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AEROMEDICAL SUPPORT TO MULTI-RECORD WINNING WINGSUIT ATTEMPT

AEROMEDICAL SOUTIEN A LA TENTATIVE DE WINGSUIT GAGNANTE RECORD DE MULTI

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Introduction: In 2017, Fraser Corsan, a very experienced wingsuit pilot planned to break several World records, relating to altitude, duration, speed and distance covered whilst flying a specially designed wingsuit. This was fitted with associated equipment assemblies to protect him from the many environmental and aerodynamic stressors associated with this attempt. He approached QinetiQ to provide him on advice on the stressors he would encounter, the equipment he should use, and the training he should have, for his attempts from altitudes up to 42,000 feet.

Methods: The key aeromedical risks associated with the attempts were hypoxia, decompression sickness and cold. Fraser was provided with detailed advice on the physiology of these stressors and minimising risk during the record attempts, followed by training including pressure breathing and personal experience of hypoxia. Assistance was given in the selection and design of the breathing and thermal protection systems. Two attempts were subsequently to be conducted in May 2017, the first in Davis, California from a light aircraft, the second from a piloted hot air balloon in Ontario, Canada.

Results: Fraser was very unlucky with the weather in that very high temperatures in California during late May restricted the maximum altitude the light aircraft could achieve, and a long period of very windy & rainy weather prevented the balloon launch and hence cancellation of the 2nd attempt. Nevertheless, five records were broken including the World record for greatest peak speed flown in wingsuit (246.6mph; 396.86kph), FAI UK National record and European record for highest altitude and the FAI longest freefall distance record by a UK National and European (31,959ft; 9,741m). There were no significant aeromedical issues.

Conclusions: The successful record breaking wingsuit flight showed that the protection afforded by the equipment used, and the teaching and training provided resulted in no significant aeromedical issues during the record attempt. Had weather conditions been more favourable, more World records would have been broken safely.