

Southern Sudan Medical Bulletin

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Outpatient Department, Juba Teaching Hospital

[Credit: James Ayrton and David Attwood]

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**To inform, educate and positively influence the
development of Health Services in the Southern
Sudan**

Established in 2008. A publication of the St Mary's Juba hospitals link

Editorial

Why a statutory body to regulate Medical, Nursing and Midwifery Practice in the Southern Sudan is crucial.

A cross sectional survey of private medical practice in Juba Town, Southern Sudan, by a committee composed of representatives of the Directorates of Medical, Nursing and Midwifery including staff of Juba Teaching Hospital in 2008, revealed that 22% of private clinics are run by untrained nurses. The committee also demonstrated that four out of 83 clinics inspected are run by herbalists who perform haemorrhoidectomies at the extortionate cost of 600 - 700 Sudanese pounds per procedure. This is equivalent to 120 to 160 United States dollars. Considering the fact that most people subsist on a dollar a day it is unbelievable that such astronomical sums of money are charged for treatment which may not be necessary in the first place.

The survey also showed that 63% of the 'clinicians' running those clinics have no documentary evidence of medical or other types of registration from a regulatory body either in the Southern Sudan or in their countries of origin. Most of these private practitioners are from Uganda and Kenya and have been shown to have less than five years experience in their respective professions. The Southern Sudanese public must be protected from such assaults by untrained and unregulated practitioners.

We urge the Ministry of Health to immediately set up a Medical and Dental Council to register eligible graduates/practitioners to practice medicine and dentistry in the Southern Sudan according to acceptable international standards. The Council should have statutory powers conferred upon it by the Southern Sudanese Assembly to reprimand, or strike off the Register, errant clinicians who do not respect the public and whose standards of practice fall below what is acceptable internationally. A parallel body to register and regulate nurses, clinical officers and midwives must be set up simultaneously

Members of the medical, nursing and midwifery professions have a responsibility to maintain competence in their fields by engaging in Continuing Professional Development (CPD) – for example by reading this Bulletin and other reliable and up-to-date materials. The public expects all health professionals to be skilled in what they do. That is why many sick people are willing to pay large sums of money to private 'clinicians'. The fine line between charging high fees in private clinics in exchange for clinical services on the one hand and clinical competence and honesty on the other needs clear definition and regular supervision by a statutory body.

Eluzai Abe Hakim
Editor, Southern Sudan Medical Bulletin

1. Directorate of Curative Medical Services, Directorate of Nursing and Midwifery in collaboration with Juba Teaching hospital and State Ministry of Health of Central Equatoria for the Ministry of Health GOSS. *Inspection of private clinics/ health facilities in Juba town – see page 8.*

The **Southern Sudan Medical Bulletin (SSMB)** is a quarterly publication intended for Healthcare Professionals working in the Southern Sudan or those Healthcare Professionals in other parts of the world seeking information on health in the Southern Sudan.

It aims to offer education and information in all specialities and identify research that will inform the development of Health Services in the Southern Sudan. We plan to include reports of original research, critical/systematic reviews, case reports, clinical photographic materials, obituaries, letters to the Editor, use of drugs, medical news of public interest, nutrition matters, public health issues and stories of the health services in the Southern Sudan in the past.

The Bulletin is a publication of the St Mary's Juba link. It is published in mid-February, May, August and November and is free online at <http://www.iow.nhs.uk/juba> (under journals).

We encourage readers to print copies and pass them to colleagues.

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A Retrospective Analysis of Mortality Distribution in Juba Teaching Hospital, Southern Sudan

Ayrton J, Attwood D, Kuron Lado D^a.

Background

Southern Sudan has just emerged after over 20 years of civil war and is rebuilding its infrastructure and healthcare system from virtually nothing. In Juba, the capital, Juba Teaching Hospital (JTH) is the largest tertiary referral centre in the country and has close ties with the Ministry of Health in the Government of Southern Sudan. St Mary's, Isle of Wight has been linked with JTH since November 2007 as one of the global health partnerships affiliated to the Tropical Health and Education Trust. Two of us (JA and DA) have been working in JTH since August 2008 on attachment from the UK. Part of our brief from the directors at JTH has been to evaluate and improve the acute care delivered in the emergency department.

Southern Sudan has one of the highest rates of maternal mortality in world¹. However there is very little reliable published data on admissions and mortality rates in secondary and tertiary care. Despite being a large teaching hospital, documentation at JTH is often poor and official statistics on admissions and mortality are sparse and their reliability is sometimes questionable. For this reason we undertook a retrospective descriptive analysis of hospital admissions and inpatient mortality rates during July 2008. In particular, [we address the question of] OR we looked at the *chronological* distribution of mortality, in order to ascertain/find out whether acute care services were in fact an area of priority in reducing total hospital mortality.

