Occupational HEALTH SOUTHERN AFRICA

Official Journal of the SA Society of Occupational Health Nurses (SASOHN) and the SA Society of Occupational Medicine (SASOM)

In this issue:

Emergency evacuation from a company perspective

Ambulance services in South Africa: past, present and future

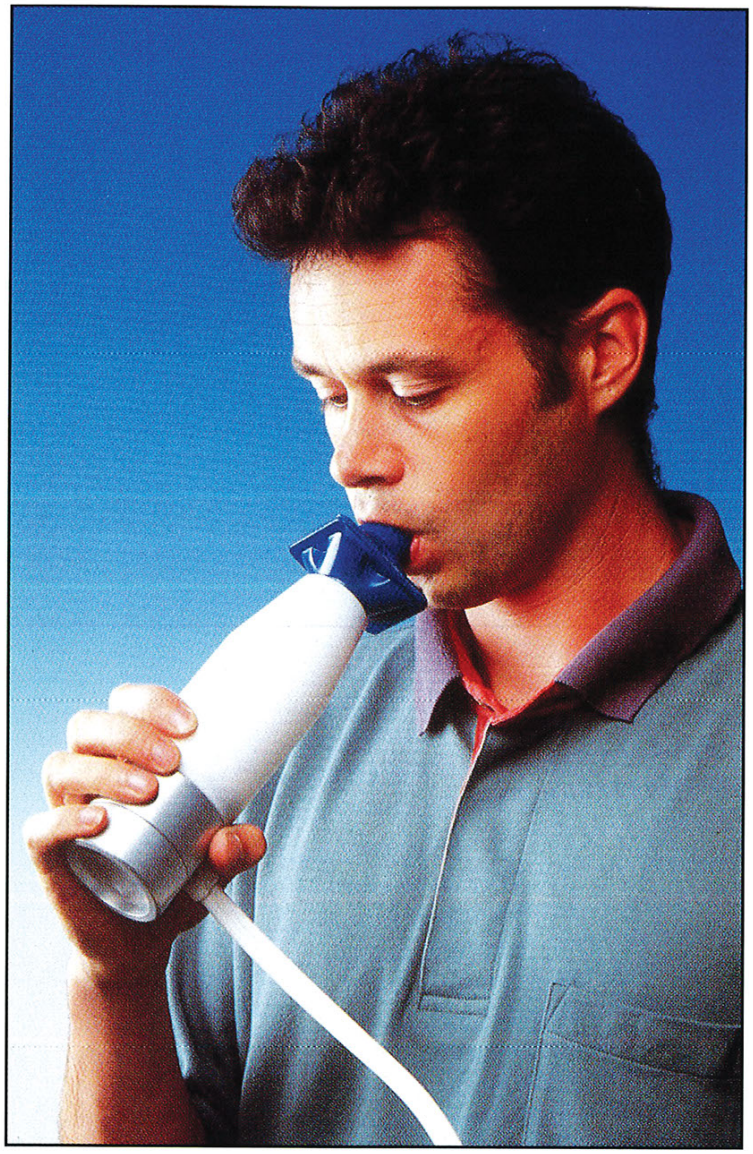
The "20 A" approach to anaphylaxis

First Aid Training - a practical perspective

HIV Testing for Heavy Duty Drivers

Vol 3 No 2 March/April 1997

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This journal focuses on Occupational Health, Medicine, Hygiene and Safety, Primary Health Care at the workplace, Environmental Health, and other employee health benefits

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Editorial



Emergency Medicine is becoming a dominant discipline and the inroads and developments have taken major strides into this specialised arena requiring focused skills and training. This edition identifies the real problems as seen from the perspective of the Occupational Health Practitioners, the Ambulance Paramedics, as well as the First-Aiders, and the professional manner in which they go about their tasks with efficiency and expert training. Webster highlights these and we edorse her argument. Training and skills must go hand in hand and apart from the problems encountered in the logistics of the services provided, data capture, correct and appropriate treatment processes, and the essential requirements by industry for excellence all play an major part in the upliftment and ongoing improvements in this discipline. Davis and Ferguson have outlined this admirably.

Add to this the treatment of Anaphylaxis by Kloeck, and their immense dedication and experienced training place these skilled professionals in a world class position. Industry needs and supports these high standards. The improvements outlined by Kramer, with the current pitfalls, helps to focus on the standards expected by South African workers today.

The testing for HIV on Heavy Duty Drivers is contentious and demands attention, and the debate continues without losing momentum (nor quality of argument!) Van Rensburg puts it succinctly and the importance of recognising the neurological complications in AIDS is alarming if not taken into account- we refer to the journal's first edition when Naidoo asked the same questions in his letter.

The Societies wish to thank the World Health Organisation through the SA Technical Cooperation Programme for their ongoing support of our journal. Future editions will continue to inform readers about resource centres, educational institutions etc. in occupational health and safety.

Both Societies are hosting the prestigious international Pan African Conference on Occupational Health (PACOH) in Durban from 31 August until 4 September. During the conference both Societies will be hosting their AGMs and it is anticipated that it will attract many people from both Africa and Southern Africa. The July/August edition of the journal will be the official conference edition and a request is made for both articles and advertising to make this a bumper issue.

Dr Roland Schoeman was a friend and colleague who involved himself actively in the affairs of SASOM for many years. He also played a dominant part in the membership drives and his enthusiasm for the National Executive of which he was a member as well. Roland's passing was a shock and his accident indelibly impacts on us all, with the tragic loss of a real personality and an excellent doctor as well as being a loved one of his family.

Chris van Selm
Editor

PACOH '97
PAN AFRICAN CONFERENCE ON OCCUPATIONAL HEALTH

Calling all exhibitors

Exhibition space is available at the Pan African Conference on Occupational Health, 31 August - 4 September 1997

This is the first time that PACOH is being held in South Africa. Three hundred delegates are expected at the Holiday Inn Crowne Plaza, Durban, many from African and international countries as well as a large contingent from within South Africa.

For companies wishing to expand their markets and make new contacts further a field, this is the opportunity!

Thirty stands are available and the costs are as follows:

- 4x3m = R3400.00 (1)
- 4x2m = R3200.00 (1)
- 3x3m = R3200.00 (1)
- 3x2m = R3000.00 (20)
- 3x1.5m = R2950.00 (7)

Total: 30

This entitles the exhibitor to a Shell Scheme (comprising walls and fascia), 1 x plug point, 2 x spot lights, name and number on fascia. Any additional equipment required can be hired on request, e.g. tables, desks, plinths, chairs, brochure holders, display cabinets, etc.

To book a stand a 50% deposit will be required by May 1, 1997. Bookings will be handled on a first-come first-served basis. (Payment of the deposit will confirm your booking). The balance will be payable by August 1, 1997.

An administration fee of R100.00 will be charged for any cancellations.

Bookings will only be accepted up to August 16, 1997.

There will be two refreshment points within the exhibition area and the lunch area will be connected to the exhibition area.

Details of build up and breakdown will be given to all exhibitors nearer to the conference date.

For further details contact Brenda Webster, tel/fax: (012) 46-7424

Medichem Conference Cape Town 1998

Medichem is a scientific committee of the International Commission of Occupational Health (ICOH) which promotes occupational and environmental health in the chemical industry. They have reached agreement with CAIA (Chemical and Allied Industries Association) in South Africa to act as partners in a joint venture to host the Medichem conference in Cape Town in September 1998. This is the first time this prestigious conference will be hosted in South Africa.



Dr Lorraine Lotter, Executive Director CAIA, signing the agreement with Dr Murray Coombs, chairman of the organising committee and also a board member of Medichem.

For further details on the conference, contact:

- **Global Conferences Tel (021) 762-8600**
- **SASOM - Dehlia Müller Tel (012) 664-1460**
- **Dr Murray Coombs Tel (012) 46-5490**

e-mail: medichem@sandton-senchem.co.za.

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Occupational Dermatoses initiative

In other countries, occupational skin diseases have been referred to as a "hidden epidemic". Since so little is known in this country about prevalence, diagnosis, compensation entitlement and prevention of these diseases, the NCOH has committed itself to an Occupational Dermatoses initiative in South Africa over the next few years.

Aims

1. To gauge the perceived extent of the problem among occupational health care workers.
2. To raise the level of awareness regarding occupational dermatoses.
3. To identify ways of addressing problems pertaining to workplace associated skin disease.
4. To explore ways of preventing occupational dermatoses.
5. To collect data on occupational dermatoses in the SA workplace using a national database.
6. To conduct research into occupational skin disease in SA.

What has been done so far?

During 1996, workshops were held in four main industrial centres (Johannesburg, Durban, Port Elizabeth and Cape Town). These were funded by the WHO. Speakers included Mr Chris Packham, Senior Consultant at EnviroDerm Services, UK and Dr Gail Todd from UCT. The target audience consisted of occupational doctors, nurses, dermatologists and some health and safety officers. A SASOM subcommittee has been set up to manage the initiative.

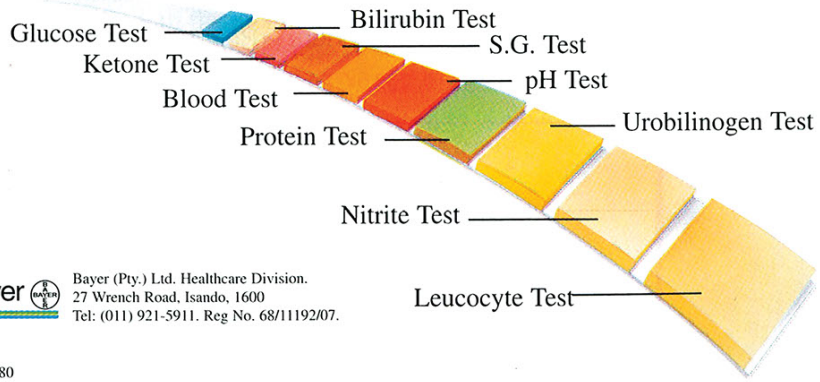
Future plans

1. Four more workshops are planned for May 1997, to be held in the same centres as last year and will be advertised in the journal.
2. Since this is one area in occupational health where prevention can be successfully applied without incurring huge costs, prevention strategies will be vigorously promoted.
3. A half-day seminar entitled "Skin management as a contribution to business success" will be part of the May NOSHCON conference and will target supervisors and management. Details will be advertised in the journal.
4. Lea Roodt (from NCOH) will be sent to Birmingham University for a 5-day course on Occupational Dermatitis under a "train the trainer" scheme. She will then hold workshops for OH doctors and nurses, sharing what she has learnt in the UK.
5. A comprehensive research project on Occupational Dermatoses in miners is in the advanced stage of planning.

Long term plans include setting up an Occupational Dermatology Advice Centre at the NCOH, a Home Page on the Internet and collecting data on occupational skin diseases on a national database. The success of the initiative, however, depends on the support and participation of occupational health care workers. If there are any ideas and suggestions, or require any further information, **contact Lea Roodt tel (011)720-5734 or**

Dr Jenny Stark
tel (011)725-4676

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SASOM guidelines

The SASOM guidelines were completed in October 1996 and are now available from the SASOM National Office. These guidelines have been drawn up over the past few years and are now readily available as a package. They cover areas where industry has needed guidance on occupational health matters and will continue to be developed as the need arises. The 16 guidelines also include "The Medical Officer in Industry" and are available in a white vinyl ringbinder with a photo of Bernardino Ramazzini - "the father of occupational medicine" - who wrote the first ever document on occupational diseases in the late 17th century. The package also includes the Basic Principle Certificate based on the code of ethics for occupational health prepared by the ICOH. This has been specially designed and printed to make it ideal for framing and display.

