REVIEW OF LITERATURE
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Even though trauma has risen to a point of being major killer for people under the age of 40 years and third commonest killer among all age groups, the importance and research going into it is sadly lamentable.

Diseases like IHD, Cancers and hi-tech procedures like in vitro fertilization have received huge importance with a glowing laudable success. But we tend to forget that these are not so common problems and are easily locked within the four walls of an institute researching for it. Trauma on the other hand is wide spread and taken so much for granted that at times will give major morbidity and mortality with little done to contain its morbidity and subsequent disablement to the patients.

Majority of our trauma occurs on the National and State highways and PHC level personnel in the village are poorly equipped and ill trained to handle it. Although the injuries like farm injuries and thrasher injuries which occur on agricultural fields are brought to such centers, their management remains inadequate with a resulting disablement.

The pioneering work done by Dr. NS Laud, Orthopaedics Surgeon from Mumbai, about the management of the such multiple
traumas, who has recommended that can surely be implemented at large cities like Mumbai.

**For a trauma victim.**

- It's not the life,
- But the quality of life;
- It's not the function,
- But the quality of function that matters.

The **basic aim** of the proposed trauma care concept is to

**"Get the right patient to the right hospital and that too in right Time."**

Development of the small hospitals by freshly qualified Ortho. Surgeons have taken place along theses so called “Death track” roadways. Considering the easy accessibility of these so called “minihospitals”, it will be worth considering the concept of upgrading these already established hospitals to what will be “Mini Trauma Centers”.

In the year 1982, Dinesh Mohan, said 2-wheelers are less safe, crashes are increasing, morbidity and mortality is increasing and about 4000 Indian motor-cyclists die on the road, each year. The strict use of helmets would reduce that number significantly in spite the spurious
arguments like helmets are not necessary at low speeds or helmet straps cause strangulation


A great no. of people refuse to stop and help injured because they fear legal action in case of improper handling. Much of this fear is generated by misunderstanding and ignorance of the existing laws. Surely Good Samaritan laws exist in progressive and socially responsible countries of Asia, nevertheless many people do not realize this or live in states where such laws are yet to be implemented and therefore refuse to stop and render assistance. Unfortunately this category includes physicians, nurse, paramedical personnel, firemen, policemen, and other members of health services as well as the lay public. Essentially Good Samaritan laws protect from lawsuit the emergency personnel (and the public, in some cases) so long as they act in good faith and to the best of their ability. Mistreatment due to gross negligence and wanton or willful misconduct is not included in this protection, nor should it be.

**Dr. K.H. Sancheti,** of Pune carried out a study titled “Rehabilitation of Orthopaedically handicapped children in Rural India” in the year 1985, in which he gave the detailed picture of the problem in rural India, through mass campaign approach by designing with aims and objectives like, by collecting base-line data, categorizing orthopaedically handicapped children and assessing the
results of surgical treatment and rehabilitation and concluded that it is futile, who have realized to dress about our own poor resources. And said trauma management even with limited resources we can surely do much better that what we are doing today.

Pennathur Sundaram, AACC, Vol. XXII No.2, Apr. 1985

Neurological emergencies are often dramatic. Acute trauma is the leading cause, especially among the younger age-group, and the morbidity and mortality is high. Prompt and appropriate medical therapy can reduce this. The important causes for this high mortality are cerebral haematoma, cerebral hypoxia and cerebral edema with uncontrolled intracranial hypertension. Anaesthesiologists are best suited in upper air-way problems and the prevention and management of other problems associated with these cases.

In the year 1988, Prof. Dinesh Mohan of IIT, Delhi studied; injuries sustained by women and children in agricultural activities in India and concluded agriculture related injuries form a significant proportion in rural area and one of the most hazardous implement is the chaff cutter, suggesting an urgent need to improve its design to make it safer. Also It’s to be kept in time, most of these injuries are not reported, so are not reflected in any official statistics.

