Acute responses to emergencies: findings and observations of 20 years in the field

Rob Gordon describes how early intervention strategies need to focus on reducing arousal and restoring stability

Abstract

Experience and research highlight that people experience a range of responses to emergencies. These responses are built on the basic human mechanisms for survival and are not usually as intense as the stereotypes of 'panic' and 'helplessness'.

Heightened arousal – generated by threat – interferes with recovery if that arousal persists after the event.

This article describes research findings that emphasise constructive responses to emergencies; identifies a number of common responses in the immediate aftermath of an event and explores some simple strategies for reducing arousal and initiating recovery.

The Ash Wednesday bushfires of 1983 were a watershed in Australia's experience of emergencies. In the aftermath, the results of observations on the short, medium and long-term responses to emergencies were described in *Human responses to natural disasters (Part 3): general principals of human response to crisis situations* (Vol. 1 No. 4, December 1986, pp. 3–4).

Since then, large and small emergencies have shown the human impacts, and observations have drawn on experiences of early intervention, personal support activities and clinical treatment. Emergencies undermine assumptions of everyday reality, including that responsibility for threats is allocated to specialised subsystems of society and the community expects their protection (Kauffman 2002; Gordon 2004a). In an emergency, each member affected confronts for themselves the task of protecting self, loved ones, property, the environment or other people. The normal fabric of social life is rent and torn for a time, exposing tissues and structures normally buried beneath the routines and familiar patterns or life. The exposure to threat and horror provokes massive change in the brain, body and mind as the trauma is confronted. Recent developments in describing the physical and psychological arousal involved provide a clearer understanding of the effects and appropriate forms of support (van der Kolk 1996; Bremner 2002). Observable responses need to be translated into practical strategies to assist in recovery, understood as, *"the coordinated process of supporting affected communities in the reconstruction of the physical infrastructure and the restoration of the emotional, social, economic and physical well-being"* (Emergency Management Australia 2004).

Warning and evacuation

Warnings of emergency activate arousal and initiate complex social processes (Fitzpatrick and Mileti 1994), initially strengthening bonds between community members (Wenger, 1972), but they are ineffective without practice and familiarity. Initially, there is a tendency to minimise, deny, misinterpret or ignore danger; confirmation is sought from family, friends and neighbours regardless of their expertise rather than from authorities (Drabek 1986). Families and groups attempt to reunite and people in groups are more likely to heed warnings (Fitzpatrick and Mileti 1994). Older, isolated, inexperienced people and members of minority groups are less likely to heed them than younger people (Drabek, 1986, Fitzpatrick and Mileti 1994). Peer group interaction may reinforce disbelief, but people are most likely to respond to clear, specific, accurate, detailed information from a credible source with clear advice, disseminated by multiple media. Vague, generalised or non-specific warnings are likely to be ignored (Perry et al.1981).

Often only 50 per cent of the community evacuate when advised (Perry et al.1981). Many wait for immediate, tangible threat before doing so. Social bonds are preserved even at the expense of delaying departure and increasing risk. Distress is increased when group and family members are separated, and pets are treated as family members. People retain social roles, co-operate and support each other during evacuation; the incidence of traffic accidents in even very large-scale evacuations is only a fraction of normal (Drabek 1986). Warning and evacuation begin the emergency but also begin recovery if undertaken in a manner that supports those affected.

Impact

The impact dramatically disrupts established circumstances of life, violating tacit assumptions and expectations of daily existence. The constancy and stability of normal life result from unchanging features of experience being taken for granted. The sense of reality, security, familiarity and predictability which underpin psychological health and security, derive from such constancies. The central motivating phenomenon is the unusual (often unprecedented) state of physical and emotional arousal in the face of threat. Arousal refers to a comprehensive change in body chemistry, brain and psychological functioning that focuses resources on the immediate threat and activates instinctive patterns of behaviour, where possible, within existing social values and roles (Bremner 2002). This is colloquially referred to as 'adrenalin pumping' or 'being on a high.' A second source of arousal is the loss of familiar constancies and a changed and confusing environment in which actions must be improvised. Novelty (new or unfamiliar situations), uncertainty (cannot decide what should be done) and conflict (cannot choose between competing courses of action) are

inherently stressful conditions and cause arousal as characteristics of the emergency and recovery environments (Pfister 1992). The effects of arousal are a framework to understand post emergency reactions and since persisting high arousal is an important risk factor for developing posttraumatic stress conditions (McFarlane and de Girolamo 1996) strategies to intercept arousal are an important feature of recovery.