Methods

All hospital admissions are recorded daily on each ward in a ward admissions logbook by nursing staff. The admission books from each ward were examined to determine admissions figures by department.

Mortality figures are not accurately recorded. The Statistics Department in JTH issues death certificates but it is not clear if these are exclusively issued to the in-patient population or also for other deaths in Juba outside the hospital. Also, there are no permanent medical records storage facilities in JTH and it is

normal for patients to take their medical case notes away with them on discharge. It is not clear what proportion of mortality case notes of inpatients who died was retained by the Statistics Department.

We individually analysed the case notes of confirmed deaths to give reliable minimum mortality rates. In addition we categorised the deaths by age of the patient and calculated the duration from admission to death. The results were collated and analysed using Microsoft Excel 2007.

Results

Admissions and Mortality

The total number of admissions to JTH during the month of July 2008 ranged from 2203 – 2399 giving a mean number of admissions of 71.1 – 77.4 patients per day.

At present there is no reliable way in JTH for accurately calculating total hospital admissions, which accounts for this range. Most, but not all, admissions from the emergency department are to the dedicated emergency wards. The minimum number of admissions therefore reflects the sum of the admissions to the emergency wards. The maximum number of admissions reflects the sum of admissions to *all wards*. However retrospectively it is impossible to tell which of those were ward to ward transfers and which were true new admissions to the hospital. For example, in the department of Medicine (which has a high acute admissions rate) ward to ward transfers are very common, particularly when patients with chronic conditions are admitted. Percentage mortality of admissions have therefore been calculated according to the lower limit as this is far more likely to be closer to the true admission figures.

Admissions to the department of paediatrics formed the biggest proportion of total admissions (37.3% – 39.2%) followed by those to the department of medicine (27.9% – 31.3%). Paediatrics also had the highest mortality rate (minimum 5% of admissions) see Table 1.

Table 2 shows the total hospital mortality in July 2008 was at least 3.5%. Eighty three case notes of confirmed patient deaths were reviewed in detail. Although the statistics department officially records 168 deaths in July, these remaining case notes were unavailable for review so we cannot verify this figure. Mean number of deaths therefore ranges from 2.7-5.4 patient deaths per day.

^a JA and DA were Senior House Officers from the UK working in Juba Teaching Hospital in association with the St Mary's Juba Link. DKL is a Consultant Surgeon and Director General of Juba Teaching Hospital. Correspondence to james.ayrton at gmail.com

An abbreviated version of this paper was presented at the 2008 Government of Southern Sudan Health Assembly (GOSSHA2) on 29/10/08.

Table 1. Confirmed Hospital Admissions and Mortality Rates to JTH in July 2008

Department	Frequency of Admissions Range	% of Total Admissions Range	Frequency of Mortality	% Mortality of Admissions
Psychiatry	3	0.1% – 0.1	0	0.0
O&G	365	15.2% – 16.6	3	0.8
Surgery	312 – 340	14.2% – 14.2	1	0.3
Medicine	614 – 751	27.9% – 31.3	34	5.5
Paediatrics	863 – 894	37.3% – 39.2	45	5.2
Ophthalmology	46	1.9% – 2.1	0	0.0
Total	n = 2203 – 2399	100.0	n=83	3.7

Table 2. Total Admissions and Mortality Rates to JTH in July 2008

	Lower Limit	Upper Limit*
Total Admissions	2203	2399
Total Mortality	83	168
Hospital Mortality	3.5%	7.6%

*Upper Limit of mortality refers to claimed mortality from the Statistics Department but not verified by case note inspection.

Distribution of Confirmed Mortality by Age

Of the 83 confirmed deaths, 54.2% (n=45) were under 18 years of age, and 45.8% (n=38) were adults. Patients aged under 5 years formed the greatest proportion (37.3%, n=31) of total hospital mortality. Further breakdown by age is illustrated in Figures 1 and 2.

