

World Anaesthesia

news

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**WORLD
ANAESTHESIA**

Welcome to World Anaesthesia News

"Anaesthesia Worldwide" has now metamorphosed into "World Anaesthesia News" with a new look and a new international editorial board. It is no longer the journal of the World Federation of Societies of Anaesthesiologists (WFSA) but is supported by a generous grant from the Federation.

Anaesthesiologists are often confused by the relationship between the WFSA and World Anaesthesia. I hope that the articles in this issue on each of these organisations will make matters clear. Essentially, the WFSA is a federation of societies of anaesthesiologists as its name suggests whilst World Anaesthesia is a group of individuals with similar aims, namely "to make available the highest standards of anaesthesia to all the peoples of the world." Naturally, the two organisations work closely together and try to support each other's endeavours.

This issue of World Anaesthesia News continues the tradition of publishing articles from individuals and societies in developing countries. At the end of these articles (from Ethiopia, Eritrea and Zambia) I have added a few statistics on gross domestic product (GDP), infant mortality and life expectancy. The figures are all too familiar: GDP is under US \$1000 per capita, infant mortality approaches 100/1,000 and life expectancy is less than 50 years. In the developed western world, comparable figures are GDP \$20-30,000, infant mortality 5-6/1,000 and life expectancy 70-80 years. The figures for parts of Eastern Europe and the former USSR lie somewhere in between. With so little available to be spent on health, it is easy to be pessimistic but all the authors remain optimistic about the future in their countries

I would also commend to you Prof. Thara Tritrakarn's essay, based on a talk he delivered at the World Congress in Montreal in June. He concludes that if we in the West can help train a single anaesthetist who returns to his or her home country, we will have made an immeasurable contribution to the improvement in health care in that country. There is our challenge for the new millennium.

The editorial board and I look forward to hearing your thoughts, critical or otherwise of our efforts and of receiving your contributions to future editions of World Anaesthesia News.

William F Casey

The editor of World Anaesthesia

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Submissions to World Anaesthesia

News may be sent to any of the above.

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Anaesthetic Manpower in West Africa – which way forward?

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Introduction

Since the introduction of ether in 1846, anaesthesia has witnessed many innovations in the drugs, equipment and techniques used. The Schimmelbusch mask, EMO and standard Boyles machine have been replaced with computerised anaesthetic and monitoring equipment for the safe administration of anaesthesia. The wider range of drugs available allows a flexibility of techniques suitable for novel and demanding surgical procedures and patients' varying medical conditions. Thus, advances in surgery have been possible largely due to modern anaesthesia.

Many of the early pioneers of anaesthesia were surgeons like James Simpson, physician to Queen Victoria, who popularised the use of chloroform. By virtue of their eminent position in the medical world, they advocated and championed the use of anaesthesia, sometimes against considerable opposition.

The Association of Anaesthetists of Great Britain and Ireland was founded in 1932, whilst the first examination for the Diploma in Anaesthesia was held in 1935, the same year that a chair in anaesthesia was created in Oxford. The status of anaesthesia in Great Britain, on a par with other medical and surgical specialties, was secured in 1948 with the introduction of the National Health Service. Since then, anaesthesia in the developed countries has advanced very rapidly, become very safe and thus allowing advances in surgery.

In West Africa, training of anaesthetists locally to Diploma level commenced in 1967 with the creation of the first autonomous Department of Anaesthesia at the University of Lagos. Post-graduate fellowship training in Nigeria

commenced in 1970 and at the West African Medical College in 1979. In their early years, both colleges produced a total of 75 fellows in Medicine and Surgery but only one in Anaesthesia. We have looked at the impact of the West African Postgraduate Medical College training on anaesthetic manpower development.

Methods and Material

The number of candidates who registered for the examination of the West African College of Surgeons Fellowship in Anaesthesia from April 1992 – October 1995 was collected from the West African Postgraduate Medical College. The records were reviewed to establish the number of candidates that actually attempted and those who passed examinations of the College in April and October of each year. The ratios of anaesthetist to surgical graduates were determined. The number of anaesthetists trained through the Diploma programme over the same period was also obtained and the number that proceed to the Fellowship programme was determined.

Results

The Faculty of Obstetrics and Gynaecology attracted the highest number of postgraduate trainees with a steady increase in the number of candidates attempting the examinations from 275 to 312 candidates over the five years of the survey. There were between 91 and 101 candidates at Part 1, 22 to 58 at Part 2 and 16 to 40 Fellows produced per year. This was closely followed by the Faculty of Surgery producing 16 to 39 Fellows per year. Anaesthesia had only 9 to 27 candidates at Part 1, 17 to 26 at Part 2 and zero to 2 Fellows per year. A total of 2,963 candidates sat for the primary examination of the various surgical specialties viz. Obstetrics and Gynaecology, Surgery, Dental Surgery, Ophthalmology and Otorhinolaryngology, but only 93 candidates sat the anaesthetic primary. This produces a ratio of 32 prospective surgeons to 1 anaesthetist. The end point of the training produced 292 Surgical Fellows in 5

years with only 6 Fellows of Anaesthesia; a ratio of 1:49.

The Diploma in Anaesthesia programme of the West African College of Surgeons, a constituent College of the West African Post-graduate Medical College (WAPMC) was commenced in 1990. This programme yielded 56 diplomats within the 5 years studied. However, 30 (53%) of these diplomats were also pursuing the Fellowship programme.

Discussion

Postgraduate medical education based in the West African sub-region has been pursued with vigour since the early 60s by experts in all specialties. These teachers, who generally had their training in overseas institutions, were determined to train their junior colleagues locally at reduced cost to provide improved medical services. The dearth of anaesthetists has, however, continued, with the ratio of anaesthetists to the general population being at least 1:300,000 compared to 1:10,000 in developed countries. In a recent survey of 52 hospitals in 15 states of Nigeria, nurse anaesthetists provide service with physician anaesthetists in 50% of hospitals and were the sole providers of anaesthesia in 20% of the hospitals including some teaching hospitals. Although nurse anaesthetists provide useful assistance to physician anaesthetists in many parts of the world, strict guidelines are necessary to ensure the safety of patients. In the Gambia, surveys have shown that problems such as post-operative fluid and electrolyte imbalance, septicaemic shock, difficult airways and intercurrent medical diseases occur in 65% of surgical patients and require the expertise of physician anaesthetists if outcome is to be improved.

Anaesthesia as a career is unattractive to both medical students and interns because of the "behind the scene" nature of the specialty and their lack of adequate exposure to it during their training. Unfortunately, the areas where anaesthetists are primary care providers such as in Intensive Care, Resuscitation, and Pain Therapy Clinics are poorly developed or

non-existent in most African hospitals. Thus, the few doctors that join the specialty find the work unrewarding especially when they are presented with poorly prepared patients, have a restricted range of anaesthetic agents with little monitoring equipment and inadequate resuscitation facilities. It is, therefore, not surprising that despite the efforts of many within the sub-region, the specialty remains unattractive. Many of the few locally trained anaesthetists quickly migrate from West Africa to more attractive areas where there is a shortage of anaesthetists. Even our locally trained Diplomats have found favour with the Nigerian Government's technical assistance scheme and they are sent to work in other countries.

What then is the way forward when anaesthetists are under pressure to provide services for sicker patients undergoing an increasing range of surgical procedures? Only a combination of strategies can redress the widening gap between the numbers of trained anaesthetists and surgeons in the sub-region. Since medical education should respond to the health needs of the community, the time allocated solely to anaesthesia in the medical students curriculum should not be less than eight weeks and the specialty should form one of the options for intern training before full registration. New graduates should have an opportunity for locum appointments in anaesthesia and

they then may find the specialty interesting and fulfilling as a potential career.

The Diploma in Anaesthesia programme should be re-structured and supported by Governments. For example, medical officers already in service could be sponsored during their training and then be made to serve for a specified period in government hospitals before they would be eligible for further sponsorship for the Fellowship programme if that is what they wish. Such a move will not only provide improved services at the secondary level of health care delivery but will reduce the drift of trained anaesthetists into urban private hospitals.

At the tertiary level, accreditation criteria for surgical departments should require adequate anaesthetic and resuscitative facilities in the hospital. West African countries with compulsory National Service Schemes should allow the year to be spent in anaesthesia and other specialties with chronic manpower shortages. Further, efforts must be made to ensure that essential facilities for the safe practice of anaesthesia be provided at all levels of health care and that those who provide it are financially adequately remunerated. These measures will not only promote the growth of anaesthesia in the sub-region but also improve standards in surgery and critical care medicine.

This study has further confirmed that despite the large number of doctors seeking

postgraduate training in surgical specialties, only a few are interested in anaesthesia. It was initially thought that one year's training to Diploma level might ease the manpower shortage but since the training is based at tertiary institutions, most of the trainees decide to continue to the Fellowship programme and this reduces the number of clinical anaesthetists working in the secondary level of health care.

Conclusion

Advances in surgery have been possible largely due to innovations in modern anaesthesia. However, whilst there are enough anaesthetists in most developed countries to allow sub-specialisation there is profound shortage of anaesthetists in West Africa. The situation is being made worse as few undergraduates or new medical graduates are willing to consider anaesthesia as a future career. At a recent meeting of the West African College of Surgeons in Conakry, Guinea in 1999, 146 new fellows were admitted to the College, six of whom were anaesthetists, a ratio of 1:24. Of the six, three were Nigerians, 2 were from Guinea and 1 from Gabon.

Acknowledgement

We wish to thank Professor Kayode Odusote, Secretary, West African Postgraduate Medical College for his invaluable assistance in data collection.

Challenges in the Developing World

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It is 154 years since the birth of anaesthesia on October 16th 1846 when ether was first used. Anaesthesia has contributed to the advances made by all branches of surgery, intensive care and pain management and, in the developed world, anaesthesiologists are respected and highly paid members of the medical profession

On the other hand, in many parts of the developing world, would-be patients have

little access to anaesthetic services. Many lives are lost because surgery and anaesthesia are inaccessible to patients and their families. There is a great shortage of anaesthetists in every developing country with ratios as high as 1 million potential patients to each anaesthesiologist. Without adequate anaesthesia, surgery cannot progress and the health and welfare of millions of people suffers.

Economics and Anaesthesia

Economic, political and social factors influence the priority given to health care and its various specialties including anaesthesia. In Table 1, thirteen countries are listed by the gross national product (GNP) or earnings per

capita in US dollars in 1999. Countries with a high GNP have plenty of doctors, low patient per doctor ratios and low infant mortality rates. In countries with lower GNPs, the number of patients per doctor and the infant mortality rises.

In countries with a low per capita GNP (below US \$1,000 per annum), priority is usually given to primary health care to reduce the incidence of infectious diseases, to reduce maternal and infant mortality and to reduce malnutrition. Anaesthesiology is ignored. In Laos, ten anaesthesiologists serve a population of 5.3 million, in Cambodia, 20 anaesthesiologists seek to serve 10 million and in Bhutan, there are no physician anaesthetists at all. What few anaesthetists

Table 1: Relationship of economy to health care indices and anaesthesia manpower

Country	GNP/US\$	Pop.	Infant mortality	Pt. per doctor	No. anaesthetists	Pt. per anaesthetist	Nurse anaesthetists
USA	31,400	273m	7	387	23,300	11,500	Yes
Japan	30,300	126m	5	522	4,200	20,000	No
Singapore	21,800	4m	5	667	130	26,000	No
Hong Kong	24,700	6m	5	772	150	40,000	No
Malaysia	3,100	22m	12	1,477	250	88,000	No
Thailand	1,850	62m	26	2,461	500	124,000	Yes
Indonesia	460	207m	60	6,786	350	591,000	Yes
Pakistan	492	136m	88	2,000	400	340,000	No
Laos	258	5m	94	4,300	10	500,000	No
Bangladesh	289	130m	90	12,500	200	650,000	No
Vietnam	310	79m	34	2,300	400	197,000	Yes
Cambodia	270	10m	110	9,000	20	500,000	Yes
Nepal	225	23m	88	12,000	80	287,000	No

there are, work in teaching hospitals in large cities. In smaller towns and cities, surgeons or general practitioners, nurses or technicians administer anaesthesia. Surgical mortality is high and the risks of anaesthesia often exceed those of surgery.

In countries with a moderate per capita GNP (US \$1,000-10,000), more money is available to be spent on health and secondary and tertiary care receive some priority. Hospitals are better equipped and staffed and specialisation is encouraged. Anaesthetists are in high demand but few in number and rarely work outside large cities. Only in countries with a high GNP are there sufficient anaesthetists but their services can be very expensive.

Anaesthesia in the developing world

The ultimate goal of anaesthesiologists is the same worldwide: "the provision of safe anaesthesia for all." It is much easier to achieve this goal in rich and developed countries where anaesthesiologists are not only equipped with knowledge but have the drugs, equipment and support facilities they need. Like other health professionals they enjoy good working conditions and have sufficient income to maintain their families and their social status.

