “don’t worry you still have one son at home” (said to a grieving mother after losing a young son at sea).
• “I know just how you feel” (we can never fully know how another feels).
• “we all have to go sometime”.

• Do not be judgemental or defensive even if the bereaved direct their anger at you.
• Do not be afraid to use frank words, (e.g., “death” and the name of the deceased --but get it correct!).

(f) “Ambiguous Loss” (Boss, 2006)
Disasters and military action quite often led to missing bodies, mutilated bodies and just body parts. This raises several important issues.

Bodies serve two purposes. First, they confirm the reality of the death (countering denial). Second, they provide an opportunity for the bereaved to say “Goodbye” and “I love you” etc. (Some loved ones like to put a small memento into the hand of the deceased.)
Apart from important forensic investigatory reasons, the authorities should be encouraged to retrieve missing bodies if at all possible. Unfortunately, human flesh and bone can be atomised in extreme heat or blast. The military found a good solution to this by building a “Tomb of the unknown soldier”.

With regard to viewing mutilated bodies or body parts, there are no unqualified recommendations. However, personally, I believe families should be given the choice to view or not to view, with four conditions. First, they should be briefed accurately but sensitively about what they will see and perhaps smell. Second, they should be offered to be accompanied by somebody who is familiar with post-mortem signs such as lividity and resuscitation marks. Third, they should have the opportunity for a “debrief” after the viewing. Finally, a check should be made that they are fit to travel home and have support once there.

The best evidence currently available indicates those who view are generally pleased to have done so, and those who did not sometimes regret it (Chapple and Ziebland, 2010).

**Post-Traumatic psychopathology**

**At risk factors**
Not all those exposed even to severe trauma develop a psychiatric condition, and prevalence rates vary. One has to be wary about our own expectations. Some years ago, I had to deal with two pilots in the same aircraft who survived the same very disturbing “near death experience”. One pilot was a quiet, introverted character and the other was an extroverted, “macho-looking”, extremely confident former military helicopter pilot who had seen “action”. Several of us thought the latter would be the more resilient, and adjust the more quickly. The opposite proved to be the case!

**(a) Predictors**

(i) **Pre-disaster**
- Female gender (*are females more frank in self report?*)
- Extremes of age
- Sexual abuse in childhood
- Previous psychiatric history
- Disadvantaged (*e.g., socially and educationally*)
- Concurrent life stressors
- Unresolved matters pertaining to earlier trauma, including loss

(ii) **Peri-traumatic**
- Being trapped at the scene of a trauma
- Man-made event (*e.g., due to acts of violence such as terrorism*)
- Sudden and unexpected
- Extended exposure to gruesome scenes
- Proximity (*there seems to be a dose-response relationship*)
- Physical injury
- (Perceived) threat to life of self or other (*the threat is legitimately “in the eye of the beholder”*)

(iii) **Post-traumatic**
- Lack of supports
- Displacement
- Financial, social or relationship problems
- Adverse reactions from others (*e.g., blame and criticism*)
(b) Resilience
The pendulum has swung from a pathology-based model (which emphasizes the adverse effects of trauma) to a “resilience” one which focuses on how well survivors cope with adversity and even on their reports of positive growth and change thereafter (Southwick and Bonanno, 2014).

Resilience may be underpinned by a sense of “hardiness” which is reflected in those who view potentially adverse events as “challenges” rather than as “threats” or “impedimenta”. Similarly, those who regard themselves to be in control of their own destiny are more likely to display resilience compared to those who view themselves as vulnerable and hapless victims of circumstance.

Others (e.g., Joseph, 2011) emphasize the positive effects of being exposed to tragedy and risk. An early example of what is sometimes called the “salutogenic effect” was provided by my team after the 1988 Piper Alpha disaster. A large number of local police officers were deployed to remove the human remains from the wreckage of the Piper Alpha oil platform. The work was very unpleasant because of the state of the bodies, and at times dangerous. The bodies were subject to post-mortem examination with the help of these officers.

The officers were assessed in terms of their mental health at three months and three years. None showed any signs of post-traumatic psychopathology. Their results, compared with those of a matched control group (not involved in the Piper Alpha disaster), showed higher levels of mental health, and, moreover, the officers reported feeling more confident in themselves and “stronger” than before their body handling duties.

Two reported spells of low mood and alcohol misuse, but these they had suffered before the disaster in an occupational health survey we had carried out. They confirmed that what had helped them were such factors as good leadership, a clear definition of duties, feeling appreciated, and viewing their duties as purposeful and valuable (Alexander and Wells, 1991 and Alexander, 1993).

(c) Post-Traumatic Stress Disorder (PTSD)

(i) Features
This rather controversial diagnostic label entered the 3rd edition of the Diagnostic and Statistical Manual of the American Psychiatric Association (DSM – 111, APA, 1980). Its presence owed much to the unflagging efforts of individuals with more of a political motive than a clinical or scientific one. It has undergone several revisions (the 5th Edition is the most current), but it’s essential three features are still:

- the involuntary re-experiencing of the person’s traumatic experience through the medium of thoughts about, memories of and vivid sensory images (“flashbacks”) of the index trauma,
- the avoidance of reminders of the event (these are legion but include: places, reports, persons’ clothing, noises and smells reminiscent of the original event. Even talking about it may prove to be too aversive).
- Feeling hyper-aroused (due to an over-stimulated autonomic nervous system) and hyper-vigilant (over-reactive to perceived threat and risk).

The system of classification used in the UK is the International Classification of Mental and Behavioural Disorders (ICD-10; WHO, 1992). It offers rather more flexible diagnostic criteria but they also contain those key ones represented in the DSM one. Both systems insist that these symptoms should have existed for about a month. (That is why some of them were described as “normal” if they emerged only during the acute phase of the trauma.)
(ii) **Prevalence**
Prevalence rates vary, as is confirmed in Box 4.

