Post Incident Support for Air Crew – An Operator's Experience

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Introduction

The airline industry represents a working environment with a potential for both physical as well as psychological damage for many of the employees. Although accidents and incidents resulting in physical damage are rare, significant non-routine events can result in psychological problems for the personnel involved. For my company, this topic was highlighted by the dramatic events in the airline industry in September and October 2001. Our crew's reacted strongly to the attacks on New York and to the SAS accident in Milan, and these reactions prompted important questions; How do we support our own crews when terrorist acts and accidents turn the industry upside down? And perhaps even more important – how do we support our crews after non-routine events in our daily operations? A group was established with the task of reviewing Braathens policy and practice with regard to post-incident support. This paper is based upon that review.

Basic concepts and theory

A brief review of basic theory and concepts on human reactions to stressful events is necessary as a foundation for the rest of this paper. (There are several theories and sets of concepts describing these phenomena – these are based on the work of Dr. Are Holen)

Basic concepts

"Stressor" refers to any situation or incident that triggers a reaction in the individual. Watching a B767 slam into the World Trade Centre is a stressor, experiencing strong turbulence in the back of a 737 is a stressor, being attacked by an unruly passenger is a stressor. "Stress" refers to the individual reaction to a given stressor, while "trauma" refers to a reaction with a certain magnitude. Any stressor can be graded on basis of its strength. A mild to moderate stressor is typically a near-accident, getting divorced or married or having financial trouble. A serious, extreme or catastrophic stressor is typically death of a close family member, physical violence, for example being attacked by an unruly passenger, or an airline accident.

Basic theory

There are different stressors, each giving different kinds of stress reactions in the individual. The most common experienced stressor in the airline environment is the "threat" stressor – an incident where you feel that your personal safety is threatened. This stressor leads to feelings of fear and anxiety. An important point is that any stressor can hit you in three different ways: Firstly, the stressor can hit you directly, as when you are onboard an airplane that experiences a sudden catastrophic engine failure, with a resulting fire and emergency landing with evacuation of the passengers. Secondly, the stressor can hit you through the mechanism of identification: You are a pilot in SAS and hear about a company aircraft that has collided with an airplane on the runway in Milan, resulting in the death of all the passengers and crew onboard. These mechanisms of identification can be quite strong, and partly explains why aircrews all over the world reacted so strongly to the happenings in New York last September; it is so easy to identify oneself with colleagues onboard those airplanes, to imagine the fear and anxiety that was present.

Thirdly, a stressor can hit you through the mechanism of attachment, when somebody you know and are closely attached to experiences a stressor. The stronger the emotional attachments are, the stronger the reaction will be. All of us who are parents know this – when one of our children is hurt or sick, our own reactions are usually stronger than the reaction of the child. This mechanism was investigated after a non-fatal B-52 crash in the United States in 1988, where spouses reporter more symptoms after the accident than their flying husbands (Slagle, Reichman, Rodenhauser et al., 1990).

How do people react to stressors? The following table represents a useful way of summarising different stressors and different reactions.

	Small Reaction	**Large Reaction**
Small Stressor Mild - Moderate	Stress reaction	Over-determined reaction
Large Stressor Serious - extreme	Delayed reaction or "robust" person	Crisis reaction

A stress reaction is what we typically experience when exposed to a mild to moderate stressor, for instance a near accident in our own car. We feel the knot in our stomach when the incident occurs, we breathe a sigh of relief and that's it. It rarely gives us any problems. Sometimes though, we can witness large reactions to small stressors. These are quite often what we call over-determined reactions, and are the result of several small and seemingly innocent episodes accumulated over years or a result of a lot of things going wrong in your life within a short time-period. Psychological problems among aircrews after non-routine events can be a result of over-determined reactions.

If a large stressor, such as an accident, results in a small reaction, there are two possibilities. Either the reaction is delayed or the person can be robust with regard to tolerating large stressors. The usual result of a large stressor is the crisis reaction, where the person goes through three phases in working with the experience, firstly the shock-phase, the reaction phase and finally the "working through" phase. Psychological problems among aircrews after non-routine events can be a result of problems in getting through these three phases, increasing the risk of developing for instance post-traumatic stress disorders.

In general – no matter if the stressor is small or large, it is the way the individual copes with the experience that decides if he or she comes out strengthened or more vulnerable.

The challenge

Current knowledge, based on concepts and theories as those mentioned here, clearly shows that there is the potential for an airline to incur significant financial and human costs, if aircrew are not adequately managed following a non-routine event (Edkins, 2000).

