

Operation outside the theatre saves more lives: The Chennai helmet story

K Ganapathy M Ch

Department of Neurosurgery
Apollo Hospitals, Chennai (Tamilnadu)

Abstract: At the request of the Editor, Prof K Ganapathy former Secretary and President of the Neurological Society of India has made available his submission to the Madras High Court. Dr. Ganapathy appeared twice before a division bench of the High Court. Following this the Government of Tamilnadu passed a Government Order making use of helmets mandatory for two-wheeler riders and pillion riders.

IN THE HIGH COURT OF JUDICATURE AT MADRAS

(Special Original Jurisdiction) In W. P. No.19587 of 1999

Accident Victims Association

(Regd.) rep. by its Secretary

C. Lakshmi Narain Petitioner/Respondent

Vs.

1.	The State of Tamil Nadu by its Chief Secretary, Fort St. George, Chennai – 600 009.	
2.	The Director General of Police, Government of Tamil Nadu, Government Estate, Chennai.	
3.	Automobile Association of Southern India by its President K. Ravindran, Chennai	Respondent
4.	Neurological Society of India represented by its Past President Prof. K. Ganapathy	Respondent

AFFIDAVIT OF PROPOSED PARTY/ RESPONDENT

I, Dr. K Ganapathy, aged about 56 years, Hindu, son of Late Sri K. S. Krishnan, , residing at Flat A4, 4th Floor, “Palacio” 216 TTK Road, Alwarpet Chennai 600018 do hereby solemnly affirm and sincerely state as follows:-

1. I understand that the petitioner above named, the Accident Victims Association represented by its Secretary C. Lakshmi Narain has filed a Public

Address for Correspondence:

Dr K Ganapathy
Flat A4, Fourth Floor, Palacio Complex,
216, T T K Road, Alwarpet, Chennai- 600018
Resi Ph: +91- 44- 28295447

Interest Litigation W.P.No.19387/99 on the file of this Hon'ble Court for writ of mandamus to the 1st and 2nd respondents to enforce Section 129 of the Motor Vehicles Act of 59 of 1988, making it mandatory on the part of two wheeler drivers and pillion riders to wear protective headgear.

2. Neurosurgeons are the specialists primarily concerned with the management of head injuries. I am a senior consultant neurosurgeon and a past Secretary and President of the Neurological Society of India. The Neurological Society of India has a membership of 1900 Neurosurgeons and Neurologists, including trainees, and represents 95% of the specialists in this field in India. I was a member of the Neurotrauma Committee of the Neurological Society of India at its inception ten years ago. I am also the Secretary General of the Asian Australasian Society of Neurological Surgery since 1999. This largest continental society of neurosurgeons consists of 28 member countries representing 13800 neurosurgeons. I am a member of the executive committee of the World Federation of Neurosurgical Societies, which includes 82 countries and 95% of the 38,000 neurosurgeons of the world. I am a Post Graduate Teacher, Examiner and Inspector for the National Board of Examinations besides being an Overseas External Examiner for the Universiti Sains Malaysia. I have presented papers dealing with Head Injuries including its preventive aspects at Regional, National, and International Conferences. I have published articles in scientific journals and the lay press. I have organised seminars and symposia on Head trauma. **I have been treating Head Injury**

patients for the last 32 years. I have been personally involved in the management of at least 10,000 Head Trauma cases in the city of Chennai. 90% of these patients have been two-wheeler drivers or pillion riders. I therefore believe that I have the necessary background to put forth not only my personal views but also the views of the neurosurgical community of Asia and Australia (which I have been authorized).