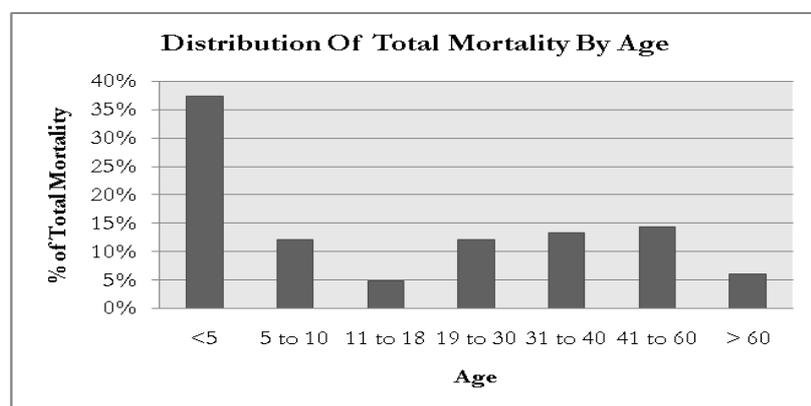


Figure 1.

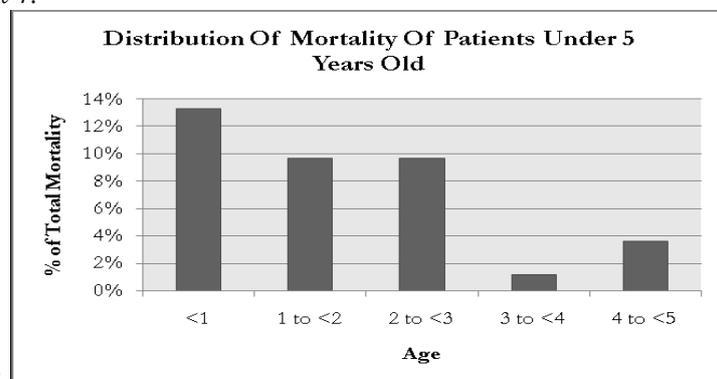


Figure 2.

Chronological Distribution of Mortality:

Table 3 shows the chronological distribution of deaths by department. 59% (n=49) of total confirmed hospital deaths occurred within the first 24 hours of admission.

Table 3. Duration of Hospital Stay Prior to Patient Death

Department	Duration of Stay					Total
	≤24h	1 - 2 Days	2 - 3 Days	3 - 4 Days	> 4 Days	
Paediatrics	31 (37.3%)	6 (7.2%)	2 (2.4%)	2 (2.4%)	4 (4.8%)	45 (54.2%)
Medicine	17 (20.5%)	3 (3.6%)	1 (1.2%)	2 (2.4%)	11 (13.3%)	34 (41.0%)
Surgery	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.2%)	1 (1.2%)
Obstetrics & Gynaecology	1 (1.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (2.4%)	3 (3.6%)
Total	49 (59.0%)	9 (10.8%)	3 (3.6%)	4 (4.8%)	18 (21.7%)	83 (100.0%)

Figures 3 and 4 show the chronological distribution of mortality within the departments of medicine and paediatrics in more detail. The proportion of deaths that occurred within 24 hours of admission was 50% (n=17) in the department of medicine and 69% (n=31) in the department of paediatrics.

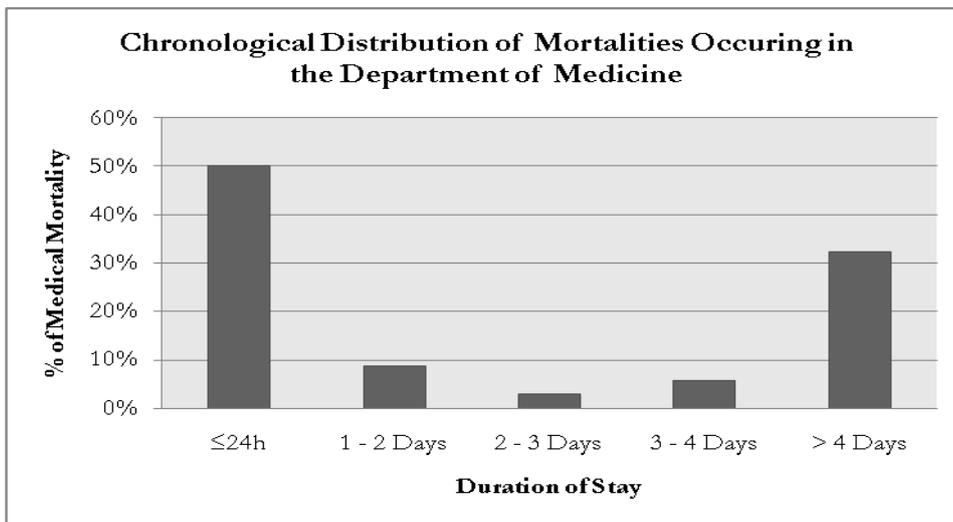


Figure 3.