In the year 1990, M Varghees, New Delhi, Reported the results of an epidemiological study of farm workers’ injuries over a period of one year in rural population of Haryana, India. Out of 25000
population 573 sustained equipment related injuries in which 72 had severity of AIS – II or greater. Injuries were due to tractors, fodder cutters and other powered equipments. Minor injuries were due to hand tools and most of them were treated by local bone setters and healers. The Morbidity period of injuries, which would normally have taken 3-4 weeks in the hands of professional Orthopaedics was seen 6-8 weeks and even up to 6 months in some cases.

Prof. Mohan Dinesh also studied about road safety priorities and stated that the road traffic situation in India differs from that in highly motorized countries. In India majority of road traffic fatalities comprise of pedestrians, bicyclists and motor cyclists, also in India buses and trucks are involved in majority of fatal crashes. Suggesting priorities in India will have to be different from that in the HMCs and emphasized on control of speeds, safer design of country specific vehicles, use of helmets, traffic separation.

In the year 1993, Dinesh Mohan reviewed types of head injury and mechanical basis of such injuries and also gave a brief description of bio-mechanical basis of head injury. And summarized present understanding of human tolerance to head impact injury and the criteria developed to characterize such injuries and set safety standards.

Various other articles, written and presented by various authors were reviewed to get idea about accident deaths by motor vehicles in
states and union territories. Also accidents' strategies of world roads i.e. country wise as well as major accidents on India roads, even the road accidents and fatality statistics in 23 metropolitan cities of India.

Zvonimir Lovric, et al, informed that from September 1st to December 31st 1991, the heaviest months of 1991/92 war against Croatia, 2635 injured were managed at the Department of Surgery of Osijek University Hospital, Croatia. Among them 149 classified as polytrauma patients with mean age of 35 years, and 121 wounded by shell fragments. The TRISS method was used for evaluation of severity. Mean ISS was 35, while mean score for extremity injuries was 2.8 for 113 injured who sustained injuries to the extremities. With postoperative mortality of 29.5% and 9.7 months mean time of follow up, the late functional results were good. The score for extremity injuries did not significantly influence computed probability of survival (Ps) with mean value 0.6474. The mean transportation time from the site of injury to hospital of 1 hour 42 minutes showed significant negative correlation with Ps, as well as real survival time. War injuries to the extremities are usually multiple but not life threatening. All injuries, "dominant" and non life-threatening, should be dealt within the course of surgical procedure, because war conditions demand good primary care and whenever possible definitive management of the injuries at the first attempt.

In the year 1993 Christopher M Grande took out an exhaustive book, covering so many aspects of trauma like evolution of

Sixty Thousand people die on roads in India each year. In a country, where man, beast and all types of wheeled transport share the roads, this number might be greater but for the facts that the roads are so crowded, that high speeds, the killer in many countries and each individual’s desire to survive gives them a greater respect for others on roads than exists in some countries. Safety measures in another country may produce proportionately greater or lesser benefit in India but it would be of value to consider the experience of others so that steps might be taken to introduce those precautions which might be of benefit here. This will therefore review the steps that have occurred in Australia, particularly in the state of Victoria over the past 20 years.

In the year 1995, S Sood and AK Chopra carried out a study on “Road Traffic Accidents and other injuries in Delhi - A comparison of Severity Pattern”. Differences in the pattern of RTA (Road Traffic Accidents) and Non RTA trauma are not well established so carried out the prospective trial to study trauma presenting at their hospital in east Delhi and analyzed their data to see how RTA compared with other causes of trauma and they found, 400 patients of trauma of all types and severity were seen. The cause of injuries was Road Traffic Accidents in 122, Fights 109, Burns in 17
and other causes in 62 cases. In their study also males dominated 78% and rest were females and most patients were in 2\textsuperscript{nd} and 3\textsuperscript{rd} decades of life; the mean age was of 25 years. The avg. age of RTA patients was $26 \pm 13.5$ years.

