



---

## ROTATIONAL CONCUSSION - A DISCUSSION WORTH HAVING

NEUROBAN *Challenger* Impact Mitigation Headwear is designed to protect the brain from damaging forces created by Direct Impact Collisions to the head. This is achieved by the headwear providing an effective and reliable opposing force greater than that of the kinetic energy created due to the abrupt cessation of motion of the object to which it has collided, and providing a smooth transition to the termination of motion. This claim however, should not be confused with the effects of Rotational Concussion which is considered by some to be responsible for brain concussion resulting from parts of the body other than the head colliding with other objects.

Where concussion results due to Direct Impact to the head, NEUROBAN *Challenger* provides protection to the entire vertical perimeter of the head, being exactly the right spot to provide maximum protection to the brain by deceleration of damaging kinetic forces created by abrupt cessation of motion upon impact. In contrast, Rotational Concussion appears to be the result of forces where the trajectory, velocity and part of the body to which the force may be applied, cannot be reasonably or accurately anticipated. Taking into account conflicting theories of how or to what extent Rotational Impact contributes to Traumatic Brain Injury, designing dependable protection to the brain from these forces appears to be a task too hard.

In addition, I believe discussion of Rotational Concussion at the same time as Direct Impact Concussion only creates confusion about the problem and creates unnecessary barriers to providing a real time solution. To realise a timely resolution to protect all concerned, it is respectfully suggested that discussions and decisions be best focussed on an existing solution provided by NEUROBAN *Challenger* and not on one that may or may not be found to Rotational Concussion at some time in the distant future.

Ted Herbert