3. I have reviewed the literature published worldwide on methods of prevention of Head Injuries with specific reference to the use of helmets. These articles unequivocally state that additional protection to the head, in the form of protective headgear, reduces the severity of the force transmitted to the brain and thereby reduces the severity of injury to the brain. The occasional anecdotal reports on helmets causing problems do not have any scientific basis or statistical significance. There is no published literature in peer-reviewed journals that the use of helmets increases spinal injuries. I request an opportunity to place substantial scientific evidence before the Honourable Court. This will include factual data from other countries regarding the effect of making helmet use mandatory for Two-Wheeler drivers and Pillion Riders.
4. Indian statistics only show that Head Injury is the 6th commonest cause of death. Statistics only indicate the enormous on going economic loss to the country due to severe head injuries sustained by the unprotected head. Statistics only indicate the millions of man-hours lost in the country due to head injuries. Statistics unfortunately never reflect the agony and misery faced by the individual family when the breadwinner is critically injured or dies. I request an opportunity to place before the Honourable Court at least some instances from among the six hundred odd two wheeler caused head injury deaths which I have personally encountered in the thirty two years.
5. *The Neurological Society of India, the Asian Australasian Society of Neurological Surgery and the World Federation of Neursurgical Societies have full endorsed the stand that use of protective headgear is the simplest, quickest and most effective method of reducing the number of severe head injuries.* Despite all the phenomenal advances in the management of brain diseases, there has not been and will not be, any spectacular developments to reverse a severe

brain injury, once it has taken place. The Neurological Society of India is in full agreement with the prayer made by the petitioner that Section 129 of the Motor Vehicles Act being a Central Act, State Governments are bound to enforce it. The Neurological Society of India desires to implead itself as one of the respondents in the above matter, supporting the petitioner above named.

6. I therefore pray that this Hon'ble Court may be pleased to permit me as a past . Secretary and President of the Neurological Society of India to implead myself as one of the party-respondent in the above W.P. No.19587/99 in the interest of justice. and to pass such further or other orders that may be just and necessary in the circumstances of the case.



Solemnly affirmed at Chennai on:

this day of February 2007 and:

signed his name in my presence:

BEFORE ME,

PROPOSED PARTY/
CHENNAI.

ADVOCATE

RESPONDENT-IN-PERSON.

Submission made on behalf of the Neurological Society of India by its Past Secretary and Past President Prof. K. Ganapathy at the Madras High Court as a co respondent in the W.M.P. 17850 of 2000 in WP No.19387 OF 1999 filed by the Accident Victims Association (Regd.) rep. by its Secretary C. Lakshmi Narain

Your Honour – At the outset, we are deeply indebted to this Honourable Court for giving the Neurological Society of India an opportunity to put forth its views on the necessity for enforcing Section 129 of the Motor Vehicles Act, 1988 making the use of helmets mandatory. This submission is dedicated to the memory of the thousands of head injury victims who prematurely left this world, are leaving and unfortunately will continue to leave – because they did not wear a helmet. Your honour, before this submission is over, in the next 20 minutes, at least five young men using two wheelers would have died, somewhere in India, of brain injuries, because they were not wearing a helmet. It is our intention, to produce substantial scientific and

unequivocal evidence, to reinforce the universally accepted view, that wearing protective headgear significantly reduces the incidence of severe injury to the brain, in the event of an accident.

Shakespeare, could very well have been referring to the complacency displayed by the authorities in making the use of helmets mandatory, when he remarked “Something is wrong, in the State of Denmark”. To quote the Bard of Avon again “To be, or not to be — that is the question. Whether 'tis nobler in the mind to suffer the slings and arrows of outrageous fortune, or to take arms against a sea of troubles and by opposing, end them “. This writ petition, Your Honour, is in a way resorting to arms, to reduce if not end this continuous ongoing massacre, on the roads of Tamilnadu. We all know that prevention is better than cure. **We are only submitting that it is not unreasonable for society to expect laws already enacted in public interest, to be implemented and enforced.** Before making this presentation it is perhaps necessary to give my personal background, if only to establish my credibility and competence to make this submission.

