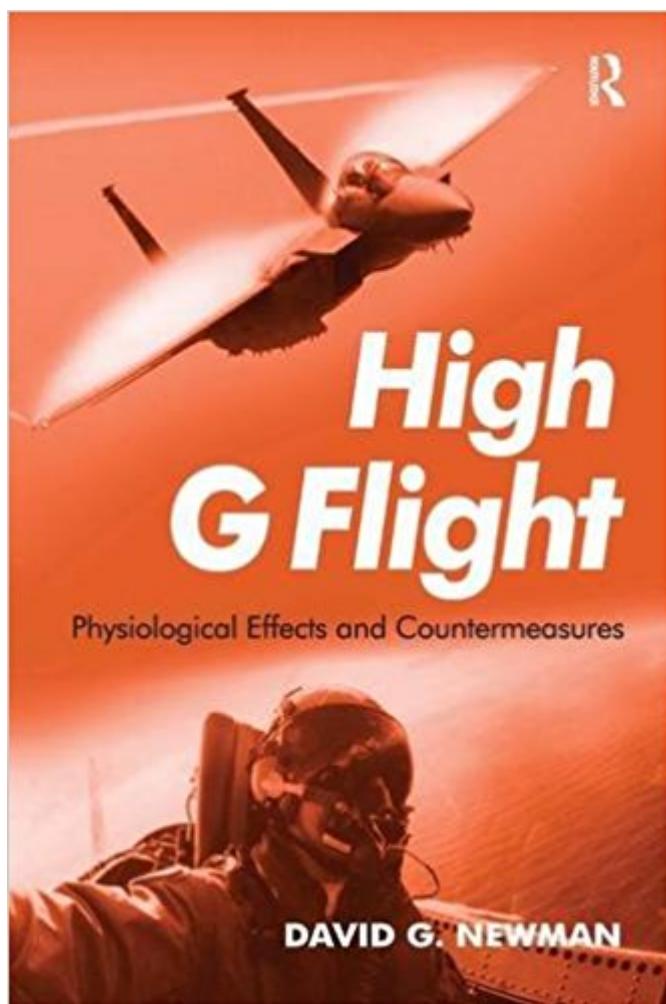


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# High G Flight: Physiological Effects And Countermeasures



## Synopsis

This book provides a unique, authoritative and detailed examination of the physiological and clinical consequences of human exposure to high G forces. Pilots of military fast jets, civilian aerobatic pilots and astronauts during the launch and re-entry phases of spaceflight are frequently and repetitively exposed to high G forces, for which the human body is not fundamentally designed. The book examines not only the nature of the high G environment, but the physiological effects of exposure to high G on the various systems of the human body. In particular, the susceptibility of the human cardiovascular system to high G is considered in detail, since G-Induced Loss of Consciousness (G-LOC) is a serious hazard for high G pilots. Additionally, the factors that influence tolerance to G and the emerging scientific evidence of physiological adaptation to high G are examined, as are the various countermeasures and techniques that have been developed over the years to protect pilots from the potentially adverse consequences of high G flight, such as the G-suit and positive pressure breathing. The accumulated knowledge of human exposure to high G is drawn together within High G Flight, resulting in a definitive volume on the physiological effects of high G and their countermeasures.

## Book Information

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## Customer Reviews

'This is the book we have all been waiting for. Dr Newman has skilfully provided a unified understanding of the current state of knowledge on human exposure to high G forces. Clearly written, the reader is taken from basic physics, through the mechanics of flight exposure, to current

methods of G protection. Highly recommended.' --Michael Bagshaw, King's College London and Cranfield University, UK

Associate Professor David G. Newman is a consultant in aviation medicine and Head of the Aviation Medicine Unit in the School of Public Health and Preventive Medicine at Monash University in Melbourne, Australia. His 13 years as an aviation medicine specialist in the Royal Australian Air Force, in both Australia and on exchange in the UK, include three years in support of tactical fighter operations and two years as Chief Instructor at the RAAF Institute of Aviation Medicine, where he was responsible for the training of all Australian Defence Force aircrew and medical officers. He holds a medical degree from Monash University, a Diploma in Aviation Medicine from the Royal College of Physicians of London, an MBA from Deakin University and a PhD from the University of Newcastle. He is also a pilot, with flying experience in several military fast jets including the F/A-18 Hornet and the Harrier. He has won numerous awards for his research into aerospace biomechanics and high G physiology, including the Aerospace Medical Association's Arnold D. Tuttle award in 2000, the Buchanan-Barbour Award from the Royal Aeronautical Society in 2000, and the John Paul Stapp Award from the Aerospace Medical Association in 2014.

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