50 Years Ago in CORR

Survival Car II

Murray E. Gibbens MD CORR 1962;23:299–300

Accidents and the safety of motorists and pedestrians have been concerns since the development of automobiles more than a century ago. Prussia required the licensing of drivers beginning in 1903, and because of public outcry over fatalities, New York became the first state in the United States to require licensing in 1910 [3]. Other efforts subsequently included traffic laws and highway designs for vehicles of ever-increasing speed. However, serious

research of automobile accidents and the design of safer automobiles arose later in the mid-20th Century, most likely owing to the rise in the numbers of fatalities and injuries with high speed vehicles and new highways allowing high speeds. Perhaps the earliest efforts were from the Cornell University Automotive Crash Injury Research project, begun in 1952 [1]. Col. John Stapp, a physician who researched issues such as acceleration and deceleration for the US Air Force,

developed an interest in vehicular safety, and in 1956 organized the first of many annual meetings on car crashes [4]. These developed into what became known as the Stapp Car Crash Conference®, now in its 56th year. In the same year, Dr. Jacob Kulowski collected a series of 36 contributions from various authors on motorist injuries and safety that were published in three subsequent issues of CORR® [6–8]. Also in 1956, Liberty Mutual® funded a project at Cornell University

Fig. 1 The illustration shows the Survival Car II with 22 proposed safety features. Reprinted with permission and © Lippincott Williams & Wilkins, from Gibbens ME. Survival Car II. *Clin Orthop*. 1962;23:299–300.

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to design the Cornell Safety Car. Clearly, these researchers and others had realized the design of the vehicle was as important as traffic laws, licensing, education, and the designs of streets and highways (Fig. 1).

In 1962, Murray Gibbens, Chair of the Committee for the Advancement of Automobile Safety of the American Academy of Orthopaedic Surgeons, gave a report of the Survival Car II that resulted from the collaboration between Cornell University and Liberty Mutual® [5]. Twenty-two specific modifications were recommended, most of which we take for granted today: restraining seat belts and shoulder harnesses, collapsible steering columns, whiplash protection, smaller steering wheels to improve forward visibility, and so on. A key concept was “Packaging the Passenger,” developed by Francis Crandell, an engineer employed by Liberty Mutual® [2]. While many of these were passive approaches, others such as power

brakes and steering were designed for crash avoidance, an element of safety that has received considerable recent attention. Worldwide vehicle safety has substantially evolved through the combined efforts of researchers, the automotive industry, insurance companies, and governments.

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