The term 'panic' is often applied to states of high arousal because of the excited and highly focussed behaviour. However, absence of panic at impact is a consistent finding from the earliest research in emergencies even where people are trapped and die (Johnson et al. 1994; Mileti 1999; Cornwell et al. 2001; Drabek and McEntire 2002, Weisaeth and Tønnesen 2003). Panic loosely indicates high emotion and fear in media reports. However it means actions that are "unreasoning, excessively hasty through fear" or a state of "infectious fright, sudden alarm… leading to hasty measures" (Concise Oxford Dictionary, 1980). Panic leads to loss of rational decision-making and social values in favour of impulsive personal self protection.

Yet in emergencies, most people help each other and preserve communal values. Less than 1 per cent of people injured in accidents are found to have panicked (Malt 1994). Incident management policies that delay warnings, withhold information or minimise risks to avoid panic are likely to increase casualties (Dynes et. al. 1972; Paulsen 1981; Drabek 1986; Cornwell et. al. 2001). People make better decisions if given appropriate information and advice (Drabek 1986). Children are no more likely to panic than their parents (Haas et al 1976). When it does occur, panic is associated with loss of social bonds, immediate danger to self, likelihood of entrapment, diminishing opportunity to escape, helplessness, social isolation and dependence on oneself for survival (Drabek 1986).

To avoid the inaccuracies of the word panic, a category of 'highly aroused, emotionally motivated behaviour' is needed. Such a reaction may be misguided if based on lack of experience, inaccurate information or misunderstanding. However, it is not panic, even if it results in failure. It is intentional action, guided by understanding (even if inadequate). Panic indicates arousal is so high that it impedes rational thought and disrupts the person's attachment to social role structures and communal values. Highly aroused, emotionally motivated behaviour is rational and socially structured within the terms available to the person's restricted experience and opportunities for action. Consequently, highly aroused subjects are available to influence by appropriate forms of information and advice.

At impact, the sense of threat initiates arousal, but is inherently subjective. Arousal associated with traumatic experiences results from a rapid and often unconscious process of 'appraisal' of the danger, determined by what is specifically seen and heard (Lazarus 1999; Scherer at al. 2001).

A wide range of emotions and heightened states of arousal may be associated with traumatic experiences.

The threatening meaning of the situation triggers instinctive brain mechanisms that aid survival, but push the person beyond their previous normal functioning (Bremner 2002). Consequently, people often interpret the events in different ways; one may feel death is certain in a situation, another may only perceive a risk, a third may be confident of survival. People in the same place at the same time do not necessarily have similar experiences, yet, in post impact excitement, there is a tendency to assume everyone has been through something similar. As different patterns of response emerge, based on different appraisals, people are inclined to judge each other and give advice about what they have found helpful without understanding the differences.

High arousal is unfamiliar, and people often do not clearly remember what they thought in moments of greatest threat. The experience is soon replaced by intense, protracted, fatiguing through less dangerous recovery activity which puts the subjective moment of threat out of mind, although arousal is maintained by the unusually intense demands. It may then be difficult for people to understand the nature and origins of their reactions especially when they faced death (Gordon 2005).

During the emergency, emotional responses are suppressed in favour of intensely aroused survival-oriented action. In the face of fear and danger, most people act rationally, given their knowledge, experience and understanding; they co-operate, behave altruistically, helping where possible and preserve community values (Drabek 1986; Drabek and McEntire 2002). Those with official responsibilities usually fulfil them as soon as they can, often overriding personal fear to undertake their roles until the opportunity to check on their family arises (Drabek 1986). People alone at impact are often more severely

affected, while those in small groups are better off (Kaniasty and Norris 1999). Only in devastating events where the environment is destroyed and social systems break down (*Hiroshima*, *Hurricane Katrina*) are people dazed, wandering aimlessly dependent on outsiders for help (Mileti 1999). The problem is more likely to be their highly energised, but uninformed and unco-ordinated activity than helplessness.

Those affected have been through an unprecedented experience; they did whatever they could to survive and help those around them. High arousal narrows their perspective onto immediate survival issues at the expense of broader considerations. They are often insensitive to their own needs, since high arousal focuses energy in muscles and activates body and mind for action in the external world at the expense of awareness of self, body, emotions and mind. Substances are produced in the brain that damp down sensations of pain and energy depletion is masked by adrenalin. Biological survival behaviour may mislead people about their state and needs. This insensitivity assists survival in the short term enabling people to act well outside their usual capacity and persist beyond their usual endurance.

