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## Improving Airline Cabin Safety

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## FORUM

**IMPROVING AIRLINE CABIN SAFETY**

Wendy Helfrich

Improving cabin safety has become a number one priority for the airlines as well as the traveling public. The airlines have made many changes since the terrorist events of September 11, 2001. Helfrich Consulting recommends additional changes to increase cabin safety.

**Certification**

Flight Attendants are trained to FAA-approved standards to provide medical assistance far from hospitals, fight fires, assist passengers in decompressions, and set a heroic example in crashes. They serve as the last line of defense in a hijacking. They are highly skilled and a very talented work group. Pilots, flight engineers, mechanics and air traffic controllers all receive certification following their mandatory FAA training. Flight Attendants however, are not certified by the FAA. It's time for their professionalism and expertise to be recognized by some type of certification.

**Sky Marshals**

The first step in increasing airline cabin safety begins with sky marshals. Passenger "sky rage" is becoming common. Security training for Flight Attendants is minimal. Personal defense training, where it exists, is voluntary. During the boarding process the Flight Attendants must find an "Able-Bodied Person" to assist with possible cases of passenger misconduct. Once a passenger is subdued, there are flex cuffs available to secure them. Flight attendants (with the help of passengers) are not a good answer to the problem of disruptive passengers. This is why sky marshals should be on every flight. Terrorists have a 97 % chance of taking over a flight that does not have sky marshals onboard. Also, when sky marshals travel, they should to be seated throughout the cabin (forward and aft), not just in first class.

**Evacuation Drills with the Crew**

Emergency evacuation drills should be done in full aircraft mock-up. There should be no pretending, as is done now. Currently, Flight Attendants shout commands and open door Left-1, evacuate passengers and must then crossover to door Right-1 and repeat. These drills are done with the

real opening of door Left-1. There is no real door Right-1. Flight Attendants should have to physically open door Right-1. Many Flight Attendants would pass the drills if they actually had a door Right-1 to cross over to. These drills should also have passengers in the seats. This would give Flight Attendants the experience of dealing with a full flight and an evacuation. In addition, pilots should be included. This would give Flight Attendants and pilots an idea of how an evacuation might proceed in reality. This also would enforce teamwork, or Crew Resource Management. Many Flight Attendants do not realize that during an aborted take-off, it will be several minutes before they hear from the flight deck. Like Line Oriented Flight Training (LOFT), these coordinated drills should include various emergency scenarios that cannot be predicted by the participants.

**Decompression Training**

Realistic decompression training needs to be included in training curricula. If Flight Attendants could experience actual mask-donning masks and landing preparation it would greatly enhance their skills. Currently in training, Flight Attendants only read about decompression. Additionally, children's oxygen masks should also be available in Passenger Service Units. This is because a Flight Attendant cannot realistically be expected to don her Portable Oxygen Bottle (POB), grab several Dixie cups, poke holes in the bottom of the cup to attach the hose, and then get to the child before s/he passes out as is currently the procedure.

**Larger Exit Rows and Windows**

The exit rows need improvement for easy access. The exit rows should be wider and the windows should be larger for realistic emergency access. Currently, the average person

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would have a difficult time exiting the aircraft expeditiously. Another problem is that fact that larger people (needing seat belt extensions) sit in exit rows for extra room. This problem could be solved by not allowing seat belt extensions in exit rows.

### **Larger Windows on Doors**

Door windows on doors Left-1, Right-1, Left-2 and Right-2 need to be bigger. These windows should be at least the same size as passenger windows because they are used for assessing evacuation conditions and communicating with the gate agents.

### **Fireproof Fabric**

Airlines should use fabric that is more fire resistant. Fire and smoke on an airplane are deadly. Currently, most airlines only comply with the minimum fire resistant standards. Upgrading fabric and carpet could save lives.

### **More Fire Bottles**

Airlines need more fire bottles on board. Airlines only carry the FAA required minimum. For example, a Boeing 737-400 has four fire extinguishers. Two are halon extinguishers that have a 10-15 second duration. The other two bottles are water. The duration of a water extinguisher is 30 seconds. With more fire bottles on board the risk of spreading fire and smoke is lessened.

### **Portable Oxygen Bottles (POB) and Medical Oxygen**

Airlines need more oxygen bottles on board. For example, a Boeing 737-400 has five portable oxygen bottles. Only one is used for decompression. Another is for therapeutic use only after a cabin decompression. The other three are for mobility and first aid. There are two medical oxygen bottles. These are only used by customers with a medical condition requiring pre-planned oxygen.

### **Defibrillators**

Defibrillators should be a required piece of emergency equipment on board. A defibrillator sends electrical shocks to a person's heart when it begins beating abnormally. The shocks can return the heart to its normal pattern, preventing death. Defibrillators can also be used to monitor a person's heart condition. Many Flight Attendants feel much more comfortable having the defibrillators on board. To date, defibrillators have saved three lives on Alaska Airlines alone.