Human Cost

With regard to human cost, there is a well-established fact that serious accidents do put surviving personnel in risk for development of post-traumatic stress disorders (for example Holen, 1989). A research study examining six surviving cabin crew members after the British Midlands crash at Kegworth in 1989 found that all met the DSM-III-R criteria for post-traumatic stress disorders 8 months after the crash. 18 months after the crash, they all still showed a continued high level of traumatic stress (Marks, Yule & deSilva 1995). But – the theories mentioned above also tells us that less dramatic events can lead to psychological problems. Firstly, aircrew can experience incidents that involve serious stressors, although the incident itself does not present any real danger for the crew or passengers. Some weeks ago we had an occurrence with on of our Boeings – de-ice fluid found its way into the APU in the tail of the plane right after takeoff, smoke developed and entered the cockpit and the cabin through the air conditioning system. This was not a dangerous event, but the perception of danger was very clear, especially in the cabin. One of the cabin attendants thought she was going to die, she had witnessed the cockpit being filled with smoke and was sure that she would never see her children again. Secondly, aircrew can accumulate several mild / moderate stressors, for instance turbulence, bird-strikes or unruly passengers over long periods of time. If not properly handled these incidents can result in a serious reaction to a seemingly innocent incident through the above mentioned mechanisms of over-determined reactions. It is the responsibility of the airline management to seek to ensure that the psychological well being of their employees are not threatened by events experienced at work.

Financial Cost

The financial cost of not managing crews properly after a non-routine event is of course closely connected to the human cost involved. Sick leave, absenteeism, high turnover rates are all possible outcomes when crews have experienced situations at work where their feeling of personal safety has been threatened. In Braathens, we think that the some of the increase we see in sick-leaves among cabin-crew when the winter-storms hit the west-coast of Norway is attributable to an accumulation of experiences that are perceived as threatening or dangerous. This situation represent a great challenge to us, and is alone a major motivator for ensuring that crews feel safe at work, even after a week of heavy turbulence and strong winter winds.

The review

So – what did we find when we looked into our manuals and procedures for supporting aircrew after non-routine situations? Well, we found that we had already given some thoughts to how we could and should ensure the psychological well being of our aircrew, especially when the incident involves mild to moderate stressors. In incidents like this, it is the policy of Braathens to leave a lot of the responsibility of supporting the crew to the commander. This is reflected in our manuals:

11.12.1 Crew Debriefing Following a Non-routine Event
A debriefing after a non-routine event (extreme weather conditions, heavy turbulence, serious medical cases etc.), will take place whenever the Commander deems it necessary and/or upon request from one of the cabin crew. The debriefing should take place as soon as possible after the event.

A possible format for such an operational debrief was the topic of last years joint recurrent training session for pilots and cabin crew. Here, we presented a model from Quantas that we find very useful as a basis for a crew debrief. The model is named "APPROACH" (from Edkins, 2000):

A Debrief ASAP, if necessary on the aircraft and away from distractions
P Participation shall be by all aircrew involved
P Purpose, the purpose of the debrief shall be clearly stated. The purpose is to provide factual and objective operational information after an incident to ensure common understanding
R Review the known facts about the incident
O Explain the operational relevance of the incident, including any safety implications
A Ask if there are any questions from the crew
C Check for understanding
H Help crew to access company medical or psychological services if required.

If successful, this crew debrief can be a very useful tool for preventing the accumulation of bad experiences and the development of over-determined reactions. We feel that especially cabin crew can benefit from this kind of debriefing. In general, we know that the more sudden, uncontrollable and unpredictable the stressor is, the stronger is the reaction in the individual. Almost by definition, a lot of stressors perceived by a cabin crewmember during for instance take off and landing will be sudden, uncontrollable and unpredictable. A bird strike is a good example. The flight crew will usually

be the first to be aware of the situation, and its potential or real safety implications. They will have established procedures for handling the situation, procedures that are familiar to them by years of simulator training. Consequently, the stressor will be perceived as controllable and predictable. For the cabin crew, the first sign of the situation may be a loud bang followed by high vibration and bad smell, perhaps even smoke. The perceived feeling of control and predictability will more often than not be quite low.

What about the more serious incidents, involving moderate to serious and extreme stressors? Although our review clearly showed that the psychological well-being of the crew had been seriously considered, we identified some problem areas. For example, our manual stated that:

"Crew subject to occurrences which may influence their physical / mental state, shall immediately be taken off active duty by the duty Flight Operations Officer"

This text is very open, and will necessarily lead to problems of interpretation. How is the duty Flight Operations Officer supposed to know if any given occurrence may influence the physical or mental state of the crew involved? Our experience clearly shows that taking a correct decision in a situation like this, involving a very complex decision making process, can be difficult. More often that not, we see that the operational pressure involved results in not putting enough priority on the needs of the crew after an occurrence. A common method to establish if any given occurrence may influence the mental state of the crew, has been to ask them – "Are you able to continue the flight or not?" A person or crew who has been involved in a dramatic incident is not necessarily able to answer that question correctly. Accordingly, our experience clearly shows that crew who in the situation has decided to fly or fly with the aircraft back home, later regrets that decision.