INTRODUCTION

- We all know that two-wheelers are the backbone of the middle and lower class. The two wheeler population is growing 20 times more than the human population and with increasing economic power, industrialization and modernization, injuries are bound to increase . With an annual sales of 45 lakhs in India (12,000 new two-wheelers being registered every day) one can imagine the number of two-wheelers on the roads .
- Inadequate and inefficient public transport systems, poor infrastructural facilities, deficiencies in regulation and control of traffic, lack of scientific information and absence of long term policies and programmes are major spokes in the complex wheel of road traffic injuries. Poor maintenance of vehicles and “risk taking behaviour of public” (over speeding, overtaking, driving under influence of alcohol, not wearing helmets etc.) add to this situation, making it worse. One of the major contributing factors leading to severe head injuries, which could be quickly reversed and which does not require funds or sophisticated technology is the use of helmets.
- It is universally accepted that the incidence of serious head injuries is significantly more in the non helmet-

wearing group. Published literature worldwide (references cited in Annexure 1) is replete with such statistically significant data.

- Motorcycle accidents claimed 4,893 lives in the United States in 1979, up from 3,312 in 1976 when Congress struck down a strong federal regulation making helmets compulsory. **Many states, which repealed or weakened their helmet laws in the United States, noted this alarming trend.** In California (which reintroduced a law to enforce wearing of helmets) 35 million dollars were saved in the first year by reduced hospitalisation.
- The helmet use law was temporarily associated with a 26% decrease in the reported rate of motorcycle crashes in Nebraska (USA) compared with five other states Average hospital stay in days for helmeted riders was 5.8, non-helmeted 11.8. Fatality rate per thousand motorcycle registration was 6.2 for non-helmeted and 1.6 for helmeted. The medical cost decreased by 48.8% and average disability reduced by 26.7%.
- Based on 1989 figures about \$120.8 million of additional medical care and rehabilitation expenses per year were due directly to non usage of helmets Two states that weakened their helmet use laws from comprehensive to partial during the study period, had increases in motorcycle related head injury death rates from 18.4% to 73%, and one state that strengthened its law from partial to comprehensive had a decline in its death rate by 44%
- Helmets also protect the face, as facial fractures are twice as common in the non-helmeted riders.
- In industrialized countries death rates have *decreased by 18%* during the last decade due to the use of protective devices like helmets, seat belts and air bags, better roads and speed limit control alone, while in developing countries the death rate has *increased by 13%*

The Effect of the Taiwan Motorcycle Helmet Law on Head Injury

In Taiwan, motorcycles are the most common means of transportation. In 1996 there were 9283914 motorcycles in a total population of 21471448 and accounted for 65.04% of all motor vehicles. Data provided by the Interior Ministry of Taiwan showed that there was one motorcycle for every 1.9 persons and 2.22 motorcycles

per family. 77.7% of fatal motorcycle-related injuries involved the head.

A study was conducted to evaluate the effect of the helmet law implemented in Taiwan on June 1, 1997. The authors compared the head injury situations one year before and one year after implementation of the helmet law. From June 1, 1996 to May 31, 1998, 8795 motorcycle-related head injury cases were collected from 56 major hospitals in Taiwan. **After helmets were made compulsory by law, motorcycle-related head injuries decreased by 33% (5260 to 3535) Head injury hospitalizations decreased by 33%, fatalities by 56%. Decrease in length of hospital stay, reduction in severity and better outcome were also seen. Skull fractures decreased by 34.3%, patients needing surgery decreased by 41.8%, intracranial hematomas decreased by 34%, neurologic deficits decreased by 14.6%, and loss of consciousness decreased by 43.1%. The average length of hospital stay decreased by 14.7% from 10.2 days to 8.7 days. ICU.**

Before the law, determination of outcomes by the Glasgow Outcome Scale (GOS) revealed that 211 (4%) cases of head injured patients died during hospitalisation, 26 (0.5%) ended up in vegetative state, 185 (3.5%) had severe disabilities, 549 (10.4%) had moderate disabilities, and 4289 (81.5%) had good recovery. **After the law**, 141 (4.0%) died, 21 (0.6%) ended up in vegetative state, 67 (1.9%) had severe disabilities, 368 (1.9%) had moderate disabilities, and 2938 (93.1%) had good recovery. The number of hospitalized patients whose outcome was death decreased by 33.2% (from 211 to 141).

