



Expose to Treat

The Standardisation of Cold Casualty Care for Antarctica

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Introduction

One of the greatest challenges in providing medical care to the deployed population is preventing additional injury from the environment. Managing a casualty in the field poses risks to the individual but also the care giver/rescuer, theoretically meaning that those trying to help can very quickly become casualties themselves.

How do we mitigate this risk? How do we prevent the rescuer needing to be rescued?

Exposure to Treat

An initial paradigm shift would be to consider the polar environment akin to that of a Chemical, Biological, Radiological or Nuclear (CBRN) type environment – lacking in any real permissive environment to provide extensive casualty care and with significant risk to care providers¹. There are also similarities with major incident management approaches, where a need for modified rapid triage may exist in the challenging environment².

Less is More

Building on the idea of managing casualties as if in a CBRN environment, the 'quick look' or rapid assessment approach has been built to provide maximal information with a short assessment whilst at the same time protecting the rescuer¹. This also considers the idea of 'exposure to treat' – appropriate for the polar environment where further exposure of a casualty invites increasing risk of thermal injury. The longer a casualty is held also increases the risk of thermal injury to the care providers. Should we be considering doing less at the point of wounding until back in a warm environment? What if the warm environment can not be provided?

A large focus of research at present centers on mitigating the effect of cold – on equipment, drugs and personnel³. The drive to increase dexterity with gloves is challenging whereas we know mittens provide good thermal protection – should we instead be adapting existing processes to work with current suitable equipment? Peripheral access in the cold is difficult whereas sternal intra-osseous access could be easily deployed in mittens.

Regressive or Progressive?

Adapting existing algorithms for life saving interventions could be seen as working against best practice – but how can we effect optimal care when the environment is non-permissive?

An example is non-hypothermic cardiac arrest. The lack of reliability of physiological monitoring devices may make diagnosis and intervention challenging. Could the re-introduction of a precordial thump have a positive effect on ventricular dysrhythmias? If IV access is unavailable, is there a role to move to intramuscular adrenaline as the first line intervention? These questions are challenging and may appear contradictory to modern practice but should be asked to ensure the care we delivery is as optimal as the environment will permit.

Conclusion

Extensive further research is required to answer the many questions that surround the topic. It is however clear that best practice for polar medicine may not immediately mirror temperate practice but should have a strong research basis.

References

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