A handsome tie with the SASOM logo printed on it is also available. Please bear in mind that these purchases will all help to further the aims of the Society and Occupational Health in the future.

The prices are as follows:-

Item	SASOM members	SASOHN members	Other
Guidelines	R150-00	R200-00	R250-00
SASOM Tie	R70-00		R90-00

Contact person: Dehlia Müller

Tel/Fax: (012) 664-1460 or (012) 664-1648 x 214

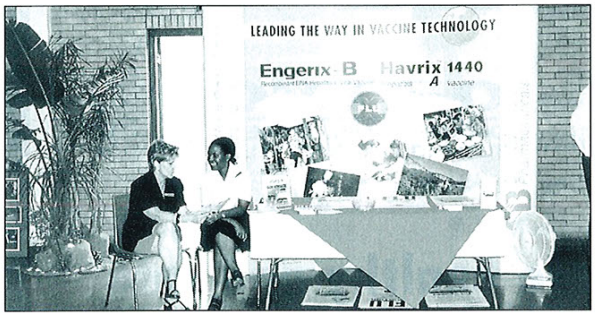
Clinic permit news

Both SASOM and SASOHN are continuing in their efforts to secure a future permit system to the satisfaction of all parties.

A delegation recently met with the co-ordinator in the Gauteng Department of Health to discuss the delays in issuing of permits in this province. Significant progress was made and hopefully these delays can be cleared up.

In order for the societies to be aware of problems with regard to the permit system, it would be appreciated if any problems could be faxed to either Dr Jim Murphy of SASOM at (011) 444-3643 or Sister Bev Hoggins of SASOHN at (011) 871-8600

Emergency management in the workplace



During February 1997 the "Emergency Management in the Workplace" seminar was hosted by the Institute of Emergency First Aiders in conjunction with Medical Rescue International.

Amongst the highlights was Dr Chris van Niekerk (Ophthalmologist) who discussed emergency care for eye injuries and Mr SL Biddulph (Orthopaedic Surgeon) who stressed the importance of elevation and cooling of hand and arm injuries.

The Occupational Health & Safety Act and Workmens Compensation Act relating to injury and claims were addressed by Rodney Scott (Scottsafe).

From reports received the seminar was a great success.

IEFA Dick Kelder

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SASOM AGM dinner



Dr Ferdie Smith presenting Prof Tony Davies with a Ramazzini bust after his address at the SASOM AGM Dinner

The SASOM AGM dinner was held at the end of 1996 at the Volkswagen Centre in Midrand. It was a very relaxed and enjoyable evening and the speech was made by Prof Tony Davies, formerly Director of the National Centre for Occupational Health and Professor of Occupational Health at the University of the Witwatersrand. His talk was most informative and discussed current and future perspectives of occupational health in South Africa. After the speech he was awarded honorary membership of the Society and presented with a bronze bust of Bernadino Rammazini.

At the dinner two further awards were made. The SASOM Scientific Committee for Biological Monitoring (SSCBM) makes an annual award to the best article on biological monitoring submitted to the journal "Occupational Health Southern Africa". For 1996, this award was split between Dr Johan Mets, now in retirement in Cape Town, for his article "Haematological reference values for biological monitoring of employees exposed to inorganic lead in South Africa" and Dr Tony Cantrell with Ros Landless of the NCOH in Johannesburg for their article "Monitoring blood lead levels in South African Industry in 1995". Both these articles were of a very high standard and its is hoped the journal will continue to attract articles of this calibre. As Dr Mets could not attend the AGM, he was given his award by Dr Terry Berelowitz at a SASOM - University of Cape Town Workhealth meeting.



Left: Dr Johan Mets, award winner



Right: Dr Tony Cantrell, award winner

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3M Health Care workshops



As part of their ongoing commitment to the upliftment of the community through improved health care standards, 3M Health Care have developed a Wound Care Seminar workshop as a means to communicate, interact and share information with health care professionals interested in wound healing. Last year over 1 900 people throughout Southern Africa attended the seminars/workshops.

The Wound Care Seminar offers an holistic approach to wound management and examines factors affecting wound healing. It is unique in that no brand names of any manufacturers are mentioned, including 3M, and the programme is so flexible that it can be tailored to suit any level of audience, from students to wound care experts. The seminar is intended as an exchange programme facilitating open discussions and opinions from various wound care specialists, and is offered as a service by 3M Health Care to professionals around the country.

These seminars are held throughout Southern Africa and are facilitated by a trained wound care specialist. To create an environment for learning and participation, up to 30 people can be accommodated per session. Each workshop runs for a maximum of six hours. Each delegate is supplied with a brochure summarising pertinent facts from each module as well as comprehensive notes. A certificate is issued on completion of the course.For further information on programme outline and venues and dates for the 1997 seminars **contact Melanie Burman, tel** (011) 922-2008.

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Winner of the MOM competition



Dr Murray Coombs handing over the prize to Sr Estelle Struwig.

The winner of the 1996 Mobile Occupational Medicine (MOM) competition was Sister Estelle Struwig of Manganese Metals Company, a Samancor company in Krugersdorp. Her prize was a week's timeshare at the RCI resort of Dikhololo.

At the presentation Dr Murray Coombs congratulated the medical personnel, management and employees of the company on their commitment to the health and well-being of all employees.



Pretoria PSOHN

Proposed programme for 1997

All meetings commence at 13:30 unless otherwise stated

February 5 Health Risk Assessment
Speaker Jo Bradley
Venue ABI (Coca Cola)
1237 Market Str, Hercules, Pretoria

March 5 Assessment of People at Work
Speaker H de Vos
Venue Occupational Therapy Dept
MRC Building,
1Soutpansberg Rd, Pretoria

April 2 Disability I11 Health Procedure-OHNP
Speaker Dr G Strydom
Venue Johnson & Johnson
Medical Rd, Halfway House, Midrand

May 7 New Legislation
Speaker Dept of Labour
Venue SABS
Dr Lategan Rd, Groenkloof, Pretoria

June 4 Driver Medical
Speaker Dr M Coombs
Venue BP South Africa
Haak Street, Waltloo-Silverton

July 2 STD's New Approach
Speaker Dr D Coetzee
Venue Truck Makers-Nissan
Kitshoff Str, Rosslyn

August 6 AGM-Workshop
Venue To be announced

Sept 10 Permit System-Latest and Procedure
Speaker To be announced
Venue Nampak Tissue
Research Rd, Pretoria West

October 1 Eye Examination and Vision Screening
Speaker Sr E Makoka
Venue Eye Institute
630 Schoeman Str, Arcadia, Pretoria

Nov 26 Year end function
Venue To be announced

For more information telephone:
Louwna Pretorius
(012) 21-7736(W)/ 984-833(H)
Elize Kaszas
(012) 529-5315 (W)/386-7354(H)
Amanda Lazenby
(012) 541-7072 (W)/ 549-0484(H)

Recommendations for influenza vaccines - 1997

The following strains have been recommended for the 1997 influenza season by the World Health Organization Collaborating Centre for Influenza Reference and research, Melbourne, and the Southern Hemisphere Network for Influenza Vaccine:

- A/Wuhan/359/95 (H_3N_2) - like strain
- A/Texas/36/91 (H_1N_1) - like strain or A/Singapore/6/86 (HN)- like strain
- B/Beijing/184/93-like strain

Indications

1. Person (adults or children) who are at high risk for influenza and its complications because of underlying medical conditions and who are receiving regular medical care for conditions such as chronic pulmonary and cardiac disease, chronic renal disease, diabetes mellitus and similar metabolic disorders, and individuals who are immunosuppressed;
2. Residents of old-age homes, chronic care and rehabilitation institutions;
3. Children on long-term aspirin therapy;
4. Medical and nursing staff responsible for the care of high-risk cases;
5. Adults and children who are family contacts of high-risk cases;
6. All persons over the age of 65; and
7. Any persons wishing to protect themselves from the risk of contracting influenza, especially in industrial settings, where large-scale absenteeism could cause significant economic losses.

Dosage

Adults: whole or split-product of subunit vaccine: 1 dose I.M.
Children: (<12 years) Split-product or subunit vaccine: 1 dose I.M.
Children: < 9 years who have never been vaccinated should receive 2 doses one month apart.

Contraindications

1. Persons with a history of severe hypersensitivity to eggs;
2. Persons with acute febrile illnesses should preferably be immunised after symptoms have disappeared; and
3. The vaccine, although considered safe during pregnancy should, nevertheless, be delayed until the 2nd or possibly 3rd trimester to minimize the theoretical risk of teratogenicity. However, if high-risk indications exist, delaying immunization should be avoided.

Timing

Vaccines should be given sufficiently early to provide protection for the winter. A protective antibody response takes about 2 weeks to develop.

Chemoprophylaxis

In cases where vaccine has not been administered, consideration should be given to the use of supplementary chemoprophylaxis with amantadine in certain high-risk individuals, e.g. patients with chronic lung and heart diseases. Amantadine should be administered in a dosage of 200 mg daily in 2 divided doses for the duration of the epidemic activity, i.e. approximately 6 - 12 weeks. The dosage should be reduced in persons with renal disease and persons over the age 65 years.

Department of Health

With acknowledgements to the SAMJ, Vol 87, No 2, February 1997, 191



Emergency evacuation from a company perspective

Paul Davis and Elizabeth Ferguson

Introduction

There is an ever increasing number of company employees that are working and or travelling out of South Africa in pursuit of company business. Inevitably, a proportion of these will develop illness or sustain injury.[1]

In addition at least 5% of those who travel have some form of chronic disease, often of a cardiac or respiratory nature.[2]

In general the majority of those who sustain an injury or become acutely ill, whilst travelling or working away from home, are able to be treated locally or can travel unaccompanied to return home for treatment or diagnosis. However this generalisation is often compounded due to the prevailing medical infrastructure or lack of it in certain countries, the remoteness of the work sites in inaccessible areas, and the increased incidence of exotic illnesses and motor vehicle accidents.

This combined with poor communications, and lack of good primary information create an imperative for responsible companies to make pro-active arrangements for the employees whilst away from home.

The overriding truism with regard to critically ill or injured people is that they are best served when they receive care in facilities that offer both highly skilled personnel and advanced technologic and diagnostic capabilities.[1] In addition many studies have confirmed that the early use of critical care personnel and technology improves the outcomes in selected critical care populations. Thus "good care - fast" is the watchword.

There are two categories of employees discussed in this context and strategies proposed for both.

1) Those employees who are 'mobile', i.e. moving from place to place, while away from home base usually for short periods of stay.

2) Those who are mostly static i.e. working in a specific area or geographic locality such as construction sites, remote offices etc, usually for longer periods of time.

Strategy for static workforce

Identification of the local medical resources and their capacity and capability and an evaluation of what their limitations are is paramount as this determines the level and competency of any supplementary on-site services.

In all instances there should be an on-site or on-premise medical capability not only from the point of view of emergency medical management, but also for the maintenance of the health records of the employees, storage of needed or strategic medications and providing a non-emergency referral service.

At least one if not two employees should have some basic medical training in handling emergencies. They should be familiar with both the company medical plan and the disaster plan. They can obviously be enhanced by the presence of a full time nurse or paramedic.

Adequate reliable communication is essential. In addition to telephone communication, consideration should be given to HF radio, satellite phone and even cellular telephones.

The cellular telephone's roaming function has proved to be particularly useful and reliable.

In any critical event the quality of the initial medical evaluation care and the speed of emergency response will largely determine the outcome.

