

Feature: A History of Safety



Professor Sid Watkins - president of the FIA Institute.

The modern era of Formula One began with the death of Ayrton Senna in 1994. The loss of one of motor racing's greatest drivers was a wake up call for the Formula One community. Senna's legacy was to ensure that nothing like his fatal accident would ever happen in Formula One again.

It was clear after Senna's death that drastic measures were needed to improve safety in Formula One. This was certainly not lost on FIA president Max Mosley, who has become the major proponent of this cause over the last ten years. In 1994, he began a sustained campaign to improve safety in motor sport, which has culminated in the creation of the FIA Institute for Motor Sport Safety.

Mosley's first step in his campaign was to call upon the help of Professor Sid Watkins MD. Watkins, one of the world's top neurosurgeons, had been working in Formula One since 1978, when Bernie Ecclestone, then the owner of the Brabham team and the boss of the Formula One Constructors Association, offered him the job to be the championship's doctor.

Watkin's forthright approach and no-nonsense attitude had already made him a respected figure in Formula One circles. But it was his services to motor sport safety which would entrench his place as one of the most important figures in motor racing. His work in motor sport and safety has been so valued that, in 2002, he was awarded the Order of the British Empire (OBE).

Watkins is continually amazed at how much safety in the sport has progressed since he first became involved in the 1960s. He says: "There is an unbelievable difference between motor sport now and when I first entered. In the 1960s and 1970s, for every ten accidents there was either a death or a serious injury. Now the ratio is around one in 300."

It is testament to Watkins efforts that there has not been a serious accident in Formula One since Senna's death. Michael Schumacher's broken leg at Silverstone in 1999 and his brother Ralf's compression fracture at Indianapolis in 2004 are probably the worst accidents in the last ten years, but neither were close to life threatening.

Much of this is due to the research and action on safety led by Watkins over the last 10 years. After Senna's accident, the FIA formed the Expert Advisory Safety Committee, with Watkins as chairman. Watkins remembers: "It helped to combine our expertise. We started to look at protection in the car and changes on the circuit to improve safety in Formula One."

Members of the Committee included FIA technical adviser Peter Wright, F1 race director Charlie Whiting and his assistant Herbie Blash, F1 safety delegate Roland Bruynseraede, driver representative Gerhard Berger, and designer representative Harvey Postlethwaite. The group combined their huge amount of experience and

knowledge to research and find solutions for the major safety issues in the sport.

Watkins says an important aspect of the group was that Mosley gave it the freedom and the funding to undertake whatever research it deemed necessary. No limits would be put on developing the safety of the sport.

The group cooperated closely with the UK's Manufacturers Research Institute (MRI) and subsequently with the Transport Research Lab (TRL).

Watkins adds: "Over the years a lot of safety features were introduced into Formula One. We did the research and passed on the results to the FIA Safety Commission and the technical working groups of the teams. It then went to the World Council to make new regulations. Everybody cooperated very well."

The Expert Advisory Safety Committee has been responsible for introducing most of the major safety measures that have been brought into the sport in the last few years. It researched and introduced the collapsible steering column, protective foam around the top of the cockpit, new crash tests for front, rear and side impacts and the Head And Neck Support device now worn obligatorily by every driver.

The committee now includes RenaultF1's technical director Pat Symonds, F1 drivers Michael Schumacher and Mark Webber, and former McLaren designer John Barnard. They have also overseen many changes to the circuits, such as larger run-off areas and reduced g-force corners to protect the drivers. Watkins says: "In terms of safety, the last ten years have been a very successful era in Formula One."

But there are still improvements to make, especially in other motor sports. In 2003, concerns were raised about safety in the World Rally Championship, following a number of serious accidents. Mosley asked Watkins to form a rally research group, which has been very active with research over the last two years to improve the safety within the cockpit of the rally car. The research is also applicable to all closed car racing, such as the GT and touring car championships.

Having examined other types of racing, Watkins found that there was also a lot of work that could be done to improve safety in karting. So a further research group was formed, focusing on the various karting championships.

At the beginning of 2004, Mosley came up with the idea of putting all of the research groups under one roof so that they could share resources and expertise. The FIA Institute for Motors Sport Safety was formed with a grant from the FIA Foundation and Watkins was appointed its president.

Like the Foundation, the Institute is a separate entity to the FIA but in order to disseminate information and recommendations, it reports to the FIA Safety Commission. The Institute began operating in July 2004 but was officially inaugurated in Paris in October 2004, on the 100th anniversary of the FIA.

The Institute currently houses four working groups. The Open Cockpit Research Group supervises all research into safety issues relating to open cockpit racing cars, such as those used in Formula One. Current projects include developing improved high speed barriers for use at all Formula One circuits and improved wheel tethers to ensure that the wheels do not leave the car in an accident.

The Closed Car Research Group supervises all safety research for closed cockpit racing cars such as GT, touring and rally cars. Current projects include dynamic tests of seat, seat back support and lateral restraints in the cockpit of the cars.

The Karting Research Group supervises safety research for karts. Projects include the development of a helmet specifically for young drivers and an improvement of the front and rear bumpers on karts.

The final group, the Safety Training Working Group, launched in July this year, co-ordinates and supports safety training for motor sport officials. It is focused on improving safety training for marshals and officials worldwide.

Watkins believes it has been a great help to have all of the research groups under one umbrella. He says: "We have a number of very active research programmes. We can cross-fertilise from one group to another. It is really working very well."

An enormous amount of progress has been made since the institute was set up last year. That is all set to continue as the various projects progress. Watkins says: "It's a question of developing a concept and testing it scientifically so then you can

persuade the manufacturers and the teams to accept the regulations. If you don't have a scientific basis they're not convinced."

The manufacturers have been supportive of the Institute and its findings, especially as much of the research can be used to improve safety in road cars. As Watkins puts it: "The FIA, through this Institute, is producing some fundamental research in regards to vehicle safety."

Watkins role at the Institute is to supervise all of the research activity and to represent the FIA at certain events in order to promulgate the research. Even at 73 years old, he is still very active, visiting races all over the world. This season alone he's been to most Formula One Grands Prix, a number of rallies, some GT races and a couple of World Touring Car events. Watkins says: "It is important to keep the vision of the Institute across all motorsports."

He is always a welcome sight in the paddock. As most people in the motor racing industry would agree, his presence alone is enough to make the whole sport feel safer.