In less affluent, developing countries it is a greater challenge. Anaesthetic practice can vary considerably, even within a given county. In the larger centres, medical schools, teaching hospitals and private clinics are usually well equipped. Public hospitals often have poorer facilities, fewer drugs and less

equipment and serve the poorer sections of the community. In smaller cities, anaesthesia is often administered by nurses or technicians working under the supervision of medical doctors or entirely unsupervised. In countries such as Thailand, Indonesia and China, nurses administer 70-90% of anaesthetics.

Anaesthesiologists in developing countries work very hard. They strive to offer safe anaesthesia to their patients despite having a limited range of drugs and equipment. They are, in addition, often responsible for patient care in Intensive Care Units, for supervising nurse anaesthetists, purchasing drugs and equipment and being responsible for the maintenance and repair of equipment. Journals and textbooks are scarce and opportunities for post-graduate education, either at home or abroad, are few and far between. Research is difficult or impossible. Their status and income is often lower than that of surgeons and physicians and many anaesthesiologists have to undertake several jobs to earn enough to support their families.

Politics and health care.

In the developing world, when governments change everything including health budgets and priorities change. It is essential for anaesthetists to win the support of politicians and the community at large and to impress on them the importance of anaesthesia to public health if they are to make any substantial improvements in patient care.

Drugs and equipment

Selecting appropriate drugs and equipment is another challenge for anaesthesiologist who have trained in western or developed countries and grown used to using state-of-the-art drugs and equipment. With limited budgets, cost benefit ratios have to be carefully considered. Propofol and sevoflurane cost 20-30 times more than thiopentone and halothane. Is a slightly shorter awakening time worth that extra cost?

Electronic monitors frequently break down if not properly maintained and they are costly to repair. Anaesthesiologists in developing countries must decide what are the most appropriate monitors for them. Pulse oximeters detect hypoxia before clinical signs are evident and are probably of greater value as the sole monitor than an ECG, capnograph or oxygen analyser.

Human resource development.

Many developing countries do not know how many anaesthetists they need but should implement a realistic human resource plan for anaesthesia. The mix of the workforce should be made explicit: whether all medically qualified anaesthetists or is there a continuing need for nurse anaesthetists. In countries where there is a shortage of doctors, an entirely medically qualified anaesthetic work force is inappropriate and nurse anaesthetists are vital and indispensable. Appropriate and concurrent plans for their development have to take place alongside those for physician anaesthetists.

Because of low income, low professional status and a perceived lower quality of life, anaesthesia remains an unattractive profession. Support for its development from politicians, government and health providers is essential. Foreign support may also be initially needed to start and develop suitable training programmes.

Improve professional esteem and popularity

Anaesthesiologists in the developing world must constantly prove to their surgical colleagues their ability, knowledge, skill and professionalism. Their contributions to Intensive Care, trauma management, resuscitation and pain management will gain them recognition and win them professional esteem. They must show medical students and young doctors that anaesthesia is an interesting and intellectually satisfying branch of medicine combining anatomy, physiology and pharmacology with a clinical knowledge of medicine and surgery and technical anaesthetic skills. Anaesthesia makes surgery possible and safe, relieves patients of pain and saves lives from trauma and critical illness.

External help

In 1950, the World Health Organisation (WHO) established an anaesthesia training centre in Copenhagen, Denmark. It ran a one year training course for anaesthetists from developing countries until 1973. Many doctors completed the course and then returned home to become the pioneers of anaesthesia in their homelands. Some, however, gained specialist qualifications and decided to stay in the West and enjoy a more affluent life-style than would be possible at home.

More recently, the World Federation of Societies of Anaesthesiologists (WFSA) has been active in establishing training courses for anaesthetic personnel around the world. The Bangkok Anaesthesia Training Center (BARTC) was established in 1995 by the WFSA and the Royal College of Anaesthesiologists of Thailand (RCAT) to train anaesthesiologists from similar countries (Laos, Cambodia, Vietnam) who would then return home and become the future trainers in anaesthesiology, thus raising standards in their respective countries. Other developed countries have helped elsewhere: Canada in Nepal,

Australia in the Pacific and France in francophone Africa.

To prevent an influx of foreign medical graduates to the United States, increasingly difficult and expensive examination hurdles have been introduced (ECFMG & USMLE). Only the most determined foreign medical graduates are able to enter the United States and they often find themselves involved in sophisticated basic research divorced from clinical medicine and irrelevant to the actual practice of medicine in their home countries. The gap between clinical medicine in the United States and in developing countries is becoming wider by the day.

In the United Kingdom, the fees charged to foreign students were dramatically increased in the 1990s to £17,000 (US \$25,000) per year and continue to increase by 10% per year. These exorbitant fees are an effective barrier preventing students travelling to the UK to study medicine and anaesthesia. The image of the generous British gentleman encouraging learning and scholarship will gradually change that of the stingy, niggardly and selfish profiteer. If changes do not occur in the USA and the UK, immeasurable damage will be done to medical education in the developing world.

Give a helping hand

More than half the world's population has very limited access to anaesthetic services but there are a large number of anaesthetists in the developed world who can help their colleagues assist these people. Universities, national societies and organisations and individuals can play an active role in the development of anaesthesia not only at home but also at a regional and world community level. If only 1% of them helped train a single anaesthetist from a developing country who then returned home to train their juniors, the standard of anaesthesia in their respective countries would rise immeasurably. But be careful; do not give them internationally recognised and marketable qualifications. It is human nature to seek to emigrate to where one can enjoy a higher standard of living. Encourage them to go home and help their fellow countrymen.

This essay is based on a talk given at the World Congress of Anaesthesiology, Montreal 2000. The bold print above is mine, not the author's (Ed)

The Mature Anaesthetist

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Among the definitions of the word "mature" given in Chambers Dictionary are "full development" or "perfection". Maturity and chronological age do not necessarily go together. We associate youth with quick motor function but a certain amount of ineptitude. Conversely, we associate age with experience and common sense and hope that, as we mature, experience and common sense added to our basic knowledge will more than compensate for our slowing motor function. Anticipation and the prevention of problems become the norm.

Sometimes though, experience doesn't go hand in hand with common sense. We may take unnecessary risks such as not wearing gloves when obtaining intravenous access. How many of us 'mature' anaesthetists have encouraged our junior colleagues to get immunised against hepatitis and have not got immunised ourselves?

So, what are the qualities associated with maturity? I would suggest they include a lot of common sense coupled with professional skills, confidence, and an ability to maintain good interpersonal relationships and to work as part of a team. Coping with stress is also a major element of maturity.

Managing a family and having a fulltime job can be extremely stressful. When we are young, we make the decision to find a partner, have children, and perhaps drop out of "the system" for a while. When we resume our professional careers there is inevitably conflict between our professional and family responsibilities. In my country, very rarely does a woman give up her profession because of domestic pressures. The joint or extended family usually helps out and the ready availability of dependable live-in maids is also a great help. Yet the worries of having a sick child at home, attending parent/teacher meetings, preparing

for school examinations or handling recalcitrant teenagers are all part of the process of maturing and learning to cope.

The older anaesthetist may often have to cope with intercurrent illness such as diabetes, ischaemic heart disease or arthritis and remember to take a handful of tablets every night. Living with busy on-call schedules and the inevitable disruption of sleep also becomes increasingly difficult. What about the "normal" business of menopause? Only those who have gone through a stormy peri-menopausal period can understand the feeling of inadequacy, the inability to react rapidly in a situation which was formerly considered a challenge but easy to handle, the embarrassment of "hot flushes", and the sudden feeling of "I can't carry on". When one is young, one never imagines that declining levels of oestrogen can lead to so much emotional trauma.

Having to work with a variety of people: surgeons, nurses, technical staff and other anaesthetists can be pleasant and fulfilling. However, there is also the potential in our close working environment for difficult interpersonal relationships. This is more stressful if one has reached a position of responsibility. You are responsible for the smooth running of the operating rooms, for being diplomatic when there is a confrontation between a surgeon/nurse and a fellow anaesthetist, for providing a shoulder for a junior consultant to cry on, for knowing all the answers to a postgraduate's questions and, of course, for finding time to deal with all the administrative load that finds its way to your desk.

In addition, when women are successful in their careers, they can unwittingly arouse feelings of jealousy, anger and a sense of unfairness in their male colleagues. It is a tremendous advantage to have a partner who is self-assured and confident in his own right rather than one who feels inadequate and is unsure of himself. A husband who feels threatened by his wife's success can prove to be very difficult to live with.

Fear of the future is very real. Some may be blasé with a feeling of 'I will be able to ride this out' but more often than not, one feels the inadequacies of old age advancing and can't help wondering whether one's deteriorating skills will adversely affect one's patients. Loss of a beloved partner at this stage is also very traumatic. Financial security and independence are as vital to a

woman as they are to a man. Irrespective of whether the primary cause of stress is domestic or professional the two often interact causing profound consequences to both.

It has been said that it is very lonely at the top: it is, but it is very challenging as well. Find ways of dealing with the associated stress. Find a partner, friend or colleague to whom you can unload your troubles and frustrations without fear of it being misconstrued or repeated elsewhere. Develop skills of control, assertiveness and diplomacy. It is important to learn to respond appropriately to verbal aggression. Non-verbal behaviour and body language are important in the way messages are conveyed and received. Learning how to say 'No' for good reason, being assertive without being aggressive and appearing co-operative help establish rapport and are conducive to better collaboration with colleagues and students.

When in a position of responsibility, back your staff and colleagues. Do not jump to conclusions. Do not magnify mistakes or minimise successes. Never let your staff down: their trust and faith in you is invaluable. It is important that all members of a department support each other as factions within departments are extremely destructive.

Time management is also important and it should be understood that time cannot be expanded infinitely to meet demands. Preserve personal time, pursue hobbies, indulge in regular physical exercise and remember to relax. Let these time-outs help put the stresses of life in their proper perspective.

It is important to recognise the things that can be changed and have the courage to change them, to accept those you cannot change and to have the wisdom to know the difference. Knowledge, experience, pre-planning and an understanding of one's limitations are signs of a mature anaesthetist. As time goes on, we see our influence on the work we do, on our colleagues, students and friends. We also see their influence on our lives and on our outlook on life.

The prayer of the mature anaesthetist could be:

"Lord give me love and common sense
And standards that are high,
Give me calm and confidence
And please, lord, a twinkle in my eye."

This essay is based on a talk given at the World Congress of Anaesthesiology, Montreal, 2000

Electronic Publication of "Update in Anaesthesia"

- "Update in Anaesthesia" is an education journal produced by "World Anaesthesia", widely distributed and acclaimed in many developing countries.
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- If you have an Internet connection you can access "Update" at <http://www.nda.ox.ac.uk/wfsa>. It can be viewed with either a graphical browser (looks prettier) such as Netscape or a text-only browser such as Lynx.
- If you don't have Internet access but do have a computer, we can post you the same material on floppy disk with instructions on use. (N.B. This only applies to developing countries.)
- You do not need the latest and most expensive computer to make use of Electronic Update: a 286-PC should be adequate. If you need technical advice, please write to Dr Mike Dobson, Nuffield Department of Anaesthetics, John Radcliffe Hospital, Oxford, OX3 9DU, UK., or send an Email request to: michaeldobson@ndm.ox.ac.uk
- An electronic version of "World Anaesthesia Newsletter" (incorporating "Anaesthesia Worldwide") including back issues in similar format is also now available at the same Internet site.



news from around the world

A Message from Albania

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Albania is an often forgotten country of 28,00 sq. km (a little bigger than Israel) on the west coast of the Balkan peninsula, north of Greece and separated from Italy by the Adriatic Sea. The population is 3.3 million and the official language is Albanian, an Indo-European language that has little in common with other European languages.

Historically, Albania was part of the Roman and then the Byzantine Empire. For over five hundred years until independence in 1912, it was part of the Turkish Ottoman Empire. From the end of the World War II until 1990, it was one of the most extreme and isolated communist states in the world. Today, it is a parliamentary democracy with Tirana, a city of approximately 500,000, as the capital.

In the last ten years, since the fall of communism, our country has undergone massive social and economic changes that have been made more difficult by the turmoil in our large neighbour, the former Republic of Yugoslavia. The health care system has not been immune to these changes and, although still under state control, now has an insurance-based and a private sector.

Although Albania's only Medical School was founded in 1952, the practice of anaesthesia dates back to the 1920's when Austrian and Italian surgeons used ether and regional anaesthesia in the Civil Hospital in Tirana. Dr Shiroka, the pioneer of modern surgery in Albania used these methods, as did other Albanian surgeons who trained in Austria and Italy. Endotracheal anaesthesia was introduced in the 1950's, again by surgeons.