Evacuation from remote sites is commonly determined by the availability of medical expertise locally and on local conditions. For instance, the patient who is suffering from chest pain may be able to be handled locally in the emergency phase, but for any further sophisticated investigation and management, he would require to be moved to a tertiary health care centre, and therefore this in itself would be the indication for evacuation.

Rural services tend to be basic and the distances that may need to be covered to evacuate the patient by road may be excessively long and on occasion hazardous.

Dr Paul Davis and

Elizabeth Ferguson

are both from Medical Rescue International in Johannesburg

Occupational Health SA 1997; Vol 3, No 2: 10 - 12

Consideration may be given to using the next available commercial flight to evacuate the patient, but this is entirely dependent on the nature of his injury or illness, as he may be forbidden to travel without a medical escort or in some cases forbidden to travel at all on that airline.

An air ambulance may be the only method available to evacuate the patient.

It is indeed true that the successful outcome of an evacuation requires the services of a large number of people other than the medical team, and careful consideration should be given to using an assistance company on a fee for service or insured basis.

It is the everyday business of medical assistance companies to carry out patient referrals and evacuation, and their infrastructure is such that they are well versed with current requirements and procedures, particularly when the evacuation crosses international borders.

Also air transfers are often complicated medically and require special equipment and knowledge.

In all circumstances staff travelling on out of the country on business should be covered by adequate medical insurance with a medical assistance company well represented on the ground in the countries being visited.

Medical emergency/ disaster plan

The structuring of a medical emergency disaster plan (Table I) for a work site or office must include an evaluation of the capability of the local resources.

This includes all emergency services such as hospitals, ambulances, fire and rescue services.

The regional contacts i.e. hospitals, doctors, embassies and similar businesses should be included as part of the disaster plan, and regular "testing" of these contacts should be made. One never knows when this will prove to be useful.

Table I: Disaster Plan

- Evaluation of local resources
- Assessment of emergency services such as ambulance, fire and rescue
- Regional medical contacts and current contact numbers
- Evacuation plan
- Multiple patient evacuation
- Communications
- Assistance company/medical insurance including evacuation

Common to disaster management is the evacuation of multiple casualties, and once more the local resources may well be able to deal with code green patients, but those who are in need of sophisticated care need to be transported to the appropriate facility.

The use of an aircraft with the ability to transfer multiple patients may well necessitate the use of an alternative airfield (relating to surface, runway length and conditions) and this should be identified prior to the event.

Strategy for the "mobile" employee

Travel planning for the "mobile" employee should include not only the itinerary of the intended travel, but also ensure that the headquarters are constantly aware of the exact location of that individual, as well as a detailed travel plan e.g. flights, flight numbers, hotel numbers etc.

A medical and evacuation plan must be included in the travel plans, and pre-knowledge of the prevailing medical problems in the region of intended travel will obviously allow the individual to be adequately prepared, for example immunisations required or special requirements related to prophylaxis.

This information is freely available from travel services, assistance companies and the Department of Foreign Affairs.

All accommodation should be in recognised hotels, with adequate communication facilities.

The employee must be aware of the nearest South African embassy and their contact numbers.

Passports, identity documents, personal information etc. should be carried on the person and in their luggage.

All travellers should be aware of and take basic precautions against dehydration and contaminated food and water.

It is a good practice for "mobile" employees to carry on themselves at all times an emergency medical kit, which should include sterile needles, syringes and intravenous fluid. Many are commercially available and include basic medication for diarrhoea, eye infections, vomiting and nausea, headaches and fever and a broad-spectrum antibiotic.

Sufficient supplies of chronic or regular medication, together with a doctor's prescription for such medication is vital as the individual may well find himself far removed from any hospital or medical facility.

Storage of medication, for example insulin, has special requirements and these need to be considered prior to travel.

Again communication needs to be carefully considered and cellular telephones have proved to be reliable in many countries.

International evacuations done by Medical Rescue International over the past year as given in Figure 1 showing a seasonal distribution and Figure 2 depicts the clinical category.

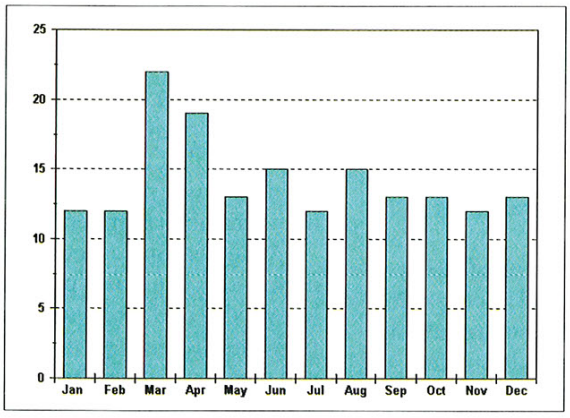


Figure 1: Medical Rescue International air ambulance transfers 1996

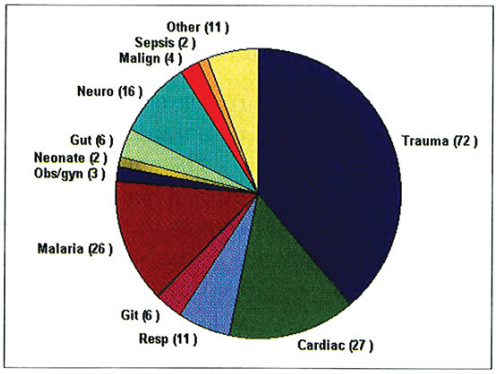


Figure 2: Clinical category

Indications for transport

International medical evacuations are usually undertaken for one or more of the following indications:

1) Medical
2) Financial
3) Personal preference

The primary medical indication for international transport is the lack of a certain type or level of care available in the country in which the person becomes ill or injured.

Financial reasons for repatriation include insufficient or exhausted insurance benefits/ personal guarantees, which may prohibit continuing treatment in the host country, and medical insurance benefits that only apply in the country of domicile.

The third indication for repatriation or at least transport to another country is patient or family request. When the patient is medically stable, it is quite reasonable to want treatment or convalescence in the home environment or in a country which uses the same language, even if the medical facilities are adequate. Terminally ill patients may want to return home, where they feel more comfortable and have access to more family and friends.[3]

Conclusion

The art and science of air medical transfer have progressed rapidly to the point that seriously ill neonatal patients, children and adults can be transported safely over long distances.

Most medical conditions that can be transferred by air over relatively short distances should also be able to be transported internationally.

However, certain additional issues arise when borders are crossed. These include but are not limited to differences in local air transport regulations, language barriers, lengthy crew duty times and the need for increased quantities of supplies.

The keys to success are the use of a trained and experienced medical flight crew, a more detailed assessment and stabilisation of the patient's condition, and a prior understanding and investigation of regional regulations.

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The "20 A" approach to anaphylaxis

WGJ Kloeck

An acute life-threatening allergic reaction may occur within minutes of exposure to an immunogen. Almost any substance, whether it be a medication, foodstuff or environmental agent, may be implicated as a causative agent. It behoves every health care worker involved in the management of patients, to be able to treat an anaphylactic reaction at a moment's notice.

Manifestations of anaphylaxis may occur within seconds or minutes after the introduction of a causative antigen. The reaction may become life-threatening with the development of either:

a) upper airway obstruction (laryngeal oedema)
b) lower airway obstruction (bronchospasm)
c) vascular collapse (shock)
d) any combination of the above.

Upper airway obstruction

Progressive respiratory distress as a result of laryngeal oedema may present as a sensation of a "lump in the throat", followed by hoarseness, inspiratory stridor, or even total closure of the upper respiratory tract in severe cases.

Lower airway obstruction

Bronchial constriction manifests with a feeling of "tightness in the chest", coughing, wheezing, tachypnoea, dyspnoea, hypoxia, cyanosis, leading to respiratory arrest.

Vascular collapse

Increased capillary permeability and generalised systemic vasodilatation, with or without the eruption of well-circumscribed intensely pruritic cutaneous wheals (urticarial eruptions), will result in nausea, vomiting, progressive hypotension and the development of shock.

The above features occur as a result of numerous pharmacologically active mediators, such as histamine, serotonin, leukotrienes, kinins, prostaglandins, etc. being released as a consequence of the immunological reaction. The management of anaphylaxis involves blocking the effects and preventing the further release of these vaso-active agents.

Management

The management of an acute life-threatening anaphylactic reaction can conveniently be memorised by what I have termed the "20 A Approach" (Table I).

Table I: The 20 "A"s of Anaphylaxis

A	-	Ask about allergies
A	-	Advanced directives
A	-	Anticipation
A	-	Accessibility
A	-	Accurate assessment
A	-	Airway protection
A	-	Ambulance
A	-	Adrenaline
A	-	Administration of IV fluids
A	-	Antihistamine
A	-	Adrenergic agonists
A	-	Anticholinergic agents
A	-	Aminophylline
A	-	Adrenocorticosteroid
A	-	Assure patient continuously
A	-	Admit to hospital
A	-	Aetiological search
A	-	Avoid recurrence
A	-	"Alert" emblem
A	-	Auto-injection education

Ask about allergies

The most important aspect in the management of anaphylaxis is to try and prevent the condition from occurring. Obtain details of any previous suspected allergic or adverse reactions. If there is any doubt, carefully weigh up the absolute necessity of administering the medication, especially parenterally, and consider other alternatives rather. It is always wise to keep a written record of the questions asked and the patient's reply.

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Advanced directives

Before administering medications, ensure that you have the necessary skill and emergency equipment to handle an adverse reaction. Is a properly stocked advanced life support kit or trolley readily available, and are the staff adequately trained to use the equipment? Most health care centres and emergency rooms in American and the United Kingdom insist on Advanced Cardiac Life Support (ACLS), Advanced Trauma Life Support (ATLS) and/or Advanced Paediatric Life Support (APLS) Certification, and these courses are now readily available in South Africa.

An acute anaphylactic reaction can develop literally within seconds, and is one of the most frightening of medical emergencies for both patient and doctor. The resuscitation skills of those present may well be put to the ultimate test.

Anticipation

It is worthwhile asking patients to wait in a dedicated area for up to 30 minutes, especially following parenteral administration of medications. Inform patients of the early symptoms of anaphylaxis, and to report these immediately if they occur. Stop further administration at the first signs of anaphylaxis. Severe reactions may occur (although rarely) even up to 24 hours after exposure.

Accessibility

In the management of the patient, it is essential to ensure the safety of the rescuer as well as the patient. Following a bee sting attack, for example, make sure that the scene is safe first. If the anaphylactic attack resulted in a motor vehicle collision, ensure that oncoming traffic has been controlled. If the patient fell from a height as he collapsed, simultaneous measures to protect and manage the spine and subsequent traumatic injuries must be undertaken.

Accurate assessment

The symptoms and signs of an anaphylactic reaction must be differentiated from the non life-threatening features of a simple allergic reaction (urticaria, pruritus, conjunctivitis, rhinitis, etc.) and from other conditions such as vasovagal attacks (syncope), hypoglycaemia, hysteria, etc. Recognition of the development of the above-mentioned manifestations of anaphylaxis is of utmost importance, since deaths have been reported within hours and even minutes of the onset of symptoms.

Airway protection

Crucial to the management of any life-threatening upper airway obstruction is the maintenance and protection of ventilatory adequacy. Positioning the patient in an upright (semi-Fowler's or Fowler's) position will provide some degree of respiratory relief, but this position should only be considered if the patient is still fully conscious and is not in shock. Hypotensive or unconscious patients should be placed supine and in the lateral position respectively to maintain cerebral perfusion and prevent pulmonary aspiration.

