# How do I detect a crash?

Link: https://help.nuvo.solutions/deep-dive/how-do-i-detect-a-crash/ Last Updated: July 27th, 2016

> **QUESTION:**
>
> I want to set up an alertset up an alert to detect a possible crash indicated by a rapid deceleration event. What is a realistic g-force threshold for this event?

G-force, (as in gravitational) is not really a force; it is a felt weight based on acceleration or deceleration. Acceleration is the increase in rate of velocity/speed; deceleration is the decrease of rate of velocity/speed. The measurement involves location, speed, and time.

Here are some real-world examples:

- Decent rollercoasters reach between 3-6g.

- Top fuel dragsters reach an average of 4g.

- Formula One cars during extreme braking maneuvers reach 5g.

- A high performance sports car jamming 0-60 in 2.5 seconds, only reaches 1.5g.

- DOT defines harsh (not dangerous) braking as .45g (Think of your average NYC cab driver).

- >25g means probable death or serious injury.

In terms of crash detection, there are just too many variables to consider to be able to define an accurate and consistent threshold for a crash. For example, what did you hit, how fast were you going, what was the weight of the vehicle, how long did it take to stop? Whatever threshold you set, keep in mind that it doesn't guarantee that an accident has definitively occurred. The default for Accel/Decel alerts is **.5g**. The default g-force thresholds for PNP devices configured for in-cab alerts are:

- Rapid acceleration (**.30g**)

- Harsh braking (**.45g**)

- Hard right and left turning events (**.35g**)

Aside from crashes, continued and/or prolonged g-forces do more damage than isolated, harsh incidents. Consider relying on summarization or trend Gunner/Braker data as a more effective way to monitor harsh acceleration and deceleration behavior.