In the year 1995, A. Indrayan, had extensive study over 'Epidemiology of trauma in India. According to him there are only two reliable sources for studying population based statistics, one is the police record and other one is survey. National Crime Record’s Bureau (NCRB) publishes two reports every year based on police records – one on crime which includes homicides and other on accidental deaths and suicides. According to that report in 1990 various causes of deaths are vehicular (57.7 – Road, Rail, Air, Water), suicides (73.9), Burns (20.5), Drowning (24.4), Snake bites (4.4), Fall (3.7), Natural calamities (4.6) whereas homicides (39.3 thousands) respectively. Whereas survey of causes of deaths (SED) carried out by Registrar – General (R-G) of India says Vehicular accidents 162.8 (23.9%), Suicides 127.3 (18.7%), Burns 92.6 (13.6%), Drowning 18.4 (11.8%) Snake bites 60.6 (8.9%) Fall 40.2 (5.9%) Natural Calamities 18.4 (2.7%), Homicides 27.9 (4.1%), making it 681 thousands.

Rural – Urban distribution of trauma deaths is not known but 12 big cities contribute 10% of all accident deaths compiled by NCRB while their population is only 5% of India’s total. Thus trauma deaths are more common in urban areas relative to rural areas.
It concludes that more than one death every minute due to trauma in India, whereas nearly 8 are injured every minute in India.

Trauma is predominantly male phenomenon and is increasingly involving people in the most productive phase of life. It may be worth while exercise to estimate the potential years of life lost as done by Immanuel for Singapore. (ANNACADMED 1991 – 20, 1 – 1995) They estimated that 8 injured or killed due to trauma every minute in India in the year 1990. This may go up to 11 every minute or a total of 60 lacs by the turn of century. This is the kind of load that we should prepare for. Most of these injuries or deaths would not be in disasters but would be every day occurrence. Thus, not only that contingency plan need to be drawn to meet the emergencies of disasters but also a permanent facility is needed in all hospitals to take care of every day emergencies.

A booklet published by Civil Surgeon, Parbhani had emphasized on future action plan for disaster management – “Disaster preparedness against natural calamities”

In the year 1995, A Bhattacharya, et. Al. has produced so many details like epidemiology of trauma in India, organization of accident service, organization of trauma care, pre-hospital management and also management of the specific problems, through a book published “Trauma Anaesthesia and critical care in developing country – a multidisciplinary approach.
A traffic booklet – SICOT in the year 1997 took out various aspects of trauma particularly road traffic injuries, factors influencing road safety and so on, who have emphasized on global burden of disease and injury study, by Bruce D Browner.

Howard R. Champion, Research Professor of Surgery, University of Maryland, Principal Investigator, JS Augenstein, Professor of Surgery, University of Miami

In 1997, the National Transportation Safety Board (NTSB) made three particular recommendations that are helping to build an "Automatic Lifesaving System for a Safer America". The NTSB is to be commended for its recommendations on crash recorders (H-97-18 and H-97-21), for holding this Symposium, and for its recommendation (H-96-13) to increase funding for motor vehicle safety efforts at the State level.


To assess the short-term and long-term outcomes of pediatric polytrauma patients and to analyze the extent to which short-term outcomes can predict long-term outcomes. Materials and methods: All pediatric polytrauma patients (ISS of $ 16, # 15 years of age) who were treated at a level I trauma centre between 1985-1989 and who were 18 years or older at follow-up (1996) were included. Short-term
outcomes were quantified using the Glasgow Outcome Scale (GOS). The Functional Independence Measure (FIM), the RAND-36 and questions on social outcome were used to assess long-term outcomes. Measurements and main results: Fifty-nine out of 74 patients survived (80%). At one year post-injury, 22% were disabled, mainly due to severe brain injuries, and 32% had changed school. After 9 years of follow-up, the degree of physical disablement was low (12%). Cognitive impairments were found in 42% of the patients. Only 10% were in receipt of disablement allowances; 76% were employed or attended school. The quality of life enjoyed by the patients (RAND-36) did not differ from that enjoyed by a healthy reference population. The GOS (from 6 weeks onwards) was a good predictor of long-term disablement.