Oxygen therapy should be administered as soon as possible using the highest available concentration (at least 40% oxygen at a rate of 8 litres/minute via oxygen mask), preferably humidified if possible. Monitor respiratory parameters (and pulse oximetry if available) and vital signs continuously.

Progressive closure of the airway may require the rapid insertion of an endotracheal tube, smaller than predicted size if necessary, in order to maintain ventilatory patency. Even an emergency cricothyroidotomy may need to be considered in extreme circumstances, particularly in the presence of extensive laryngeal oedema and where intubation has failed. Positive pressure ventilation using 100% oxygen may be necessary in some cases. Monitor pulse oximetry and vital signs.

Ambulance

In the pre-hospital setting, the rapid deployment of an advanced life support ambulance or rapid response unit will be required in order to provide the necessary equipment and expertise, in view of the potential rapid progression of this condition.

Knowledge of the telephone numbers of an appropriate ambulance service is fundamental, yet surprisingly few people have these numbers readily available. Emergency numbers should be clearly visible and securely taped onto all telephones, as there may not be sufficient time to start searching for a telephone directory or a misplaced piece of paper.

Oxygen therapy, airway protection and other life support procedures can be provided by ambulance personnel according to their qualifications.

Adrenaline

In a life-threatening anaphylactic reaction, the immediate administration of adrenaline (epinephrine) is of utmost importance. A dose of 0.3 - 0.5ml adrenaline (1:1 000 solution) can be given subcutaneously or intramuscularly. This can be administered by the patient himself if no health care provider is available. All patients who have had a previous severe allergic reaction should in fact have adrenaline, needle and syringe (preferably in the form of a sterile prefilled auto-injection set) on their person at all times.

In the presence of severe shock, the adrenaline can be administered intravenously, as subcutaneous and intramuscular absorption may be unreliable in the presence of profound shock. Add 1ml adrenaline to 9ml sterile water or normal saline, and administer 3-5ml of this solution (1: 10 000) slowly intravenously. This dose can be repeated after 5-10 minutes if there is no improvement. An infusion of 2-10 micrograms/minute may be considered in refractory cases.

If an intravenous line cannot be obtained, the adrenaline can be instilled down the endotracheal tube, using 2-3ml adrenaline (1:1 000) added to 7-8ml sterile water or normal saline as an alternative route of administration.

Adrenaline can also be administered successfully via nebulisation by adding 1ml of 1:1 000 solution with 4ml normal saline into a nebulisation chamber.

Care must be taken with the use of adrenaline, particularly in the presence of a history of angina or underlying cardiac disease which may be aggravated, or ischaemia precipitated. Cardiac rhythm monitoring is important.

In children, the dose of adrenaline would be 0.01ml/kg subcutaneously/ intramuscularly (1:1 000 solution), or 0.1ml/kg intravenously using the diluted 1:10 000 solution.

Administration of IV fluids

In view of the vascular collapse that may rapidly occur with this condition, one or more large-bore intravenous lines must be inserted as soon as possible. Replacement fluids such as normal saline or Ringer's lactate/balanced salt solutions should be infused in accordance with the blood pressure and clinical response. Large volumes are sometimes required. In severe cases, colloids may also be required, following an initial 1-2 litres of crystalloid administration. Elevation of the feet may be an interim measure.

Antihistamine

Although antihistamines are generally prescribed for allergic reactions, they must be used in conjunction with, but not instead of adrenaline, in severe anaphylaxis. Promethazine 25-50mg (0.5mg/kg for children) or diphenhydramine 50-100mg (1mg/kg for children) or almost any other antihistamine would be acceptable, and must be administered intravenously if the patient is already hypotensive.

Sedation, a side-effect of antihistamine therapy, must be carefully monitored to avoid further respiratory embarrassment.

Adrenergic agonists

Selective beta$_2$ adrenergic agonists (e.g. hexoprenaline or fenoterol) can be administered via aerosol inhaler, or preferably nebuliser, for the relief of bronchospasm.

An asthmatic patient may already have an aerosol bronchodilator at his disposal. Two to five puffs should be administered (two minutes apart), providing some degree of respiratory relief in the early stages. Correct technique for the use of the aerosol inhaler is essential. Devices such as spacers and aerochambers are readily available to assist patients in obtaining effective inhalation.

An inhalant solution of a beta$_2$ stimulant (e.g. 1-2ml of fenoterol or hexoprenaline respectively) can be inserted into a nebuliser container together with 2-3ml of normal saline, and administered to the patient.

Intravenous administration of hexoprenaline can be considered if there is no response to nebulisation. 2ml should be injected IV slowly, in order to minimise potential side-effects (particularly cardio-vascular stimulation).

Anticholinergic agents

An anticholinergic agent such as ipratropium bromide is available as an aerosol or inhalant solution, and has a synergistic effect when used together with a beta$_2$ agonist. 1ml fenoterol plus 2ml ipratropium with 2ml normal saline given via nebuliser has been shown to be particularly effective in patients with recalcitrant bronchospasm.

First Aid Training - a practical perspective

B Webster

This article is based on 18 years practical experience as a first aid instructor and highlights some of the problem areas.

Within the industrial environment the occupational health nurse is very often given the responsibility to ensure that the statutory requirements are met. Under the General Safety Regulations of the Occupational Health and Safety Act, minimum standards are laid down for compliance by the employer. All companies should have copies of these on site.

Choice of Candidates

The choice of candidates for a first aid training course is sometimes done in a haphazard fashion. Very few managers/ supervisors have actually undergone the training themselves. Issues such as level of education, language fluency ability and literacy are often ignored in acceding to the request that "someone from the department" must attend a first aid training course. It has been my experience that individuals may arrive at work on a Monday morning with no forewarning and be told to "go to the training centre and attend a course". They start off the course bewildered, not very interested and concerned about their ability to cope. Others who are sent to attend think it is great not to be on the production line and are not always successful in passing the grade! Selection and attitude of candidates is most important.

Ideally, candidates should have similar levels of education and/or at least be able to communicate reasonably well. I have been given groups in which semi-skilled/illiterate workers have had to learn with employees who are graduates or technikon trained. It is important that all capable employees are given the opportunity to undergo first aid training. (Some of my most beautiful and proud displays of practical work have come from the employees who have had the least opportunities to attend school!). It is very difficult for a first aid instructor to present a course to such a mixed group of people - psychologically draining and physically exhausting. The brighter students may become frustrated and bored and the semi-literate or unskilled workers feel threatened and embarrassed about their level of understanding. I have found that instead of asking questions, pride intervenes when these candidates do not understand the work presented and invariably they struggle and may fail the course.

The level of education of candidates should dictate the level of presentation of the course. It is a test (sometimes impossible) of the skill of the first aid instructor to manage such a class to the benefit of all the candidates. Fortunately the mood of tolerance which has developed over the last few years (and a certain degree of patience) and support and understanding amongst employees has helped in presenting such "mixed bag" classes. Instructors should encourage full participation in asking questions, spend time reviewing work and use relevant anecdotal examples to facilitate understanding. Where necessary lectures should be given in the vernacular to illiterate employees - but this is seldom possible.

Instructors should be able to lecture in English and Afrikaans and have at least some basic knowledge of the Black languages. At this stage there are unfortunately no first aid training manuals (beyond very basic information) in the Black languages. English manuals are the most widely used - no good for someone who cannot read or write!

The actual instruction

First aid instruction includes an equal spread of attention to theory and practice. The theory gives a basis and background to understanding WHY and HOW things are done. Candidates should be given every opportunity to practise applying first-aid skills e.g. bandaging wounds, applying CPR, controlling bleeding, immobilising fractures etc. The act of 'doing' enforces the learning process. However, this is just the seed to knowledge and practical ability. It is important that employees are simply not called up again in three years time to renew

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their certificate. First aid skills are not utilised frequently and knowledge and ability (and confidence!) is soon eroded. Management should not just think that their duty has been done once an employee has passed a first aid training course. Employees should be required to attend short but regular monthly training sessions to maintain the skills learnt during the course and these refresher courses should be encouraged and actively supported by management. A regular and dedicated time slot should be allocated for this purpose and can even be managed and controlled by the first aiders themselves.

First aid competitions go a long way towards maintaining practical skills and enthusiasm. However, organising of such competitions requires a huge commitment in time and energy (and money too!) and I have found that the smaller industries do not have the resources to organise first aid competitions. For the mines and large companies like Eskom who have training departments, this has become an essential and dedicated part of the annual training schedule. Attendance at these competitions can be helpful for the smaller companies.

What many people do not realise is that the skills and knowledge learnt in first aid are utilised in all spheres of life and are very enriching for employees. Most managements give the impression that to allow an employee time to attend these courses constitutes a nuisance factor. I have had many courses interrupted by supervisors and fellow employees who call trainees away from the course to attend to a work enquiry or emergency. This is disturbing to the candidate and to the class and shows a lack of understanding and support on the part of management when these interuptions are allowed. The request is also often made for the course to be completed in the minimum time possible so that production is not too seriously disrupted and (although this will be to the benefit of the candidates) is not allowed to be spread over more days using fewer hours per day. For candidates who have had little education and never done first aid before the course proves extremely difficult.

Management commitment and support

Commitment and support by management is often crucial to the success of first aid training courses. I have had employees who have not been granted the (normal) time to attend such a course, but who are expected to work a night shift, attend the course and still have enough energy and be able to concentrate. (Very different to the management or sales teams who go off to the Drakensberg or Sun City or Wild Coast for conferences/budget planning in isolated splendour away from the worksite).

It is my wish that more managers and supervisors attend first aid training courses so they can experience the amount of work it involves and develop understanding and respect for their workers trained in first aid. When first aid certificates are awarded, management should be present and give tangible recognition of the first aiders by their presence. I have worked for companies who simply receive the certificates and pass them through the internal mail system to be handed out by the supervisor or department head. Handing out of first aid certificates can easily be amalgamated with other types of award ceremonies e.g. long service, safety etc. and be a source of great satisfaction and personal pride to the recipients.

Vandalism of First Aid boxes

The one area of great concern to me is the continued vandalism and theft from first aid boxes and the state of neglect this equipment is usually found in. In my experience responsibility is not delegated and controlled sufficiently well at departmental level. Nobody cares! Least of all supervisors and management! Supplies and equipment that have been stolen are usually replenished, (and often paid for) by the medical centre. I wonder if the costs of stolen and missing items were carried by each particular department it would make any difference to indifferent attitudes. The siting of first aid equipment may also be important in preventing vandalism - if placed in a prominent and visible position this may go a long way towards preventing such wasteful acts.

There is a long way to go towards changing attitudes and gaining the support of management in really understanding many issues with regard to first aid and first aid training - it does not simply mean complying with the minimum requirements of the Occupational Health and Safety Act. It is important to realise that when the occupational health nurse is not available, the first aider must take on the responsibility of handling emergencies.

Continuing Education in
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Medical gloves: selection criteria

Introduction

Health care practitioners rely on surgical and examination gloves as their first line of defence against a variety of chemical and biological hazards.

Routine handwashing and donning of surgical gloves have been standard infection-control practices in hospitals for over eighty years.

Handwashing has long been recognised as one of the most effective ways of preventing contact transfer of potentially pathogenic micro-organisms.

It is important to recognise, however, that handwashing can only provide a "surgically clean" skin surface, the skin, is incapable of being rendered "sterile". Since the turn of the century, surgical team members have worn sterile gloves to provide an additional level of barrier protection against the hazards of cross-contamination.