In 1961, the first specialist Albanian anaesthetist, Dr Mihallaq Prifti, who had trained in St Petersburg in Russia, entered

practice and used what were then the most modern general and regional anaesthetic techniques. In the mid-1960's he was joined by Dr Besim Elezi who was the first Albanian to be trained in anaesthesia in Western Europe, in Denmark. He subsequently left anaesthesia to become the spiritual and scientific leader of surgery in Albania.

The 1970's saw a generation of doctors trained in Eastern Europe and the Peoples Republic of China. Among them was another surgeon, Dr Maksut Drrasa, who was the first to introduce epidural anaesthesia into routine practice. In the late 1970's and early 1980's, a cohort of anaesthesiologist trained at the University of Tirana started to enter practice and only then was it possible to introduce a comprehensive anaesthetic service for the whole country.

A Department of Anaesthesia was established at Tirana University headed by Dr Tritan Shehu who, ten years later, became the first Professor of Anaesthesia in Albania. He also established the Albanian Association of Anaesthesiology in 1993 but, because of adverse circumstances, it is yet to organise a conference or publish a journal.

The training of anaesthetists is organised by the Ministry of Health in co-operation with the University of Tirana. Training lasts four years and encompasses theoretical and practical aspects of anaesthesia and is undertaken in the central hospitals of Tirana. Unfortunately, the trainees have only old, and by western standards, very out-dated equipment at their disposal. Most intensive care units lack basic equipment such as ECG monitors, oximeters and capnographs and we can only monitor the pulse and blood pressure manually. Our trainees, therefore, have little opportunity to put their theoretical knowledge into practice and it is impractical for them to attempt to undertake scientific research.



We have a limited range of drugs available: thiopentone, suxamethonium, pancuronium, fentanyl and morphine. We also have nitrous oxide and halothane. Medical textbooks are also in short supply and only a very limited range of books and journals can be found in the university library. There are no anaesthetic textbooks or journal written in Albanian.

Through the initiative of Dr Mihal Kerci, a conference on Anaesthesia and Intensive Care will be held in the Albanian Trauma Centre in Tirana in September 2000. The Tirana Trauma Centre has a 14-bedded ITU, 10 operating theatres, 13 anaesthesiologists and about 60 general, orthopaedic, neuro- and vascular surgeons. Cardiac, paediatric, plastic and other surgical specialties are practised at the other affiliated university hospitals in Tirana.

Despite the difficulties outlined above, Albanian anaesthesiologists provide anaesthesia for a wide range of surgical procedures and have a heavy workload. They try to keep up to date with progress in the specialty and apply modern methods and techniques whenever they can.

I wish to express my thanks to Dr Turchetta from Italy who has helped us make contact with the WFSA and supplied us with "Update" and to my colleagues Drs Mihallaq Prifti, Maksut Drrasa and Mihal Kerci helped me prepare this article on anaesthesia in our country. I would be more than happy to answer any questions or correspond with anyone who contacts me at the above address.

A History of Anaesthesia Services in Eritrea



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The history of anaesthesia in the emerging state of Eritrea is inextricably linked with the history of its colonial occupation. Italy occupied Eritrea for 50 years up and until 1942 and the Italians, doctors, nurses and catholic nuns, together with their indigenous assistants ran all health services.

During the British occupation which followed (1942 – 1952), health services were run by the British Colonial Administration but incorporated existing services run by Italians who stayed behind in Eritrea (after the defeat at of Italy). The latter provided most health care for the civilian population through catholic mission clinics and hospitals.

When the British left in 1952, Eritrea became a Trust Federation with its own government administering internal affairs within a Federation with Ethiopia. Health service remained based on the Italian colonial legacy although additional doctors were employed from Germany and the European socialist block. The most significant thing that took place during this period was the opening of the Itegue Menen School of Nursing, now the Asmara School of Nursing which was opened in collaboration with the American "Point – 4" Aid programme in 1955.

In 1962, Ethiopia annexed Eritrea and the Ethiopian Ministry of Health ran the Eritrean Health Service. At this time, the only qualified anaesthetist in Eritrea was Dr. Leonardo Silla who was trained in Italy. He worked in three

hospitals in Asmara moving from one to another. As Ethiopia increased its control over Eritrea, Italian health personnel were systematically marginalised and finally worked only in hospitals caring for the Italian community. They were replaced by doctors who came from the socialist block of Eastern Europe, from the Philippines, Israel, Egypt, Sudan and also some from Ethiopia itself and the Italian nuns were mostly replaced by Eritrean nurses.

In 1963, Dr. Gose started a nine – month course in anaesthesia at the then Princess Tsehai Haileselesse Hospital in Addis Ababa and two nurses from Eritrea; namely Mengistu lasu and Bekit Hagheray completed the course and returned to work in Asmara. They would also take it in turn to work in the hospital in Massawa for a week or a month at a time. Later, a Bulgarian anaesthesiologist was employed and in 1969, she was asked (by the Eritrean Health Authorities) to train her own anaesthesia assistants. Three nurses, namely, Yosief Michael, Araya G/Tensae and Asmelash G/Mariam were on the initial course. A short time after they completed of the course, Asmelash was taken to Addis Ababa and a little later, Araya joined the Eritrean Liberation Struggle to fight for Eritrean independence.

Anaesthetists continued to be in very short supply in both Eritrea and Ethiopia so in 1974, the Ministry of Health of Ethiopia and the World Health Organisation (WHO) jointly opened a School of Anaesthesia at the Duke of Harar Hospital (now Tikur Anbessa Hospital) in Addis Ababa under the directorship of Dr. Hermann Waldvogel from Switzerland. Eighteen nurses were enrolled in the initial course including the author. However, at the end of the course in 1976, I was not allowed to return to Eritrea but was assigned to work in Nekemt (Western Ethiopia). Simon Haile and Habte Hailemeleket (two of my fellow Eritrean nurse anaesthetists) soon left their assignments in northern Ethiopia and joined the Eritrean Liberation Struggle and started to train others in the liberation army in anaesthesia. The WHO-sponsored school of anaesthesia in Addis Ababa closed soon after because of the Marxist revolution that overthrew the Ethiopian emperor and the descent of the country into civil war.



At the same time, the demand for anaesthetists was increasing and three years later in 1969, the Ministry of Health of Ethiopia decided to gather all those who were working as anaesthesia assistants through out the country and gave them a six month intensive training course to try and increase the number and quality of practising anaesthetists. Three of the participants were from Eritrea and returned there at the end of their course. In addition, the government of Ethiopia decided to open its own school of anaesthesia for nurses in the capital. I was selected by the Minister of Health to establish the school of anaesthesia and became its first director in September 1982. In the 10 years that followed, 8 nurses from Eritrea trained in anaesthesia. . Two of them subsequently died and one went abroad but the remainder are currently working in Eritrea.

After Eritrea gained its independence from Ethiopia in 1993, those who had received anaesthesia training in the field during the Liberation Struggle were given up-grading courses and were licensed as nurse anaesthetists. A further group of 16 nurses was given a one-year course in anaesthesia in 1996 run jointly by Simon Haile and Ghebrebrhan Haile in 1996. Following this, a national survey on the quality and range anaesthesia services in Eritrea was undertaken in late 1998. Based on the results of this survey, a workshop was organised in December 1998 by the Department of Human Resources Development of the Ministry of Health of Eritrea. At this workshop, it was decided that Ghebrebrhan Haile and myself prepare a curriculum for a two-year course in anaesthesia for nurses. This was done and the new nurse anaesthetist training programme was officially opened with the enrolment of the first batch of 15 students in September 1998.

At present Eritrea still has a major shortage of nurse anaesthetists and there are no medically qualified anaesthetists in the country. Consequently there is a mismatch between the increasing demands of an expanding health service and the anaesthesia work force. However, there is a strong determination to solve this problem although we still lack basic teaching aids, books and journals and need more teaching staff. However, I am sure that we will achieve much in the near future.

Some of you who know me from the first WFSA Refresher Course in Nairobi, Kenya or the first Symposium for Nurse Anaesthetists which was held in Lucerne, Switzerland or who have read what I have previously written about my long-term plans for anaesthesia in Ethiopia may ask what am I doing in Eritrea and why I have abandoned my plans for anaesthesia in Ethiopia. A little biographical detail may be of value.

I was born to a small farming family in Eritrea in 1946 and was brought up there. I graduated from the School of Nursing in Asmara, the capital of Eritrea, as a Nurse and Nurse Midwife in 1967. At this time Eritrea had been annexed by Ethiopia and the then Imperial Government of Ethiopia decided to assign all graduating male nurses to other provinces of Ethiopia. I was assigned to the Nekonen Haileeselassie Hospital in Harar, (Eastern Ethiopia). Other than the matron, I was the first nurse and nurse midwife to be assigned to the biggest hospital in the province. I worked day and night as the nurse in charge of the surgical and maternity wards, as an operating room assistant to the surgeons and obstetricians as well as attending difficult deliveries, collecting blood for transfusion whenever it was necessary and undertaking administrative duties. Mothers in obstructed labour and those with foetal distress were frequently referred to our hospital from places which were 70 – 120 km. away because there was no one with anaesthetic skills in the referring hospitals. Many of the mothers died due to ruptured uterus or sustained permanent injuries such as vesico-vaginal fistulae. I therefore decided to study anaesthesia and be part of the solution.

In 1974, I joined the WHO-sponsored School of Anaesthesia in Addis Ababa and six years later in September 1982, I was able to found and become the director of the Ethiopian School of Anaesthesia for Nurses, a position I held for almost 17 years. I was also instrumental in resurrecting the Ethiopian

Association of Nurse Anaesthetists in 1984. The association was originally founded by Dr. Herman Waldvogel in 1976 but was dissolved by the Marxist Regime in 1978. I was privileged to serve as president of the society for four terms.

In 1989, I was sent to the U.S.A. for further training and after getting my degree in 1991, I returned to the school of Anaesthesia with an American professional license and an expectation that I could continue to be an agent for change by continuing to educate nurse anaesthetists and by so doing, be able to decrease the mortality and morbidity of the surgical population in general and of women and children in particular.

After my colleagues and I had trained over 180 nurse anaesthetists, in June 1998, I was suddenly ordered to take leave and on August 21 1998, my passport and other documents were confiscated and I was deported from Ethiopia with two of my children. I was forced to leave my wife and another child of 3 years behind. The main reason for this was the border conflict between Ethiopia and Eritrea and I am of Eritrean ethnic origin. My wife and youngest son were finally deported four months later.

Despite what has happened to me, I have no resentment towards Ethiopia as I have worked in the Ethiopian Health Services for more than 30 years. I have a vision that transcends ethnic origins and political boundaries and believe that we in the health professions should remember that bacteria, protozoa and viruses recognise no such boundaries.

My ultimate wish is to see peace and harmony return to the Horn of Africa, so that we anaesthetists can organise ourselves at a regional level, host Regional Scientific Symposia and work towards the WFSA goals of "safe anaesthesia for all" by conscientiously discharging our professional responsibilities like our colleagues in other regions of Africa and beyond.

Editorial Note:

Eritrea regained its independence from Ethiopia in 1993. It has an area of 121,300 sq km (approximately half the size of the UK) and a population of 3.9 million. It is one of the poorest countries in the world with a per capita GDP of \$660. Life expectancy is approximately 55 years and infant mortality is 76/1,000. A cease-fire and truce was finally agreed in the border war between Ethiopia and Eritrea in June 2000.

A letter from Ethiopia

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I am a nurse anaesthetist and work at a district hospital in the Bahir Dar region of Ethiopia, north of Addis Ababa, the capital. It is a fertile low-lying area where tea, coffee, sugar cane, maize and a range of fruits are grown. The population of the regional is over 200,000 and the administrative language of the region is Amharic. Malaria, upper respiratory tract infections, TB, intestinal parasites and tropical skin infections are the most common health problems.

The district hospital was built 26 years ago but for the last 24 years the operating theatre has not been used. With the help of colleagues, the theatre was cleaned and we started to discuss with the hospital Medical Director and through him with the Ministry of Health in our region what could be done about the absence of anaesthetic drugs, equipment and medical gases. It was resolved to try and obtain the necessary drugs and equipment although this was likely to take many months.

As I was determined to make the theatre operational as soon as possible, I decided to make the long journey to Addis Ababa, some 400km, to try and obtain what we needed. I would like to thank those hospitals in Addis that understood my difficulties and helped by donating drugs, airways and endotracheal tubes. On my return, we were able to start surgery and now perform 15-20 emergency operations each month. Most of these are on pregnant women or for bowel obstruction or appendicitis.

Our staff consists of one surgeon, provided by MSF for one year, one trained nurse, two health assistants and me, a nurse anaesthetist. When we operate the nurse scrubs, one health assistant acts as a surgical assistant and the other as a runner. All are trained to apply cricoid pressure and can assist me when necessary. We are all on duty 24 hours/day.



The WFSA in Zambia

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Zambia is one of the many countries from the developing world that has benefited greatly from the activities of the WFSA Education Committee. It is important to have some knowledge of the situation in Zambia to understand just how important the contribution being made by the WFSA is to the practice of anaesthesia in this country.