Although it has been reported that helmets may increase the risk of injuries to body regions other than the head, the data showed that a significant increase was only seen in injury to the upper extremities. A slight but **statistically insignificant** increase was seen in cervical spine injuries. However, helmet use did not increase the risk of injuries to other body regions such as the face, chest, abdomen, etc.

Accidental injury dropped from fourth to fifth in the ranking of major causes of death. Results observed in Taipei City was a 6-month long helmet use promotion campaign which educated Taipei citizens on the benefits of helmet use and perils of riding a motorcycle without wearing a helmet. A law banning motorcycle passengers from sitting sideways is currently been drafted; therefore,

a study of the effect of such a law on motorcycle crash mortality and morbidity can also be conducted.

The enactment of the helmet use law in Taiwan provided a special opportunity to assess the impact of an unrestricted helmet use law. Arguments against helmet use laws usually center around issues of personal freedom versus cost to society and claims that helmets cause associated injuries. However, this study was able to show that the Taiwan motorcycle helmet use law was effective in reducing the number and severity of motorcycle crash-related head injuries.

The Chennai experience:

- **In 32 years, having personally managed at least 10,000 head injuries** I can count on the fingers of one hand the number of deaths among the group of two wheeler riders wearing helmets. This is in stark contradistinction to the large number of deaths encountered amongst two wheeler drivers with unprotected skulls. Most of us have thick skins and thick skulls but still it is just not thick enough.
- A survey of the attitude of 1300 2 wheeler drivers in Chennai carried out by the author in 1985 revealed that at that time 45.8% used helmets and 52.2% did not. 89.4% of pillion riders did not wear helmets. Only 36% wore helmets constantly irrespective of the distance traveled. 32% wore helmets only during long distance travel. Education, economic status, age, occupation and experience in driving had no specific influence. There was no change in the personality make up in the users and the non users. **About 62% of nonusers were willing to wear helmets if simple assistance was provided.** Only 11% of the non users had staunch objection to wearing a helmet. **Nearly 92% of nonusers said that they did not use helmets “ because it is not compulsory “, and 95% of the entire group were of the opinion that making use of helmets compulsory was the simplest and best way to ensure constant compliance.**
- Even a biased helmet manufacturer anxious to increase sales will not claim that helmets alone, will prevent or even reduce accidents. What a proper helmet does effectively is to bear the brunt of the impact and thus reduce the actual mechanical shearing forces reaching the brain. The severity of brain damage is reduced. Irreversible brain damage becomes potentially reversible. It has been argued

that those wearing helmets are those who are basically cautious with better traffic discipline. Be that as it may, few question the advantages of making a thick skull even thicker. There is however a difference of opinion on how to make a 2 wheeler user wear a helmet. Education? Heightened public awareness? Incentives? Disincentives? Compulsion? **Article 47 of the Constitution of India states “ The state shall regard the improvement of public health as among its primary duties. In particular the state shall endeavour to bring about the prohibition of the consumption of intoxicating drugs and substances injurious to one’s health” Today, head injuries have acquired the status of a public health problem. Is not travelling on a two wheeler without a helmet potentially injurious to one’s health.**

- It has been suggested that people should wear helmets in their own interests as they wear a hat or a cap or carry an umbrella when needed After all it is not compulsory to use umbrellas when one goes out in the rain. It is left entirely to one’s judgment. If we were living in Utopia the suggestion may have been tenable. Unfortunately using helmets is not the same as using umbrellas during rain. Society is not particularly concerned if someone uses an umbrella or not – whether he or she gets wet. Society is or should be concerned whether a two-wheeler driver uses a helmet or not. There is a 100 % chance of getting wet when going out in the rain unprotected. So the use of an umbrella is commonplace. In spite of the phenomenal number of two wheeler accidents the chance of sustaining a head injury while using a two-wheeler is less than .01%. Naturally the desire to use protective headgear is far less.
- The consequence of walking unprotected in the rain is not disastrous. Even if the incidence of serious head injuries per 1000 two-wheelers is not astronomical, the consequences are. Any parent, widow or children of a fatally head injured will testify to this. The insurance companies doling out crores of rupees, day in and day out will testify to this. The medical superintendents whose beds are always occupied with serious head trauma cases will testify to this. The discharged disabled patient who has now become a liability to the family will testify to this. The hundreds of survivors who are working at sub optimal levels after a head injury will testify to this. The thousands with minor head trauma responsible for millions of man hours lost will testify

to this.

