The Triad approach to crisis management

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Clinical crisis management frequently requires key priorities to be initiated in a time-critical fashion to avoid significant morbidity or mortality to patients. This can be a stressful situation and, even in the hands of highly competent and experienced staff, this stress can result in time-critical interventions not being implemented in an appropriate time frame and important priorities being delayed or overlooked, thereby compromising patient care. The use of properly designed cognitive tools to prompt clinicians to perform these basic tasks, could improve management of these situations but the amount of information that can be processed by stressed individuals in the initial phases of managing a crisis may be very low.

Whilst algorithms & clinical guidelines usually present information that is *technically* correct regarding how to manage a medical crisis, they tend to be text based, information dense documents. Whilst such documents have an important part to play in *preparing* clinicians to deal with a crisis *prior* to a crisis occurring they are less suited to use *during* the initial phase of a crisis, when clinicians may have limited information processing ability due to stress. The term "High Stakes Cognitive Tool" was coined by Dr Nicholas Chrimes & Dr Peter Fritz, in relation to the Vortex Approach, to refer to a tool which is designed specifically for use during time-critical emergencies. In order to achieve this, not only must the *content* of the tool address the *technical factors* required to manage the crisis, but the *design* of the tool must address the *human factors* aspects that will allow it to be used in "real time" during a crisis. A high acuity implementation tool must therefore be simple enough to be used by teams of potentially highly stressed clinicians during the initial stages of managing a time-critical emergency and flexible enough that the same tool can be consistently applied to any context in which a particular crisis might arise. The purpose of a high acuity implementation tool is to act as a prompt for recall of prior training and planning, in order to allow clinical teams to perform under pressure.

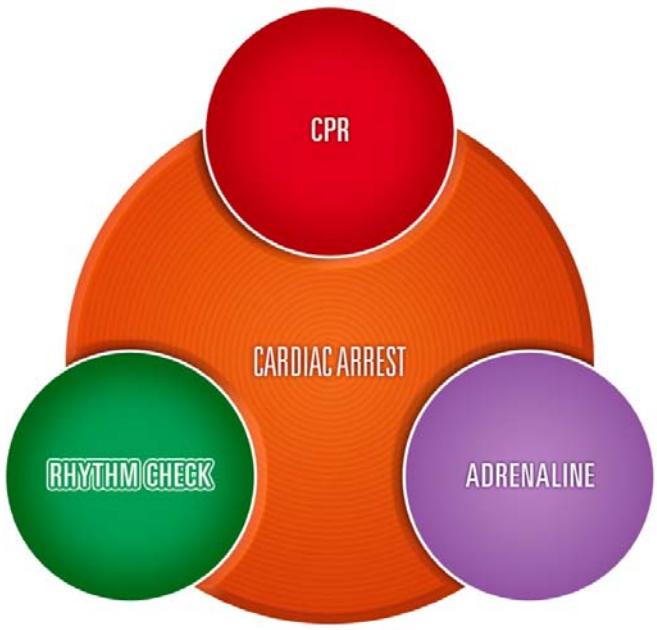
It is well documented in emergency airway management that even experienced clinicians are vulnerable to making significant, fundamental errors when they are under pressure and that such errors can lead to serious adverse patient outcomes. The Vortex Approach was conceived by Dr Nicholas Chrimes as a high acuity implementation tool to assist in addressing these issues during management of the unanticipated difficult airway.

Although the issues relating to airway emergencies apply to the management of other clinical crises, adapting the principles of the Vortex Approach for use beyond airway management poses some additional challenges. In general, clinicians engaged in independent advanced airway management can be assumed to have a baseline level of competence with the requisite technical skills (where this is not the case the issue should be addressed by improving training, not via use of a cognitive tool). These skills tend to be well maintained even in situations of stress, provided clinicians are provided with appropriate cues to implement them using prompts to remind the team of the available options and to improve situational awareness. In contrast to difficult airway management, other clinical emergencies may require significant information recall, complex decision making and tracking of multiple parallel processes in order for to be managed effectively. The amount of information which needs to be provided by a cognitive tool to enable clinicians to manage a crisis effectively may vary widely according to their level of training, experience and exposure – all of which contribute to their level of familiarity with management of that crisis. Even for a particular individual managing a specific crisis, information recall may vary widely in different contexts according to their level of stress. The factors which may induce stress in a clinical situation are numerous but include foreseeability, complexity, availability of assistance, urgency to intervene, severity of potential harm, feelings of responsibility for causing the crisis, fatigue, prior emotional state and familiarity with the crisis itself. The dynamic nature of many of

the factors which contribute to the stress produced by a particular clinical circumstance means, that there is potential for a clinician, no matter how experienced and familiar with a clinical event, to be become stressed to the point that cognition becomes significantly compromised.

Traditionally, cognitive aid design has addressed the above issues by creating tools with detailed technical content that cater to the "lowest common denominator" in terms of knowledge and cognitive capacity. The rationale is that provision of exhaustive instructions ensures that even someone with limited familiarity or information recall will have access to sufficient technical information to successfully manage the crisis. Conversely it is assumed that more experienced, well-functioning clinicians who do not need to access this detail can "skip over" it, selecting only the information they need. Whilst this may intuitively seem to make sense, this approach ignores the fact that stress can not only impair a clinician's ability to access their own existing knowledge but can also interfere with their ability to process the information presented to them in a cognitive aid. Thus these information laden tools do not address the cognitive challenges produced by stress, diminishing their utility in "real time" management of clinical crises.

The Triad Approach addresses the above challenges by providing a hierarchy of resources of increasing complexity which can be accessed according to a clinician's information needs and cognitive capacity. The first tier (the Triad) simply presents management priorities, the second tier (the Task List) identifies tasks needed to address these priorities and the third (the Intervention Guide) provides more detailed background information on the specific interventions required to complete the tasks. The intention is that each tier provides prompts at an appropriate level of detail for the cognitive capacity of the clinicians involved in managing the crisis. The simpler prompts of the upper tiers ensure time critical interventions are recognised and initiated, even by highly stressed individuals. This not only provides urgent therapy to the patient in a timely fashion but the sense of achievement in progressing management of the crisis will hopefully decrease the level of stress ("success to destress"), thereby improving their cognitive capacity so that they can process the more detailed information presented in the lower tiers. Thus to achieve the desired balance between maintaining simplicity and providing the varying level of technical information required by a clinician to manage any crisis, the Triad Approach is designed so as to provide increasingly detailed information that can be accessed according to the requirements of a specific situation.



More free resources relating to the Triad Approach are available at