As in Malawi, clinical officers administer most anaesthetics in Zambia. Some of these are very experienced and are to be found practising anaesthesia even in the private sector. The majority have been trained at the School of Anaesthesia, which is run by the University Teaching Hospital in Lusaka for the Ministry of Health. Physician anaesthetists are to be found only in the three central hospitals in the country. Most of these are from Cuba, Eastern Europe and former Soviet states. Some are very good but nearly all have language difficulties that can make the teaching of anaesthesia a little difficult.

Anaesthesia has a very low profile and is not a popular option amongst medical students as a field of specialisation. At the last count, there were six indigenous Zambian physician anaesthetists, only three of whom are practising in the country; the remainder are working as expatriates elsewhere on the planet. The three Zambian physician anaesthetists in the country were sponsored at undergraduate and post-graduate level by the country's mining industry for which they are currently working. The mining companies have four other physician anaesthetists, expatriates on contract, working in their hospital system. All the anaesthetists working for the mining industry are in the one northern province where there are mining operations and they serve a population of about 2.5 million. The other 8 million souls in the country depend on clinical officer anaesthetists.

The membership of the Zambian Society of Anaesthesiologists is open to all practising

I would like to describe how I manage a typical patient. I assess the patient pre-operatively and if necessary, insert a nasogastric tube to avoid Mendelson's syndrome and a urinary catheter. I also check my anaesthetic machine and suction apparatus and prepare my drugs and intubation equipment. When the patient comes to the operating theatre, I check the pulse and blood pressure again and insert a cannula in a vein. I pre-oxygenate my patient for 5 minutes before starting to induce anaesthesia and my assistant applies cricoid pressure for all emergency operations.

I have a basic range of drugs: ketamine, halothane, suxamethonium, gallamine, atropine, neostigmine and 5% lignocaine for spinal anaesthesia and an Acoma anaesthetic machine but no ventilator so that I have to ventilate paralysed patients by hand. This can be difficult when I also have to draw up more drugs or check the pulse and blood pressure. Post-operatively, all the theatre staff assist in positioning and monitoring our patients until they recover.

Anaesthesia is usually uneventful but sometimes I do have problems. One patient in particular sticks in my mind: I don't think I will ever forget his name or the day and date of his operation. He was a 30-year-old male who came to theatre at 1.50pm on 4 January 1999 for a haemorrhoidectomy. The procedure was carried out in our small minor operating room next to the main theatre. As there was not room for my usual drug container, I left it in the main theatre. After my usual assessment and pre-oxygenation, I induced anaesthesia with intravenous atropine, diazepam and ketamine and maintained it with halothane

1.5%. As I did not expect the procedure to last long, I did not intubate the patient but administered mask anaesthesia. The operation was uneventful and after 20 minutes the surgeon told me he had finished. I turned off the halothane and started to wake the patient.

Unfortunately, without saying anything to me, the surgeon re-inserted his forceps and thus precipitated a major problem for me. Immediately, the patient became restless, started to cough, developed facial spasm and became deeply cyanosed. I suspected that he had total laryngeal spasm. I did not panic, as I knew how to treat it with suxamethonium. Unfortunately, the suxamethonium was in the main theatre so I sent my health assistant for it. Meanwhile, I increased the oxygen flow and tried to obtain a good seal with my mask. After I had injected 25mg of suxamethonium, I was able to ventilate the patient but laryngeal spasm persisted. I gave a further 25mg and this abolished all spasm and made ventilation easy. I am delighted to say the patient subsequently made a full recovery and is now well and healthy again.

I am now wary of giving even the shortest anaesthetic by mask alone without securing the airway and am also determined to keep suxamethonium immediately to hand during all my anaesthetics. It is true that there is no such thing as a "simple" anaesthetic.

Editorial Note:

Ethiopia is the oldest independent country in Africa; and has an area of 1,127,000 sq km. The population is 59 million. Like its neighbour Eritrea, it is a poor country with a per capita GDP of \$560. Life expectancy is 40 years and infant mortality is 124/1,000.

anaesthesia: clinical officers and the three active physician anaesthetists. The Society's activities have been greatly hampered of late by the current harsh economic climate in the country. The pharmaceutical companies who donated generously to the Society in the past are all in dire economic straits and are even unable to support the Society's subscription to the WFSA. But it is not all doom and gloom. With the help of the Education Committee of the WFSA, Bill Casey and Haydn Perndt in particular, we have managed to hold Refresher Courses every year for the past 5 years. These are important meetings for us as they are the only time that anaesthetists in the country get together to renew their knowledge and get up to date information on current anaesthetic practice. The WFSA, the Association of Anaesthetists of Great Britain and Ireland and the Intensive Care Society have contributed to these activities by sending eminent persons in world anaesthesia as lecturers and resource persons. Roger Eltringham, Ray Sinclair, Mal Morgan, Nigel Webster, Peter Curry, Bill Casey, Tony Rocke to mention but a few, have participated in our Refresher Courses. We look forward to the participation of Prof. Adrian Bosenberg from South African and

Prof. Henry Bukwirwa from Uganda in the near future.

The profile of anaesthesia has been greatly raised by these persons as we have taken advantage of their presence during the Refresher Courses to expose medical students to them, in small group tutorials, away from the main course. The WFSA has also donated books, which are up to date texts, and are invaluable resource materials. "Anaesthesia Update" is a much sought after publication which I have been distributing to medical officers and interns. These contributions by the WFSA have supplemented the efforts of the Society in Zambia to promote safe anaesthetic practice, as has our participation in the teaching of trauma management led to a greater appreciation of the "golden hour" after trauma. We appreciate the assistance of the WFSA and we will continue to

draw on the Federation's support as we continue to strive for first world anaesthesia in our third world setting.

Editorial Note:

Zambia is a large country with an area of 752,000 sq. km (three times the size of the UK) but with a population of only 9.6 million. The per capita GDP is \$880. In recent years life expectancy has fallen because of the AIDS epidemic and is now only 37 years. Infant mortality is 91/1,000.



Book Review

Anaesthesia at the District Hospital (Second Edition)

M B Dobson. WFSA/WHO publication.

More than 10 years after it first appeared, a revised second edition of this book has been published. Aimed at non-specialist medical officers practising anaesthesia in hospitals with limited resources, this book provides clear and concise information on how to do it.

Many excellent features of the original edition have been retained. The text is straightforward and easy to read and covers a wide spectrum including basic principles, anaesthetic techniques, drugs and equipment and care of the critically ill. The text is illustrated with the superb line

drawings. Draw over anaesthesia and the attendant equipment including oxygen concentrators are well covered, as is ketamine – often the saviour of the non-specialist. Paediatric and obstetric anaesthesia are well detailed and a useful chapter describes the management of co-existing medical conditions and their relevance to anaesthesia and surgery.

Important changes however have been made to the text. User feedback and field testing throughout the world of the original manual has led to a closing of the loop and improvement of the sections on intubation and rapid sequence induction. A description of the use of the Glasgow Coma Scale is a welcome addition to the section on trauma. Changes in modern anaesthetic practice are reflected with updated advice on pre-operative fasting and resuscitation

guidelines. The use and benefits of the laryngeal mask airway are appropriately discussed given its value as an adjunct to airway management and its increasing availability in developing countries (if sometimes only after 40 autoclavings). A section on propofol is now included in response to its increasing availability and likely future reductions in cost. New emphasis has been placed on the safe and appropriate use of blood products in accordance with WHO guidelines.

This book will continue to be a practical asset to those non-specialists providing anaesthetic services throughout the world. It is also well worth a read for both medical students and trainee anaesthetists as well as those planning to work in or visit locations with limited anaesthetic facilities.

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Epidural Anaesthetic Practice in Mali

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Summary

In spite of its many advantages, epidural anaesthesia has hitherto been little used in Mali. This paper reviews 2,078 patients who received epidural anaesthesia between May 1993 and December 1999 in Bamako. The majority were female (1395 versus 683 male) and their ages ranged from 15 to 107 years.

Patients underwent a variety of surgical procedures principally in obstetrics/gynaecology (916) and urology (703). The epidural was most commonly performed at the L3-L4 interspace (1418).

Bupivacaine was used on 1043 occasions, followed by lidocaine (461) and ropivacaine (172).

No major complications occurred and the expected side effects were recorded: major hypotension (0.43%), moderate hypotension (8.28%), inadequate anaesthesia (3.95%) and post-operative headache (0.38%).

Because of its many advantages, epidural anaesthetics should be considered for all surgery below the umbilicus in developing countries.

Introduction

Epidural anaesthesia has been practised since the early days of the last century and offers a relatively simple and cost-effective method of providing anaesthesia for sub-umbilical surgery. Nevertheless, it was been little used in developing countries such as Mali. The aim of this study was to evaluate the technique after it started to become popular in anaesthetic practice the early 1990s in Bamako, Mali.

Patients and Method

Prospectively, between May 1993 and December 1999, 2078 patients undergoing sub-umbilical surgery at three centres in Bamako (Point G Hospital, Hogan and Farako Medical Centres) were studied. All patients undergoing sub-umbilical surgery who consented to epidural anaesthesia were included. Those with the classical contra-indications to spinal anaesthesia such as coagulopathies, local infection or patient unwillingness were excluded.

All the patients in the study had a lumbar epidural, were assessed pre- and post-operatively and the following information was recorded:

- identification
- place of recruitment
- clinical and laboratory data
- anaesthetist's qualifications
- name and quantity of drug used
- level and time of epidural puncture (with or without catheter)
- quality of sensory, motor and sympathetic block
- any adverse incidents or complications

Results

2078 patients were studied, the majority of whom were female. The average age was 46 years and the range from 15 to 107 years.

Sex	Number of patients	Percentage
Female	1395	67.1
Male	683	32.9
Total	2078	100

Three quarters of the patients were ASA classes I or II but a significant number were ASA III and IV.

ASA class	Number of patients	Percentage
ASA I	976	43.9
ASA II	587	29.9
ASA III	319	16.0
ASA IV	196	10.2
Total	2078	100

During the time of the study, a total of 14,179 operations were carried out at the three participating hospitals.

Centre	Epidural	Spinal	General Anaesthetic	Total
Point G	1736	2848	7992	12,576
Hogon	183	19	634	836
Farako	159	52	556	767
Total	2078	2919	9182	14,179
	14.6%	20.6%	64.8%	100%

Epidural anaesthesia has grown more popular over the years of the study: in 1992, it accounted for only 0.1% of all anaesthetics administered. In 1993, it was 2.2%. By 1997, this had grown to 7.1% and it was 14.6% in 1999.

Epidural anaesthesia by speciality.

Indication	Number of patients	Percentage
Gynaecology & obstetrics	916	44.1
Urology	703	33.8
General surgery	346	16.7
Delivery	68	3.3
Orthopaedics	45	2.2
Total	2078	100

The average duration of the epidural block was 192 minutes and the range was from 130 to 315 minutes.

Local anaesthetic used.

Agent	Number of patients	Percentage
Bupivacaine 0.5%	1043	50.2
Lidocaine 0.2%	461	22.2
Bupivacaine 0.5% + Lidocaine 0.2%	318	15.3
Bupivacaine 0.25%	84	4.7
Ropivacaine 1%	172	8.2
Total	2078	100

Pre-anaesthetic tests in ASA I and ASA II patients before routine surgical procedures: what is necessary in Africa?

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Summary

The aim of this prospective and descriptive study was to evaluate the pre-anaesthetic tests performed on ASA I & II patients undergoing routine surgical procedures in Yaounde, Cameroon. Four hundred patients were evaluated in this study of whom 91 % were ASA I or II. The mean age of these patients was 39 years and an average of 4.7 tests was performed on each patient (range 1 – 8 tests). These were mainly full blood counts (99%) and prothrombin and whole blood clotting times (89.8%). 15.8% of these tests yielded abnormal results. Abnormal results were found in 45% ASA I & II patients, mainly ECGs (36.1%), haemoglobin levels (26.1 %) and chest X- rays (21%). Complications occurred in 60% of the patients assessed (57.5% of ASA I & II patients). Haemodynamic and haematological complications had the highest incidence (44%).

Complications were significantly more frequent in patients with anaemia. This study showed that the measurement of haemoglobin levels remains indispensable for asymptomatic patients in this environment. The other tests had no discriminative value and should only be performed when clinically indicated.

Introduction

Pre-operative laboratory tests may have an important role in the prevention of adverse events in the peri-operative period. Such tests can be divided into three groups:

- those performed to evaluate the impact of an existing problem,
- those performed to provide a reference value and
- tests for the pre-operative detection of asymptomatic conditions

In populations where abnormal results are uncommon, there is no justification in performing tests in the latter two categories. Thus patients in groups I & II of the American Society of Anaesthesiologists (ASA) classification should only have tests that are clinically indicated. In developed countries where these recommendations have been implemented, no adverse effects on patient outcome have been reported.