Recently, concerns about the potential for transmission of the human immunodeficiency virus (HIV), the herpes simplex virus, various hepatitus viruses and others, between patients and health care workers have led to the development of even more stringent infection-control measures, including more consistent hand protection. Gloves are now worn, not only in surgery, but virtually all procedures that involve potential exposure to blood, body fluids, or mucous membranes. Used properly, gloves provide an effective two-way barrier against transmission of bloodborne pathogens.

Increased glove usage and the recognition of their importance for the protection of both health care workers and their patients has led to increased regulatory and clinical scrutiny of the safety and effectiveness of medical gloves.

Cost

The issue of cost is of concern to both purchasing and administration, and various points require consideration.

Glove powder and allergens

Whilst the initial purchase price of a powder free glove is likely to be higher than a prepowdered glove, it is not just the price of the glove that should be measured, but the total cost of its use.

If a patient develops adverse reactions to glove powder there may be additional costs associated with re-operation, treatment of infection, or an extended length of stay.

These elements and loss of productivity add significant costs to the health care system.

If a health care worker becomes sensitised to the accelerators or proteins that are bound to glove powder, there will be a cost associated with management of the problem.

Whilst low allergen, powder free gloves may be more costly on a unit basis, when compared to the time lost from work, physical discomfort of the workers, the expense of treatment, the cost of compensation claims and work reassignment, they can prove to be very cost effective.

There are also costs associated with washing prepowdered surgical gloves prior to use: sterile water, bowls, towels etc. as well as all indirect costs including washing and wiping time, monitoring compliance, waste disposal requirements.

Poor quality gloves

Poorly manufactured gloves that tear when donning or in use increase the volume of gloves used and therefore have a significant impact on costs.

Medical gloves selection criteria

Characteristics and attributes that should be reviewed by evaluators of medical glove products are listed in Table I.

Table I: Questions

• Allergenicity	- Levels of powder, chemicals, proteins, pyrogens?
• Barrier quality	- 100% inspected, manufactured to what standard?
• Beaded cuff	- Extra strength for donning, security - no roll down?
• Brand name	- Reputable, who are the manufacturers?
• Cost	- Cost effectiveness, long term cost in use?
• Comfort	- Samples for evaluation?
• Cuff roll down, cut resistance	- Protection levels for wearer?
• Durability	- In use failure rates, how measured?
• Feel	- Samples for evaluation?
• Fit	- Which sizes available?
• Grip	- Micro roughened surface?
• Hydration	- Perspiration levels on inside of glove may distort glove during procedure?
• Inspection protocol	- What method of testing used?
• Length of cuff	- Is barrier protection adequate?
• Particulate free	- Manufacturing conditions?
• Protein levels Pyrogen free	- Allergen level?
• Puncture resistance puncture indication	- Clinical studies carried out?
• Shape retention	- Retain shape after extended periods of use?
• Suitability for specific use	- Range of gloves available?
• Stiffness	- What material is glove manufactured from?
• Strength, safety	- How do they compare with other gloves?
• Size identification	- Gloves clearly marked?
• Tactile sensitivity	- Samples to test in use and under different conditions?

Summary

With so many types of gloves available, how do you know you are making the right choice?

Twenty years ago manufacturers designed gloves to keep you clean, not to prevent HIV infection. Today's requirements exceed yesterday's standards.

Ask these questions

Does it protect?

Does it harm?

Does it do the job?

Every time a glove fails in use, it potentially exposes an employee to pathogens and /or the patient to infection and glove powder. The cost of managing such events is significant. If adequate protection is to be provided, then personal protective equipment must be selected with considerable care. The primary requirement must be fitness for the task. To ascertain whether a glove will actually work, it is essential that proper performance data be available. Regrettably, many glove suppliers provide only vague statements about the performance of their products, or make claims that cannot be subsequently substantiated. Such information is inadequate for managers who must make an informed decision about the suitability of the product for clinical applications.

Given these circumstances, managers should develop product selection criteria, setting limitations on allergens and the barrier properties of glove materials chosen for specific tasks.

Manufacturers should be asked to supply documentation of what is in or on their gloves. Only then can the real value of their products be determined.

For further information on the Regent Medical range of medical gloves, please contact Maggie Smock on (011) 314-3102 or fax (011) 314-4409. e-mail: regentsa@iafrica.com

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2 Heese A et al. Allergic and irritant reactions to rubber gloves in medical health services. Journal of American Academy of Dermatology 1991; 5: 831-839

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The importance of HIV test counselling

H Van Rooyen, G Wood

In the last issue of Occupational Health, the rationale for the management of a person with a sexually transmitted disease was discussed with an insert on national guidelines. In this issue the role of HIV test counselling is discussed and an insert on the 4 C's of HIV counselling is included.

Health care workers often see their role as being to "cure" disease rather than to treat a person. As a result the AIDS Training, Information and Counselling Centres (ATICCs) "pick up the pieces" following insensitive or incomplete counselling of patients tested for HIV. In addition appointments made for patients who have tested HIV positive are often not kept. These patients may remain in a state of shock and disbelief, often unsupported and denying their HIV positive status.

A diagnosis of the presence of HIV infection, or the suspicion or recognition of the possibility of infection, brings with it profound emotional, social, behavioural and medical consequences. The approach to counselling is outlined in the insert.

Counselling promotes an atmosphere of acceptance and encourages a person to make their own decisions. It challenges the immediate response of denial and provides a realistic appraisal of the individual's vulnerability.

Counselling assists persons to remain active in their work, families and amongst friends and reduces their dependence on health and social services. It may decrease physical, psychological and social problems and may delay the onset of AIDS-related symptoms. Counselling not only provides support in times of crisis but may also inform and assist HIV positive persons in making decisions relating to safer sexual behaviour and responsible relationships.

Pre-test counselling should provide information on the HIV test as well as the possible physical, social, psychological and legal implications of being diagnosed as either HIV positive or negative. Issues such as confidentiality, the persons coping capacity and supportive mechanisms should be discussed.

In addition pre-test and post-test counselling is an opportunity to educate and counsel on safer sexual behaviour.

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To register Occupational Hygienists who meet appropriate standards of formal education and practical experience

Objectives

- The recognition of qualifications and/or experience
- A commitment to strict ethical standards
- Opportunities for professional development

Established: 1993
Members: 118
Membership with the following categories:
Individuals practising occupational hygiene

- Assistant
- Technologist
- Occupational Hygienist
- Professional Occupational Hygienist

President: J Naidoo **Secretary:** Mrs BN Webster

P O Box 35764, Menlo Park, 0102
Tel: (012) 467- 424 Fax: (012) 467- 424

OCCUPATIONAL HYGIENE ASSOCIATION OF SOUTHERN AFRICA

Aim

To create awareness and enhance Occupational Hygiene as a discipline

Objectives

- Advance the discipline of occupational hygiene
- Promote the activities of the association
- Uphold and promote the interests and status of members

Established: 1983
Members: 300
Membership: Occupational health and safety professionals

President: Joanne Bradley **Secretary:** Philip van Dyk

OHASA, P O Box 102424, Meerensee, 3901
Tel: (016) 976-5418 or 082 572-2770 Fax: (012) 663- 1783

SOUTH AFRICAN RADIATION PROTECTION SOCIETY

Aim

- To promote the profession and the professional interests of its members

Objectives

- Provide a medium whereby persons in the profession can advance the science
- Organize scientific meetings on the application of radiation protection
- Render assistance and advice in matters pertaining to the profession
- Further the professional interests of radiation protection

Established: 1960
Members: 105
Membership: Only people who have academic qualifications or relevant experience in radiation can become members. Membership has the following categories: member, associate member and student member.

Chairman: Dr Andries Leuschner **Secretary:** Mr Sietse van der Woude

PO Box 7106, Hennopsmeer 0046
Tel: (012) 663-5500 Fax: (012) 663-5515

& ASSOCIATIONS

MINE MEDICAL OFFICERS' ASSOCIATION OF SOUTH AFRICA

Aims and objectives

- To study and inform members about matters of medical and general interest pertaining to the mining industry
- To formulate and review guidelines for desirable standards and scope of medical practice in the mining industry
- To promote continuing medical education and research by members

Established: 1921 (celebrating its 75th Jubilee this year)
Members: 210
Membership: Medical practitioners mainly working in the mining industry.

President: Dr Les McBey **Secretary:** Ms Maureen Mason

PO Box 61709, Marshalltown 2107
Tel: (011) 498-7534 **Fax: (011) 834-3804**

THE MINE VENTILATION SOCIETY OF SOUTH AFRICA

Aims and objectives

- To advance the science and practice of ventilation, with particular reference to mine ventilation, dust control and associated problems
- To disseminate information, to hold meetings and promote personal contact amongst ventilation officers and other interested persons

Established: 1944
Members: 730
Membership: Mainly environmental officers, occupational hygienists and people with a general environmental interest. There are different categories of membership which include fellows, associates and honorary life fellows.

President: Derek Walters **Secretary:** Mrs Sue Moseley

PO Box 93480, Yeoville 2143
Tel: (011) 487-1049 or (011) 487-1073
Fax: (011) 487-1073

THE SOUTH AFRICAN SOCIETY OF OCCUPATIONAL HEALTH NURSES

Aim

To promote the health of the workforce through sound nursing practice

Objectives

- Promote occupational health nursing through accredited standards of practice and attention to educational aspects at all training institutes
- Promote professional interests of the members and set and maintain a high standard of professional conduct
- Liaise with other national and international organisations

Established: 1980
Members: 800
Membership: Registered professional nurses practising occupational health nursing. There are different categories of membership which include individual, non-practising, honorary and affiliate membership.

President: Penny Mead **Secretary:** Dehlia Müller

P O Box 1617, Centurion, 0140
Tel: (012) 664-1460 **Fax: (012) 664-1460**

THE SOUTH AFRICAN SOCIETY OF OCCUPATIONAL MEDICINE

Aim

To promote, protect and enhance the health, quality of life and well-being of the working population of South Africa

Objectives

- To further all aspects of occupational health in South Africa
- To improve occupational health by means of continuing education
- To promote communication between the Society, Government, business, labour, the medical profession as well as the public
- To promote rational legislation

Established: 1947
Members: 292
Membership: Registered medical practitioners. There are different categories which include ordinary, associate, honorary and sustaining membership.