**Box 4: Prevalence of PTSD across trauma**

<table>
<thead>
<tr>
<th>Event</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>female rape</td>
<td>- 50%</td>
</tr>
<tr>
<td>vehicular incidents</td>
<td>- 15%</td>
</tr>
<tr>
<td>non-sexual assault</td>
<td></td>
</tr>
<tr>
<td>male</td>
<td>- 12%</td>
</tr>
<tr>
<td>female</td>
<td>- 31%</td>
</tr>
<tr>
<td>burns patients</td>
<td>- 45%</td>
</tr>
<tr>
<td>childhood sexual abuse</td>
<td>- 50%</td>
</tr>
<tr>
<td>major disasters</td>
<td>- 25%</td>
</tr>
<tr>
<td>victims of terrorist attacks</td>
<td>- 30%</td>
</tr>
<tr>
<td>UK Gulf war veterans</td>
<td>- 4%</td>
</tr>
</tbody>
</table>

In comparing prevalence rates across studies several factors must be considered, including whether the data derived from self-report as opposed to clinical interview (the former produces higher rates); the diagnostic measures used; when the assessment was made; any specific features of the samples (e.g., were they litigation cases?).

Not an obvious factor, but I found out that even political influences may play a significant role in determining prevalence rates of psychopathology. In the early 1990s I was asked to go to the Russian city of Chelyabinsk (a “closed city” in central Russia: “closed” because one has to get permission from the KGB to visit) to examine several young survivors of a horrific train crash at the foot of the Ural Mountains in which just under 2000 persons (mainly children and adolescents) had died in horrific circumstances. The young persons whom I was asked to examine had all suffered disfiguring burns, mainly to the hands and face. They had had to bear personal witness to the horrific unfolding disaster including massive damage to two trains, the deaths and serious injuries of their friends and, sometimes, siblings. There was extended exposure to the disaster scene as there was no vehicular access to the isolated site: emergency roads had to be built.

In front of an array of senior Russian paediatricians and consultant psychiatrists, I interviewed a badly burned 15-year-old girl. She displayed the archetypical psychiatric signs of a badly traumatized survivor, in addition to serious behavioural problems (violence, swearing, theft, and alcohol misuse). (What would one expect?)

I presented my carefully justified findings. Immediately, I was told by the senior Professor, chairing the meeting, that I was “wrong” because: “Russian children to do not get PTSD”. (English translation, but accurate.)
(d) Additional pathologies
Other relevant post-traumatic conditions, as defined in the ICD-10, include in particular:

- Acute stress reaction
- Adjustment disorders
- Dissociative disorders
- Enduring personality change after catastrophic experience.

What is important to remember is that PTSD is not the most common single diagnosis after trauma: in most cases, it appears in the context of co-morbidity (especially anxiety, depression and substance misuse).

Children and adolescents and trauma
Whatever are current Russian views, young persons are vulnerable to the adverse impact of trauma, lay and military (Williams, 2007).

In addition to the normal reactions, described earlier, because children and adolescents tend to act out their distress and other emotions, rather than articulate them verbally they may display:

- regressed behaviour
- lack of trust
- inability to tolerate separation
- increased need for security
- misuse of alcohol and drugs (in the case of adolescents)

Interventions
Over many years there has developed a number of post-incident interventions for those exposed to catastrophic events, including military conflict. Too many are based on flimsy, often just anecdotal evidence.

There is now available a number of reviews and reports which reflect informed light on the potential value of different interventions (even those which could not be subject to randomised controlled trials for ethical and practical reasons). I have set out my views largely in accordance with the NATO Guidance (2008) to which all NATO countries have signed up. I do so not just because my team contributed to its production but because it was the first effort to cull the world literature for evidence-based or evidence-informed principles of practice.

(e) Aims
The aims of care need to be identified. Below, in Box 5, I have set out five which should be considered by those setting off to help casualties of some major trauma.

Box 5: Aims of preparing a programme of post-incident care

- prepare individuals and communities to reduce the level of disruption in the community
- devise a realistic response programme which is proportionate to the disaster and which can be delivered in a flexible and phased fashion
- define a continuum of integrated care recognising short, intermediate and long-term needs
- recognise the needs of first responders, welfare providers and other helpers
A stepped model of care (NATO, 2008)

Disasters are not single unitary events: they unfold over time – sometimes an unwelcome long time. Thus, the needs of those affected emerge serially and pose different challenges to those who help them. Unfortunately, most attention is focused on the acute phase: help is often scant as longer term and more chronic needs emerge. The NATO Guidance recognises this in the model it has proposed. We must accept that what is helpful and welcome at one stage, may not be at another. Why do I keep reading in the immediate aftermath: “A team of trained counsellors is standing by”? What are they going to do (even if they are [mercifully] “trained”)? I have never met a survivor who wants to be counselled at that early stage. Shortly after the 2005 London bombings, very few survivors wanted help from professionals to deal with their emotional needs (Rubin et al, 2005).

Survivors’ basic needs must be addressed first. This was brought home to me when working with a local counsellor [Yes, “trained”] after the Nairobi terrorist bombing. A survivor had walked two days through the bush to reach the counsellor’s base (a hut!). The first thing the counsellor asked was: “When did you last eat?” Impressive!

These are recommended levels of care corresponding to the phases at which the needs of those affected by major trauma emerge.

**Level 1**
- Provision of services aimed to meet basic needs such as safety, food and clean water, shelter and clothing

**Level 2**
- Provision of psychosocial services and assistance. At this stage many lay and non-specialists can be deployed under the supervision of specialists

**Level 3**
- Provision of screening, assessment and intervention for those who have recovered insufficiently from their immediate and short term distress

**Level 4**
- Provision of primary and secondary mental health services for the minority who require them

Psychosocial interventions

Specific steps such as the following provide support, facilities and encouragement for those affected by major adversity.

- Restore normal social activities
- Restore normal community activities
- Institute religious events (e.g., services and memorials)
- Restart schooling (In Sri Lanka I saw the value of this, particularly because the local authorities had equipped the children with lovely new uniforms.)
- Establishment of outreach programmes, walk-in centres and helplines. (You need to consider for how long these provisions should be available.)

Psychological First Aid [PFA] (Raphael, 1986)

Raphael’s innovative programme of provisions has undergone various revisions but they all reflect her fundamental model.