- One has to be cruel to be kind. Sir Hugh Cairns British neurosurgeon who introduced helmets in the thirties once remarked that a neurosurgical unit should be judged not by the death rate in the unit, but by the number of head injuries in that locality. Reports of the Central Road Research Institute of India indicate that head injuries should be viewed as an urban health hazard. Cold statistics “2500 crores loss per year due to accidents (1 % of GDP of India)” will never reflect the tragedy to an afflicted family when the bread winner in the prime of youth succumbs to a head injury.

Central Road Research Institute Data

- RTA Deaths increasing annually by 10%.
- 23 cities have 33% of two-wheelers 30 % of accidents, and 10% of deaths.
- City with highest population of two-wheelers in the world **Delhi** 115,000 deaths in the year 2000
- From 1981 – 1991 Chennai showed 36% increase in human population vs **180% in two-wheeler population** (imagine 1991 – 2001); buses and trucks (8% of all vehicles) cause 43% of all reported accidents.

Central Road Research Institute Data

- 70 % of accidents due to negligence and ignorance of drivers.
- 90% of this group had no formal driving lessons. **They may have had visual impairment, diminished hearing, and may have been ignorant of rules.**
- Annual loss due to accidents amounts to Rs 2500 crores (1 % of GDP of India)
- Per km distance travelled **MAXIMUM ACCIDENTS /DEATHS** is in two-wheelers
Death five times more in two-wheeler rider than in other groups.

A “**Report on the Safety of Users of Two Wheeled Motor Vehicles**” covering 19 countries under the auspices of the European Conference of Ministers of Transport revealed that **in the UK a two wheeler driver is 30 times more likely to be killed than a car driver, per kilometre travelled.** According to the report wearing of Helmets is compulsory in Austria, Belgium Denmark, Finland, Greece, France, Luxembourg, Netherlands Portugal,

Sweden, United Kingdom. Helmets are also compulsory in Japan, Singapore, Malaysia, Sri Lanka, most states in the USA and many other democratic countries.

MECHANISM OF PROTECTION WITH A HELMET

During a two-wheeler crash the head hits a hard surface and its movement is brought to a stop in a fraction of a second. Head impacts, in motorcycles can occur at speeds of 10 to 100 KMPH. When the head without a helmet hits a rigid surface at 20 KMPH, the peak contact force can be as high as 50000 Newtons This type of an impact can lead on to skull fractures, concussions, contusions, hemorrhages and unspecified brain damage if one survives. When a rider on a motor vehicle meets with an accident due to sudden application of brakes at a speed of 30 KMPH, the tendency is for his body to be thrown up into the air and then for the head to crash on the road surface. In any collision, the head is hit against another mobile or stationary object at the speed being driven. This tendency to land on the head or getting hit by a surface crashes the skull and the internal brain. A proper crash helmet absorbs the force of the impact and reduces the severity of the injury to the brain. Helmets act by

- Reducing the impact on the head by partially absorbing the energy.
- Cushioning the impact through the polysterine or thermocol lining in the helmet.
- Brings the head to a halt more slowly because of which the brain inside the skull will not hit the skull with a greater force.
- By acting as a mechanical barrier between the head and the energy producing objects.

HELMET RESEARCH

Helmets have not suddenly arrived At least 50 years of research in various fields have led to this development. Helmets have been designed based on cadaver studies, animal experiments, computer simulation studies, biomechanical studies and study of crash injury patterns. Sir Huger Cairns was the first person to understand the role of helmets in preventing severe head injuries and deaths. Before a helmet is certified it has to pass through four main tests namely:

1. Shock absorption – Cushioning capabilities of the padding test.

2. Resistance to penetration-to make sure the shell of the helmet is strong.
3. Strength of the retention system-to test the stretching of the chin strap.
4. Rigidity-to test the structural and safety performance.

