

# 50 Years Ago in CORR

## Motorist Injuries and Motorist Safety: Introduction: Prevention of Accidents

Jacob Kulowski MD CORR 1957;7:251–255

Motor vehicle accidents became a concern in the industrialized world shortly after the introduction of the motor vehicle in the early 20th Century. By mid-century, greatly increased use of vehicles and faster speeds resulted in large increases in deaths and injuries. Dr. Jacob Kulowski was an early advocate of research to reduce morbidity and mortality from these accidents. In the mid 1950s he wrote extensively on the causes and prevention of accidents, as well as the treatment of the resulting injuries. In three subsequent volumes of CORR [2, 3, 5] he edited a three-part series of 36 papers by experts around the United States in all aspects of the problem. These included the history of vehicular crashes, the scope of the problem from accident statistics, the science of crashes and crash prevention, automobile design, driver screening, education, and licensing, highway design, traffic laws, and law enforcement, among others. He later published an exhaustive monograph on the subject [6].

In the commentary we focus on this month, Kulowski noted, “Born of violence, the problems of motorist accidents have developed a dynamic concept and unifying effect upon individuals and groups who are trying to bring these casualties under control” [4].

The problem then was huge growth in the number of operators and motor vehicles without concomitant growth

of the necessary legal and physical infrastructure. “The incredible growth of motor vehicle transportation helps to explain the magnitude of this problem. In the past 55 years our population has doubled (64% urban), but the number of motor vehicles has increased more than 7,000 fold” [4]. In a companion article [1], Campbell noted,

“In the period from 1945 to 1954, 27,600,000 *additional* motor vehicles were put in use on our highways. During the same 10-year period, we constructed 53,000 new ‘lane miles’ of highways. It is estimated that if the motor vehicles put in use during this same period were placed bumper to bumper, they would extend a distance of about 88,900 miles, nearly four times around the globe. In other words, our lane mileage, or added capacity has been increased only slightly more than one half the total length of the motor vehicles put into use during in the last decade.”

The concerns at that time mirror those in current low- and middle-income countries today: massive motorization has occurred without adequate preparation and infrastructure. Our symposium this month, “Trauma in the Developing World,” highlights what is becoming one of the major causes of death in the

world: motor vehicle accidents [7]. Spiegel noted in 2001 injuries were the 11th most common cause of disability in the world and by 2030 predicted to be the 4th most common, in large part owing to motorization in low- and middle-income countries [8]. A number of articles in this symposium highlight the burden and obstacles in various countries to address that burden. Ironically, funding worldwide for preventative efforts is vastly lower than that for more widely publicized problems (e.g., tuberculosis, malaria, HIV) that generate less burden [7].

Kulowski realized the most important ways to reduce morbidity and mortality related to public, not medical efforts: proper laws related to licensing and traffic flow, enforcement of those laws, and proper highway infrastructure. It is these elements that are largely missing today in the developing world. The World Health Organization and various governmental and nongovernmental organizations now recognize the enormous burden placed on countries that have few resources to care for the large number of disabled individuals from traffic accidents. Hopefully these efforts will result in reductions world-wide within the next decade or two and the startling predictions will prove false.

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## References

1. Campbell HE. The need for motorcar legislation. *Clin Orthop Relat Res.* 1957;9:277–282.
2. Kulowski J. Motorist injuries and motorist safety: Part 1: clinical aspects. *Clin Orthop Relat Res.* 1956: 243–343.
3. Kulowski J. Motorist injuries and motorist safety: Part 2: reduction of injuries (crash-impact engineering). *Clin Orthop Relat Res.* 1956:261–326.
4. Kulowski J. Introduction: prevention of accidents. *Clin Orthop Relat Res.* 1957;9:251–255.
5. Kulowski J. Motorist injuries and motorist safety: Part 3: primary motorist safety: prevention of accidents. *Clin Orthop Relat Res.* 1957;9:249–344.
6. Kulowski J. *Crash Injuries: The Integrated Medical Aspects of Automobile Injuries and Deaths.* Springfield, MO: Charles C. Thomas; 1960.
7. Mock D, Cherian MN. The global burden of musculoskeletal injuries: challenges and solutions. *Clin Orthop Relat Res.* 2008;466. doi: [10.1007/s11999-008-0416-z](https://doi.org/10.1007/s11999-008-0416-z).
8. Spiegel DA. ABJS/C.T. Brighton workshop on trauma in the developing world: editorial comment. *Clin Orthop Relat Res.* 2008;466. doi: [10.1007/s11999-008-0411-4](https://doi.org/10.1007/s11999-008-0411-4).

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