It is not a “treatment”: it involves a collection of provisions and services (including some of those psychosocial ones listed above) aiming to meet very basic needs which commonly challenge survivors and their families.
These can generally be delivered by lay persons who are sensitive to local socio-cultural and other moves. (In Pakistan we successfully trained senior medical students, social workers, imams, health visitors and other interested persons who had no specific professional background.) Orner and Schnyder (2003) provide a detailed list of items which are subsumed under the title of PFA. There is also a PFA manual for children (Yule et al, 2013).

**Box 6: Essentials of psychological first aid**

- normalise reactions
- address basic needs (*e.g.*, shelter, safety, food and fluids, clothing, sanitation)
- provide accurate information
- allow the voluntary expression of feelings
- provide support
- provide “psycho-education” (*i.e.*, what are short term and longer term reactions, when and where to get help, and how to help oneself)
- encourage resilience, independence, coping and adjustment
- initiate a period of “watchful waiting”. (*This term derives from guidelines produced by the National Institute of Clinical Excellence [NICE], (2005). It advocates allowing about a month to lapse to allow the remission of normal reactions before considering specialist mental health intervention.*)
- re-establish links with family, friends or colleagues
- initiate a system of triage (*using the “at risk” factors described above to identify those who are likely to require different levels of care*)

(i) **Peer support**
Numerous studies of lay, emergency and military personnel have confirmed the value of the support provided by their peers. Creamer et al (2012) using the Delphi method, defined a set of guidelines as to how to facilitate this kind of support which is favoured by so many (because peers have “credibility” as they share the same values, code of conduct, and language as those needing help, and they understand the demands of their jobs).

Of course, consideration must always be given to the need for confidentiality and for the need to assure that seeking support does not compromise professional standing and career aspirations (Alexander and Klein, 2001).

(j) **Critical Incident Stress Debriefing [CISD] (Mitchell and Everly, 1996)**
This post-incident intervention has become a contentious one. It was first developed for emergency service personnel, and became very popular in the 1990s. Its popularity led it to being used by inappropriately trained personnel, at inappropriate times, for inappropriate samples of participants, and for inappropriate reasons. Subsequently, its critics challenged its claim to prevent PTSD. Further, they emphasized its potential to cause harm (Wessely et al, 1998). A review of post-traumatic interventions proposed that CISD should not be used as a mandatory one-off intervention (NICE, 2005).
More recently, Hawker and Hawker (2015) have offered a very balanced review of CISD arguing against extreme over-generalisation for and against it as a method of reducing distress, which is generally seen favourably by emergency service, military and humanitarian aid personnel.

**Trauma Risk Management [TRiM] (Greenberg et al, 2010)**

This non-specialist peer support and assessment programme was first developed by the UK Royal Marines. It has face validity, and is now well-received by other military units, emergency service personnel and by the UK Foreign and Commonwealth Office.

The TRiM protocol requires those persons exposed to a particularly disturbing event should be offered the opportunity to be seen by a trained peer at about 3 and 28 days thereafter. Participants are assessed as to their likely need to be seen by a mental health professional, on a list of 10 “at risk” factors.

It must be noted that this is not a treatment for post-traumatic pathology.

**Specialist services after disasters**

Throughout the UK there are now a number of trauma clinics providing specialist care, involving the use of psychological and psychopharmacological methods.

The two psychological methods recommended in the NICE (2005) Guidelines are: trauma-focused cognitive behavioural therapy, and eye movement desensitizing and reprocessing therapy. Psychological therapies are recommended as the first line treatments.

Sometimes medication may be required, e.g., when there are no trained staff to deliver the above treatments; when the patient cannot or refuses to undergo these treatments; when these treatments have failed to achieve relief, or when symptoms are particularly severe and overwhelming (Alexander, 2005).


- Paroxetine and mirtazapine for use by non mental health professionals
- Amitriptyline and phenelzine for use by mental health professionals

These guidelines do not imply that other interventions might not be effective; it is just at this stage there is insufficient evidence to support their use, particularly for PTSD.

**Conclusions**

Disasters and other major trauma are numerous, and we now hear more of their effects because of the rapid global network of communication. Their effects commonly cannot be calculated with great accuracy, and even the best estimates cannot reflect the intensity and scale of human suffering. It is even a challenge to estimate the breadth of the “Ripple effect”, which extends well beyond in time and place the epicentre of the event, to implicate many persons. Responding to such events cannot be fuelled exclusively by good intentions. They may even cause more harm through helpers disrupting the natural healing resourcefulness of individuals, families and communities. Alternatively, some helpers who migrate from outside local communities may cause difficulties through their ignorance of socio-cultural, political, and religious sensitivities.

There is now an extensive research base relating to how catastrophe affects victims and others; how they cope, and how they can best be helped. Thus, whenever possible, assistance should reflect evidence-based or eminence-informed principles of practice which acknowledge the natural resilience of the human spirit.
References


Further Reading.


Heat Cramps and salt in hot desert worksites.

Professor Nelson Norman and Dr Saleh Hussain Al-Mesabi.

During a routine survey on the use of desert clinics in one of the oil companies operating in the Arabian Desert it was noted that attendance was much increased during the summer months than during winter. Further enquiry revealed that the most common cause for attendance during summer was a complaint of abdominal pain, for which no obvious cause was found together with severe cramps in the legs, once again with no obvious cause. This suggested that the cause might be heat cramps. The workforce numbers some 25-30 thousand persons, of which the majority work out of doors and the temperature during the summer months may be as high as 45 or 50 degrees centigrade. They are thus exposed to considerable environmental heat during the summer months.

Over the years, it has been recognized that those who are required to work exposed to considerable environmental heat require an extra intake of salt and water. In recent years, however, the importance of water has been emphasised and the place of salt minimised in view of the widespread concern about the relationship between dietary salt and hypertension. This workforce was provided with freely available salt tablets until 1990 but since that time they were withdrawn and the workforce was merely advised to take extra salt with their food during the summer months. This appeared to work well. The humidity is low in desert worksites, the importance of an adequate fluid intake emphasised and the safety department policies on travel and fluids were enforced strictly. The incidence of severe heat related illness was low and usually occurred only in accident situations where a man had been injured or his vehicle had broken down and he had not followed the rules.