REASONS FOR NOT WEARING HELMETS

- “I am a good driver. How can an accident ever happen to me “? (Freud pointed out long ago, that the mind will not even accept the remote possibility of anything unpleasant happening to the body)
- “But, it is not compulsory “ (Big Brother must be watching all the time. Self discipline and following the rule of the road is only for the neighbour)
- “I use the scooter for very short distances” (If only the bus driver knew this)

• Most injured motorcyclists who do not wear helmets report that they did not expect to be injured; yet 40% of the head injury-associated deaths were ascribed to the motorcyclist's loss of control, not, apparently, to some action of the driver of another motor vehicle.

• Studies have shown that when helmet use is voluntary, it is used by 40-50 %; when it is compulsory it is almost 100 %. No other approach has succeeded in raising helmet use to anything close to

- “Where do I keep it “ (Where there is a will there is a way)
- “I may lose my hair “ (How many bald motor cyclists does one see ?)
- “It is so hot and uncomfortable “ (If only you knew how much hotter it can get without one !!!)
- “I may get headache and neck pain” (at least you will still have a head)
- “Neck & Spinal Cord injuries may increase, vision and hearing is hampered, leads to fatigue and overconfidence (Detailed studies have shown that this is not true (Ref *US Dept of Transportation – “A Report to the Congress on the effect of Motor Cycle Helmet Law Repeal - A case for helmet use”*)
- “Ungainly appendage on a beautiful feminine head“ (and we talk about equality and women's liberation!)
- “What is to be will be “ (Alas the bereaved family does not subscribe to this oriental fatalism.)
- “What about the family “ (Buy three for the price

of two ?)

- “I have just not had the time “ (Time and tide wait for no Man)
- “A helmet is expensive” (Obviously the contents are not)
- **Adventure, recklessness, misplaced enthusiasm particularly in the young – helmets worn only by “sissies“** (Knowledge is learning from one’s known mistakes, wisdom is learning from another’s mistakes – alas self acquired knowledge may be too late)
- “What about protecting other body parts“ (death & major disability is due to brain injury – protecting the brain is easy, pragmatic and effective)

How is a helmet useful ?

- The brain is the only organ in the body with its own safe deposit vault
- When a **major impact** occurs the entire force cannot be absorbed by the skull however thick it is (!). The **impact** only slightly attenuated is still transmitted to the underlying brain. Direct injury occurs. often irreversible
- A helmet considerably - thickness of the container. The blow gets absorbed, spreading the impact over a larger region. The intensity at any one point is considerably diminished. The time lag also reduces the ultimate intensity reaching the brain through the helmet, hair, skin, skull and the meninges of the brain.

There was a news item that use of helmets will not be made compulsory **due to differences of opinion among the public**. Ascertaining public opinion speaks volumes for the statesmanship of the authorities. Acting on them does not. **It is a sad day for the community when technical decisions depend on “public opinion”**. What was the “public opinion”? Did an independent scientific unbiased body carry out the study? What was the size of the sample? Was it truly representative of the entire two-wheeler population? How, when, where and by whom was the sample collected? Were elementary statistical tests applied?

A prospective well designed study conducted by the National Institute of Mental Health and Neurosciences revealed that the severity of head injury, death due to head injury, incidence of skull fracture and occurrence of post traumatic epilepsy were higher among those who

were not using helmets as compared to those with helmets. Consequently, the duration of hospitalisation and the economic cost of managing head injuries were more for non-helmet wearing group. If all occupants of motorized two-wheelers compulsorily wear helmet:

1. The death rate among two-wheeler occupants due to head injury will be decreased by 30 – 40%.
2. Head injuries will be reduced by 20 – 30%.
3. The severity will be reduced by 50%.
4. The consequent neurological disability will be reduced by 40%.
5. The duration of hospitalisation will be reduced by 20 – 40%.
6. The medical costs towards the treatment of head injuries will be reduced by 25–30%.
7. Neurosurgeons would have 20 to 30% of their professional time available to treat brain tumours rather than treat severe head injuries, which need not have occurred in the first place.
8. 71.4% of head trauma victims were motorcyclists in the age group of 20-39 years.