A woman described evacuating from a bushfire. After loading her children and precious documents into the car, she saw a generator on the garage floor and thought "that will come too" and without thinking lifted it into the car. When she was safe, she was unable to move it and had to wait a week until reunited with her husband so they could both lift it out.

As people emerge from danger, the first task is to reduce their arousal in order to re-establish contact with their physical, mental and emotional state so they can identify and meet their needs. If this is not done, arousal may persist, risking them to reorganise themselves around the heightened arousal. Failing to

achieve regulation to lower physical and emotional energy levels results in incorporating elements of high arousal into their ongoing state and leads to posttraumatic symptoms such as persistently re-experiencing aspects of the emergency, continuing alert and reactivity, high emotion manifesting as irritability and anger (often directed at authorities and helpers), sleeplessness and difficulties thinking, problem solving and concentrating. Initial interventions need to ensure no further arousal is activated in the form of uncertainty, threats, exposure to unnecessary suffering, discomfort or conflict. Immediate personal support and psychological first aid (Gordon, 1997; National Child Traumatic Stress Network and National Center for PTSD, 2005) are interventions that do not seek to work with the trauma but to stabilise the person and restore security and contact with loved ones.

Immediate aftermath

As soon as the danger passes, many victims become rescuers, bursting into action in a controlled, rational manner to provide or seek help (Mileti 1999). Up to 75 per cent of healthy survivors engage in search and rescue activities without waiting for official response and make their own way to medical or other resources, turning first to familiar providers (Drabek 1986). Convergence on the disaster site and milling around is common. However, information is often incorrect or inconsistent and they cannot contact loved ones, sustaining the sense of isolation (Kaniasty and Norris 1999). Pre-existing and emergent social networks are strengthened and barriers between groups and individuals tend to disappear (Leivesley 1977).

Some people exhibit *shock reactions*. They cannot get the experience out of their minds, continually seeing the sights and hearing the sounds of the emergency. They appear

dazed and disoriented for a time, and may not draw conclusions from obvious evidence that danger is past or the perpetrator is caught. Arousal remains locked onto memory images preserving them with intensity similar to the original experience. Each time the memories intrude, arousal goes up again, maintaining the problem. They are at risk of continuing posttraumatic symptoms if they are unable to master the experience. However, most people respond to care and support from helpers and loved ones and resolve their responses gradually over the following months. Some 10–20 per cent of those intensely exposed are likely to experience some form of diagnosable psychological impairment – posttraumatic stress disorder, depression, anxiety states or substance abuse, (McFarlane and Girolamo 1996; Galea et al. 2002); the proportion is likely to be higher (up to 45 per cent) in intense, traumatic events such as terrorist bombings (North et al. 1999). In some circumstances, it may be as high as 100 per cent (Smith and North 1993).

Another group become *distressed* and *anxious* about the future. They feel overwhelmed and cannot see how they will cope or solve their problems. Arousal has shifted from the memories related to the threat and converted into emotions, which are expressed. They need help to organise themselves for immediate requirements of life and benefit from personal support aimed at assisting them to manage practical problems of re-establishing their lives, providing information and facilitating access to assistance measures.

Another group of people go onto *automatic pilot*. They try to re-establish normal routines as soon as possible as though the emergency had not happened. Arousal is converted into maintaining familiar routines and may assist them to disengage from the experience

of threat. While familiar routines provide security, affected people often do not know how to conduct themselves after such an experience (Murakami 2000). They may mislead others about their needs and become isolated later when their adaptations break down. In natural disasters this may take the form of putting their effort into rebuilding instead of caring for themselves and their families. They may also avoid memories and numb themselves from the pain. These features are associated with longer term psychological problems (North and Westerhaus 2003). This behaviour often means they do not adequately communicate their experience to friends and family, who then misunderstand them.

When the survivor of a massacre went home, he and his wife 'did not know what to say to each other' so he ate his dinner and went out to the kindergarten committee meeting in his diary for that night. He continued on 'automatic pilot' for several days until he attended a debriefing meeting arranged at his work place.

Some *throw themselves into recovery activities*. They become too busy to think or feel the losses. People who suffered extensive loss in natural disasters are often too involved with others to take stock of their own needs for some time. They compare their losses with those who are harder hit and feel they have no right to feel their own pain. Their plight is likely to hit them later. Anecdotal experience from a variety of bushfires in Victoria, and the Canberra fires of 2003 suggest those who rebuild early often do not make such a successful adjustment as those who take their time.

There are those who are able to *accept the experience*. They recognise the event for what it is and accept their survival. They usually have prior experience, training or other knowledge that means the emergency has not damaged their assumptions about life; they do not need to find more

meaning than is necessary. Their arousal can be assimilated into a system of knowledge and values which stabilises it. Often they are appropriately upset or distressed, but settle steadily, accept their needs and do what is helpful by using what they have learned from other emergencies.