The observation made by the original study of the increased number of retrospective complaints during summer raised the possibility of heat effects which had not been recognized previously and it was decided to conduct a detailed prospective study during July and August when environmental heat was maximal.

Methods

This was a prospective study and all five desert clinics participated. All patients reporting to the clinics during the months of July and August complaining of abdominal pain and/or muscle pain or cramps were subject to careful medical scrutiny and a questionnaire was completed by the examining doctor. The information sought included age, nationality, occupation, place of work, participation in outside sport, previous history of abdominal pain or cramps and whether they were currently taking salt supplements. In addition blood was taken for the estimation of sodium and chloride.

During the month of July, the patients were merely observed but during the month of August the whole workforce was requested to take two salt tablets per day. The tablets used were enteric coated and each tablet contained 300mg sodium chloride and 188mg of dextrose monohydrate.

The information was entered into a computerised database and analysed using the Statistical Package for Social Sciences (SPSS).
Results

During the first month of the study- July- 3,570 patients attended the five desert clinics and of these 132 were complaining of non-specific abdominal or musculoskeletal pain. During the month of August, however, when 3511 patients attended the clinics only 6 were complaining of non-specific abdominal or musculoskeletal pain.

Of the 132 patients of the first month 14, 3% were employees of the oil company while 85.7% were employees of contracting companies. The distribution of nationality and occupation revealed that 47% were outside labourers and 82% hailed from the Indian subcontinent. In 95% of cases the worksite was out of doors and 28% were actively involved in outdoor sport in addition to working outdoors. The remaining 7 patients worked mainly indoors but 3 were involved in outdoor sport. The final 4 worked mainly indoors and were not involved in outdoor sport. It was noted that two of the four were nurses.

The biochemical results indicated that 82% of the results for plasma chloride fell below the normal mean value and 76% of the measurements of plasma sodium fell below the mean normal value.

During the succeeding winter and spring the need for salt in preventing heat cramps was emphasised in the health education programme of the company. The succeeding summer was unusually warm, the workforce was recommended to take 2 salt tablets per day and during that summer there were no cases of heat cramps.

Discussion

Heat cramps occur in those who sweat profusely and replace their losses with water but not salt. They are not commonly reported in the modern literature but the condition was well recognized and investigated in the early part of the twentieth century (9, 10). They were most frequently reported in those working in the holds of ships travelling through the tropics and in those working in the coal mines of England. Provided the salt loss was corrected above ground by eating salty food and large quantities of water were not drunk underground, no harm came to them. Those miners who were tempted to drink large quantities of water underground often suffered appalling attacks of cramp, frequently in the stomach but sometimes in the limbs or back.

This study has added weight to the suggestion that heat cramps may be responsible for the increase in clinic attendance during the Arabian summer observed in routine surveillance of clinic usage. The suggestion was made on the basis of the clinical presentations and the hot environment and the reversal of the clinical symptoms and signs in a large workforce by the addition of 2 salt tablets adds strong support to the diagnosis of heat cramps. In addition, 95% of those complaining of cramps were employed in outside jobs and 28% of those were also engaged in outdoor sport. 80% of the workers suffering from these complaints emanated from the Indian subcontinent. They are popular expatriate workers throughout the Gulf region. Cricket is a popular outdoor sport among Indians in these desert camps and it has been shown that as much as 4.3% of body weight can be lost from sweating during a standard session of cricket in a hot climate, (11).

Miners’ cramps are brought about by excessive sweating followed by the drinking of water. This is what takes place in the Arabian desert during summer. Water is freely available and its importance emphasised by concerned medical and safety personnel. In recent years less emphasis has been placed on salt and the former practice of placing salt tablets on the canteen tables has been abandoned and the personnel merely advised to add extra salt to their food during the summer months. This seemed to work well and related heat illness was said to be rare.
The withdrawal of salt tablets was due to the commonly accepted statements concerning the relationship between salt and hypertension and promoted with increasing vigour in the western literature and it is interesting to note that two of those suffering from cramps that had indoor jobs and did not indulge in outdoor sport were nurses. It is possible, however, that the free availability of salt in the past and the emphasis placed on its importance may have resulted in a greatly increased and unnecessary salt intake since a daily intake of four or five tablets per day was recommended. An extension of this study could determine the minimum salt intake required in the particular environmental and employment circumstances which apply.

While there is little doubt that salt restriction is of importance in the management of hypertension, particularly when it is associated with certain types of renal and heart disease, there is still controversy about its place in the normal subject with regard to the aetiology of hypertension, (12, 13). The debate on the effect of dietary salt has been intense,(6,14,15,) and while it seems likely that a high salt intake will cause an increase in blood pressure as the years pass (16) there has been little discussion on the need for additional salt where it is needed as in such situations as are under discussion here. The debate on dietary salt carries on, however, and a group in McMaster University who have been interested in the relationship between dietary factors and coronary events (17) has recently suggested the currently recommended levels of dietary salt intake may be too low and that low sodium levels has other effects including adverse elevations of certain hormones which may outweigh any benefits. The debate on dietary salt is not over but there can be little doubt that additional dietary salt is necessary where there are losses such as can take place in personnel labouring in a hot environment. This study indicates the dangers of accepting the views of studies carried out in a temperate climate and applying them directly and unconditionally to totally different environmental conditions. It also draws attention to the importance of care in constructing health education programmes which can cause confusion if directly transferred from one environment to another, without considering the special circumstances and needs of a particular population.

The study also – as in similar studies in the past, (18)- points out the importance of occasional surveys or audits of the pattern of illness in a large workforce in drawing attention to conditions not previously recognized in causing a problem and thus reducing the efficiency and productivity of a workforce in addition to causing unnecessary human suffering.
References

12. Hanneman RL. The case that salt is not necessarily a bad thing and does not necessarily cause hypertension. BMJ. 1996; 312:1283-1284.
Introduction

For the first time in Russia a very significant event for remote healthcare was held – an International Conference entitled “Innovation Trends and Future Development in Industrial Medicine and Healthcare of Working Population”. From 22 to 23 September 2016 experts, doctors, representatives of medical businesses and international oil and gas companies came together to discuss the most important problems of industrial medicine. Participation of experts from such countries as UK, Norway, Israel, UAE, Vietnam and Kazakhstan shows this Conference was international.