In Africa, similar selective testing has been advocated. However, in view of the pathological conditions common in Africa and the difficult conditions under which much surgery is performed, the epidemiological basis for such selection has not yet been established. This study was, therefore, undertaken to review the pre-anaesthetic tests performed on our patients and their effect on peri-operative complications.

Patients and methods

This prospective and descriptive study was carried out in Yaounde, Cameroon between May – December 1998. Patients booked for pre-anaesthetic consultation in the Yaounde Military and Central hospitals were recruited for the study. These hospitals undertake more than 50% of all surgery in the city and the Central hospital caters for the health needs of patients of all origins and social classes.

All data was recorded using a structured questionnaires designed to obtain information on each patient's surgical pathology, past medical history and current clinical state. Patients were grouped according to a modified ASA classification as follows:

ASA I: a normal healthy patient

ASA II: a patient with mild systemic disease

ASA III: a patient with severe systemic disease

ASA IV: a patient with severe systemic disease that is a constant threat to life

ASA V: a moribund patient who is not expected to survive without the operation

The tests performed as part of the pre-anaesthetic assessment and their results were recorded. These tests included full blood counts (FBC) for haemoglobin, haematocrit and platelet estimations; blood electrolytes, basic coagulation screening tests, renal function tests, fasting blood sugar, ABO and Rhesus blood grouping as well as electrocardiograms (ECG) and chest X-rays. The impact of these tests on the patients' peri-operative course was then evaluated.

The progress of patients during surgery and in the first 24 hours following surgery was closely monitored. The immediate post-operative period was defined as the first few minutes after surgery, the recovery time as the first two post-operative hours. All incidents or deaths that occurred and their time of occurrence were recorded. Incidents were classified as major if they affected a patient's recovery or prolonged the hospital stay or minor if they had no impact on the patient's expected recovery. Technical incidents occurring during anaesthetic care were also recorded.

The impact of abnormal test results in ASA I & II patients was compared with that in ASA III patients by studying their association with the incidence, nature and severity of recorded adverse events. Means, standard deviations, frequencies and proportions were used to express results while the chi square test was used to compare the groups. Values of $p < 0.05$ were considered to show statistical significance.

Results

A total of 400 patients were enrolled in the study. Their mean age was 39 years (range 3 months to 83 years). The sex ratio was 1.2:1 in favour of females.

General surgery involving the digestive tract and the abdominal wall (29%) and gynaecological and obstetrical surgery including hysterectomies (28.5% of cases) was most frequently performed followed by orthopaedic surgery (19.7%).

A significant past history was recorded in 77 patients (19.25% of the sample). It mainly consisted of cardiovascular diseases such as hypertension, asthma, and pulmonary and upper airway disorders. One case of sickle cell anaemia was noted.

263 patients (65.7%) were classified as ASA I and 97 (24.3%) as ASA II. The remaining (10%) were classified as ASA III. Of the ASA I & II group, 17.8% had a significant past medical history compared to 32.5% in the ASA III group.

Surgery was performed in 327 patients under general anaesthesia (81.7%) and in the remaining 18.3% using regional anaesthesia (72 spinal and one epidural). The mean duration of surgery was 116 minutes (range 45 – 276 minutes).

Laboratory test results

A total of 1921 tests were requested but only 1910 were actually performed. An average of 4.7 tests was carried out per patient (range 1-8). The most frequently requested tests were FBCs (99% of patients), the prothrombin (PT) and whole blood clotting times (WBCT) (89.8%) and fasting blood sugar (77.3%). 71.8% of these tests were requested by the surgical staff prior to anaesthetic assessment and the remaining 28.2% by anaesthetic staff.

Three hundred and one tests (15.75%) were abnormal. In the ASA I & II patients, ECGs, haemoglobin levels and chest X-rays showed most abnormalities. No abnormalities were observed in the clotting screens (WBCT & BT). A significantly greater number of test abnormalities were found in the ASA III patients (90%) compared to those in ASA I & II ($p < 0.0005$). In ASA I & II patients with a significant past medical history, 33% had abnormal test results. Of the 193 cases in whom blood grouping was requested (48.3% of all cases), 8 patients (2%) were of rarer groups (O and AB) or were rhesus negative.

Complications

A total of 316 complications were recorded in 240 patients (60% of those studied), 44.3% of which were abnormal haematological indices. There were 15 major incidents reported in 12 patients (4.7% of all incidents), including 3 cardiac arrests; 3 post neurosurgical comas and 5 convulsions, two of which followed anaesthesia with ketamine. Most incidents occurred peri-operatively (55% of cases) and were more frequent after surgical procedures that lasted for more than 60 minutes.

There was a significantly higher incidence of adverse incidents in ASA III patients compared to those in ASA groups I & II (82.5% and 57.5% respectively, $p = 0.0038$). Among the patients with any complication, major incidents were recorded in 4.3% of graded ASA I & II (including two cardiac arrests) compared to 9.1% in the ASA III group.

Adverse incidents occurred in 129 patients with abnormal test results. However, there was no statistical difference in the number of incidents occurring between those in ASA groups I & II and those ASA group III.

Among the ASA I & II patients with abnormal test results, major complications were found in 4.9% of them compared to 7.1% of those in ASA group III group. Adverse incidents were seen to occur more frequently in patients with anaemia than in those with a normal haemoglobin level ($p < 0.0005$). There was no correlation between

other abnormal test results and adverse incidents

Two deaths occurred (0.5%); one from acute hypovolaemic shock in an ASA I & II and the other from a post-operative coma.

Discussion

The patients in this study were mainly young, healthy people in ASA groups I & II. Most authorities would, therefore, not have requested all the tests we performed in this study.

Abnormal tests results were significantly more frequent in ASA group III than in groups I & II as might be expected but a past medical history without clinical repercussions did not influence the incidence of abnormal results: 70% of ASA I & II with significant past medical history had normal results. Whereas abnormalities were recorded in 45% of ASA I & II patients in the present study, other authors of similar studies in Africa have found a much lower incidence. In our study, ECGs and chest X-rays were considered abnormal in 31% and 21% of instances respectively, a much higher rate than in other studies. This is probably a reflection of the subjective nature of many of the abnormalities seen and confirms the poor sensitivity of these tests.

We recorded a high incidence of anaemia (26.1%) in ASA I & II patients. A study in Côte d'Ivoire noted a similar incidence of 22% whilst Haberer reported an incidence of only 1.8% in France. This difference between the African and French data is probably due to endemic parasitic infections such as malaria and intestinal worms as well as malnutrition in Africa. In a previous study, Binam et al. found a prevalence of severe anaemia in 21.6% of ASA I & II patients, rising to 62% and 48.2% in children aged 0-1 year and 1-5 years old respectively. Measuring the haemoglobin level is, therefore, a simple and highly sensitive method of detecting anaemia.

Complications were recorded in 60% of the patients studied; a much higher incidence than in other African studies, but comparable to that recorded in the peri-operative period in some European studies. As in those studies, most of the complications that occurred were due to haemodynamic problems. A high incidence of adverse incidents is not normally expected in ASA I & II patients but may be related to the large number of haematological abnormalities we detected.

A higher still incidence of complications occurred in ASA III patients, but there was no significant difference in the complication rate between the patients in groups ASA I & II and group ASA III who had haematological abnormalities detected on screening. This suggests that it is the degree of anaemia rather than the ASA status that is the best indicator of potential problems and indeed, one of the deaths recorded was in an ASA II patient with severe anaemia.

Two major incidents (convulsions) occurred in this study that were attributed to ketamine which had been used as it was the only anaesthetic agent available. Minor technical problems were common. Due to a lack of trained staff and adequate equipment for monitoring and managing these problems, these minor incidents can lead to fatalities in our environment. This should be considered when selecting appropriate pre-operative tests, as should the likely length of surgery as the incidence of complications increase if surgery lasts longer than 60 minutes.

Conclusion

Only the haemoglobin level should be measured routinely in all African patients undergoing surgery, as abnormal results in other tests were not directly correlated with adverse outcomes. Other tests should only be requested when indicated by the patient's condition.

Anaesthetic Considerations of Heroin Condom Ingestion

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Introduction

Recently many countries have seen an increase in the number of young men and women smuggling drugs, often heroin, hidden within their body cavity. This practice has become common in Dar Es Salaam, the main port of Tanzania. Between January 1997-July 1999, six individuals were admitted to Muhimbili Medical Centre after being arrested at the airport suspected of smuggling ingested drugs. They were aged from 22-50 years and had swallowed 30-80 packets of drugs. Four patients passed their drugs per rectum but two needed emergency laparotomy for acute obstruction.

The drugs are usually concealed in condoms and swallowed a few hours before checking-in for their flights. An anti-diarrhoeal is usually taken at the same time. (Fig.1) The drug packets vary in size from 10mgs to 4gms and are very susceptible to rupture. If this happens in the gastrointestinal tract, the courier may develop acute narcotic poisoning. Alternatively, the packets of drugs can cause acute intestinal obstruction.

Pharmacology of Heroin

Heroin (Diamorphine or 3,6-Diacetylmorphine) is a weakly basic compound with a pKa of 7.83. It was introduced into clinical practice in 1898 as a remedy for cough and as a treatment for morphine dependence. It was found shortly thereafter to be as potent a cause of addiction as morphine and its manufacture was banned in the United States in 1924. It is still widely used in the United Kingdom as an analgesic particularly in palliative care where its high solubility is considered a particular advantage. It is also, unfortunately, a popular drug of misuse and its use can be detected by finding its metabolite, 6-monoacetylmorphine in the urine

Absorption, Distribution and Excretion

Heroin is better absorbed orally than is morphine. However, it undergoes extensive first pass metabolism and only morphine is detectable in the blood after oral administration. Its high solubility enables it to enter the brain more rapidly than morphine. It is approximately 40% protein bound and its psychotropic effects can last up to 6 hours. The "recreational" dose and the toxic dose vary widely depending on tolerance. It is mainly excreted in the urine as free and conjugated morphine. Heroin shares the analgesic, euphoric, sedative and respiratory depressant effects of morphine but is considered more potent due to its greater solubility.

Anaesthetic Considerations

Patients ingesting heroin condoms can present for surgery because of pure outlet obstruction or because of manifestations of acute narcotic poisoning. If time and circumstances permit, the urine can be tested for the heroin metabolite, 6-monoacetylmorphine.

Patients with obstruction should be treated in the standard manner:

- No premedication is necessary
- A rapid sequence induction with Suxamethonium and cricoid pressure should be performed
- Narcotic analgesics should be used if there is no evidence of poisoning
- Standard monitoring should be used per-operatively and post-operatively.

If any of the narcotic packages have ruptured, the classical signs of narcotic poisoning may be evident such as unresponsiveness or coma, slow or shallow



respiration, miosis, bradycardia or hypothermia. The triad of coma, pinpoint pupils and respiratory depression in a patient suspected of ingesting heroin can be regarded as diagnostic.

Before surgery such patients should be treated by

- Gastric lavage if there is oral ingestion
- Tracheal intubation and ventilation
- Naloxone 0.1mg/kg repeated as necessary until adequate respiration is achieved
- Antibiotic prophylaxis to prevent aspiration pneumonia

It should be remembered that the half-life of Naloxone is 20-30 minutes whilst that of heroin is 3-4 hours. It may, therefore, be necessary to give repeated doses or an infusion of Naloxone as the patient may appear to recover but then lapse into coma again after some hours.

Once the patient has been resuscitated, anaesthesia can be induced as for patients with obstruction as outlined above. The induction dose of anaesthetic should be cautiously titrated and narcotics or other analgesics are unlikely to be needed. Careful post-operative monitoring of vital signs is essential and the patients should be cared for in an Intensive Care Unit.

CS Gas Induction of Anaesthesia!

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Introduction

Anaesthetising a patient who has been sprayed with CS gas is a rare event that can be associated with unusual difficulties. We report the problems we encountered whilst anaesthetising such a patient and suggest guidelines for future management.

Case History

A 53 year old, obese (110 kg) man was admitted to the Accident and Emergency Unit with a self-inflicted stab injury to the abdomen. One hour prior to admission he had been restrained by the police with the help of O-Chlorobenzylidene malononitrile (CS gas) because he was violent and deemed to be a danger to himself and others. On admission, the patient was conscious and responding appropriately to questions. His heart rate 120 per minute, blood pressure 80/50 mm Hg and his arterial oxygen saturation on 15 litres of oxygen through a facemask was 95%. He didn't have any other injuries. His past medical history included hypertension treated by atenolol.

As small bowel was protruding through the stab wound, an emergency laparotomy was arranged.

