

# Space Panic: Dealing with Panic in Spaceflight

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## Abstract

Anxiety is an excessive, persisting worry about an event. Occasional anxiety is normal, it keeps us from doing stupid things. Panic attacks are short bursts of extreme fear. Panic is automatic and unconscious act. Panic symptoms include cognitive incapacitation, increased heart rate, shortness of breath. Sweating, trembling, agitation and rapid breathing can occur. Carpopedal spasm, the involuntary muscle spasm of the arms and legs would prevent operating equipment. Symptoms usually last less than 10 minutes.

Advance preparation and awareness can reduce panic.

Panic during flight operations can present a direct hindrance or even jeopardize the safety of the spacecraft. It can produce sudden incapacitation. Panic disorder is believed to affect 3-5% of the population according to the National Institute of Health. Impairment can range from mild to serious. In adults, impairment is slightly weighted towards the serious end of the spectrum with estimated 44.8% having serious impairment, 29.5% moderate impairment, and 25.7% had mild impairment.

## Symptoms:

- Palpitations
- Sweating
- Trembling or shaking
- Sensations of shortness of breath, smothering or choking
- Feelings of impending doom
- Feelings of being out of control
- Muscle spasm and contracture

## Risk Factors

- Temperamental traits of shyness or behavioral inhibition in childhood
- Exposure to stressful and negative life or environmental events in early childhood or adulthood
- A history of anxiety or other mental illnesses in biological relatives
- Certain medical conditions such as thyroid problems, heart arrhythmias, stimulants or other substances and medications.

## Prevention

Cognitive Behavioral Therapy teaches different ways of thinking, behaving and reacting to anxiety-producing and fearful objects and situations. Cognitive therapy identifies, challenges, then neutralizes unhelpful or distorted thoughts. This can be done individually or in a group. Exposure therapy has people engaging in the concerning activity. This can be done with simulation prior to the flight. Exposure should be a controlled gradual stepwise progression to the eventual final environment. Individuals who recognize potential issues may self select out of flight operations. Anti-anxiety medications such as benzodiazepines can be used for short term anxiety, but produce an altered state. Beta-blockers have been used to prevent the physical symptoms of anxiety, such as the palpitations, shaking, trembling or blushing. Stress management techniques and medication can be helpful to induce calm. Creation of a ritual around the activity can create a sense of calm and purpose that can prevent anxiety.

## Acute Treatment in situ

Determine any threats to flight operations. Stay calm, acknowledge their anxiety. Reassure them about the absence of an emergency situation. Distraction should be based on the individuals desires. Some react well to distracting conversation, others prefer internal dialogue. Encourage relaxation strategies such as deep breathing. Knowledge of specific safety facts can be reassuring. Slow down the rate of breathing. Try not to be afraid of being afraid. Availability of flight attendants or direct communication with a trained provider through telecommunications is beneficial. Medications can be an effective adjunct.