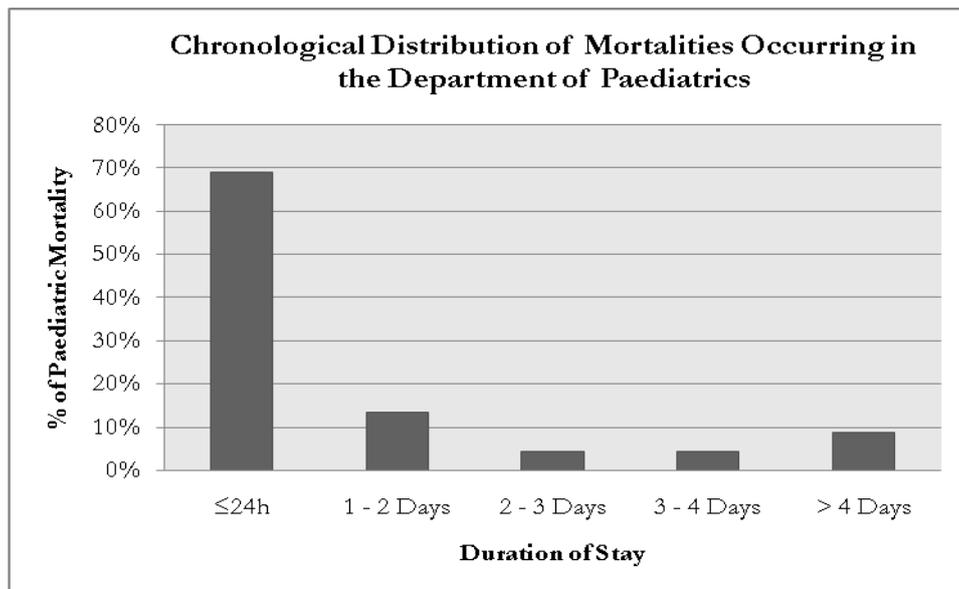


Figure 4.

Figure 5 plots by department the distribution of total inpatient mortality during July 2008 and the proportion of total mortality occurring within the first 24 hours of admission.

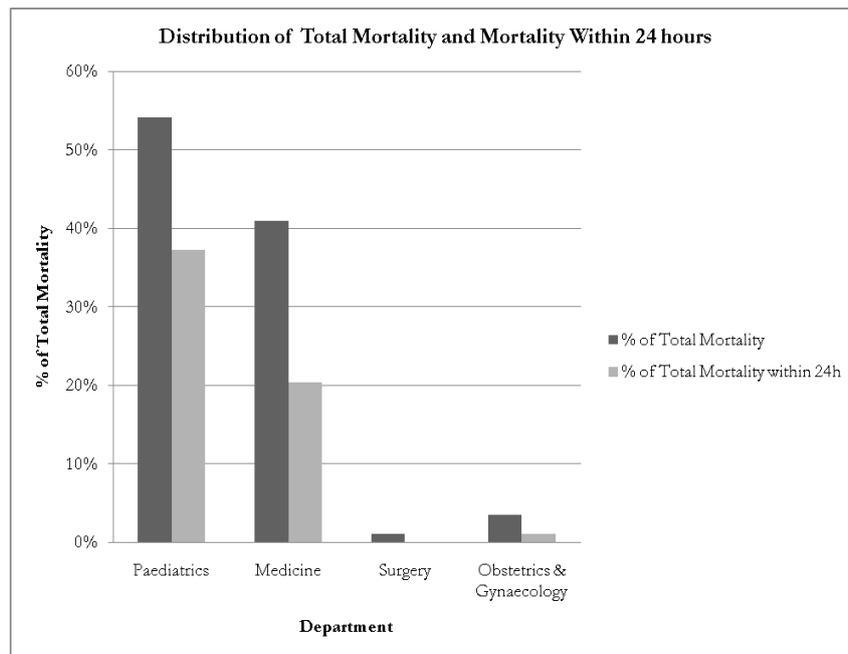


Figure 5

Discussion

This study has several limitations related to the quality of the documentation and mortality reporting systems in JTH. Once again, it should be emphasised that the mortality rates quoted above relate to the deaths confirmed by the authors by case note inspection, and as such are *minimum* mortality rates. It is likely that there were more deaths for which the case notes were not kept by the Statistics Department. For example, it is not unusual for a patient's family to take the medical case notes away with them after the patient has died. Moreover, it is not uncommon for patients to die in the Outpatient / Emergency Department waiting room before being seen by a doctor. Such patients have no case notes and so could not be included in this study.

