What Is Aviation Medicine?

There are many different branches of medicine, from gastroenterology to geriatrics, neuroscience to nutritional science… but there's one which you might not have given too much thought to in the past. Aviation medicine is the discipline which deals exclusively with patients that are airborne, including pilots, cabin crew, passengers or, for space travel, astronauts.

One of the main duties of an aviation medicine professional is identifying how the peculiar physiologies of those flying will affect their bodies when airborne. Armed with this information, the professional must then ensure that the aircraft is fully prepared for all eventualities while the subjects are in flight, thus reducing the likelihood of illness or injury to as little as possible.

Illness at altitude

Those wishing to enter the aviation medicinal profession have to earn a number of different qualifications, including a land and sea survival course, an exercise for evacuating a helicopter (which involves being placed inside a centrifuge) and an accident investigation curriculum for pilots who have ejected from their craft. However, these flashpoints represent the more extreme aspects of the training, while the majority of their time will be spent dealing with far more mundane events.

This involves understanding how the physiology of the human body can be affected by increasing altitude, especially among pilots, crewmen and other industry workers regularly exposed to such conditions. This knowledge must then be used to ensure that the flight craft is equipped with the medical equipment and supplies necessary to meet all outcomes, including relevant blood reserves, given that altering blood types is not yet fully possible – although it may be in the near future.

Common airborne complaints

In general, there are no specific conditions that are associated with or exacerbated by any aspect of flying, whether that be take-off, ascent, flight or landing. However, certain people can be more predisposed to suffering problems due to their physical or mental constitution. For example, heightened levels of anxiety are common among those with a phobia of heights or flying, while motion sickness sufferers are likely to suffer from nausea. And jet lag can affect different people to varying degrees of intensity, depending on their particular constitutions.

Meanwhile, deep vein thrombosis (DVT) is a concern that afflicts travellers of any type of long-distance journey, whether it be in a car, train, boat or aircraft. Anyone undertaking a journey of four hours or more should exercise stretching and movement at regular intervals to prevent a clot forming in their bloodstream. While the majority of these clots can dissolve on their own, there is the danger that one may migrate to the lungs and cause a blockage, which results in a pulmonary embolism and can be fatal.

Breaking new ground

Over in Abu Dhabi, Dr Nadia Bastaki recently became the first female Emirati to specialise in the discipline, breaking new ground among her countrywomen. Inspired to pursue her dreams in the industry at a young age, Dr Bastaki now serves as the vice-president for medicine and well-being at the Etihad Aviation Group, looking after the medical needs of the airline's employees and customers.

"It was fascinating to learn about these differences and how both commercial and military pilots and even astronauts deal with these challenges," she explained. "The more I learnt, the more I wanted to explore, to the extent that I registered myself into a flying school. I wanted to truly understand what pilots feel and experience their working conditions to enable me to offer the highest level of medical care to them."