### **Life vest**

Airlines should have life vests even when flying less than the FAA minimum of 150 miles from land. If a pilot needs to make an emergency landing in water, life vests will be needed to save lives.

### **Airphones**

Airphones need to be reinstated. Flight Attendants are required to contact Medlink when they have a medical emergency. Medlink is a service provided to the airlines. They have a doctor available twenty-four hours a day, seven days a week to offer medical assistance. They also accept all liabilities. Without the Airphones, Flight Attendants have to contact the pilots through the interphones. The pilots then relay the medical information to the Flight Attendant. By adding the Airphones, the Flight Attendants have direct contact with Medlink. Additionally, Airphones can allow Flight Attendants and passengers the opportunity to relay crucial information to the ground in the event of a hijacking..

### **Larger Seats**

To decrease and/or eliminate air rage, airlines should increase passenger seat pitch. The average seat pitch on domestic carriers is 32". Seat pitch is a measurement from the back of one seat to the back of the one directly in front of it. The issue of seat width is confusing due to the various ways airlines quote seat width. Some provide the measurement between the inside of the armrests, others the distance between the middle of the armrests. Also, the middle seat should have its own armrests.

### **Inflight Yoga**

Airlines should offer an inflight yoga program to take the pain out of air travel. Each seat-back pocket could be equipped with a lighthearted yoga instruction card supplied in partnership with Crunch Fitness. These instructions would offer four yoga exercises passengers can do without leaving their assigned seats.

### **More Crew Members**

Airlines need more crew. Currently, airlines staff minimum crew for flights. For example, the FAA requires one Flight Attendant for fifty passengers. With additional crew members, Flight Attendants can be more aware of the flight and passengers which translates into better security. Minimum crew with full flights and meal service makes it

very difficult to attend to medical emergencies let alone security issues. This would also improve customer service.

### **Forward Galley Clear of Passengers**

Near the forward galley are the flight deck and the lavatory for the first class passengers. Currently for example, one major airline requires passengers to form a line at row six when using the lavatory. No one is allowed in the forward galley and most passengers comply. However, Helfrich Consulting recommends that absolutely no one be allowed to use the forward lavatory. This is a safety precaution and also allows the pilots sole use of the lavatory.

### **FAA Infant Flight Seats**

Currently, the FAA allows an infant to be carried aboard as a lap child. Federal Aviation regulations should require that every person, no matter how young, have their own seat. In case of accident, the chances of survival of an infant sitting in a lap are greatly decreased.

### **Self-Defense Training**

Flight Attendants need self-defense training. Atemi Jujitsu is perfect for our profession. This type of defense does not require much training or strength. It is based upon the ability to hit your opponent's weak spots and the provides the confidence to carry it out. Other types of training are costly and require weekly practice. Atemi Jujitsu should be part of recurrent training. Today, airlines need Flight Attendants that can help protect the flight deck. They need self-defense skills as well as safety skills. Airlines cannot continue to rely on the "good Samaritan" or "hero" passengers.

### **High-Tech Crew ID**

Airline need a new type of ID card that would identify pilots and Flight Attendants using a picture, password and some type of biometric information, such as an iris scan. An iris scan is very difficult to compromise, duplicate or forge. The iris scan takes about 10 seconds to register both eyes for the first time. It take only an half-second for the system to make a recognition. This would cut down the on the need for crew members to take off articles of clothing at security checkpoints. It would also protect against someone who had stolen a crew member's uniform.

### **Summary**

Recently much attention has been placed on airport security. Helfrich Consulting recommends that additional consideration be made with regard to the aircraft cabin. A terrorist can get through security with no weapon at all and still hijack a flight. Additionally, the frequency of air rage incidents has risen dramatically. To counter these recent threats to cabin safety Helfrich Consulting recommends that:

1. Flight Attendants should receive certification like all other aviation professionals.
2. Sky marshals should be on board all flights, positioned at the front and rear of the cabin.
3. Evacuation drill should be done in a realistic environment similar to pilot Lin Oriented Flight Training (LOFT).
4. Flight Attendants need realistic decompression training.
5. Exit rows and windows should be larger.
6. Exit door windows should be larger.
7. Aircraft interior fabrics should be as fireproof as possible.
8. More fire bottles and oxygen bottles should be carried on board.
9. Defibrillators should be on board
10. Life vests should be onboard when flying over any water.
11. Airphones should be installed.
12. Passenger seat size and pitch should be made larger
13. Passengers should be encouraged to exercise during the flights.
14. Airlines should add more crew member for each flight.
15. Passengers should not be allowed to line up in front of the forward lavatories.
16. Infants should have their own seats.
17. Flight Attendants should have self-defense training.
18. Crews need new high-tech identifications systems. □

*Cabin Safety*

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