There is also an opinion of Dr. Tondare, 1997, which is in consistent with that an organized effort, without blaming any particular system, starting from own and building a dedicated team can give better results than present, with the available resources in the form of man-power and finance also the equipment, the only thing is reshuffling and reorganization of the existing resources are required, proving to setup trauma care center in any corner of any medical care center is feasible or at least it is not very much out of reach. For that one should have a clear concept and dedication, for improvements and innovations rather than, blaming either a person or a system.
In the year 1998, Baral AK stated disaster is a global phenomenon or a problem, with no geographical boundary. It can be man-made or natural. It can never be stopped but it can be anticipated. Any hospital can land up with an emergency situation. He also concluded that every hospital must formulate a contingency plan as per their bed strength, man power and availability of equipment. Different types of mass-casualties can be expected up on the location of the hospital. This will definitely bring down the mortality and morbidity in case of disaster.


To know vehicle specific morbidity pattern, a study was done in 248 motor vehicle accident victims. Injury and patient record was made on a pre-designed proforma. The injuries were graded using injury Severity Scoring (ISS). The severity of injury was assessed to be maximum in 2-wheeler riders followed by those traveling in cars or jeeps. While analyzing the position of victims in the vehicle involved, it was observed that most victims with maximum injuries were either the drivers of the vehicle or front seat passenger. As many as 34% of the impacts were on head / face area followed by knee and leg area in 28.5% of the victims. The pattern was much more similar in virtually all types of vehicles, except the pedestrian injuries where knee / leg area was much more affected (49%). Upper limb fractures, chest/abdomen and knee/leg area were involved in 12% each.
Reportedly there are 70,000 road traffic accident deaths every year in India. Although it is a global phenomenon, yet in India it is of particular concern as there have been phenomenal rise in movement of man and machine while the attitudes of people and those of administrators continue to be medieval. For example deaths on the roads of Chandigarh numbered 125 in 1996 approximating 180 per million (for a population of 0.7 million), which are more than 20 times the British figures. This is the situation on the roads of the city which can boast of having one of the widest roads, the most organized implementation of the city planning and very high proportion of literate population and three major & easily approachable Govt. Hospitals (Sector 16 hospital, GMC and PGI). If this is the state of affairs in Chandigarh, the situation in rest of the country does not leave much to imagination. This epidemic targets young and middle aged. A large no. of these deaths is preventable by prompt and comprehensive first hour care rather golden hour care to these patients. We, hereby, wish to highlight this problem with a view to suggest some possible solutions.

Dr. Anjan Prakash, said in 1999, Hospitals play a very vital role in the management of disaster. Main object is to minimise death, disability and disease. The hospital phase of disaster management has emphasis on prioritising treatment or triage, treatment of mass casualties, crisis expansion of hospital beds and provision of tertiary level specialised medical treatment and rehabilitation. It highlights the
needs of right patient to the right hospital at the right time. Pre­
hospital phase is highly important and equally important is the
transportation of casualties by ambulances or carrier vehicles.
Transportation and communication are very important. Institutional
preparedness of the hospital will maximise utilisation of available
resources. There is a definite need for a qualified disaster plan by
every hospital which should be put into action on receiving the alert
call. All the activities of hospital phase of management require
coordination between all clinical and administrative departments.

