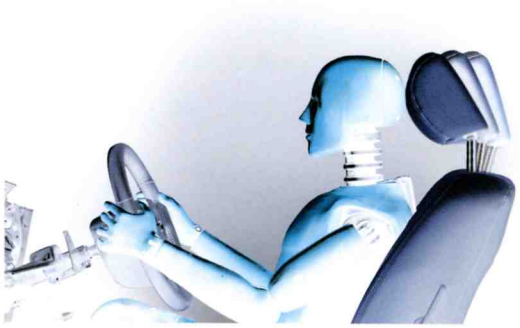
Active Head Restraint



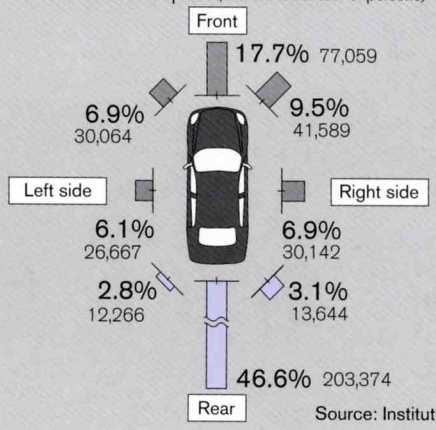
Rear-end collisions even at relatively low impact speeds can result in back or neck injuries and in some cases lead to subsequent discomfort such as whiplash injuries. Nissan has developed, as an occupant safety measure in rear-end collisions, an Active Head Restraint in Japan. Nissan thoroughly investigated real-world traffic accidents and has effectively incorporated the resulting data in the development of a revolutionary safety system based on actual human body movement. Nissan plans to provide Active Head Restraints as standard equipment on all its passenger cars, wagons, minivans and sport utility vehicles (SUVs) by FY 2004.

Nearly half of all accidents are rear-end collisions, with 90% of the injuries being to the neck

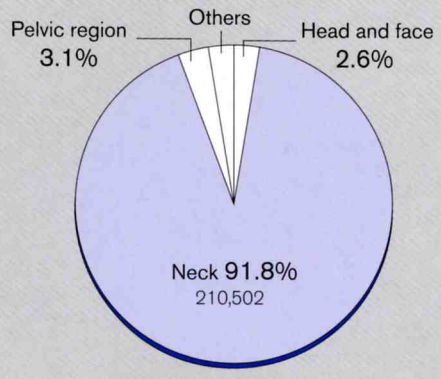
Traffic accident statistics in Japan show that rear-end impacts account for a large proportion of all injury-causing accidents, representing nearly 50% of the total. Over 90% of the injuries sustained by occupants whose vehicles are struck in rear-end collisions are to the neck region. More than 200,000 people suffer such injuries annually.

Annual fatal and injury-causing accidents involving vehicle occupants in Japan in 2000

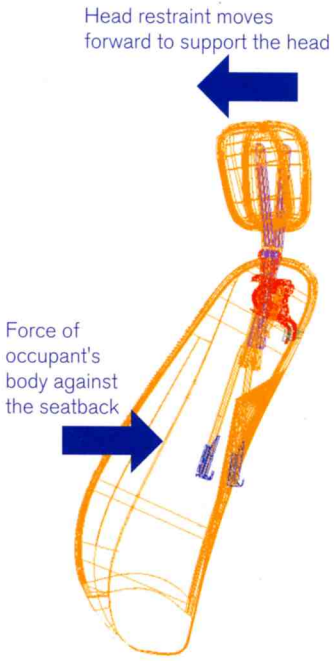
●Breakdown of fatalities and injuries by direction of impact (share and number of persons)



●Breakdown of major injury regions in rear-end collisions



Source: Institute for Traffic Accident Research and Data Analysis, Japan



Reduces the impact to the neck by helping to minimize excessive rearward movement of the head in a rear-end collision

The Active Head Restraint uses the force of the occupant's body against the seatback in a rear-end collision to move the head restraint forward instantaneously to support the head, thereby helping to reduce the impact to the neck of a front-seat occupant. The mechanism of whiplash injuries closely involves two factors resulting from the impact: the force acting to bend the neck backward and the force that causes the head to tilt rearward. Because the Active Head Restraint is effective in controlling these two factors, it can help reduce the load on the neck at the moment of the collision.

In performance tests conducted by Nissan

Force acting to bend the neck

45% reduction

The Active Head Restraint effectively helps reduce the force (moment) acting to bend the neck backward in a rear-end collision. It reduces the resultant bending force by approximately 45%.

NISSAN MOTOR CO., LTD.
17-1, Ginza 6-chome, Chuo-ku, Tokyo 104-8023, Japan