The Conclusion

The conclusion of our review was the need to tighten up both our policy and practice in order to improve the quality of the support we give our crews after non-routine events. Perhaps the most important result of our review was the identification of the need for Braathens to develop a classification-system that lists different incidents and what sort of support the crew involved should receive. The basis of this classification should be the strength of the stressors involved in the situation. To achieve this, we developed a new text for implementation during the next major manual review that explains the policy of Braathens towards post-incident support.

a) *Occurrences may arise prior to take off, during flight or after landing which may expose the crew to psychological stressors that may influence their physical and psychological health as well as their job satisfaction. It is Braathens policy to reduce the risk of such post-incident problems.*
b) *When an incident occurs, the duty manager shall consult the classification system to establish the post-incident actions to be taken.*
c) *If the crew is to be taken off duty, this shall be done immediately. No member of the crew shall be allowed to continue his or her duties.*

We also developed the classification system itself, based on the stressor strength in different incident scenarios. Each scenario gives a mandatory set of actions to be taken towards the crew. The system is designed to be conservative – we will rather risk taking one crew off duty unnecessarily than to risk leaving a crew unsupported. I must stress that this system still is immature – we need some operational experience before we can present a final version.

Some examples from the classification system in its present state:

Type of event	**Immediate Action**	**Operational Debriefing**	**Psychological Debriefing**	**Other Action**
Emergency with evacuation; Unprepared	Crew off duty	Yes	Yes	Information
Emergency with evacuation: Prepared	Crew off duty	Yes	Offer	Information
Fire / Heavy Smoke	Crew off duty	Yes	Offer	Information considered
Hijacking	Crew off duty	Yes	Yes	Information
Bomb-threat	Depends on the nature of threat, specific or general	Depends on the nature of threat	Offer	Information when threat is specific

Type of event	Immediate Action	Operational Debriefing	Psychological Debriefing	Other Action
Emergency with normal landing – prepared	Crew off duty – final decision to be taken by Commander in cooperation with crew	Consider	Offer	Information
Unruly Passenger	If incident is serious – cabin crew off duty	Yes, if personal injury or damage on inventory	Yes if personal injury	
Death of crewmember onboard	Crew off duty	Yes	Yes	Information

The Operational Debrief

The purpose of the operational debrief is twofold. Firstly, to make sure that every crewmember is aware of the operational aspects of the occurrence. This is an important step in preventing the development of fear and uncertainty that at a later stage could result in an over-determined reaction. The second, and equally important purpose, is to ensure that the company picks up any possible learning aspects from the incident. The debrief is to be held as soon as possible after the event, and is led by the Human Factors advisor, or substitute. Present are, in addition to the entire crew, Senior Vice President - Flight Operations, representatives from the Training Department, Director Cabin Crew and representatives from the Flight Safety Organization. After stating the objectives of the debrief, and laying down some ground-rules, the debrief is initiated with every crewmember describing the incident from his or hers perspective. Afterwards, the crew and the rest of the participant can ask questions and discuss different aspects of the occurrence. The debrief is wrapped up with the Human Factors Advisor describing basic theory on human reactions to non-routine events, and describing how and where the crew members can get additional support if necessary. Braathens has practiced the Operational Debrief concept for several years, and find it highly useful. As a learning tool, it gives the organization a wealth of information on incidents and occurrences. As a tool for preventing the development of psychological problems for the crew, it is important in different ways:

- It gives each crewmember a change to talk through the incident

- It gives qualified personnel present in the debrief the chance of identifying if the crew or crewmembers need any additional support
- It gives each crewmember valuable information about the safety related aspects of the occurrence
- It gives each crewmember information about normal human reactions to stressful events. Such information is known to be an efficient way of preventing later problems.
- It conveys the support and commitment from the organization towards supporting crew after non-routine events and towards the actual crew members involved. This is also an important step for preventing any development of later psychological problems.

The Psychological Debriefing

Some occurrences calls for a mandatory psychological debrief. These debriefs are reserved for occurrences which exposes the crew for serious or extreme stressors, and is arranged and conducted by experts outside the Braathens organization. This professional help is always available for any crewmember that has experienced a non-routine event.

Conclusion

The terrible events in the airline industry in September and October 2001 prompted important questions in our organization; How do we support our own crews when terrorist acts and accidents turn the industry upside down? And perhaps even more important – how do we support our crews after non-routine events in our daily operations? The review of our policy and practice on crew support and the suggestions we have described in this paper is important steps for Braathens. Although Braathens is a relatively small operator, I strongly feel that the challenges, problems and solutions we identified through this project are transferable to other operators and to the airline industry in general.

References

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