Dr. NS Laud of Mumbai, felt that trauma care and the
accident emergency service (AES) is the need of the hour, particularly
by witnessing loss of so many precious human lives, following state
road accidents, specially on Mumbai-Poona Highway. For this he also
felt, unless and until we understand the genesis of its occurrence,
systemic analysis of the problems involved and systematic approach
in the management of trauma care. He gathered that India has the
highest accident rate in the world, every 12 minutes one India dies on
the road and 10 times that no. get injured. Killer is found to be in the
age group below 40 yrs. And he felt trauma should not be looked as a
problem of injury to a person but its effects on family and society as a
whole are to be kept in mind. For which he says – For a trauma victim

IT IS NOT THE LIFE
BUT QUALITY OF LIFE
IT IS NOT THE FUNCTION
BUT THE QUALITY OF FUNCTION THAT MATTERS.
The growth of the vehicles and road accidents fatalities in India have increased significantly. These data show that the total no. of vehicles increased from 0.6 million in 1961 to 33.6 millions in 1996 and fatalities from 5547 in 1961 to 69800 in 1996. The population in India in 1961 & in 1996 is 439 & 931 millions respectively. This shows that the rate of road traffic fatalities per million, population has increased from 13 to 75 and the rate per 10000 vehicles has decreased from 85 to 21. When these figures were compared with those of High Income Countries (HICs) we find that in India per vehicle rates are 10 times higher and per person rates are about 25-50% lower. Motorized Two Wheelers (MTW) constitutes 69% of all vehicles and total no. of buses and trucks is greater than the no. of cars. The proportions are very different from those in Germany, Japan and USA.

Reviewing the reports from the past, males were more accident-prone than females. According to NCRB, Ministry of Home affairs, males killed in road accidents in India in 1994 were 82.3%. The highest percentage of the casualties was in the 30-50 years age group (35.94%), being all the time on the move to earn a livelihood and more prone to risk, followed by 18-30 years age group (33.1%), the young and more active.

L. Balsubramanyam studied and come to the conclusion ‘trauma system is a luxury or a necessity’. Injury is major health care problem, i.e. considered the leading cause of death, in most of the countries for second to fifth decade of the life, which also true for
India. In 1966, the national academy of sciences, called these deaths and disabilities as the neglected disease of the modern society. Unfortunately, even 20 years later, the fatality rates didn’t decrease and 2.5 million Americans died before any action was taken. World Road Association showed that, mortality rate for auto accidents worldwide was the highest in India.

Currently in India trauma continues to be the neglected disease, similar to the condition in US about 3 decades ago. India could learn from mistakes made in the US and eventhough the road setting up a trauma system is difficult, unchartered, rough and challenging, but it can be achieved, one who personally commits.

A review was carried out by civil surgeon of Parbhani, in which they have studied disaster profile of the state, disaster relief plan for the state going for relief plan for the district and chocked out action plan for managing the casualties.


The authors analyze a group of 15 patients with polytrauma during a 4-year period. The patients had the clinical signs of severe bleeding. Despite the complex resuscitation care, the patients died due to consequences of haemorrhagic hock already during the operation or very soon after operation. All patients were after initial resuscitation and diagnostic procedures (apparatus breathing, aggressive
volumotherapy, proved continuous bleeding) performed for the use of further resuscitation actions, namely surgical control and stoppage of bleeding, surgical indications. This patho-physiological consideration is reflected also in the title of this study. The study further discusses the modern injury conception of resuscitation at an operating theatre which in frame of surgical intervention attempts to achieve homeostasis. At the same time, the surgical approach frequently must prefer the methods which enable the physiological stability on the behalf of incomplete solution of post-traumatic anatomic integrity. The definite solution can be possibly performed by subsequent operation.

To the National Highway Traffic Safety Administration (NHTSA):

- H-97-18 "Develop and implement, in conjunction with the domestic and international automobile manufacturers, a plan to gather better information on crash pulses and other crash parameters in actual crashes, utilizing current or augmented crash sensing and recording devices."