Nevertheless whilst these mortality figures are not *exhaustive*, we believe it is reasonable to infer that the sample of case notes reviewed (n=83) is very likely to be *representative* of the mortality distribution in JTH. These data clearly demonstrate a significant peak in hospital mortality rates within the first 24 hours of admission.

Several factors may be responsible for this peak.

Patients characteristically present to secondary care at a late stage in their illness and often when severe complications have occurred. This is partly related to patient education and also to limitations in access to secondary care facilities in Southern Sudan.

There are often limitations to basic life-saving equipment in the receiving emergency wards. For example, there is very limited access to oxygen therapy. Simple items such as intravenous cannulae may not be readily available on the ward, so the patient's relatives may have to walk to an external

pharmacy to buy one. Such delays in basic resuscitative measures will contribute to a poorer prognosis.

The structure of the Emergency Department in JTH is such that it also functions as an outpatient clinic, to which approximately 300-500 patients per day present/come. The on-call doctors have a very high workload of patients to see, and it may be difficult to recognise and focus on those who are more haemodynamically unstable. In addition, there is no established system of triage to differentiate and prioritise haemodynamically unstable patients.

There is limited access for staff, both medical and nursing, to postgraduate education, including training in acute care management.

Conclusion

This study clearly demonstrates a significant peak in mortality within the first 24 hours of admission, particularly in the paediatric and medical departments. Whilst official healthcare policy in Southern Sudan, and other countries with comparable healthcare problems, rightly emphasises community-based health care, we believe that poor early management of acute care in the secondary and tertiary care setting is a major cause of mortality and morbidity. We also believe that significant improvements in outcome could be achieved with relatively simple and cost-effective measures.

Suggested specific areas on which to focus should include:

- The adequate stocking of the emergency wards with basic life saving equipment.
- The adequate training of those staffing such wards in basics of resuscitation and acute care management.

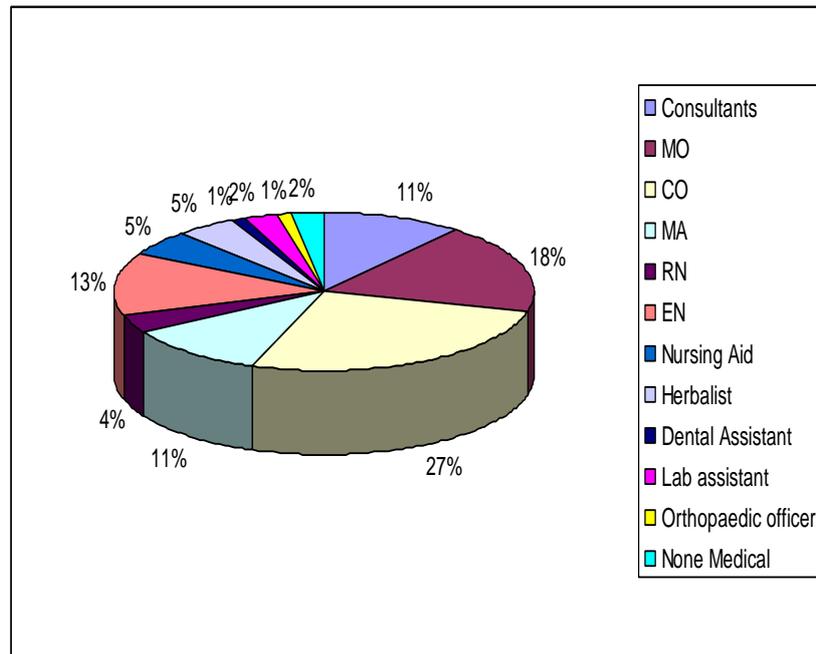
- A review of the structure of the emergency /outpatient department in JTH, to include a method of triage to allow the early recognition and prioritisation of haemodynamically unstable patients.

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Inspection of private clinics/health facilities in Juba town

Data from a survey carried out by the Directorate of Curative Medical Services, Directorate of Nursing and Midwifery in collaboration with Juba Teaching hospital and State Ministry of Health of Central Equatoria for the Ministry of Health GOSS.



Categories of medical personnel running private clinics/ health facilities in Juba town

Quiz (based on an article in Volume 1 number 4 of the Bulletin)

What do you know about anaemia?

1. What is the main nutritional cause of anaemia in S Sudan?
2. Why are pregnant women at high risk of anaemia?
3. What is the haemoglobin cut-off level in pregnant women used to diagnose anaemia?
4. Which foods are highest in haem-iron?
5. Should you give iron supplements to severely malnourished anaemic children?

See answers below.

