



## **AN APPROACH TO INTEGRATED RESCUE**

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**By Peter Elliott  
Medical and Emergency Technician  
Osborne Mines**

### **Introduction.**

Operational tasks that face Mine Rescue Emergency Response Personnel include ground failure, fires, mobile equipment accidents, hazardous material incidents and incidents involving confined spaces and heights. Although good mining practices have evolved over the years to ensure that incidents are minimised and that the risks are greatly reduced we are still faced with an alarming number of injuries and deaths. Emergency response personnel must be given every opportunity to develop the skills and procedures needed to carry out the necessary tasks that may occur on a mine site. Remote mine sites must consider the complications for patients if aero-medical retrievals are required.

The object of this article is to outline the concept and need for integration, what constitutes a remote area and the need to focus on both the physical and medical rescue.

First we must have an understanding as to what is Rescue? According to the Macquarie dictionary it means **"to free or deliver from confinement, violence, danger, or evil"**.

What is Advanced Rescue? Advanced Rescue is to **"Extricate and deliver an accident victim to a critical-care facility in a similar or more stable condition then when the extrication started"**.

(Robert Walmsley R.M.A.-P).

So what is advanced integrated rescue? Advanced Integrated Rescue is to **"Extricate and deliver an accident victim to a critical-care facility in a similar or more stable condition then when the extrication started using a systematic integrated approach"**.

Integration is the bringing together of the rescuers conducting the physical extrication and the medical staff providing pre-hospital trauma life support. All rescue personnel should know each other's expertise and function in freeing a trapped patient in a highly integrated way. Medical staff should know the abilities of the rescuer and the abilities of the modern rescue tools and equipment and vice versa, rescuers should be aware of the latest medical techniques when freeing casualties. Optimal results can only be achieved when all the participants are working together in a cooperative way. Only when teams train and work together and have mutual trust for one another's



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capacities will a rescue at an incident go perfectly, saving lives with minimal or no disabilities.

This integrated approach is even more important when considering the remoteness of mine sites throughout Australia. Not unlike many other mines throughout Australia, Osborne Mine is remotely located some 200km south east of Mt Isa in Northwest Queensland. Remote area operations are often hours away from any medical and fire fighting/rescue organisations. This is even more so when dealing with underground operations that may be geographically very close to these organisations however due to the nature of an underground operation can be considered isolated and confined. At best during a medical incident we could expect the Royal Flying Doctor Service to be on location within 60 minutes. The need not only to provide access to a victim but also to provide life saving care is extremely important to minimise loss of life and disabilities.

In order to minimise the loss of life and disabilities through an integrated systematic approach we must look at the golden hour. Dr. R. Adams Cowley of the Maryland Institute for Emergency Medical Services, who is regarded as the pioneer of modern trauma care originally coined the Term "The Golden Hour". Dr Cowley advocated that most trauma patients die of shock, which comes from sluggish or nonexistent circulation and the resulting chemical changes in the body. He believed that most trauma patients could be saved if he could stop the bleeding and restore blood pressure within one hour. Patients who have experienced shock for more than one hour will likely die. Providing definitive Pre Hospital Trauma Life Support by stopping the bleeding, treating the injury, and restoring blood pressure within that first hour, therefore, is critical for increasing the patient's chance of survival. This "Golden Hour," begins the moment the injury occurs.



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### GOLDEN HOUR

	Time min
Travel to the Location.	15
Scene Assessment.	4
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<b>ACCESS</b>	
<b>20</b>	
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Transport.	15
Trauma Center.	5
<b>Total.</b>	<b><u>59</u></b>

Quite often mines rescue teams focus solely on gaining access without providing essential patient care so as to minimise injury and disability and prevent death. The ever-increasing need for Mines Rescue Technicians to be trained in Advanced Basic Life Support (BLS) and be able to satisfactorily support life at the very early stages of an incident is paramount. Without this essential training injuries may be exacerbated during the extrication of the patient leading to a long convalescence and poor quality of life or death.



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An integrated system can only be effective if it is employed in a Basic Systematic Approach. Even though it is accepted that no two rescues are the same, Mines Rescue Technicians can follow set sequences, which can be in the form of protocols. These sequences or protocols should be flexible enough to allow for the different scenarios that are likely to be encountered at the rescue scene. On the arrival at the scene a team should immediately begin a rehearsed set of protocols, the "Basic Systematic Approach". Within the parameters of this approach, there must be a clearly defined separation of tasks and responsibilities, that can be added to or reduced depending on the actual situation but which nevertheless always begin in the same way. If strict allocations of tasks are adhered to then a safe, fast and controlled rescue will take place.

Many services that provide medical and fire/rescue services operate independently such as the ambulance and fire services etc. because of this emergency services only meet and work together at the accident scene. Rarely, if ever, do they exercise or practice skills together, therefore the medical staff do not fully appreciate the potential of the fire/rescue personnel and the fire/rescue personnel do not fully appreciate the mechanics of injury sustained by the patient. Consequently, rescue and medical teams may have difficulty making meaningful suggestions as to the options available in the physical extrication. Mine Rescue teams are able to and must rehearse techniques and protocols together so as to offer the patient the best possible chance of survival, minimising injury, disability and offering the best chance for quality of life. The rescuers must focus around the most important aspect of the rescue, **team safety, the patient and the level of care provided to the patient.**