To the Domestic and International Automobile Manufacturers:

- H-97-21 "Develop and implement, in conjunction with the National Highway Traffic Safety Administration, a plan to gather better information on crash pulses and other crash parameters in actual crashes, utilizing current or augmented crash sensing and recording devices."
To the Governors and Legislative Leaders of the 50 States and U.S. Territories, and to the mayor and Chairman of the Council of the District of Columbia:

- H-96-13 "Emphasize the importance of transporting children in the back seat of passenger vehicles through educational materials disseminated by the State. Consider setting aside one-tenth of 1 percent

- From all motor vehicle insurance premiums for policies written to establish a highway safety fund to be used for this and other safety efforts. (Urgent)"

The first two are on the NTSB’s list of "Most Wanted Transportation" implemented will generate about $100 million per year for State highway safety efforts. These funds can be used to organize a nationally compatible Automatic Lifesaving System in each State. This paper addresses the building of a national Automatic Life-Saving System based on these pioneering NTSB recommendations to realize the full potential “Safety Improvements". The third recommendation, when fully of new technologies as soon as possible. The work described herein is the result of efforts of a multidisciplinary team of trauma surgeons, emergency physicians, crashworthiness engineers and statisticians. The team examined the safety potential of communicating crash recorder data via wireless telecommunications with Automatic Crash Notification (ACN) technology to improve emergency transport and treatment of crash victims. The research team developed URGENCY software for automatic and instant
conversion of crash recorder data into a crash severity rating that calculates the probability of the presence of serious injuries in any given crash. URGENCY software version 1.0, now in the public domain, can improve triage, transport, and treatment decision-making for highway crash victims.

F. Jacquot, G. Loubert, T. Loeb, F. Signoret, JM Féron

Each year, the functional and vital prognosis of 750 to 1000 patients is threatened when a traumatic spinal cord injury (SCI) occurs. Systematic medical management and progresses in pre-hospital care considerably improved the surviving rate of these patients. The constant evolution of knowledge, especially in the physiopathology of cellular injuries, regularly generates new therapeutic approaches, some of them still controversial.

We expose and tempt to clarify the current approach concerning spinal cord trauma management. Essential points during the first hours following the accident are reminded. Controversial material and data still requiring validation is also summarized.

In the year 2000, Dinesh Mohan through so many titles like “Injury as a Health problem”, “Injury as disease – Strategies for control”, “Safety Promotion – Education and legislation” said that injuries constitute one of most serous health problem round the world. The decline of competing illnesses, however, is not the only reason that injuries have surfaced as important cause of mortality and
morbidity. Other major factors, leading to increased injuries are urbanisation, industrialization and motorization. The injury problem looks so complex that many tend to throw up their hands in helplessness, the problem remains unsolved. We should have the same attitude towards control of injuries that we do for other health problems.

Macro-social Determinants of Safety, Ragner Anderson, gave a background for his studies as – Any sudden phenomenon, social or natural can be explained at situational, structural and historical levels in a temporal sense and at local, regional, National and even International levels from a geographical or geo-political point of view. Sociologically, concepts such as individual, social and societal also refer to various levels along an additional dimension for causative analysis.

Trauma Scoring Systems and prognosis, Dr. Shobha S Arora, Delhi, AAAR, Vol. XLIII/1 October 2000, had conclusion that trauma scoring is a mentality. It has to be incorporated in the routine care of a poly-traumatized patient. However no scoring system is full-proof and it is better to begin with a simpler scoring system based on both anatomical as well as physiological scores. Periodic auditing of the data is also desirable to assess the existing trauma Care system and to improve upon it. Begging on these guidelines the system gets incorporated in routine patient care of polytrauma.
In the year 2000, Mathew Verghees, carried out a study titled “Pre-Hospital Care” with an objective “to provide supportive care to a trauma patient from the time of injury till definitive treatment can be provided for the patient with a view to reduce mortality and morbidity and he summed up – “A lot of controversies exist regarding what should be the ideal pre-hospital management for the injured patient. No system is ideal for all areas. Policy formulations for pre-hospital managements of the injured will obviously be determined by the availability of trained personnel and technological and economic resources at hand. But what is the optimum and who should give it?”