Management of Dependence on Alcohol - 2nd Of Two Articles^a

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Introduction

The management of alcohol dependence consists of psychological, social and pharmacotherapeutic interventions aimed at reducing alcohol associated problems. This involves detoxification and rehabilitation¹.

Detoxification manages the signs and symptoms of withdrawal such as restlessness, irritability, anorexia, sleeplessness, frightening visual rather than auditory hallucinations, progressive clouding of consciousness, disorientation, dysarthria and fits (often occurring 12 – 48 hours after alcohol withdrawal)².

Rehabilitation treatments are psychosocial consisting of individual and group therapies, residential treatment in alcohol-free settings and self-help groups such as Alcoholics Anonymous (AA)³. To the best of my knowledge there are no rehabilitation arrangements for treating alcohol dependence in the Southern Sudan, let alone self-help groups such as AA. All patients should be carefully screened with a validated instrument such as the **CAGE** questionnaire for alcohol dependence – see Box 1. This questionnaire is brief and was designed to detect alcohol dependence.

The possibility of unhealthy alcohol use should be routinely considered in patients with hypertension (especially if the condition is difficult to treat), depression, insomnia, abnormal liver enzyme levels, heartburn, anaemia, thrombocytopenia, injury or problems in social life or at work such as missed work due to a handover⁴. Confusion in inpatients admitted for surgery or some other reason who often drink regularly provide a hint of possible alcohol withdrawal and the appropriate questions should be asked so that detoxification is offered.

Box 1. CAGE questionnaire⁵

1. Have you ever felt you should **C**ut down on your drinking?
Yes No
2. Have people **A**nnoyed you by criticising your drinking?
Yes No
3. Have you ever felt bad or **G**uilty about your drinking?
Yes No
4. Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (**E**ye-opener)?
Yes No

Each “yes” answer scores 1 point.

A total score of 2 points or above are thought to be clinically significant and indicate alcohol dependence.

Detoxification

If a person is diagnosed with alcohol withdrawal, Benzodiazepines are the only medications proven to ameliorate symptoms and decrease the risk of seizures and delirium tremens⁴ (confusion, agitation, disorientation and visual hallucinations such as seeing insects, snakes or pink elephants).

Suggested detoxification regimes for treatment of alcohol withdrawal are shown in Tables 1⁴ and 2⁶.

^a See Southern Sudan Medical Bulletin vol 1 number 4

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Table 1. Detoxification regime for treatment of alcohol withdrawal ⁴

Drugs	Mechanism of action	Dose	Comments
Benzodiazepines: - Diazepam - Chlordiazepoxide - Lorazepam	Decrease hyper autonomic state by facilitating inhibitory gamma aminobutyric acid receptor transmission which is down-regulated by long-term exposure to alcohol.	Diazepam 10-20mg Chlordiazepoxide 50-100mg Lorazepam 1-2mg	Administer 1-2 hourly until symptoms subside. No tapering for Diazepam (because it is long-acting). Lorazepam is best given to elderly patients, those with hepatic synthetic dysfunction or those at risk of respiratory depression/failure.

Cautions If frequent reassessments will not occur, add a dose four times a day for 24 hours followed by half a dose 4 times daily for 48 hours. Assess withdrawal symptoms 1-2 hours after each dose. Daily assessment by a clinician is recommended.

Table 2. Alternative Detoxification Regime Using Chlordiazepoxide Reducing Schedule ⁶

Date	Day	0800 hrs	Nurse's signature	1230 hrs	Nurse's signature	1700 hrs	Nurse's signature	2200 hrs	Nurse's signature
	1	20mg		20mg		20mg		20mg	
	2	15mg		15mg		15mg		15mg	
	3	15mg		10mg		10mg		15mg	
	4	10mg		5mg		5mg		10mg	
	5	5mg		5mg		5mg		10mg	
	6	5mg		5mg		5mg		5mg	
	7	5mg		X	X	X	X	5mg	
	8	X	X	X		X	X	5mg	

Maintenance of Abstinence

Counselling of patients about setting a goal for a reduction in alcohol consumption and suggesting ways to achieve that goal have been shown to be useful⁴. Interventions may be effective regardless of a patient's readiness to change but understanding the patient's perception of the problem and whether he or she is ready to change is useful.

The clinician should:

- Be prepared to listen and not to be judgmental in dealing with patients with an alcohol problem. These patients need sympathy.
- If possible refer patients to a local alcoholic anonymous group where they may learn how to reduce the alcohol drinking from someone with a similar problem.
- Start giving acamprosate calcium as soon as possible after the alcohol withdrawal period and maintaining it if the patient relapses⁷.