Chairman: Dr Ferdie Smith **Secretary:** Dr Terry Geddes
Secreteriate: Dehlia Müller

P O Box 1617, Centurion, 0140
Tel: (012) 664-1460 **Fax: (012) 664-1460**

S.A. SOCIETIES

CHEMICAL AND ALLIED INDUSTRIES' ASSOCIATION

CHEMICAL AND ALLIED INDUSTRIES' ASSOCIATION

Aim
It is committed to the continuing effort to improve the industries' responsible management of chemicals

Objectives
- To maintain the commitment of the industries to Responsible Care and to keep the public informed of performance in the area
- To consult with and advise all levels of government on the content and advisability of proposed legislation

Established: 1994
Members: 82
Membership: Companies

Executive Director: Dr Laurraine Lotter

P.O. Box 91415, Auckland Park, 2006
Tel: (011) 482-1671/4 **Fax: (011) 726-8310**
e-mail: caia@iafrica.com

INSTITUTE OF SAFETY MANAGEMENT

Aim
To be the acknowledged professional representative body for the safety practitioner in South Africa

Objectives
- To promote the art and science of accident prevention and loss control among its members as well as the public
- To establish a statutory body for the registration of practitioners and the regulation of educational and training standards

Established: 1952
Members: 700
Membership: Practitioners in the field of occupational safety

President: Coen Buddingh **Secretary:** Ray Strydom

P O Box 14402, Clubview, 0014
Tel: (012) 654-8349 **Fax: (012) 654-8349**

NATIONAL OCCUPATIONAL SAFETY ASSOCIATION

NOSA ★★★★★ Reg. No.51/00010/08

Aim
- To be the preferred provider of occupational health, safety and environmental services in our chosen markets

Objectives
- To prevent occupational accidents and diseases and to eliminate their causes and results on a national basis
- To deal with all matters and advise on occupational health and safety in South Africa

Established: 1951
Graded companies: 2450
Membership: Industries nationally and internationally

President: Walter Passat **Secretary:** General Manager Marketing

NOSA Safety Centre, P O Box 26434, Arcadia, Pretoria, 0007
Tel: (012) 21-7736 **Fax: (012) 325-6056**
e-mail: worksafe@nosa.co.za

SAFETY FIRST ASSOCIATION

SAFETY FIRST ASSOCIATION

Aim
The promotion of an awareness of accident situations and environmental health problems

Objectives
- To establish a culture of safe, healthy and environmentally sound practices in both the workplace and at home
- To publish informative literature in pursuance of the aims of the Association

Established: 1932
Members: 5 organisations, 30 individuals
Membership: Any person or body subscribing to the aims and objectives of the Association

Chairman: Jan du Toit **Secretary:** Ray Strydom

P O Box 14402, Clubview, 0014
Tel: (012) 654-8349 **Fax: (012) 654-8349**

& ASSOCIATIONS

NATIONAL ASSOCIATION FOR CLEAN AIR

NACA

Objectives

- To promote the cause of air quality and related matters in South Africa
- To contribute towards the prevention of air pollution
- To accumulate and disseminate information on air pollution and its control
- To represent South African clean air interests both nationally and internationally

Established: 1969
Members: 486
Membership: Individuals from a wide spectrum. There are several categories that include individual, company, local authority, public statutory body, sustaining and honorary.

President: Dr APS Terblanche **Director:** Roy A Stephenson

NACA, PO Box 2036, Parklands 2121
Tel: (011) 646-2210 **Fax: (011) 646-2210**

SOUTHERN AFRICAN ACOUSTICS INSTITUTE

Aims and objectives

- To promote the science of acoustics and to encourage and conduct research in the field of acoustics and its practical application

Established: 1975
Members: 100
Membership: Ordinary membership is open to anyone with an interest in acoustics. Membership is divided into corporate and ordinary membership.

President: Prof Stephen Heyns **Secretary:** Dr Fred Anderson

PO Box 912169, Silverton 0127
Tel: (012) 83-2857 **Fax: (012) 83-2857**

ASSOCIATION OF SOCIETIES FOR OCCUPATIONAL SAFETY AND HEALTH — ASOSH

Aims and objectives

It is an inter-disciplinary organisation through which member societies can

- Exchange views, ideas and knowledge
- Focus co-operation in furthering the understanding and promotion of occupational health, safety and environmental health matters in Southern Africa

Established: 1978
Members: 13 societies, 3 supporting company members, 1 individual member
Membership: Mainly societies and associations, however provision is also made for supporting company members and individual members.
Associated societies:

- Chamber of Mines Safety Division
  Tel: (011) 498-7528 Fax: (011) 834-2725 (*Mr. A.J. Gill*)
- Chemical and Allied Industries Association (CAIA)
- The Institute of Occupational Hygienists of Southern Africa (IOHSA)
- Institute of Safety Management (IoSM)
- The Mine Ventilation Society of South Africa (MVS of SA)
- National Occupational Safety Association (NOSA)
- Occupational Hygiene Association of Southern Africa (OHASA)
- Safety First Association
- Southern African Acoustics Institute (SAAI)
- South African Institute of Environmental Health (SAIEH)
  Tel: (011) 488-7816 Fax: (011) 488-7839 (*Mr. P. Janse van Rensburg*)
- Southern African Radiation Protection Society (SARPS)
- The South African Society of Occupational Health Nurses (SASOHN)
- The South African Society of Occupational Medicine (SASOM)

President: Leighton Bennett **Secretary:** Ray Strydom

PO Box 14402, Clubview, 0014.
Tel: (011) 315-1010 **Fax: (011) 315-1644.**

There are other societies/associations dealing with Occupational Health and Safety, but for space limitations could not be included

Sponsored by WHO/SA Technical Cooperation programme

Ambulance services in South Africa: past, present and future

EB Kramer

As the health care system in South Africa undergoes extensive restructuring in order to serve the entire population for the future, so too must the country's ambulance and emergency medical services begin their process of reform and restructuring for the provision of pre-hospital treatment and transfer. There is no doubt that in the past, South Africa boasted some of the world's best, (and unfortunately the worst ambulance services), both in the private and provincial spheres.

Providing the very best in prehospital medical care and comfort was almost exclusively reserved for the metropolitan areas. Rapid response vehicles, manned by emergency medical doctors or advanced life support paramedics rushed to the scene of any life threatening medical emergency in order to initiate timeous medical care, while a fully equipped and manned emergency ambulance was en route to assist.

In the rural areas and often in many "black" metropolitan townships, the standard of pre-hospital care was not only unacceptable but often did not even exist! Medical emergencies meant putting the patient into a vehicle (if one could be found) and travelling to the nearest clinic.

The situation at present has not yet improved and in many areas appears worse than before. To a large degree this is due to financial constraints by Government as large organisational restructuring is presently under way in an attempt to provide some form of ambulance service, at least at basic life support level, to the entire population, large sections of which are rurally based. Many ambulance services are dropping standards to provide basic life support standards for all.

Private Ambulance and Emergency Medical Services have begun countrywide in order to fill the urgent need that has arisen in the pre-hospital treatment and transfer of patients. This is further complicated by problems in the general health care sector which result in ever increasing numbers of patients being transferred between medical facilities for specialised medical care, as the number of primary health care centres increase. The number of medical referral centres remains constant and they are based almost exclusively in the larger cities.

The movement of critically ill or injured patients from primary and secondary medical facilities to tertiary care referral centres for specialist diagnostic and/or therapeutic care has compelled those services undertaking such transfers to equip themselves with advanced life support standards for both medical personnel and prehospital emergency medical equipment. Private ambulance and emergency medical services are therefore increasingly employing not only highly qualified paramedics, but also intensive care professional nurses and emergency medical practitioners, all of whom respond by road or air to undertake primary treatment at the scene of any acute life threatening medical emergency situation or for the interhospital transfer of an unstable critically ill patient.

The private ambulance and emergency medical industry usually serve the private health care sector of the community whilst the provincial ambulance services respond to any call at the ambulance control centres. How then can the emergency medical services contribute to the well being of the population in the years to come?

The initial contact via a telephone call for any person into the emergency medical system should be directed to the nearest ambulance and emergency medical service control centre. Details concerning the emergency incident are noted so that an appropriate medical crew can be dispatched. Before the telephone call is terminated, it is imperative that pre-arrival instructions be given to the caller by the control centre dispatcher in order that basic life saving first aid be initiated to the victim(s) before the

Dr Efraim Kramer,
Medical Director, UCB Criticare, Emergency Medical Service and Deputy Chairman, Resuscitation Council of Southern Africa.

Occupational Health SA 1997; Vol 3, No 2: 28 - 29

emergency services are able to intervene. The pre-arrival life saving instructions are often very simple yet very effective in keeping the acutely ill or injured patient alive until further definitive care can be administered by medical professionals either on scene or at the nearest medical facility once transport has been undertaken.

Is this advice readily available? Persons covered by the AA Mayday, for example and others belonging to the Euro Critimed, UCB Criticare A.I.D. or Europ Assistance prehospital all-inclusive prepaid packages or policies simply have to call, and life saving advice will be given regarding the full spectrum of medical emergencies. Other ambulance services may also include a generic pre-arrival patient information system which can be used effectively when necessary.

The next role that the emergency medical services will require is to respond to scenes of medical emergency and offer basic life support on the scene, any where in South Africa. Subsequent transfer of the patient safely to the nearest medical facility requires commitment to training in basic life support, an effective population to ambulance unit ratio and effective, prehospital emergency medical care to the entire population irrespective of location.

Upgrading the system to intermediate and advanced life support can be contemplated in large cities where the medical infrastructure can support rapid response vehicles, doctors, mobile intensive care ambulances and professionals, as well as air ambulance helicopters.

At present the "golden period" from time of telephonic activation to arrival of the emergency medical service is four minutes in metropolitan areas, and this is achieved by making effective use of all emergency service personnel (e.g. traffic officers, the police, fire brigade personnel etc.) all of whom should be able to offer basic life support. However, a variety of standards is going to exist both in the public and private sector ranging from high standard emergency medical services comparable to the best in the world, to the very worst! It is therefore the responsibility of every citizen in the country to support improvements of all emergency medical services so that lives can be saved when the crisis occurs.

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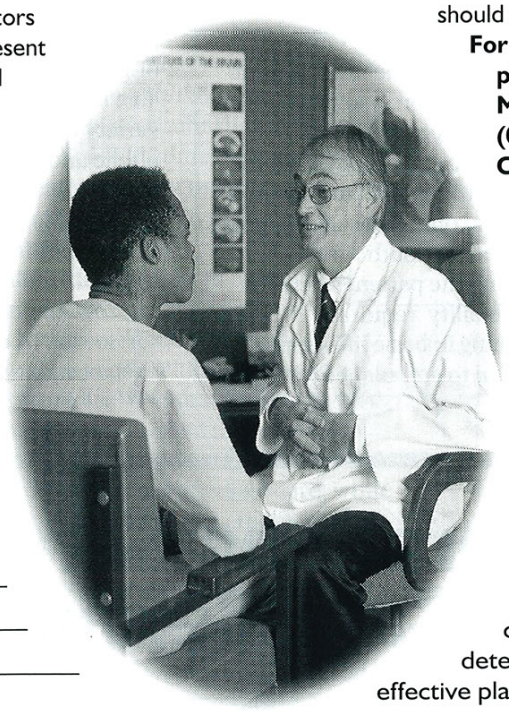
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Specialist Multidisciplinary Psychiatric Unit:

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The RMH Psychiatric Unit has a 20 year history of working within the South African Industrial sector. Psychiatric disability as a result of substance abuse, accidents, psycho-social factors and other mental disorders will present with changed behaviour. The noted change in behaviour may result in conflict between the employee and emloyer. The cause for the changed behaviour will need to be assessed in a multicultural multidisciplinary setting for adequate management as required by the labour relations act.
For further information please contact:
Dr. Lennart Eriksson
(011) 493-4300 X 2400



Occupational Contract Dermatitis Service:

The RMH Hospital recently opened an occupational contract dermatitis service in its Outpatient Department. This comprehensive service consists of diagnostic patch testing to assist referring doctors in confirming a diagnosis, and offers the expertise of an Occupational Dermatologist should a second opinion be required.
For further information please contact:
Ms. Lea Roodt
(011) 720-57634 X 2072
Cell: 082 576 1412

Industrial Audiology & Speech Language Therapy:

- Pre-employment hearing screening at workplace.
- Post-employment continuous hearing screening in accordance to Occupational Health & Safety Act.
- Diagnostic audiology where required including specialised testing, e.g. Auditory Brainstem Response testing (ABR), testing for difficult to test patients and malingerers in accordance with Occupational Health & Safety Act.
- Hearing Aid Dispensing.
- Counselling and follow-up.
- Comprehensive speech-language therapy for all work related communication impairment and associated disorders e.g. Head injury, vocal cord injury, impaired swallowing.