Finally, the people *away from the emergency* hear about loved ones involved and in danger, but do not know their fate for some time. They experience threat through danger to their loved ones; the information they receive evokes high arousal. This can be considered as 'informational trauma' as distinct from those who encounter the emergency through their own senses who suffer from 'sensory trauma'. For those not present, problems are often associated with two aspects of the experience. First, they may make adjustments and decisions in high arousal before they know their loved one's fate. Because this is done in an intense emotional state of mind, the results are often not recognised afterwards, but have long term effects since they are not reversed by the reunion.

A woman six months pregnant received a call from her husband staying in Lower Manhattan informing her of the World Trade Centre attack, and that he was going to evacuate. She pleaded with him to stay in his hotel. They lost contact for many hours. She turned on the television in Australia and sat rocking on her bed watching the collapsing towers, stroking her pregnant stomach saying to the unborn baby "we might have to do this alone baby, we might have to do this alone." She felt detached from her husband until she communicated her experience to him after becoming distressed when he watched the third anniversary ceremonies on television.

The second aspect of informational trauma that may lead to problems is not knowing the detail of their loved one's experiences and having to imagine what they must have gone through to understand them.

If their loved one died, they are often obsessively concerned to find out how they died and if they suffered. Even if death is not involved, they can be extensively affected with different needs to those present at the scene. The Bali bombing affected the survivors with sensory trauma whereas the families in Australia had informational trauma when they heard about it and often did not know the fate of the loved one for days. For each directly involved person there may be several others with informational trauma. They commonly push aside their difficulties in comparison with their loved one's tangible sufferings, yet if their experience is not validated and their needs are not met, misunderstandings are likely, undermining relationships important for recovery.

Support and recovery

One of the most important factors determining the extent of psycho-social impact is the duration of the stress state. The presence of altruistic and concerned helpers (preferably trained) prepared to comfort and instil hope in the immediate aftermath relieves the sense of isolation, reduces the impact and initiates recovery. However, those affected and their supporters need to be informed at the earliest opportunity about differences in appraisals and hence reactions and also about the validity of the impact on those not present, who may be suffering from informational trauma. Outreach by community-based services provides trusted support people who can maintain contact with those affected. It is an effective form of assistance (North and Westerhaus 2003). Strategies to reduce arousal include:

- ensuring victims feel safe;
- enabling them to re-attach to meaningful others and their community;
- assisting them to stabilise and re-establish awareness of needs and self management;
- providing comfort, care, information and advice about the meaning of their reactions; and
- providing advice about how to ensure recovery.

Representatives of the recovery system need to act at all times to preserve affected people's dignity and ability to make their own decisions. This makes the support system acceptable and meaningful and encourages them to make contact with it at a later stage should they need it. Some people suffer posttraumatic responses for between three to ten years following traumatic emergencies (North and Westerhaus 2003) and many do not seek help until several years have past (North et. al. 1999). Anything that initiates a constructive relationship with a facilitating social infrastructure to aid recovery may mitigate these problems (Gordon 2004b). Whatever happens to people in a persisting state of high arousal has a symbolic significance and can either help reduce or maintain their state of agitation.

The management of community processes and social tensions is an important area of intervention,

The presence of comforting helpers relieves the sense of isolation and initiates recovery.

since identity and support will bring down arousal and initiate recovery, whereas tension and conflict will maintain it. Techniques of communication and group work can assist in drawing on the constructive social activities to intercept and mitigate some of the less constructive processes (Gordon 2004a).

However, the priority is to recognise the variability of acute responses. Responses are related to the specific circumstances of the person's involvement in the emergency and the knowledge, skills and experience that they bring to the situation. High arousal is inevitable in the face of threat, but how it is managed by individuals and communities is as much a function of what happens after the event as it is of the event itself. Therefore important early intervention strategies need to focus on reducing arousal and restoring stability. Support, comfort and psychological first aid intercept continuing disturbances and emotional distress and aid in restoration of self management. Exploration of emotions or counselling, using techniques appropriate for consolidated problems are likely to further confuse those affected unless conducted by clinicians experienced in emergency mental health. However, recognition of the need for stability, predictability, well organised systems, information, social support and trained personal support workers is the psychosocial equivalent of first aid and hygienic care for physical injury which are so natural in our culture. Yet we have only just begun to consider how to provide a similar continuity of care for psychological injury.

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Other AJEM articles by Rob Gordon

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