This drug is recommended for a period of one year for patients aged 18 – 65 years at the following doses:

- weight is 60 kg or over - give 666 mg three times a day
- weight is less than 60 kg – give 666 mg at breakfast, 333 mg at midday and 333 mg at night

Warn patients of possible diarrhoea, nausea, vomiting, abdominal pain, fluctuation in libido, pruritus, maculo papular rash and rarely bullous skin reactions. Do not prescribe to those with:

- severe hepatic impairment
- renal impairment if the creatinine is greater than 120mcml/l.

It is also contraindicated in pregnancy and mothers who are breastfeeding⁷.

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How to Insert a Chest Drain

Anne Snow*

Chest drains are commonly used in the treatment and management of various acute and chronic conditions in many different clinical settings, especially when respiratory function is compromised. Whilst it is usually the responsibility of the doctor to insert the chest drain, it is the responsibility of both the nurse and doctor to maintain the drain and monitor the patient. In both respects, safe practice requires understanding of the anatomy and physiology of the pleura and cardiac spaces, an appreciation of the underlying conditions and knowledge of the physics and air/fluid flow and function of thoracic drainage.

Pleural membrane

The inner visceral pleura and outer parietal pleura form a continuous double layered serous membrane, which envelops the lungs and lines the thoracic cavity. The pleural membrane is airtight but separating the two layers is approximately 10ml of serous pleural fluid, produced by the membranes. This allows the pleura to slide easily over each other during breathing and enables the pleural membranes to be held together. A negative pressure exists between the visceral and parietal pleura. This pressure provides suction and results in the lung being held close to the chest wall.

However if air, or more than a few millilitres of fluid of any kind, is allowed to enter the pleural space the negative pressure is lost and the affected lung will partially or fully collapse. It is essential in this situation for the lung to be re-expanded as soon as possible so that the mechanics of breathing and ventilation/perfusion is rebalanced¹. Chest drains are inserted into the pleural or mediastinal spaces to remove abnormal collections of air, blood, pus or fluid.

Box 1. Conditions that require chest drain insertion²

Pneumothorax

- In any ventilated patient
- Tension pneumothorax after initial needle relief
- Persistent or recurrent pneumothorax after simple aspiration
- Large secondary pneumothorax

Malignant pleural effusion

Empyema and complicated parapneumonic pleural effusion

Traumatic haemopneumothorax

Post operative – for example thoracoscopy

Three components are necessary to insert a chest drain:

1. An unobstructed chest tube of an appropriate diameter.
2. A collecting container kept below waist height.
3. A one way mechanism, water seal or valve to allow the fluid or air to leave the pleural cavity but which prevents it from being sucked back. Chest drains are made of clear plastic of various diameters, distance markers, drainage holes and a radio-opaque strip that allows for x-ray detection³.

Where possible assess the risk of haemorrhage before inserting the chest drain and deal with any coagulation defect. Careful differentiation between collapse and pleural effusion when there is unilateral white out is essential.

Positioning the patient

The preferred position for chest drain insertion is on the bed, slightly rotated with the arm elevated above the head on the affected side. Alternatively make the patient reasonably comfortable sitting on the edge of the bed with their arms crossed and raised to chin level, their head and arms resting on a pillow placed on a bed table.

Box 2. Equipment required for chest drain insertion

Sterile gown and gloves

Sterile drapes

Suture Set

Sterile gauze swabs

Syringes and needles of various sizes

Local anaesthetic

Scalpel and blade

Skin antiseptic i.e. Chlorhexidine in alcohol

Local anaesthetic – Lignocaine 1% or 2%

Suture – size 0 – 1

Instrument for blunt dissection (e.g. curved clamp)

Chest drain e.g. wide bore or Seldinger

Connecting tubing

Closed drainage system (including sterile water for underwater seal)

A dry non adherent dressing with adhesive border

Low suction unit for use if required.

Consent and premedication

- Explain the procedure fully to the patient, and discuss the risks and benefits. Consent should be obtained according to national/local guidelines.
- Give adequate analgesia prior to the procedure, as insertion is painful⁴. Give benzodiazepine or opioids (unless contra-indicated) as well as local anaesthetic to the skin.

Inserting the chest drain

The most common position for chest drain insertion is in the mid-axillary line, through the safe triangle, see figure 1 below. This is defined by the anterior

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border of the latissimus dorsi, the lateral border of the pectoralis major and a horizontal line through the anatomical position of the ipsilateral nipple². However the most appropriate site maybe identified through the clinical picture and further imaging as necessary.