All of the above conducted in conjunction with ENT consultation where appropriate.
For further information please contact:
Ms Luisa Petrocchi
(011) 493-4300 X2220

Assistance in Work Placements:

The new labour law expects greater accountability from the employer in the placement of workers with diminished capacity. How does the employer accurately determine the worker's capacity to allow for an effective placement, justify medical boarding or determine compensation?
The answer is a work evaluation, and the Occupational Therapy Unit at RMH Hospital has dealt extensively with work evaluations and placement of the injured worker or difficult worker over the past six years.
The department includes a fully equipped workshop and clerical area. The occupational therapist evaluates the client and then makes recommendations based on the patient's evaluated capacity for work medical history and the nature of the job. These recommendations include alternative placements, changing the workplace ergonomically, vocational training or medical boarding.
Thus giving the employer tangible solutions for difficult situations.
For further information please contact:
Mrs Hillary Tiernay
(011) 493-4300 X2312

RMH HOSPITAL LTD.

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HIV testing for heavy duty drivers

Dr B van Rensburg

Abstract

Our heavy duty drivers are largely long distance transporters and a high risk group for HIV infection. The HIV virus causes related neurological and neurobehavioural disorders as well as retinal abnormalities. Normal brain and eye function is essential for a safe dependable driver. The doubling time of the HIV pandemic in our population at large is 2 years and HIV testing is not being done as a routine pre-employment medical test in heavy duty drivers. The sequelae of HIV infection is increasingly manifesting itself in our driver population. It is time for all role players to get together and to take an objective look at this very real threat to the drivers themselves and to their fellow road users. Only by admitting that there is a real and pressing problem will we be able to work out a practical strategy acceptable to drivers and management alike.

Past experience

Back in 1986 a hospital medical officer performing a locum discovered the first HIV positive driver in a mainly industrial practice. This driver was diagnosed on routine annual medical examination. Company health policies, dreaded disease policies, etc. were confined to the like of the South African Breweries and other trendsetters. Shortly after this watershed diagnosis, a prominent transport company operating inside and outside South Africa implemented pre-employment medical examinations on all prospective drivers which included Gamma GT, cannabis and HIV tests. The drivers tested came mainly from Botswana, Zimbabwe and Malawi while relatively few came from South Africa.

Driver recruitment commenced in earnest towards the second half of 1988 and carried on until the end of 1990. Pre-test counselling was rudimentary and follow up of positive cases was just about non existent as these drivers came mostly from inaccessible rural areas. Registered letters were sent to those with positive HIV tests having accessible addresses. Not one came back for counselling. Three local drivers who were positive were traced and sent for counselling. By March 1990, 124 drivers had been examined and tested of whom 23,8% were HIV positive.

During the latter part of 1990 driver recruiting and testing became confined to Northern Botswana and the number of drivers tested locally declined. The sample size of the individuals tested locally was too small to be statistically significant (36 drivers) but just over 30% of these drivers were HIV positive. Although locally tested most of these drivers came from Zimbabwe and Malawi.

At the end of 1990 it was decided to discontinue HIV testing because of the window period, changing perceptions about HIV testing in the country at large and mainly because we felt uneasy about inadequate counselling and also about the fact that the drivers already in company employment were untested.

Sporadic but largely unsubstantiated reports about drivers dying of a wasting disease reached us. One of these reports stated that an emaciated tanker driver overturned a petrol tanker on a perfectly straight road in broad daylight.

In the meanwhile, pre-employment medical examinations still yielded people with weight loss, generalized lymph adenopathies, pulmonary tuberculosis, etc. The positive yield for HIV in persons undergoing commercial insurance policies showed a steady increase but pre-employment HIV testing for heavy duty drivers was something of the past.

Present experience

Involvement with a prominent transporting company employing some 1 000 drivers has highlighted the problem. Acting as a consultant to other transport lines and involvement with a trendsetting transport monthly magazine has shown just how widespread our problem has become.

A known HIV positive person working as a heavy duty driver and on treatment for

Dr Ben van Rensburg,
Occupational Health Consultant, Gauteng

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pulmonary tuberculosis, experienced sudden and total loss of vision while unloading in a port city 400 km from home. The driver was ferried back home and by the next day his vision started recovering. He is on Ethambutol for the treatment of the tuberculosis and a known side effect of Ethambutol, especially in doses exceeding the recommended dose is acute optic neuritis, mostly reversible. A similarly HIV positive driver developed a herpes simplex retinitis and after 12 weeks is still not able to drive.

HIV related neurological and neurobehavioural disorders

The last 10 years of study have produced clear evidence that individuals with HIV infection are at risk for both primary and secondary neurological and behaviour disorders. Primary disorders occur as a result of the influence of HIV on the central nervous system whereas secondary disorders usually occur as a result of immune system deficiencies or treatment side effects.

Primary disorders

HIV can directly invade the central nervous system (CNS). Viral infection in the CNS is largely confined to the mononuclear microglial cells and multinucleated giant cells, whereas neuronal loss is usually secondary to the presence of HIV in surrounding cells and not in the neurones themselves.

Primary HIV associated disorders include the neurobehavioural disorders, HIV associated minor cognitive disorders, HIV associated dementia and the neurological disorder HIV associated myelopathy. The effects of HIV associated minor cognitive disorder is of particular importance in relation to affected drivers since it can occur in otherwise asymptomatic or mildly symptomatic cases. The disorder is characterized by sub-cortical defects of attention, information processing, speech, learning and memory and psychomotor skills. HIV associated minor cognitive disorder may be complicated by the presence of depression or anxiety but is not caused by psychiatric problems.

A recent joint study conducted by the Baylor College of Medicine and the University of Houston demonstrates the sub-cortical nature of HIV infection. Profile analysis was performed and four dimensions of sub-cortical functioning in asymptomatic and pre-AIDS symptomatic HIV positive individuals compared to an HIV negative control group.

Diagnosis of HIV associated minor cognitive disorders requires comprehensive neuropsychological evaluation. Cognitive problems are spotty and mild hence they escape detection by short cognitive screening techniques. Thorough neuropsychological testing can detect mild problems across the spectrum of cognitive and psychomotor functions. Recent studies have shown that the presence of HIV associated minor cognitive disorders increases with worsening immune function, CD_4 and CD_8 lymphocyte counts and CD_4/CD_8 ratios (Figure 1)

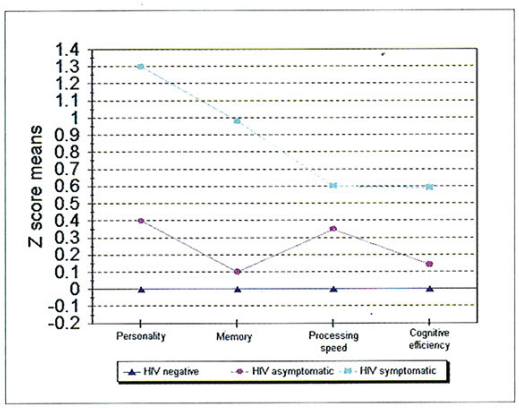


Figure 1

HIV Associated Dementia (HAD)

HAD is a progressive disorder that initially presents as apathy, inertia, cognitive slowing and memory loss and social withdrawal. Initially the condition is difficult to recognize and it is progressive and terminal. It is characterized by severe cognitive impairment and severe psychomotor retardation.

HIV associated myelopathy

This myelopathy is characterized by weakness, inco-ordination, signs of paresis, spasticity and hyperreflexia.

Secondary disorders

The immunocompromised HIV patient is at risk for many peripheral and cerebral nervous system disorders, not directly caused by the HIV virus. Peripheral nerve disorders including sensory neuropathy, inflammatory demyelinating polyneuropathies, mononeuropathies and cranial neuropathies are found.

The incidence of neuropathies increases with worsening immune system functioning and they usually occur in the presence of other HIV related disorders. Pure peripheral neuropathies may precede other HIV symptoms. Immune compromised individuals are at risk for neurological opportunistic infections. Cryptococcal meningitis, toxoplasmosis, cytomegalovirus and progressive multifocal leucoencephalopathy are seen. In addition to opportunistic infections, AIDS patients are at risk for opportunistic CNS neoplasms, metabolic encephalopathies, cerebrovascular disease and neurosyphilis.

HIV related retinal disease

Ocular involvement occurs in up to 73% of AIDS patients. The most common lesions are a retinal vasculopathy consisting of cotton wool spots, retinal haemorrhages and infectious retinopathy such as cytomegalovirus (CMV), herpetict, oxoplasmic and leutic retinitis. Non retinal lesions such as Kaposi sarcoma of the conjunctiva are also frequently seen.

Opportunistic infections are responsible for the deaths of most AIDS patients, these include CMV, *candida albicans, pneumocystis carinii, Mycobacterium avium intracellulare, cryptosporidium neoformans, cryptosporidium herpes simplex virus, toxoplasmosis gondii* and *varicella zoster*. HIV positive individuals driving motor vehicles should have regular eye assessments. Blindness in HIV positive people without AIDS is uncommon.

Discussion

The driver population is a group under siege as far as HIV and AIDS are concerned. Long lonely hours on the road, long periods of time away from home and a very marketable commodity on the roadside account for this.

It is clear that the HIV virus can make an onerous task a dangerous one, and the time has arrived for all the role players to get together and to address this problem frankly and objectively. The call is not for pre-employment HIV testing but rather for close in-service monitoring using all clinical clues available to identify HIV positive drivers. Confidentiality must carry the day thus ensuring that affected people will use their own facilities for regular monitoring.

The real problem arises not with HIV positive individuals who are able to drive, nor with AIDS patients who are obviously not able to drive, but with those in between. Psychometric testing will have to be sophisticated to be the adjudicator and the CD_4 and CD_8 counts as well as the CD_4/CD_8 ratios might have to be used to determine who can and who can't drive.

We will need to be aware of the protean nature of this disease. Not only will it require alertness and a high index of suspicion, but the social impact of the infection will have to be softened by complete confidentiality and prudent assurance policies.

While the HIV virus has been centre stage in the discussion one would like to draw attention to the more prevalent dangers such as tuberculosis, diabetes and hypertension.

The ultimate success in overcoming HIV and AIDS will be in a multi-pronged team approach with education as its flagship.

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Giulia Reynders



Giulia Reynders was born in Reganspark, Johannesburg, moved with her parents to Kroonstad where she grew up on a farm in the district and completed her education at Parys High School.

She started her career at the Voortrekker Hospital in Kroonstad, got married and became a housewife for 13 years. In 1972, after a burglary at their home, with four small children and with the support of her husband, she started her nursing career from scratch at Hendrik Vanderbijl Hospital in Vanderbijlpark and went to Anne Latsky College in Germiston.

At the end of her training in 1975 she received several awards: the gold medal for the best practical and theoretical student with average marks above 90% in all subjects, and both the trophy and the Matron's prize for the best practical and theoretical student.

She worked for ten years at the Hendrik Vanderbijl Hospital before starting her career in Occupational Health and Safety in 1982 at the Metal Box, now Nampak, where she is still working. In 1983 she qualified in audiometry and in 1985 obtained a diploma in Occupational Health at Potchefstroom University.

Giulia has done several NOSA courses, including NOSA Safety for Industrial Nurses; Industrial Hygiene; Regional group certificate; Supervisors Safety Training; Leaders in Safety MBO; and Teletution Safety, which have all equipped her to handle safety issues in the workplace. She has also attended the Noodhulp Liga levels one, two, three and the Noodhulp Liga instructors course. She received the RDP - Corporate Award Health Care, Medium Category and was accredited with the Department of Manpower for audiometric testing and first aid training.