After taking appropriate precautions to prevent secondary exposure of staff to CS gas, his clothes were removed and put in a plastic bag and he was given humidified oxygen through a facemask. Two 14g intravenous cannulae were sited and one litre of Hartmann's solution was transfused, which increased the blood pressure to 110/74 mm Hg. As small bowel was protruding through the

stab wound, an emergency laparotomy was arranged. The patient was transferred from the Accident and Emergency unit to theatre uneventfully. Immediately before induction (approximately two hours after exposure to CS gas), he had a heart rate of 110 per minute, blood pressure of 120/78 mm Hg and arterial oxygen saturation of 96%.

This case highlights the potential risks to the anaesthetist after exposure to CS gas.

Following pre-oxygenation, anaesthesia was induced with etomidate 20mg and muscle relaxation obtained with suxamethonium 100mg whilst cricoid pressure was applied. Immediately after laryngoscopy, the second author experienced intense lacrimation, sneezing, coughing and pain in the eyes but managed to pass the tracheal tube between the vocal cords, confirmed by capnography. The first author immediately took over the care of the patient but also experienced the same symptoms while trying to insert a nasogastric tube with the help of a laryngoscope.

The patient underwent a small bowel resection and was electively admitted to the Intensive Care Unit postoperatively and later transferred to the ward where he made an uneventful recovery. It was twelve hours before the symptoms experienced by the authors completely disappeared.

This case highlights the potential risks to the anaesthetist after exposure to CS gas.

- Excretion of gas from the respiratory tract continues for several hours after exposure of the victim to CS gas.
- The anaesthetist may be affected by CS gas being expired by the patient during examination of the airway including laryngoscopy.
- Exposure of attending staff to CS gas may be sufficient to render them incapacitated and potentially compromise patient safety.

Discussion

The most common teargases are O-Chlorobenzylidene malononitrile (CS gas), 1-Chloroacetophenone (CN gas) and

Dibenzoxazepine (CR gas). CS gas (named after Carson and Stoughton) is 10 times more potent as a lacrimator than CN gas but otherwise, less toxic. CS is a crystalline solid, dissolved as 5% w/v in Methylisobutyl ketone (MIBK) with nitrogen and after being sprayed; it solidifies on the skin and clothes. It reacts with sulfhydryl groups and other nucleophilic sites. It can cause tissue injury and necrosis probably from the biochemical inhibition of important enzymes such as pyruvic decarboxylase and it also has the ability to generate bradykinin both in vivo and vitro.

Aerosols used by the police deliver a 5% solution of CS dissolved in Methylisobutyl ketone and symptoms develop immediately after exposure to atmospheric concentration as low as 0.0026%. Eye, nose, mouth, respiratory tract and skin symptoms predominate, the most common being ocular burning and pain, conjunctival oedema, lacrimation, rhinorrhoea, salivation, dyspnoea, tachypnoea, laryngospasm, bronchospasm, cough, haemoptysis, haemetemesis and contact dermatitis. Inhalation pneumonitis, pulmonary oedema and even fatal respiratory arrest have been reported.

After our experience with this patient, we suggest the following guidelines when managing patients who have been exposed to CS gas.

- Have two anaesthetists present throughout the procedure.
- Decontaminate the patient as much as possible before inducing anaesthesia i.e. remove contaminated clothes, wipe off excess CS crystals and keep the patient in a well ventilated room.
- Wear a facemask, gloves, apron and goggles when close to the patient.
- Have a fan blowing over the patient and stay upwind of the patient whenever possible.
- Inform the recovery and ward staff of possible ill effects of CS gas and ensure the patient is nursed in a well-ventilated area and breathing humidified oxygen.

In conclusion, although no serious problems occurred from this encounter with CS gas, it is not hard to imagine how patient safety could have been compromised had there not been two anaesthetists present.

Useful Information

World Federation of Societies of Anaesthesiologists (WFSA)

8th Floor, Imperial house
15-19 Kingsway
London WC2B 6TH
United Kingdom

Tel: (+44) 020 7836 5652

Fax: (+44) 020 7836 5616

Email: wfsa@compuserve.com

Courses in Anaesthesia for the developing world.

Oxford: July (annually).

Contact: Dr. M. Dobson
Department of Anaesthesia
John Radcliffe Hospital
Headley Way
Headington,
Oxford OX3 9DU.
UK

Tel: (+44) 01865 221589.

E-mail: michael.dobson@ndm.ox.ac.uk

Bristol: December (annually).

Contact: Dr. Claire Jewkes
Department of Anaesthesia
Frenchay Hospital
Bristol BS16 1LE
UK

Tel: (+44) 01179 701212.

Equipment collection and distribution to the developing world

Contact:
ECHO
Ullswater Crescent
Coulson
Surrey CR3 2HR.
UK

Tel: (+44) 020 8660 2220

Carelift International Inc.
185 Walnut Street (Floor 22)
Philadelphia P.A. 19103
USA

Tel: (+1) 215 535 3590.

Dr. William Rosenblatt
REMEDY
Dept. of Anaesthesia
Yale University School of Medicine
333 Cedar Street
New Haven
CT 06510.
USA

Book Aid International

39-41 Coldharbour Lane
Camberwell
London SE5 9NR
UK

Tel: (+44) 020 7733 3577

The organisation is interested in receiving recent complete sets of journals and newish text books. These are collected free and distributed by Rotarians.

The TOKTEN Project

Expatriate nationals returning to their country of origin are invited to apply for the post of project expert. Each project is sponsored by the United Nations who would meet the cost of international travel and pay a subsistence allowance (\$90/day). Applications should be made to the Minister of Health of the host developing nation.

Technical Assistance at Low Cost (TALC)

Contact: David Moreley
Institute of Child Health
Guilford Street
London WC1N 1EH.
UK

The International Committee of the Red Cross (ICRC)

The ICRC acts to help all victims of war and internal violence, attempting to ensure implementation of humanitarian rules restricting armed violence.

Contact: ICRC, Recruitment Division
19 Ave. de la Paix
CH-1202
Geneva
Switzerland or your local society.

Email: <http://www.icrc.ch>

Overseas Doctors Training Scheme (UK)
Anaesthetists seeking recognised training posts in the UK should apply to the Bernard Johnson Adviser
Royal College of Anaesthetists
8 Russell Square
London WC1B 4JX.
UK
Tel: (+44) 020 7637 4104

The SOROS Foundation

will consider applications from anaesthetists in Eastern and Central Europe for support for limited periods of study in the UK. Applications should be made in advance to the branch office of their country of origin whose address may be obtained from:

The Soros Foundation
400 West 59th Street
New York
NY 10019
USA

Tel: (+1) 212 548 0600

Fax: (+1) 212 548 4600.

E-mail: osnews@sorosny.org

Teaching Videos:

The following titles are available at £5 each:

1. Servicing the EMO & Tri-Service vaporisers.
2. The oxygen concentrator
3. The Manley multivent/Glostavent
4. Servicing the anaesthetic machine

Contact:
Dr. R Eltringham
Gloucestershire Royal Hospital
Gloucester GL1 3NN
UK

Tel: (+44) 01452 394786/394194

Fax: (+44) 01452 394485

E-mail: 106147.2366@compuserve.com

Job opportunities in the developing world

These are listed in a bimonthly magazine produced by the International Health Exchange.

Contact:
Ms Isobel McConnan
8-10, Dryden Street
London WC2E 9NA
UK

Tel: (+44) 020 7836 5833

Fax: (+44)020 7379 1239

E-mail: health_exchange@compuserve.com

US volunteers wishing to spend periods working in developing countries

Contact:
Dr. Lena Dohlman
Health Volunteers Overseas
c/o Washington Station
PO. Box 65157
Washington DC 20035-5157
USA
Tel: (+1) 202 296 0928.
Fax: (+1) 202 296 8018.

Committee Chair
Overseas Teaching Program
American Society of Anesthesiologists
520 N. Northwest Highway
Park Ridge, IL 60068-2573
USA

World Anaesthesia

This organisation works to improve standards of anaesthesia throughout the world. In conjunction with the WFSA, it produces two publications, World Anaesthesia News and Update in Anaesthesia* (an add-on textbook) published twice-yearly. The annual subscription is £10. For further information

Contact:
Dr. Ray Sinclair
Dept of Anaesthesia
Royal Truro Hospital (Treliske)
Truro
Cornwall TR1 3LJ
UK
Tel: (+44) 01872 274242.
*** also available on:**
<http://www.nda.ox.ac.uk/wfsa>

Courses on Anaesthetic Equipment Maintenance

One week residential courses for anaesthetic technicians are organised at the NHS training and conference centre. Applications should be sent to:
Geoffrey Dillow
Conference Centre
Wotton under Edge
Glos. GL12 8DA
UK.

Association for International Development of Anaesthesia (A.I.D.A.)

Contact:
Professor Stanley Samuels
Department of Anesthesia
Stanford University Medical Centre
Stanford
California
USA
Tel: (+1) 415 723 6411.
Fax: (+1) 415 723 8544.
Email: Samuels@leland.stanford.edu

Commonwealth Medical Awards

Available to citizens of Commonwealth countries for limited periods of postgraduate study within the UK. Applications should be addressed to the Medical Awards Administrator Commonwealth Scholarship Commission
36 Gordon Square
London WC1H 1PE
UK

Medecins Sans Frontieres (MSF)

offers assistance to populations in distress, to victims of natural and man-made disasters and to victims of armed conflict. They require volunteers for both long and short-term projects. If you are interested in obtaining more information, contact them at:
MSF
124-132 Clerkenwell Road
London EC1R 5DL
UK
Tel: (+44) 020 7713 5600
Fax: (+44) 020 7713 5004. or

11 East 26th St.
Suite 1904
New York NY 10010
USA
Tel: (+1) 212 679 6800.
Email: <http://www.msf.org> or <http://www.dwb.org>

WHO Liaison Officer

Dr M Dobson
Nuffield Department of Anaesthetics
The John Radcliffe Hospital
Headley Way
Headington
Oxford OX3 9DU
UK
Tel: (+44) 01865 221589/741166
Fax: (+44) 01865 221593/453266.
E-mail: michael.dobson@ndm.ox.ac.uk

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UK
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Fax: (+44) 01452 812162
Email: wfcasey@doctors.org.uk

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Anaesthetic web sites to try

Miscellaneous

Anaesthesia & Critical Care Resources on the Internet

(AACRI)	http://www.eur.nl/cgi-bin/accrri.pl
Anesthesia Web	http://www.anesthesiaweb.com/
Audio Digest Foundation	http://www.audio-digest.org
Bandolier (Evidence-based medicine)	http://www.jr2.ac.uk/Bandolier
Echocardiography	http://www2.umdj.edu/shindler/echo.html
Gaseous anomaly	http://www.anaesthesia.ml.org
GASNet Anesthesiology Home Page	http://gasnet.med.vale.edu
International Anesthesia Research Society	http://www.iars.org
Illustrated regional anesthesia	http://weber.u.washington.edu/~aelizaga/regional/welcome
Medical World Search	http://mwsearch.com/
Online Mendelian Inheritance In Man	http://www3.ncbi.nlm.nih.gov/Omim/
Primary Internet resources for anaesthetists	http://gasnet.dundee.ac.uk:1081/mirror/vat/MajRes.html
The National Library of Medicine	http://www.ncbi.nlm.nih.gov/PubMed/
The Trauma Organisation	http://www.trauma.org/
University of Chicago	http://www.airway.bsd.uchicago.edu
Virtual Anaesthesia Textbook	http://www-usvd.edu.au/su/anaes/VAT/VAT.html
Virtual Museum of Anesthesiology	http://umdas.med.miami.edu/aha/vma

Journals:

Anaesthesia	http://www.blackwell-science.com/ana
Anaesthesia and Analgesia	http://anaesthesia.ucsf.edu/webdocs/aa/
Anaesthesia and Intensive Care	http://www.aaic.net.au/home.html
Anesthesiology	http://www.anesthesiology.org
British Journal of Anaesthesia	http://bjao.oupjournals.org
JAMA	http://www.ama-assn.org/public/journals/jama/jamahome.html
NEJM	http://www.nejm-org/content/index.asp
Science	http://www.sciencemag.org/
The Internet Journal of Anaesthesia	http://www.ispub.com/journals/ja.htm

Associations:

Anaesthetic Research Society	http://www.ars.ac.uk
Association of Anaesthetists of Great Britain & Ireland	http://www.aagbi.org
International Trauma Anaesthesia & Critical Care Society	http://www.trauma.itaccs.com
Royal College of Anaesthetists	http://www.rcoa.ac.uk/
Society for Ambulatory Anaesthesia	http://www.sambahq.org
Society for Critical Care Medicine	http://www.sccm.org
Society for Computing and Technology in Anaesthesia	http://www.scata.orh.uk/programs/list.html
Society for Education in Anesthesia	http://anesthesia.ccf.org:8080/sea/index.htm
Society for Obstetric Anesthesia & Perinatology (SOAP)	http://www.soap.org
Society for Paediatric Anaesthesia	http://www.uams.edu/spa
South African Society of Anaesthesiologists	http://www.sasaweb.com
The American Society of Anesthesiologists (ASA)	http://asahq.org
The International Society for the Study of Pain	http://www.halcyon.com/iasp
World Anaesthesia Online	http://www.nda.ox.ac.uk/wfsa

The Editor would be delighted to hear of other sites that might be of interest and to learn of any site addresses that are incorrect or no longer function

Gassing in Guinea – on and off ship

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 Grimsby
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Life is full of surprises: when I went to an anaesthetic conference in a ski resort in the French Alps, I didn't expect to bump into Dr Keith Thomson who persuaded me to go to Guinea to spend some time on the ship MV Anastasis.