Trauma Systems in India, Suresh S David and MS Mphill, AAAR, Vol. XLXII/1, Jan. 2000, say India has one of the highest accident rates in the world – 34.5 per hundred thousand vehicles compared to 10 in Japan and 14 in USA. Pre-hospital care is non-existent, except in the major metropolitan cities where so called ambulances are merely white taxies which transport patients. Although Emergency Departments (ED) is widely available, there is accessibility. In short, on a nationwide scale quality emergency care is unavailable. They concluded that the need for improved emergency and trauma care services in India is obvious. We need to priorities our plan of action to bring this pressing need to reality. The strategy suggested is the implementation of pre-hospital care, institution of formal emergency medicine departments in medical colleges, to
provide undergraduate training and by creating post-graduate training courses in emergency medicine.

Vinay Mohan Lai has published lot of statistics connected with transport in the form of no. of vehicles, variety of vehicles, no. of accidents, no. of injured and the deaths, throughout the Maharashtra, who says transportation is both the cause and the effect of devilment. Not only transport system, expands as development takes place, but the system itself leads to development. The motor-vehicle population in Maharashtra is highest as compared to all other states of the countries.

Road Traffic Accident, SK Lunawat, AAAR, Vol. LVII/2 December (O-D) 2002

The astronaut of ill fated Apollo 14 once said, “it is safer to fly in the space than drive on a motorway. The definition of accident is an unforeseen event causing injury or harm. RTA is now considered as a modern epidemic as it is the greatest killer of citizens in the productive age group. The first recorded RTA death in London was on 14\textsuperscript{th} of August 1885 and the shocked magistrate said, “We hope it would be the last death of its sort.” The problem size is increasing day by day since 1885 till the present days more than 30 million deaths have been reported. Annually 865000 deaths occur globally due to RTA deaths occur in lesser – developed countries (LCD’s). There has
been an increases of 150-200% in number of RTA deaths in these countries in the last three decades and most victims are the bread earners of the family.

**Head Injury – A Global Scenario, AK Mahapatra, AIIMS, New Delhi, AAAR, Vol. LVII/2 December (O-D) 2002**

Road accidents have increased by many folds in India over last two decades, contributing to the number of head injury victims. Server head injury is demoralizing situation leading to 50% deaths and 25% disability cases. Hence, best way of dealing head injury is prevention of head injury. In prevention of head injury, there is greater role of public awareness and co-operation, rather rules and execution of law.

**Military trauma care: challenges for the new millennium, MR Waghary, AAAR, Vol. LVII/2 December (O-D) 2002**

Militancy has become a global phenomenon and the aimless killings of the innocent victims have become a daily affair. Knowledge of militancy attacks and profiling injuries is essential in management of casualties. The challenge of the next millennium is to improve pre-hospital care, ensure the safe evacuation of causalities to the hospital with minimum lag time and to reduce the mortality and morbidity of patients who arrive alive to the hospital. The developments in traumatology in diverse areas such as surgical and critical care techniques lead to ensure optimum patient management.
भोकर्दनजवक दोन टूक्ची टक्कर; ३ घार, ४९ जखमी
3 killed, 20 hurt in Beed Road mishap

Correspondent
Beed, Oct 31

Eight people were killed, four of them on the spot, in a Jeep-Tempo collision at 8:10 am from here, on Beed-Aurangabad Road at 8:10 am today.

The jeep (No. M.H. 23-6641), bound for Gavali, collided with the tempo (No. MWA 4450) while trying to overtake a truck. The impact of the collision was so severe that the jeep and tempo were completely damaged. In the jeep, there were about 12 passengers.

Those who died on the spot are: Mr. S. K. Amte, Mr. S. S. B. Jangir, Mr. S. M. Tekale and Mr. S. B. Tekale.

Mr. Bhaskar Yeole, Mr. Laxman Aankate, Mr. Sabadr Khan Patel and the Jeep driver.

Mr. Narsingh Chakate breathed their last in the hospital.

In all 20 people were injured.

Two of them reported to be in a serious condition have been admitted to Beed civil hospital.

Illegal transportation is going on in a large scale in Beed district.