

The health of our children should be the measure of our progress

Sebastian van As

Professor A B (Sebastian) van As heads the Trauma Unit at Red Cross War Memorial Children's Hospital in Rondebosch, Cape Town. The text below was presented on the occasion of his inauguration as head of the unit.

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According to Amartya Sen, health is one of the basic capabilities that give value to human life. When asked what they regard as most important in their lives, people all over the world will usually refer to their health.

The Commission for Africa has recommended a shift of emphasis from humanitarian relief to prevention. The number of physicians in sub-Saharan Africa is negligible compared with the number on other continents – the Americas, Europe and Asia. There are currently more doctors in Holland (a tiny country in Europe with 16 million inhabitants) than in the whole of sub-Saharan Africa. In at least four ways, the University of Cape Town's Department of Surgery is contributing towards the development of Africa.

Liver transplantation

Groote Schuur Hospital is well known for the first heart transplant by Professor Christiaan Barnard in 1967. It is not so well known that liver transplantation was also developed in Cape Town, the first and for a long time the only centre in Africa where this operation was performed. Initially liver transplantations were only done at Groote Schuur Hospital, where Professor Kahn can be regarded as the father of adult liver transplantation in South Africa. Since 1989 they have also been performed at Red Cross War Memorial Children's Hospital (RCH) in Cape Town under Professor Millar, who can be regarded as the father of paediatric liver transplantation. At the University of Cape Town's Liver Research Centre, numerous novel experimental liver and liver transplantation studies have been carried out. These studies have a strong foundation in the research laboratory of Professor Barnard's era, including the posthumously acclaimed Hamilton Naki.

Trauma care

Each year, approximately 5 million people die as a result of injuries worldwide. This translates to 16 000 trauma deaths each day – the equivalent of 50 jumbo jets crashing. The most common causes of death in South Africa are gunshot injuries, sharp and blunt assault, and motor vehicle crashes. Since 1989, South Africa has built a reputation for selective conservative management for many types of trauma. This represents a complete change of paradigms: whereas in the past a multitude of trauma patients were taken to theatre for operation, with significant morbidity and mortality, in the modern treatment of trauma, selective conservative management is paramount. Introduced by Professor Demetriadis in 1989 at Baragwanath Hospital, selective conservative management has now been extended to numerous other areas such as stabbed necks,

gunshot necks, ruptured livers, stabbed hearts and even gunshot abdomens, which have been extensively documented in the literature. Therefore, the most difficult decision for a surgeon may actually not be which procedure to perform, but to assess whether an operation needs to be performed. South Africa has become a world leader in trauma care and has been training numerous African and global under- and postgraduates.

According to prognoses of the World Health Organization, trauma will be the biggest killer by 2020 since other causes of death such as infectious diseases and cardiovascular diseases will decline in the next decade.

Paediatric trauma care in Cape Town

South Africa's population is approximately 47 million people, of whom 20 million are children. Trauma is the leading cause of childhood death between the ages of 1 and 18; worldwide, approximately 1 million children die annually from the three big killers of motor vehicle accidents, drowning and burns.

The development of paediatric trauma care is another area where surgeons have excelled and taken the lead. In South Africa each year, 6 500 children between the ages of 1 and 14 die as a result of unintentional injuries; this figure is about 10 times higher than in Western European countries. While generally the world is a dangerous place for children, this is even more so in low- and middle-income countries. Our own research shows that a child growing up in Cape Town has a 25 times higher risk of being admitted to hospital with an injury than a child growing up in Birmingham, UK. With the support of the RCH Children's Trust and its donors, a new state-of-the-art trauma unit was built and opened in 2004. At this unit, about 10 000 children are treated annually, of whom 2 000 are seriously injured and require admission. About 1 200 operations are performed annually, of which orthopaedic procedures are the most common. It is currently the only paediatric trauma unit with a total body scanner that can take an X-ray of the entire body of a child presenting to the unit with multiple injuries. The total amount of radiation is significantly lower, which is very important in children with their growing organs, including gonads. The new Lodox imaging device is able to pick up fractures which are missed clinically by doctors, and is also able to pick up soft-tissue injuries and cervical spine fractures. Furthermore, it has proved very practical in mass casualty because of the high turnover rates. The Lodox scanner represents fascinating new technology from Africa.

Child accident prevention

Since 1978, there has been a Child Accident Prevention Foundation at RCH as a result of the observation by Professor Cywes that injuries are an important cause of child admissions and operations at the hospital. The vision of Childsafe is to create a safer world for children. Its activities focus on research, education, environmental change and recommendations for legislation, all aimed at increasing awareness of the possibility for prevention of injuries. Childsafe currently maintains a childhood injury database which is the largest in the world, with 150 000 entries each with about 50 variables. The data show that the most common mode of violence against children is blunt assaults, followed by sexual assault, sharp assault and bite wounds. Childsafe furthermore focuses on education, with an annual national child accident prevention month, providing child safety courses to the community and publishing a Childsafe report quarterly, extensive media campaigns (last year to the value of over R19 million) and a frequently visited modern website (<http://www.childsafe.org.za>).



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One of the most prominent activities of Childsafe was the support for the child-friendly New Firearm Bill, which has reduced the number of gunshots in children treated in our hospital by 70% since 2000. It has also had a drastic effect on national mortality as a result of gunshots, reducing it by 50%. Childsafe also contributed significantly to the *World Report on Child Injury Prevention* published by the World Health Organization in December 2008. While there are significant campaigns to increase vaccinations for infectious diseases, child accident prevention is seriously neglected in the Third World. Too often it is forgotten that child safety is a matter for adults.

Nelson Mandela, undoubtedly one of Africa's greatest politicians, stated in his first speech in Parliament that 'a better society will and must be measured by the happiness and welfare of its children',

at once the most vulnerable citizens in any society and the greatest of our treasures. I hope our society will be measured against this standard in the future.