Guinea-Conakry is a small West African state between Guinea-Bissau and Sierra Leone that has recently provided a safe haven for thousands of refugees from the civil war in the latter country. Although possessing considerable mineral resources, it remains one of the poorest countries in the world. Life expectancy for males is 43.5 years and 48.5 years for females and infant mortality is 29 per 1000 live births.

The 522-foot Anastasis (Fig. 1) is the world's largest non-governmental hospital ship and is operated by Mercy Ships, the nautical arm of a Christian charity "Youth with a Mission". On board are three fully equipped operating theatres, a dental clinic, laboratory and X-ray facilities and a 35-bedded ward. Most of the surgery performed on board is maxillo-facial, ENT, plastic and ophthalmic but the all volunteer crew also runs out-reach and dental clinics and provides health education. All care is provided free of charge.

All three theatres are equipped with Drager AV1 anaesthetic machines, which, although bulky, are efficient allowing low flow anaesthesia and the ventilation of children weighing 10kg or more. Comprehensive monitoring equipment was also available as were modern anaesthetic drugs such as propofol, rocuronium, sevoflurane and remifentanyl, all donated by their manufacturers.

My fellow anaesthetists were a recently arrived Lithuanian anaesthesiologist and an American nurse anaesthetist. We all had to spend some time initially getting used to unfamiliar equipment and brand names and planning ahead for our lists. We did not have trained anaesthetic assistants or



anaesthetic induction rooms so it was necessary to collect all the drugs and equipment one was likely to need from a central store before heading for the operating theatre.

Cancerum oris (Fig 2 Overleaf) was not uncommon and presented a significant anaesthetic challenge. It is caused by a mixed bacterial infection when there is poor dental hygiene and results in major facial ulceration with ankylosis of the temporomandibular joint and minimal mouth opening. I was extremely grateful to those consultants who had taught me awake fibre-optic intubation which I performed after sedation with ketamine and midazolam and a cricothyroid block with 2% lignocaine. Surgery could be lengthy but we were able to ventilate patients overnight in a High Dependency Unit with a Siemens 900 ventilator using midazolam and alfentanil for sedation.

After two weeks on board ship, we went to Donka, the main state-run hospital in Conakry, the capital, to provide general anaesthesia for three maxillo-facial operations that were to be performed jointly by one of our surgeons and with his local counterpart. The latter normally performed his own head and neck blocks as there were no facilities for intubation or ventilation in the hospital. We, therefore, had to bring everything we were likely to need from the ship.

In the theatre, there were two anaesthetic machines but no way of connecting them to our oxygen source, a large oxygen cylinder with a reducing valve and two manometers, one of which was broken. We were eventually able to connect an old and rusty anaesthetic machine to the cylinder with a variety of tubes and connectors and add our Humphrey (ADE) circuit rather than use the inefficient Mapleson C circuit that the local Guinean anaesthetic technician had to use.

Our first anaesthetic proceeded uneventfully until our patient developed ventricular extra-systoles on a vaporiser setting of 1.5% halothane. They disappeared when the concentration was reduced and so I suspect the vaporiser had never been serviced and was rather inaccurate. Our second patient had limited mouth opening but I was able to perform intubation using a bougie and midazolam and ketamine sedation. We also had to contend with an electrical power failure but had brought torches and our monitors had battery back up. After surgery, our patients were taken to a recovery area that contained only a bed where they had to be cared for by their relatives.

Whilst we worked in one theatre, we watched the local anaesthetic technician anaesthetise an elderly lady with bowel



obstruction for a laparotomy in an adjoining theatre. He used ketamine for induction and maintained anaesthesia with halothane in oxygen with the patient breathing spontaneously on a mask. The blood pressure and pulse were monitored manually but no records were kept. The technique appeared to work satisfactorily and was also used for Caesarean sections.

We discovered a number of fairly modern anaesthetic machines in the

hospitals three theatres but none were functional for lack of tubing and cables. Realistically, modern anaesthetic drugs and equipment are inappropriate to countries such as Guinea: patients could never afford to pay for them. If they are lucky, they may be able to afford ketamine and halothane and survive with nursing care provided by their relatives.

It is easy to be pessimistic about the state of medicine in general and

anaesthesia in particular in developing countries and one can but admire the local surgeons and anaesthetic technicians who are doing their best to provide a service with minimal resources. Visits from a ship such as ours can have negligible impact on the overall situation in a country such as Guinea. It can, however, have a dramatic impact on the lives of individuals and perhaps through them, change the world a little for the better.

The Second All African Anaesthetic Congress

23rd-26th September 2001

at the
International Conference Centre, Durban, South Africa

For further information please contact
Professor Tony Rocke Email: mailiti@med.und.ac.za

A Detached Retina in the land of Yaks and Yetis

Dr Jay Chapman

Background:

Monday 30 August 1999,
Okalahoma City, USA. Giant floaters and flashes of light develop in my right eye.

Friday 3 September 1999,
California. Symptoms continue during two day, 2,782 km drove to California. Seen by ophthalmologist and retinal specialist. No treatment recommended.

Friday 10 September 1990.
Arrive Kathmandu, Nepal. Bumpy landing. Peripheral visual field defect develops.

Monday 13 September 1999.
Tribhuvan University, Kathmandu. Deliver lecture on Forensic Medicine then go to Koirala Centre for Ophthalmic Studies. Examined by Dr Koirala. Large superior temporal retinal tear diagnosed. Laser treatment attempted but unsuccessful due to fluid beneath retina. Referred to Dr Jeevan Shrestha.

Tuesday 14 September 1999.
Examined by Dr Shrestha. Further unsuccessful attempt at laser surgery. Decision made that a buckle be placed on the eye under general anaesthesia to prevent further tear and more retinal detachment.

Ophthalmic surgery and general anaesthesia in Nepal? You must be crazy!

The Eye Centre

The B P Koirala Lions Eye Centre for Ophthalmic Studies is situated opposite the Emergency Room of Tribhuvan University Teaching Hospital (TUTH). It is probably no coincidence that it was built when Dr Koirala's uncle, G P Koirala was Prime Minister. It is a small, modern building, spotlessly clean, with state-of-the-art equipment and highly competent staff. It has an operating theatre for out-patient procedure performed under local

anaesthesia. All procedures under general anaesthesia are performed at TUTH

The Centre sees and treats many extreme eye problems since patients rarely present early in the Third World. Many of the staff were interested in examining my eye since they saw few patients with early retinal detachments as most present with extensive or total detachments. I quickly formed the impression that Dr Shrestha was a highly skilled and competent doctor with 20 years experience in his field. His demeanour was mild, reserved and straightforward and his approach methodical and thorough.

A New Zealand optometrist who had been bringing students to Nepal for a month each year for twenty years confirmed this impression. His pronouncement that Dr Shrestha was "excellent" greatly reassured me.

Wednesday 15 September 1999.

Admitted to TUTH and comprehensively examined. Sneaked out of hospital in the evening to go to Bakery Café with a Nepalese friend for a "last meal". I ate momos, beer, Thai chicken, beer, vegetable sizzler and beer. As we were leaving the café, we met another friend and returned for further conversation, jokes and beer.

Thursday 16 September 1999.

Surgery including laser and cryo-therapy performed under general anaesthesia. Procedure lasted three hours: longer than anticipated because of difficulty placing buckle beneath ocular muscles. On awakening, delighted to be alive and free of nausea. Flowers, cards and visitors arrive in the evening.

Friday 17 September 1999.

Bandages removed from right eye. Fluid gone from retina. Discharged from hospital.

Anaesthesia

After I had decided that the ophthalmologist was qualified and

competent, my major concern was with the anaesthesia. Obviously, the anaesthesiologist is the most important person in the operating room, responsible for one's survival from the procedure. How competent would the anaesthesiologist be in this Third World Country? I have confidence in few of them in the United States.

As it turned out. My anaesthesiologist was a female, Dr Shumati. I found this reassuring as I concluded that in this male-dominated society, a woman had to be very sharp and good at her studies to win a place in medical school. Her mentor, who would supervise the anaesthesia, was a visiting English professor, a real grandmother type, with whom I instantly fell in love. She oozed confidence with her gentle manner and my apprehension instantly disappeared. She had retired from administering anaesthesia for maxillo-facial and ophthalmic surgery in Sussex and come to work in Nepal. She kept up a delightful, reassuring and relaxing monologue until I was on the operating table and had disappeared into the never-never land where so expertly and gently pushed me.

Conclusion.

At the time of writing, two days post-surgery, I sit with a swollen right orbit hoping that the procedure will be entirely successful. Dr Shrestha has just phoned to enquire how I am and to book a follow up appointment in Monday.

This unexpected foray into medical treatment in Nepal was both unexpected and surprisingly satisfactory. The care I received was as good as I could have expected elsewhere. The physicians were attentive and helpful. The B P Koirala Lions Centre for Ophthalmic Studies offers quality treatment of which every Nepalese citizen can be justly proud.

Reprinted from the Kathmandu Post June 27, 2000.

Pigs Might Fly!

Prof. Paul Fenton
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Queen Elizabeth Central Hospital
Blantyre
Malawi

People who work in airports are a special breed of human being: they handle the people who want to fly in aeroplanes. Airports are the curious places where they work. The Nation prides itself on a new airport and deplores the state of an old one. Yet, if you take away the veneer of fancy entrance halls and the glitz of over-priced, so-called "duty-free" shops, all airports are much the same, differing only in the numbers of passengers they handle.

An airport resembles a kind of special farm for delinquent humans. The dangerous inmates are confined to discrete compartments, fenced or glassed in, or moved under close supervision by trained keepers from one secure enclosure to another, like cattle or pigs. As though meekly waiting for the stun gun, these pigs wait in line for the airport farmers to conduct security and other formalities which, when examined in retrospect are 99.99% pointless.

Can these pigs also fly? Amazing to relate, millions do everyday.

Usually there is someone at the airport to tell the mindless porcine herd what to do and where to go. In fact, it is essential to have such a person: on one occasion, I was in a herd that had no one in charge and chaos immediately ensued as we pathetically tried to organise ourselves to be in the right place. We were waiting to check-in for an early morning flight from Cape Town; it was so early that we pigs had arrived before the herders. There were numerous, gloriously empty, check-in desks to snort at, so, like the obedient little porcines that we were, we all lined up at one end. After about 30 minutes, the man wearing the magic clothes i.e. a shirt with epaulettes, arrived and we all stared fingering our tickets and making "I'm-in-a-queue" motions. But the ober-pig-fuehrer went straight to a desk at the other end and flipped a sign saying, "closed" to read "open." He then sat down with his chin on his hands and stared into space looking neither to right nor to left. He didn't see us. Was he visually challenged or was it a bad hangover? One pig ventured to ask if there would be other super-beings coming later, to sit at nearer desks. No response. Also deaf? There was nothing else for it. Jostling with each other past signs announcing "unrivalled excellence in customer service" we moved to snort at the right desk.

Almost all flights take off after the advertised time, yet the pigs are rarely told the reason why or given any other information. Sometimes they will be told, on an inaudible public address system operated by someone with a speech impediment or reading difficulty that the plane is late because it arrived late. Never, in my experience, could we be told that there was a mechanical failure, staff problem (e.g. laziness, incompetence, porciphobia), crash on the runway, etc. Yet there are the common reasons why flights are delayed.

If the pigs start snorting excessively, something may happen. The problem is that not enough pigs are of the snorting type. They are mostly docile and would happily trot into a bacon machine if told to do so. Only one or two will stamp or make a bad smell in the departure lounge, nibble the furniture or leave droppings on the floor. The rest just quietly await the instructions if their herdsman or herdswomen. (Are women naturally ruder than men or is it just that there are more of them in airports and you notice them more? Please send answers on a postcard, signed with a trotter print).

Snorting pigs cannot make a plane take off any sooner but often the airport herders may hose them down with free Coca-Cola to cool off or throw in some free swill. Perhaps if enough pigs stamped and snorted and made a mess they would get their way. But not in Africa, friend.

Here, pig herders are used to such things. It is their stock in trade. A seasoned WHO traveller (the UN is very politically correct, you know; its employees go Pig-class these days) once told me that he was waiting for a plane to escape from Brazzaville. The glorious, gleaming, wonder machine of the skies was there for all to see on the runway. Gin and tonics were being loaded. Suddenly, a guard armed with an AK 47 and a baton appeared and herded the pigs back into a closed waiting area, locked the doors and stared at them malevolently through the glass. It transpired that the plane was overbooked and none of these pigs would get on. The guard had been posted to head off an expected stampede.