The importance of networking, of interviews and sharing experiences of participants was seen to be considerable because the conference became the place for discussing different aspects of industrial medicine: management teams, current specialists, scientists and others who have different approaches and positions.

Organizers and its capabilities

The Conference was organized by LLC “Center of Corporate Medicine” (hereafter “CCM”) in cooperation with Institute of Remote Healthcare (hereafter “the IRHC”).

LLC “CCM” is a managing company - expert in the sphere of industrial medicine and labour protection from 2006. More than 100 000 people from about 300 companies in 12 regions of the Russian Federation are serviced by CCM. They work mainly in the oil and gas industry, in transportation, the mining industry, the agricultural industry and in the logging and woodworking industry.

Specifically, LLC ‘CCM’ provides effective medical services in remote sites in severe climatic and geographical conditions, especially in the Arctic. Its work in different parts of the Arctic zone and the Far North demonstrates its big coverage and consequently different working environment and problems. This catches the public eye. The company provides the following types of medical aid: emergency medical services, medical evacuation, health surveillance, medical assessments and and.

Collaboration with the IRHC, the Laerdal company and with SAFER is a new area of development for CCM. Moreover, representatives of the IRHC took an active part in panel sessions of the conference and described the systems of remote healthcare in their countries.
**Key issues and sharing experiences**

The key issues discussed during panel sessions were:

- integration of international remote healthcare standards,
- effective models for the administration of healthcare services in remote locations;
- arrangement of medical provisions for remote sites;
- remote health care in onshore seismic exploration;
- training of medical and non-medical staff for remote worksites
- development of healthy sanitary aviation;
- telemedicine technology.

One of the bright parts of the conference was a workshop on training. The company “Arctic Medical Training” (a joint venture of LLC “CCM” and the Siberian State Medical University) presented training programs for medical personnel working in remote areas, including the Far North, the Arctic Region and offshore. It was a special workshop of interest to all participants and described the specific work of these specialists.

The participation accounted for more than 100 people and they were all specialists in different areas of industrial medicine. They were all glad to share their own experience and advise other companies or specialists on how to manage difficult situations in remote sites.

**Main results of the Conference**

One of the main results of the conference was the opening of a branch office of the Institute of Remote Healthcare in Russia. The agreement between CCM and IRHC is to establish the non-profit organization “IRHC Russia” which will promote and support the safe practice of remote healthcare. The Center of Corporate Medicine will be the Affiliate, and on its behalf, will be a future member of “IRHC Russia”. It is expected that this agreement will establish productive work between the two companies and its members.

IRHC Russia is expected to provide an excellent tool in the near future for the development of improved occupational health standards for remote areas, the improvement of emergency management of ill or injured workers in remote locations and the provision of frontline delivery of occupational health.

A further strategically important agreement was made between CCM and UT air on the establishment of a project named “Sanitary aviation”. One of the main provisions of this agreement is the joint elaboration of a special module to transport patients in a helicopter air ambulance. This agreement aims to establish air ambulance services for industrial enterprises, working in remote inaccessible areas and with difficult weather conditions. The experience of the UTair company working on UN missions for 15 years together with skilled medical staff of CCM will provide professional medical evacuation. The main new part of this is continuing healthcare management on board the aircraft (before coming to the hospital) by experts practicing medical monitoring of the patient during the flight.

Training of these medical experts will be provided by CCM and the Norwegian organization SAFER working together. This agreement gives the Center of Corporate Medicine the right to use the SAFER's original training programs for training healthcare practitioners in the Russian Federation and in the CIS countries. It demonstrates cooperation in the joint development of training programs for corporate clients along internationally recognized standards and innovation technologies in education. Such collaborative academic activity is currently also a main aim of the IRHC and further emphasizes the international bonds developed between all the participants.
Mass media reaction in Siberia

The International Conference “Innovation Trends and Future Development in Industrial Medicine” provoked a strong reaction in the media. Within a few days both before and after the conference, news about the events of the conference, its participants and results appeared on many websites, magazines and on TV. The two most popular topics reported were on training of medical personnel to work in remote sites, including the Arctic zone, and the opening of a branch of the IRHC.

The TASS agency together with the official news site of Tomsk region government reported that, “The center for training doctors and paramedics to work in the Arctic and offshore and this center has trained more than 170 professionals in less than a year”. Also, the special media agency “INOTOMSK” commented on the agreement between CCM and the Norwegian company which, “provided exclusive right to the Tomsk company to use training programs for medical staff to work on oil platforms”.

“Expert – Siberia”, one of the most heavyweights analytic news centers remarked that the whole “Tomsk region will become a center for the implementation of the remote health standards”. This indicates that this conference provides real value for the medical society of Siberia. In fact, the main goal and task of the IRHC branch in Russia is to help Siberian specialists integrate into the international expert community and to help implement these standards throughout the Russian Federation.

Conclusion

The main target of the conference - to discuss the problems of industrial medicine and the healthcare of working populations - was achieved. Also, during open and closed discussions companies were organizing collaborative work and new projects. Some of these projects are being realized at that moment. Moreover, this Conference set off a positive reaction from the mass media and in medical society and became a meeting point for the most diverse points of views.

Sergey Antipov, General Director of the Center of Corporate Medicine stated, “We hope that this conference will become an annual discussion platform with the opportunity to develop strategy and tactics for remote healthcare development achievable in the current economic climate.”
Introducing Medical Training and Competency in Ukraine

Tim Cranton SRPara

My name is Tim Cranton. I am the Owner and Training Director of Paramed CZ and an Advisory Board Member to the IRHC. We are an experienced medical training organisation, based in the Czech Republic who specialise in the delivery of all aspects of immediate care from basic first aid to advanced remote medicine in extreme environments.

I am a British Forces trained Combat Medic with over 30 years’ experience as a Combat Medic, Civilian Paramedic, Firefighter and professional trainer with various tours of duty in often hostile environments. I currently hold the position of Course Director for the International Combat Lifesaver Training Course, Office of the Command Surgeon, United States Army, and Europe.

