

from Motorsports '98 Online

<http://www.sae.org/calendar/motorsports/safety.htm>

Safety Panel

John W. Melvin found something interesting when he reviewed crash recorder data from severe wrecks in the Indy Racing League (IRL): injuries to drivers aren't all that bad, considering the g forces involved. In one side-impact crash with a 127-g deceleration, the driver survived with only a broken pelvis and clavicle, according to Melvin, a recent General Motors retiree and current president of Tandelta Inc.

In accidents involving lateral decelerations in the 80-100 g range, injuries were of the walk-away variety—a broken foot, for example. None in that range resulted in chest injuries.

"This is information that's news to us," said Melvin during Tuesday's panel discussion on safety. "We didn't think people could take these kinds of loads."

Melvin began collecting and studying data from crashes in 1992. Crash data recorders measure g forces on the chassis; the g forces on the driver presumably are greater, according to Melvin. In all, data from about 300 of the 500 crashes to date have been collected. The availability of so much data is helping to make math modeling a very useful tool in determining exactly why such high g-force crashes are not resulting in more serious injuries and how it might be used to develop more safety devices or measures, Melvin noted.

Among the other interesting findings of his work is that the vast majority of crashes are of the side-impact variety, the result of, among other things, tracks that have been made narrower.

Another mystery of sorts has been identified by panelist Harry Bock, director of medical services for the IRL. He said that while whiplash is a prevalent injury among passenger car motorists involved in low-speed accidents, "we don't see it in IRL," despite very high speeds.

Panelist Peter Wright of the FIA raised a few eyebrows when he said accidents in Formula One are accepted and even "necessary" to maintain fan interest. Asked by a conference attendee to clarify what he meant by saying accidents are necessary, Wright responded that he didn't mean it in "a sinister way," but in recognition of a school of thought that accidents without injury will preserve fan interest.

by Patrick Ponticel