Once in the plane, luxury, surely, prevails? Not so.

These days, the tall pig ponders a modern paradox: the porcine race is getting taller yet the stalls are getting shorter. In 1999, you cannot snort around your truffles or slurp noisily from your trough of orange juice if the pig in front is not doing the same thing. If the one in front wants to recline, then all you can do is look at his seat back. About 3 inches from your mucus drooling hooter.

Being in transit at an airport can be doubly stressful for a pig: he is in-coming and out-going at the same time. This pig-author was trying to make

a connection at Nairobi from Ugandan to Kenyan Airways onward to Lusaka. Our flight was late but the Nairobi-based herders had not heeded the advance call from our pilot to expedite the transfer. There was no one to herd us into the waiting Kenyan plane, parked right next to us on the tarmac. (One day, in the far distant future, airport herders will wake up to the fact that a pig can actually trot unaided from one plane to another without the need for a guided tour through a large building). There were several transit pigs but it soon became apparent to our panicking herd that there was a problem: there were not enough places on the plane for us all. But why, when the plane was not full? No, it was not the lack of stalls but a deficiency of troughs.

(Now, we had inadvertently broken into an unauthorised information area: it is a general observation that a flying pig is not supposed to know how many seats there are or why you can or cannot get on to an aircraft. In fact, it is a Standard Part 1 order of All Airlines to give no useful information at all. The only information a pig can be told is that the plane is travelling at an altitude of 37,000 feet, that safety is the number one priority and that he fastens his seat belt by putting the little bit into the big bit.)

There are 10 transit pigs but only 5 packets of swill. But, we 5 unfortunates argued we are not hungry and it was only a 2-hour flight. The herders wore adamant: "You cannot fly! Go in to Nairobi! Come back tomorrow!" One pig started to foam at the mouth. Incontinence was imminent. In the confusion, while the herders were distracted with him, I grabbed a blank boarding pass from a pile on the desk and made a rush for the security gate.

I rejoiced that, at 6.00am that morning in Kampala, I had decided to wear a tie. Clearly the security man thought I was an Executive Pig and he did not bother to look at the card. Squealing triumphantly, I charged through the gate and down the steps leaving my lesser porcine brothers still waving their tickets and protesting their full bellies.

The lesson is: be a smart pig when flying.

The wearing of a tie should not be over-rated, however. I once fell into conversation with another Executive pig and he was travelling Business Class. As we entered the plane's hushed interior for our night flight to London, the Club Class steward smiled warmly and greeted him: "Glad to have you with us this evening, sir." Assuming that I was with the gentleman, he started on the same routine with me but stopped half way through when he saw my economy pass. His smile faded. "Are you not glad to have me?" I asked, in my customary pseudo-jovial flying mood. "Just follow the aisle to your right, sir" came the dry response.

The World Federation of Societies of Anaesthesiologists (WFSA)

The WFSA is a voluntary association of one hundred and seven national societies of anaesthesiologists. Its principal objective is: "to make available the highest standards of anaesthesia and resuscitation to all peoples in the world." If you are a member of a National Society or Association and your society is a member, then you are part of the WFSA. The WFSA holds a World Congress every four years, hosted and organised by a member society. One was held in June this year in Montreal organised by the Canadian Society. The next Congress will be held in Paris in 2004 and hosted by the French Society.

Much of the business of the WFSA is conducted during the World Congress. Policy is laid down by a General Assembly which meets twice during each Congress. All member societies of good standing can participate, sending delegates in proportion to their size. You are therefore, represented and can also attend as an observer (within the constraints of the available space) if you so wish. The General Assembly elects a President, Secretary and Treasurer and an Executive Committee, reflecting the geographical spread of member societies, to manage the Federation for the succeeding four years. The chairmen of the Standing Committees on Education, Publications, Finance and Statutes and Bylaws also sit on the Executive Committee.

The Executive Committee gives effect to the agreed policies of the Federation, meeting in alternative years but otherwise conducting business by email, fax and post. The practical decisions concerning many on-going activities are delegated to specialist committees. The Education and Publications Committees have substantial budgets that they use to undertake their important functions.

Your national society pays a membership subscription for each of its full member of \$1.25 per year. This has not been increased since 1980 but at the Montreal Congress it was resolved to

Its principal objective is: "to make available the highest standards of anaesthesia and resuscitation to all peoples in the world".

increase this over the next four years to \$1.50. The subscription is intended to cover the administrative costs of the Federation. Additional income is obtained from WFSA investments. The capital for these investments has been derived from a share of the surpluses generated by previous World Congresses and the income enables the federation to fulfil its educational objectives.

The Education Committee has the largest budget and spends some \$150,000 each year. In recent years it has funded Refresher Course in sub-Saharan Africa (Uganda, Ghana, Sudan, Burkina Faso, Tanzania, Mauritius, Botswana, Nigeria, Mozambique, Benin, Ethiopia, Malawi and Togo), Asia (China and Vietnam), the Americas (Paraguay, Costa Rica, Honduras and Nicaragua), the Pacific (Fiji and Palau) and Eastern Europe (Russia, the Baltic States and Macedonia). A course for anaesthetists on the technical care of equipment has been held in Uganda (sponsored by Penlon) and paediatric fibreoptic workshops have been held in Chile and Argentina. It also assists Israel in maintaining an active training programme for anaesthetists from Eastern Europe.

Regional Training Centres are supported in Thailand, Benin, Ghana, Vietnam, Nepal, Fiji, Chile (in

paediatrics) and South Africa (in obstetrics). Visiting Professorships are funded for teaching visits that are expected to include practical teaching in theatres as well as formal lectures. Usually the WFSA provides airfares and the host society provides board and lodging.

Recently, Dr Douglas Wilkinson (Oxford, UK) has developed a Primary Trauma Care course, based on the Advanced Trauma Life Support programme, for use in developing countries. It has been run in the Pacific, India and Africa and has been universally well received.

The Publications Committee has a budget of about \$50,000 per year. It publishes "Update in Anaesthesia" twice a year. Update contains articles on practical anaesthetic procedures and the theory that underlies them. It is aimed at practitioners (doctors, nurse anaesthetists and clinical officers) in countries with limited resources and poor access to educational material. It is currently published in six languages (English, French, Spanish, Russian, Arabic and Mandarin). As well as the printed versions, it is available on disc, CD and

The WFSA is posed to re-launch its website (www.wfsa.org.uk) news, specialist chat rooms and useful information

can be downloaded from the Internet (www.nda.ox.ac.uk/wfsa). The site has received over 11,000 hits from over 100 countries.

Donations of teaching material including books, journals and videos are made on request to centres that lack educational material. Each package is customised, within a fixed budget, to the

individual requirements of the recipients. About thirty packages are dispatched each year.

During the past four years, the retiring Treasurer, Dr Michael Rosen has obtained funds from the Soros Foundation to provide training for anaesthetists from Eastern Europe in Palliative Medicine. With Dr Michael Dobson, the WFSa's liaison officer with the World Health Organisation (WHO), he has obtained grants from the UK Department for International Development to conduct a trial of the Glostavent in Mozambique and Zambia and to make Update more widely available on CD and via the Internet.

The WFSa is posed to re-launch its web site (www.wfsa.org.uk) with news, specialist chat rooms and useful information. A web editor-in-chief and regular contributors from throughout the world are being sought. Currently, if you look up WFSa on the Internet you are more likely to get information about the Welsh Football Supporters Association than about anaesthesia!

Collaborations enable the WFSa to achieve more than it can alone. Many national societies, for example, support WFSa initiatives by paying the costs of lecturers on Refresher Courses. The WFSa has worked with the Australian Society and the Australian government to develop a Diploma (and subsequently a Masters) course in Anaesthesia at Fiji in the South Pacific and is now in discussion with the Japanese government to further develop the Bangkok Training Centre. With the WHO, a standard for oxygen concentrators has been set and a textbook "Anaesthesia in the District Hospital" has been published and revised.

The current officers of the WFSa are:
President:

Dr Kester Brown (Australia)

Secretary:

Dr Anneke Meursing
(Netherlands/Malawi)

Treasurer:

Dr Richard Walsh (Australia)

Chairman, Executive Committee:

Prof. David Bevan (Canada)

The Constitution of World Anaesthesia

Aims and Objectives

World Anaesthesia is a world-wide society whose aims include:

- **Support for colleagues in developing countries, by the development of appropriate training, materials, and equipment, and when requested, by speaking on their behalf to governments, non-governmental organisations, pharmaceutical companies, equipment manufacturers and others.**
- **Liaison with the many other agencies whose activities may impinge on anaesthesia & resuscitation**
- **Provision of a network of appropriately trained and experienced people able to assist on request.**

The Executive is elected by members present at the Annual General Meeting.

Chairman – elected for 3 years, re-electable for one further term

Honorary Secretary elected for 3 years, re-electable for one further term

Treasurer elected for 3 years, re-electable for one further term

The executive will work for the Society through the **Organising Committee**. The Executive will appoint members to the organising committee. The membership of the committee is listed below but other members may be co-opted at the discretion of the Chairman.

The Organising Committee is composed of the following members (some of whom perform 2 or more tasks):

Meetings co-ordinator – organiser of regular World Anaesthesia meetings

Publications member – edits Newsletter and sits on editorial board of Update

Liaison member – liaises with Specialist Societies

Publicity member – responsible for organising publicity at major meetings

Linkman member – responsible for maintaining links between members in different countries and organising a database of information about different locations

WFSa linkman – liaises with the WFSa

Association linkman – liaises with AAGBI

Adviser for those planning to work overseas

Membership of World Anaesthesia

is open to anyone involved with the provision of anaesthesia. An annual subscription is set at the AGM but members in developing countries are exempt from payment.

The activities of World Anaesthesia are mainly educational and include:

- Annual meeting in UK
- Overseas meetings with other Societies
- Preparation and distribution of educational materials
- Preparation and publication of Newsletter
- Advice for those planning to work in another country

“to make available the highest standards of anaesthesia and resuscitation to all peoples in the world”.

A letter from Dr Iain Wilson

Dear World
Anaesthesia Member,

At the World Anaesthesia meeting on 1 October 99 I was delighted to be elected Chairman to follow Mike Dobson who started World Anaesthesia (WA) some 12 years ago. Currently the membership of World Anaesthesia stands at 1454 of whom 744 work in the developing world.

As you are aware, World Anaesthesia supports colleagues providing anaesthesia overseas. One of its activities is to send (free of charge) the educational journal "Update in Anaesthesia" to members working in developing countries. Other members can access the electronic version at <http://www.nda.ox.ac.uk/wfsa/>. The costs of Update are met by WFSA (printing and distribution) and WA (preparation and typesetting of paper and electronic versions).

Our Treasurer (Douglas Wilkinson), Secretary (Charlie Collins) and I have been bringing our membership and subscription records up to date. At our last AGM it was decided that the Annual Membership should be increased to £20 or equivalent. Members working in developing countries are exempt.

If you would like to renew your membership of World Anaesthesia, please complete the new database of members and send it to Dr Charlie Collins at the address below. We shall then contact you to arrange collection of your subscription, depending on where you live.

If you wish to receive copies of Update in Anaesthesia to send overseas please let me know by email how many copies are required and the address for delivery. We shall mail them on to you or to the address you specify for the recipients.

Many thanks for your continued support for World Anaesthesia – it is greatly appreciated!

Dr Iain Wilson

Chairman, World Anaesthesia
Email: iain.wilson5@virgin.net

World Anaesthesia Database

Name:

Address:

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Institution:

Telephone: Work:

Home:

Fax:

E-mail address:

Job Title:

Speciality:

Grade:

Age:

Experience overseas:

Please list the countries where you have worked (other than your home country).

Please add: the places in those countries, the dates and the type of work you were engaged in. (e.g. Disaster Relief, Support for refugees, Area of War/Conflict, Longer term medical missionary or secular relief agency work). Continue on a separate sheet if necessary:

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World Anaesthesia Database continued

Particular interests:

(e.g. subspecialties of anaesthesia/care of the critically ill, education, distance learning, appropriate research writing, disaster relief, conflict situations, medical missionary, long term secular:

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Languages spoken:

Availability:

Are you happy to answer enquiries relevant to your experience/expertise? Yes No

Are you able to write for WA publications? Yes No

Are you available for working visits abroad? < 1 month 1 to 6 months

How much notice do you require? 2 weeks 2 months 6 months > 6

Any comments:

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Please complete this form as accurately as possible and return to:
Dr. C. Collins, Secretary, World Anaesthesia
Dept. Anaesthesia, Royal Devon and Exeter Hospital (Wonford), Barrack Road, Exeter, Devon EX2 5DW
United Kingdom