Our organisation comes from a Military, Police and Emergency Services background. All of our Instructors are accredited healthcare professionals. Our multi-national staff are from the UK, Czech Republic, Germany, Luxembourg, Israel and the USA.

We specialise based, emergency and remote medical training which focuses on the students current or potential requirements. This involves a short period of self-learning and didactic study then moving in to the field to apply new skills and training in realistic scenarios and real time experience.

In May 2014, as a consequence of the ‘Maidan Revolution’ I was asked to collaborate in the development of a Combat Lifesaver training programme with Patriot Defence NGO. To date, June 2014 - August 2016, we have successfully helped to train 1000's of personnel to whom Individual First Aid Kits have also been issued. The concept of the combatants ‘Individual First Aid Kit’ did not exist in Ukraine prior to June of 2014.

The ‘Combat Lifesaver’ programme as we know it now, (to date) in Ukraine has been developed utilising well known principles and standards of care which have been taught to Soldiers and other Municipal Services in NATO member state countries for a number of years. It was quickly recognised that the Ukraine needed such programs of training to ‘bring it in to the 21st Century’ and assist its mission in defending its territories and borders. Unbelievably, prior to May 2014 the concept of ‘Battlefield First Aid’ and Frontline medical care was severely limited with a ‘First Aid Kit’ containing little more than an ampoule of morphine (if you were lucky), a condom and a safety pin. Front line military hospitals and aid stations did not exist and personnel injured on Ukraine's eastern borders were being taken by any means possible to civilian hospitals where diagnostic equipment that was well over 50 years old was being used.

During my very first visit to Ukraine, (under heavy supervision from its security services) it was soon apparent that the ground troops and civilian militia that I met had had first aid or medical training whatsoever and possessed no life-saving equipment. This was not a problem that could be solved by a few well intentioned organisations over a short period of time.
Any training would have to be planned with a long-term focus to facilitate a minimum necessary level of standardised skills and competence for every person who is exposed to a combat/hostile zone. Another example of the lack of training and facilities included a wounded militia member being brought to one of our training locations, who had suffered significant shrapnel wounds to his legs. He had been ‘on the road’ for 18 hours where his carers, who had wrapped his wounds with simple bandages had placed him in the back of a pickup truck looking for somewhere to take him.

Having heard through the grapevine that international ‘trainers’ were at our location they brought the casualty to us where we treated him for developing wound sepsis and toilet before organising his onward travel to a civilian hospital.

From the outset, we recognised that our primary training objective was to enable Ukrainian forces as well as other civilian support organisations to understand the medical challenges of conflict and remote medical care. We needed to reach a point quickly whereby training ability and resources can be “self-directed” by those in Ukraine that are responsible for the medical training and development of its armed services. After our initial training missions and working with the Patriot Defence NGO we developed the Combat Lifesaver Instructor program. Its aim being to ‘Train the Trainers’.

There are significant differences between pre-hospital medicine and in-hospital medicine and general care. Traditional medicine does not evenly compare to field or ‘combat’ medicine especially where the ‘Hostile’ environment dictates what can and cannot be done in the field to save and preserve life. The ‘Hostile’ nature of the combat environment makes it an extremely hazardous and stressful place to work. The tactical advantage must always be sought.

Historically, the teaching of any kind of advanced medical care in the Ukraine has been undertaken by Doctors or similarly trained persons. This has been based upon theory and methods of practice which work well within a “safe” environment where additional services and qualified personnel are close at hand but which for reasons that are obvious do not suit a dirty, dangerous field of combat miles from any medical support. Of course, any radical changes in thinking needs “buy-in” and one of our major initial challenges was to change the minds and philosophies of these same Doctors and Medical professionals to ensure the right training is being delivered to the student and combat lifesaver.

If time and investment is to be made in training a trainer you need to ensure that you are getting the right people who can do the job. This is essential in ensuring the success and future development of any kind of training program. In actuality most, if not the instructor candidates that we trained had no kind of combat or tactical training and experience. One could argue that we trained the wrong people however this is wholly indicative of the Ukrainian Armed Services when there has not been a well-developed Military Medical System in place. In a modern military medical service, you would expect ALL ‘Medics’, as a minimum, to have undergone a basic military training programme that involves weapon system operation and tactical training.

My own personal Combat Medic training took 3 years in which time I had to qualify as an Infantry Soldier, complete additional special roles training and complete active service duties with frontline units whilst undergoing an academic training and assessment programme in which I had to pass 3 ‘levels’, Class 3, 2 and 1. In the same respect we must understand culture differences and that we also have to seek the best ways to utilise the resources that we do have. In order for our instructor candidates to understand battlefield care we introduced them to its stressful environment by having all of them complete the Basic Combat Lifesaver, adapted training program.
This course provides the minimum level of training to which each military person should be trained prior to deployment and includes historically “hospital based” procedures which are nowadays practiced by US and NATO active service personnel in a hostile environment and often whilst under fire.

During this initial training a common response from instructor candidates has been … “we cannot teach this, we are not allowed to” or “soldiers cannot be trained to do this, they are not capable”. These instructor candidates were referring to applying the CAT, (Combat Applied Tourniquet), passing a nasopharyngeal airway and inserting a chest decompression needle. All of which are the techniques that are required to save the lives of those 15% of combatants that die unnecessarily before reaching a medical treatment facility.

The top three ‘killers’ being:

1. Severe Bleeding (hemorrhaging)
2. Restoring an airway
3. Sealing an open chest injury and relieving a tension pneumothorax.

These ‘statistics’ are proven and relate to over 20 years of modern conflict.

Fact: These skills are being taught to ALL NATO country soldiers regardless of their level of medical training.
Fact: Anyone can be taught these skills.
Fact: Lives have been saved and unnecessary deaths are being prevented by soldiers applying these skills on the battlefield worldwide, on a daily basis … Including the Ukraine.
Fact: There is nothing difficult about teaching these simple skills. You just need the right people to do it.