Since 1982 Giulia has been active in the SA Society of Occupational Health Nurses and the Vaal Triangle sub-regional society. She held the posts of secretary, vice-chairperson, chairperson of her own society, and represented her society at SASOHN executive committee from 1988 as an ordinary member, vice President and presently as secretary which is a very demanding and busy position. She has served on the Risk Control Committee and is involved in all NOSA gradings as a key person at Nampak, where she has also started an Employees Assistance Programme (EAP) to assist employees with social problems and liaise with local authorities for support and assistance.

Giulia presently serves on the Local Health Forum and represents the Occupational Health and Safety in the new health plan. She also represents the small industries on the Executive Council at Vaalmed Med Scheme in Vanderbijlpark. She is involved in the practical training of students from local technikons and hospitals and students from UNISA. First Aid training is done by herself internally and externally and she also runs First Aid competitions.

At the present moment Giulia is doing her Diploma in Occupational Health Pharmacology through RAU.

For the last 15 years Giulia has been involved in Occupational Health and Safety and is a dedicated person who gives the honour to her creator for all her achievements. Her commitment is to share her knowledge, experience and expertise with her colleagues and those inexperienced nurses in the Occupational Health and Safety field, and to support them in whatever way possible to reach their goals and to maintain a high standard of Occupational Health and Safety in their workplace

Giulia is a very warm and caring person and highly respected by her colleagues for her contribution to promoting the profession of occupational nursing.

Comoros comment

The Arabic word for moon is Camar and it is here that I live and practice as a primary health care nurse on one of the Islands of the Moon. Legend has it that the first people to land here came at full moon and the sight of the beautiful Indian Ocean island so illuminated, inspired the name.

The homgeneous group of people who historically populate the islands are descended from Arab settlers, various slave traders, pirates and sultans and of course the original slaves from East Africa. The language spoken is a composite of Swahili, Arabic and French. The islands were colonised by the French from 1910 - 1975 when the Islamic Federal Republic was formed and so the people who have been right through the schooling system speak and write French as well as their own language. They are also taught to read the Koran in its original Arabic.

I work in a hotel where my responsibilities involve, primarily, the health care and wellbeing of our guests. Their safekeeping depends upon the maintenance of hygiene and good health amongst the personnel employed by the establishment, the continual monitoring of tap and swimming water and of course the cleanliness of the kitchens and the hygienic handling and storage of food. The safety of the guests is also shouldered by the Security Officer, with whom I am in radio contact, and whose role merges with mine. He ensures for example that safety lines are drawn on steps, that lighting is adequate and anticipates any dangerous or life threatening situations and is always ready to assist me with any emergencies. In the event of a serious problem, patients are air lifted to Johannesburg via the international airport at Hahaya and thus it is important that guests take out medical travel insurance.

The clinic is my domain after I have finished all this prowling behind the scenes. Here, I see guests with a vast range of pathology from SCUBA (self contained underwater breathing apparatus) related problems to request for pregnancy tests. With our resort offering the facilities of an independent water sports facility, many of our guests come here for the sheer pleasure of exploring the coral gardens and viewing the tropical fish. When a diver or snorkeller comes to me and points to his ears, I now peer down my auroscope with far more panache than I did ten months ago. I find this to be an area of immense variety and I can almost always offer some form of relief which is usually quite dramatic. I am really lucky in the fact that in Moroni, the capital (40 km away), there is an excellent French ENT specialist on whose help I can always depend if there is a severe problem.

The ear problems encountered are as follows with the most commonly seen at the beginning and in diminishing occurrence at the end of the list.

1. Cerumen impaction
2. Inability to equalise pressure between the internal and external ear
3. Barotrauma
4. Otitis externa and media
5. Fungal infections
6. Ruptured tympanic membrane with or without:-
7. Haemorrhage
8. Foreign body in a child's ear.

Many of the serious divers make sure that they have had a diving medical examination by a doctor specialised in the field and of course this is the correct way to prepare for diving. However, a resort course is offered to those who have never ventured below the waves before and they are of course not prepared 'earwise'. The most common problem is the failure of one or both ears to equalise and this is due to the following reasons that I have identified:-

- Wax plug, easily remedied by syringing, sometimes softened with olive oil which then gives the ear the appearance of a Greek salad.
- Wrong technique when descending and failure to Valsalva with each exhalation .. due to having so many things to remember on the first dive.
- Rhinitis - a common cold
- Chronic sinusitis and resultant thickening of mucous membranes probably due to living in Johannesburg. These clients often use decongestants which are not approved of by the diving specialist doctors. They should always be used with caution, as the effect could wear off whilst under water. I advise these divers to descend and surface within the duration of the action of the medication taken and explain other possible side effects. Non sedative antihistamines are sometimes recommended by the doctors. My favourite remedy, however, to clear my own nasal passages prior to diving, is to submerge my head backwards in sea water and then bring it forwards thus forcing sea water into my nasal passages as a douche. I do this at least 20 minutes prior to the dive as it takes that long to gently decongest and use up half a box of tissues. I prefer this to surfacing with a mask full of mucus at the termination of my dive.

Any problems which need medical advice and cannot be dealt with at primary health care level are always referred to a medical practitioner.

Susan Ellis, Nursing Sister, Comores

Actar 911 CPR training manikin



Every year thousands of South Africans die from heart disease (acute myocardial infarction), many before they even reach the hospital. Sadly very few of these victims will receive basic life support before the paramedics arrive on the scene. There are not enough people who are trained to perform basic life support in a medical emergency.

Statistics have shown that the sooner treatment is commenced after cardiac arrest the better the chance of survival for the victim. Should the cardiac arrest happen in hospital in the Intensive Care Unit where basic life support and advanced life support is immediately available, the chance of survival of the patient increases dramatically. Up to 90% of cardiac arrest cases can be reversed.

CPR is not difficult to learn but is a psychomotor skill and practice on a CPR manikin is essential.

Actar 911 is a CPR training manikin which has all the features to teach and practise basic CPR skills. All important landmarks and teaching indicators are included for optimum learning. The manikin is durable, easy to assemble, light and compact and easy to clean and disinfect.

It is made of specially selected non-porous material that is commonly found in food containers - to ensure optimum hygiene

The Institute of Emergency First Aiders (IEFA) is the sole distributor of Actar 911 in Southern Africa and have had much success with the use of the system.

Further information from IEFA Tel (011) 873-4147 Fax (011) 873-4288.

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University of Pretoria

MedicAir launch new ambulances

At the end of February, MedicAir will launch the first of its newly commissioned Mercedes Sprinter Ambulances. These ambulances have been designed and fitted to provide the best emergency response and intensive care transfer that is currently available in South Africa. Each vehicle is equipped with a full set of advanced life support equipment including cardiac defibrillators, monitors, ventilators and pulse oximetry. Trained and experienced medical crews are able to respond to the most serious emergencies.

The first of these vehicles is destined for Cape Town, the second will complement the Johannesburg fleet - based on the East and West Rand - servicing the greater Johannesburg area.

MedicAir ground ambulances support the Air Ambulance operation which flies throughout South Africa and Africa. Medical assistance and repatriations are performed on a world-wide basis.

MedicAir is associated to Specialty Assistance Service and Specialty Claims Service internationally and is linked to an extensive network of service providers throughout Africa. Clients of various medical assistance and insurance schemes are provided with evacuation and other assistance services world-wide.

For more information
Tel: (011) 452-4611
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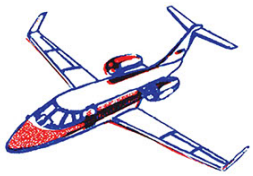


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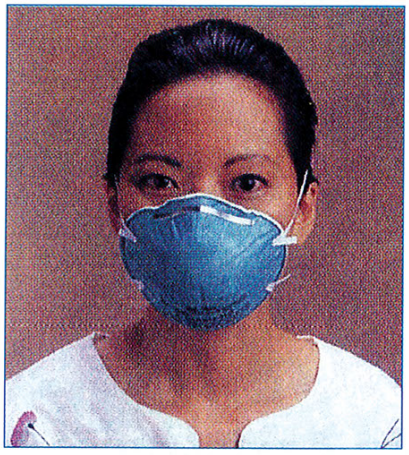
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Respirators for TB environments - protecting health workers



3M 1860 Health Care Particulate Respirator Type N95

Tuberculosis (TB) is back and in a bigger and far worse way than ever. Since 1985, there has been a steady growth in the number of new TB cases reported annually, some of which are displaying characteristics of multi-drug resistant (MDR) strains of *Myobacterium tuberculosis.* Also of particular concern are people infected with HIV, who are at high risk of developing active tuberculosis.

The sad fact is that the very health workers who are treating the infected are themselves at risk of exposure to TB, particularly in disadvantaged areas where education is non- existent, inadequate hygienic conditions exist and AIDS is a reality.

The question that arises is how best to protect health workers from TB. Pulmonary and laryngeal TB is often transmitted by air in droplet nuclei carrying *M. tuberculosis.* These droplets are the result of coughing, sneezing or even speaking by people infected with the disease. The droplets are spread throughout rooms and buildings where they can be inhaled. The probability of infection depends on the concentration of infectious droplets in the air. The more confined the area, the greater the risk.

Recommendations have been adopted overseas and include the use of surgical masks or disposable, valveless Particulate Respirators (PRs) to reduce the spread of infectious particles. The Centre For Disease Control (CDC) in the USA recommends the use of a particulate respirator as it provides a tighter face seal and better filtration of the particles in the droplet nuclei size range than conventional surgical masks.

The particle size of the droplet nuclei containing *M. tuberculosis* has been estimated to be between 1mm and 5 mm. Based on data relative to HEPA filter efficiency of particles in this size range, it has been recommended that these filters be used to provide protection from TB exposures.

The main problem with the use of conventional HEPA filters has been the expense particularly for government health clinics. The 3M Occupational Health and Environmental Safety Division has introduced the cost-effective 3M 1860 Health Care Particulate Respirator. The new model offers optimum protection to the wearer with a filter efficiency of 95% for particles down to 0.3 microns. It also meets the performance criteria established by government health and regulatory agencies. The 3M 1860 is re-usable, lightweight and snug fitting.

Further information from Ivan Pretorius, Occupational Health & Environmental Safety Division, 3M, toll free: 0800-119711

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Further information: Schu Schutte. Environmental Safety and Health
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How to get your company into this directory?

This directory will appear on the last page of every issue of Occupational Health Southern Africa.
To have your entry included call Pru Baker at Cannon Medical Media (Pty) Ltd.
Tel: (011) 455-3498 or (011) 791-2615/6/7.

Shake Hands With One Of Your Workers



Stockhausen Skin Protection Programme. Safeguards workers skin in the workplace.

In industry and in many workplaces the human skin particularly the hands are subject to contact with various kinds of harmful substances and hazards.

This has led to a continual increase in occupational skin disease – in fact industrial dermatitis constitutes over 50% of all reported occupational accidents in South Africa.

At a time when there is a shortage of skilled people, every employer should be automatically involved in safeguarding workers from skin disease.

Unfortunately there is no universal skin protection cream which works against all harmful substances – that's where Stockhausen comes in.

Stockhausen are specialists in industrial skin protection and non aggressive skin cleaning – and their 3 Point Programme is designed to prevent skin disease at work.

The programme which complies with and meets the protection requirements of the OHSA act includes:

- **Special Skin Protection**
- **Non Aggressive Skin Cleaning**
- **General Skin Care**

For more information on how Stockhausen's 3 Point Programme can be put to practice at your company contact a skin protection advisor at:

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