ENFORCEMENT AND EDUCATIONAL ISSUES

It is essential to consider issues related to helmet legislation. Public laws are aimed at protecting human beings and society. Can a society exist without laws and enforcement. Enforcement is one way to demonstrate that individuals are cared and protected. It is always important to adequately and intensively educate the public before enforcing a law on helmets. Education and enforcement are complementary as education alone or legislation alone will not suffice. Acceptance of legislation by the public is what should be aimed at **EEE: Education, Engineering and Enforcement**. EEE is the joint strategy adopted in many developed countries, to reduce two-wheeler deaths and injuries.

Several states where the legislation was withdrawn noticed an increase in the number of severe and fatal head injuries and also increased cost of health care. To avoid this, legislation was reintroduced to provide safety and also to evolve measures towards reduction and prevention of head injuries. International agencies like WHO have launched a global initiative on helmet promotion in collaboration with several member countries.

ROLE OF PROFESSIONAL BODIES

Various professional bodies representing health, judiciary, education, social welfare, citizen forums and others have a tremendous role to play in contributing for this noble cause aimed at saving lives and making our communities safer. Such bodies can help in creating awareness among public any policy makers about the advantages of helmet wearing and accompanying legislation. The encouragement support and guidance from these committed associations help a long way towards making the practice of helmet wearing more advantageous to the public.

As a neurosurgeon my brief should perhaps be restricted to what I have said so far. As a responsible member of society and as a member of a family which lost two brilliant grown up sons due to head injuries I cannot refrain from making a few comments on so called freedom and democracy which is now standing in the way of enforcing an already existing law. There is a limit to the application of democratic methods. One can inquire of all potential passengers as to what type of bus they like to ride in, but is it desirable to get their consent before applying brakes in an emergency situation? The greatest enemy of individual freedom is often the individual himself. Individual inconvenience has to be sacrificed for the common good. We often forget that freedom does not mean absolving responsibilities. No one objects to the use of seat belts when a plane lands or takes off. This minor inconvenience is accepted as a part of safety regulations. No one objects to non-smoking areas or to flights being designated as “No smoking flights” Why then is it necessary for individuals and organisations to seek the intervention of the courts to pass a judgment so that people are compulsorily made to save their own lives. Alas, this is because of “**this cannot happen to me syndrome**”. A young healthy individual will never voluntarily accept the fact that he

or she is at a risk for a serious head injury

It was Confucius who pointed out that even a journey of a thousand miles begins with the first step. When Neil Armstrong remarked “One small step for man but one giant leap for mankind” he could very well have been referring to the compulsory use of helmets. Indifference, apathy and insensitivity to the traffic laws, of the public at large no doubt reflects the all pervading oriental fatalism – “what is to be will be”. Alas by the time realization dawns it is too late

Your honour, I submit once again that the pen is mightier than the scalpel. With a signature, your lordships can save more lives in Tamil Nadu than can be saved even if all the neurosurgeons in this state spend their entire lifetime operating only on serious head injuries. Helicopter ambulances, state of the art critical care head injury units and specially trained neurosurgeons in every town can at best salvage a few more. The poignancy of the situation can be best expressed by quoting what a distressed parent once told me “I wish the Supreme Court would pass a law that parents must die first. When I was lighting the funeral pyre of my son I thought should it not have been him lighting mine instead”. On behalf of the neurosurgical community of India and on my own behalf I once again implore your lordships to pass the necessary orders to the state to implement Section 129 of the motor vehicles act, 1988. Not enforcing this humanitarian law, on the grounds that individuals have a **right not to wear a helmet** is taking a retrograde step. Making two-wheeler users wear helmets does not require funds or expertise. All that it requires is a change in mindset. Your lordships, even at the cost of repetition, on behalf of those treating the brain, we once again implore you to save hundreds of lives with a stroke of the pen. Hundreds if not thousands of families will forever be grateful to this court.