Whilst we understand that enabling such an enormous change in thinking and practice will come up against a wall of scepticism we have found that after Instructor candidates are put through their paces, crawled in the wet and mud, self-applied tourniquets and performed life saving techniques with the other CLS students their mindset is already starting to develop and change. They see how, when good training is delivered by the right instructors the average foot soldier is in fact completely capable of utilising these skills under a great deal of pressure. It is also an ideal opportunity to help ‘close the gap’ between these same officers and their subordinates as well as helping to develop a new level of trust and understanding of the soldiers with their senior officers when they see their future instructors crawling across the same ground and carrying ‘wounded’ on stretchers.

After completion of this 2 day “basic” course the instructors move on to a third day specifically the “Instructional Skills phase”. In one day, our objective is to take them through how to organise, set up and deliver an effective course through lectures on structuring a training session, adult learning, presentation skills and practice presentations. On Day 4 trainee instructors finish the course with an examination day whereby they are required to make and perform practical presentations as chosen by the examining faculty. If they do not meet the required standard Students will be given further training. In collaboration with the Patriot Defence NGO, we endorse successful instructors and they are issued with a certificate of completion.

After a recent training course one of the students, a doctor who had been the most resistant when it came to some of the new concepts, took me to one side, shook my hand and said, “thank you for this training, if you have taught us one important thing it is that we need to change people’s minds”. To me this demonstrates how important any kind of ongoing military and remote medical training is and if we can transfer this level of positive thinking up the chain of command we will have achieved something significant. By small successes come major achievements.
Allowing one single soldier to come home to his family can be considered a major achievement. By sharing our knowledge and personal experiences we have empowered these future instructors to develop their own training as they see fit and in accordance with their own practice but also with the understanding that things must change and adapt to comply with the most up to date thinking and practice.

Additional to this training programme we have also completed several successful training missions with Ukraine’s Internal Security Services where we have followed an adapted CLS, mission specific program with the introduction of some more advanced, prolonged field care techniques more suited to the special operator who may have to work with little or no medical support for days at a time. This training included, but was not limited to;

Surgical Airway, use of the FAST Intraosseous IV fluid replacement system secondary to failed IV access and use of the I-Gel Supraglottic airway device as well as combined tactical casualty care and small unit tactics, (fire and manoeuvre, casualty extraction).

We have also completed numerous ‘live fire’ drills in various simulated environments including, Urban, (inside buildings whilst clearing rooms) and field areas where fighting units advance to contact and suffer casualties. Whilst maintaining superior fire power casualties must be treated and moved to an area of safety where care can continue and the evacuation process from the field can begin. This type of training is essential especially if Special Forces personnel are to be effective by training as they fight and fighting as they train. The tactical situation MUST be interwoven in to the Combat Casualty Care concept and allowances be made to maintain combat effectiveness.

So now we have to ask, what does the future hold? In its simplest form the future must include an ongoing, standardised and common programme for all to follow no matter who teaches it. At the same time, any standardised programs will need continued development so that they can be applied to special circumstances and operations.

We completed a review of training standards and recognised that several ‘levels’ of competency were required if Ukraine was to significantly improve upon its military medical response abilities;

**Combat Lifesaver** – All armed service personnel should receive this training as part of the basic military training syllabus, (2 days). No prior experience is required.

**Combat / Operator ‘Medic’** – Select personnel at unit / section level, approx 1/12 soldiers would receive this training and would include an ‘advanced’ version of the CLS program, (5 days). No prior experience is required.

**Special Forces / Patrol Medic** – Select persons within an SF team, approx. 1/6 and select persons within an infantry unit, approx. 1/20 would receive this training, (14 days). The pre-requisite for this training would be to have successfully completed Combat / Operator ‘Medic’ training.

**Combat / Tactical Physician / Paramedic** – Select Special Forces and Conventional Forces Patrol Medics and State Registered Physicians who have completed the Combat / Operator Medic and Special Forces / Patrol Medic programmes who then attend a further course of training to the standard of the NAEMT or equivalent Pre-hospital Trauma Life Support Course and / or NAEMT or equivalent Tactical Combat Casualty Care course and American Heart Association / UK & European Advanced Cardiac Life Support.
Any training like this needs to follow proven educational programs currently being taught in other international countries to recognised academic standards. There is no need to ‘re-invent the wheel’ when the systems are already in place and are highly successful when it comes to the delivery of medical care in hostile and remote environments. These systems just need to be utilised and adapted for use in the Ukraine with common curricula formed including all the relevant supporting guidelines and reference materials by the appropriately qualified and experienced trainers.

Thanks, in part to our involvement Ukraine has undergone significant change and NATO Allies are now directly involved in the training and development of Ukraine’s military medical abilities. Prior to this no priority was based on medical training and little or no finances would be committed to it. However, it has only been 2 years since the ‘Maidan’ and there is still some way to go. The person responsible for the initial development of standardised training has since been recognised for his massive effort and dedication and become the Minister for Health of Ukraine. In this respect, we can only look forwards to the further development of a nation and its ability to provide care for all its inhabitants, both civilian and military in remote and pre-hospital medical care. I hope that I will continue to be part of this process.
Alan Kennedy Bolam
Director IRHC
Email: akb@irhc.co.uk

IRHC in 2016 took important strategic decisions to reflect the feedback from members. This included two important membership surveys which highlighted the need for IRHC to remain independent from any commercial or academic body which could dilute or influence the importance of unfettered membership representation. This resulted in the withdrawal of assimilation into the RCSEd and the dramatic change out of the IRHC Chairman and Council to ensure that IRHC was more “member focused”. The subsequent progress in 2016 made by the new IRHC Council is remarkable given the timescale and this continues at pace with further game changing developments in 2017.

The second membership survey was more revealing and has provided IRHC with significant data and information concerning the challenges facing remote healthcare over the next 5 years. There were some member responses which were not surprising, given the day to day communication with members but many of these comments needed to be quantified and assessed against a background of changing workforce economic austerity in the extractives industry and the current international geopolitical instability. This survey commissioned by IRHC and facilitated by Clarion Events in September 2016 has provided invaluable insight into the future challenges facing remote healthcare practitioners™ and remote healthcare providers (both public sector and private companies) and IRHC has already acknowledged these issues and is addressing many within its scope of reach. In recognition of IRHC member’s contribution to the survey and members feedback this has resulted in a report authored by Alan Kennedy Bolam IRHC CEO, and is available for members to access via the IRHC members secure area on the IRHC website www.irhc.co.uk.

In 2016 IRHC recognized that membership growth was pivotal to its development and sustainability. Therefore, IRHC has ambitions to establish continental hubs across the globe. The 1st launch is due in 1st quarter 2017 in Russia. This will allow access to a continent and remote healthcare practitioners often currently isolated from other continents. IRHC were instrumental in inputting to the 1st Remote Healthcare Conference in Siberia in 2016 and recognized the potential in recruiting substantial numbers of new members.

The IRHC membership survey confirmed that traditional IRHC conferences precluded grass roots members from attending due to financial, travel and work release issues. IRHC will continue to be represented at international conferences to input and contribute to the “thought leadership” aspects of remote healthcare but will establish both internet based webinars and facilitate a web based mobile app member “buddy” secure private peer to peer support group (similar to commercial systems such as whatsapp).

In 2016 IRHC revised Council committed to review the 2015 “Competency and Training for Health Practitioners Working in Remote Oil and Gas Operations” This has now been revised, expanded to include not only the extractives industry but also now relevant to all remote healthcare environments, workplaces including public sector healthcare and private sector markets. This document is now considered as the international “go to” guidance document for remote healthcare practitioners and health managers. The benefit of this revision is that IRHC has now defined the clinical themes for the
education, continuous development and knowledge and skills development of IRHC members. IRHC in 2017 intends to assess membership applications by validation of CPD (continuous professional development) facilitated currently by providing members with a CPD electronic portfolio builder “CPDme”. However existing IRHC Associate members will be protected by a “grandfather” clause which will enable and allow incremental attainment towards the revised membership criteria for current members to be implemented in 2018. IRHC will provide guidance on appropriate CPD eLearning and didactic courses which will aggregate to CPD points for assessment.

Membership services will be significantly enhanced in 2017 with the potential to offer members preferential discount on courses, publications, equipment and legal services. A prime example of new groundbreaking membership services is the newly established IRHC Careers website, which provides members with a link to worldwide recruitment companies and IRHC members, who can elect to join the website “CV bank” anonymously which prevents identifying subscribers to existing employers but allows employers to view potential candidates with matching job specifications.

In 2017 IRHC has successfully trade marked the term “Remote Healthcare Practitioner “which prevents any other organization, including academic organizations using this title and protects IRHC member’s intellectual property. Whilst this does not infer “clinical registration” it does prevent bogus use of post nominal designations other than those provided to IRHC accredited members.

IRHC recognizes the importance of communications and therefore in the 1st quarter 2017 IRHC is redesigning its current website which will technically address “mobile ready” issues and simplify navigating through information by browsers to the website.

Whilst this is not an exhaustive list of developments it demonstrates the continued support of IRHC members, council and board of Directors to the vision and goals set out and approved by members in 2016.
‘Remotely Useful’

This section is available for book reviews, equipment reviews and links to other organisations that could provide help to the readership. Contributions are invited for the next edition of the Journal.

**Letters**

We would like to invite you to email the editor to offer feedback on the IRHC Journal or to respond to articles and all contributions will be considered for publication in the next Journal. If disagreeing with views put forward in an article we would like to see some evidence base and references.

The IRHC Journal is for members and your views are important, the editorial team will be more than happy to assist you preparing material for publication.

Contact the **editor@irhc.co.uk**

**Footnote**

The Journal of the Institute of Remote HealthCare is a service to all levels of membership. Its aim is to encourage equity in the development of the specialty.

All communication should be addressed to the **editor@irhc.co.uk**

The editor’s decision is final in all aspects of publication. If quoting articles from the Journal we respectfully request that the Journal’s role is acknowledged.

**Editorial Board**

Professor Nelson Norman, President IRHC, Aberdeen

Kathy Kennedy Bolam, IRHC Director, France Professor Tar-Ching Aw

The Journal and its contents are © copyright of the Institute of Remote HealthCare Ltd

If you wish to make comments you can.

**email**

info@irhc.co.uk

**post a blog on the IRHC website**

www.irhc.org.uk

**or visit our Facebook page**

Notes for contributors

Leading Article
Leading Articles will either be commissioned to deal with a specific topic or a personal view on an issue of importance to remote health care. Commissioned articles would be preferably referenced. Personal views should be properly referenced in Vancouver style. A leading article should be in the range of 1000 – 2000 words.

Original Articles
Original Articles should be in the range of 1500 – 3000 words in length. They should be referenced in Vancouver style. For instance, a journal article:


A paper should represent original work preferably an item of research that contains an accepted method of evaluation. It may be possible to include a non-research paper if it was sufficiently critically self-aware.

Developments in Remote Health Care
This section is available for non-researched contributions that nevertheless would have merit in being printed. Practical innovations in remote health care can be included here. Successes – and failures – can be covered. Case reports are particularly valuable and should be anonymised and written in the third-party style. Reference to available knowledge on the issue being addressed would be helpful. The Editor will review these contributions and seek clarification where necessary before publication. Articles here should be no more than 1500 words.

‘Remotely Important’
This section is a sort of ‘soap box’ section that can include hints, tips, ideas, requests for people to respond to an idea or concept or a commentary on a current issue affecting Remote Health Care. Brief articles of up to 500 words can be included here (occasionally longer at the Editor’s discretion); they need to be honest and non-offensive, but not referenced.

‘Remotely Useful’
This section is available for book reviews, equipment reviews and links to other organisations that could provide some useful help to the readership. Content is a mixture of commissioned material and unsolicited contributions; the Editor having reviewed appropriateness for inclusion.

Letters
The letters section is available to readers to feedback on elements of the Journal or to respond to articles. Responses to articles would be expected to be evidence based and list appropriate references if disagreeing. ‘Me too’ publications are discouraged!
IRHC Membership Categories:

- Affiliate
- Associate
- Full Membership
- Corporate Membership

For more information on membership and how to apply visit the IRHC website [www.irhc.co.uk](http://www.irhc.co.uk)

**IRHC Registered address:**
IRHC  
56 King Street  
Aberdeen  
AB24 5AX

**Tel:** UK 0044 (0) 191 6452005