Clean the proposed site with an antiseptic solution and cover the surrounding area with sterile drapes, leaving only the insertion site exposed. Then inject local anaesthetic around the insertion site. When it has taken effect, make an incision in the skin – depending on type of drain being inserted⁵.

Small bore chest tubes are usually inserted with the aid of a guide wire by a Seldinger technique. After local anaesthetic a guide wire is passed down the hub of the needle, the needle removed and tract enlarged by dilators. A small bore tube can then be inserted.

Medium bore chest tubes can be inserted by the same technique or by blunt dissection. The subcutaneous tissue and muscle into the pleural cavity is penetrated by Spencer wells forceps. The proximal end of the drain is clamped and inserted into the pleural space; this can then be connected to drainage tube and bottle

Wide bore drains must be inserted with blunt dissection. The incision made must be similar to the diameter of the tube being inserted; the track should be explored with a finger to ensure there are no underlying organs that might be damaged by the tube.

The drain position should ideally be aimed apically for pneumothorax or basally for fluid. Although any tube position can be effective at draining air or fluid and an effectively functioning drain should not be repositioned because of its radiographic position, unless it is causing pain².

Throughout the insertion:

- Monitor the patient closely according to his/her physical condition and current illness.
- As a minimum, note the patient's respiratory rate, peripheral oxygen saturations, blood pressure, pulse and pain.
- Explain to the patient what is happening and reassure him/her.
- Give oxygen by nasal cannula or facemask – depending on the patient's condition.

Prior to the procedure make sure intravenous access is available.

Close medium and large drains by a suture. This should be inserted in a linear way. Do not use large amounts of tape and padding to cover and secure the drain. A clear dressing over the wound site allows observation for leakage or infection.

After inserting the drain obtain a chest x-ray to view its position and regularly assess the amount of bubbling, drainage and swinging.

Swinging is fluctuation of around 5 -10cm in the amount of fluid in the underwater seal as the patient breathes in and out. If not visible, check there are no kinks or loops in the tubing and notify medical staff.

Bubbling indicates that air is being removed from the pleural space and can be seen in the water bottle without suction when the patient breathes or coughs. If bubbling is continuous this maybe because there has been dislodgement of the tube or a loose connection. If bubbling stops the lung maybe fully expanded, or there is a leak in the pleura or a leak at the insertion site. Check all tubing and exposed eyelets at the insertion site. Inform medical staff⁶.

There have been reports of re-expansion pulmonary oedema after rapid drainage of large effusion, which can be fatal. Signs that should be monitored closely include cough and shortness of breath. It has been suggested that only 1.5 litres of fluid be drained at any one time, the drain should be clamped and opened again when the patient's condition is stable. Continuous drainage can occur when there is less than 500ml per hour.

Common problems and suggested action

- Lack of drainage – check tubing for kinks or obstruction and straighten/raise as required. Change tubing if occluded.
- Accidental disconnection of drainage tubing from drain –\clamp the tube immediately to avoid air entering the pleural cavity. Re-establish connection as soon as possible, using a clean sterile system. Notify medical staff, a chest x-ray maybe required.
- Collecting bottle falls over – quickly stand bottle upright again to establish underwater seal.
- Intra pleural drain falls out – place a clean dressing over the insertion site immediately and close the wound with a suture. Check patient's vital signs.

Chest drain insertion and management can appear complex and daunting at first. A good understanding of the physiology related to drain insertion is important. Evidenced-based practice should be applied to the care of the patient and drain equipment. This reduces the risk of complications and improves outcomes for the patient.

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Answers to Quiz

1. Lack of iron
2. They must make many new red blood cells, provide iron for the foetus and may lose much blood during childbirth
3. 110 g/L
4. Foods containing blood, such as meat and liver.
5. No, not until they have been treated for infections, are eating well and gaining weight.

News item: Sudanese physicians' reintegration programme

On May 17, 2008, in Juba, 11 Sudanese-Canadian physicians were recognised for completing medical training and returning to Southern Sudan to practice. Few internationally educated physicians are prepared to return to a homeland as challenging as Southern Sudan; yet this group has done just that, against the globally entrenched flow of physicians migrating from developing to developed countries. For South Sudan's population of more than 10 million people, the return of these doctors is a long-awaited fruit from seeds of hope planted 22 years ago in Cuba.

From The Lancet, [Volume 372, Issue 9641](#), Pages 788 - 789, 6 September 2008

The website [Health Researchers in Sudan](#) <http://hrsudan.pbwiki.com> compiled by Dr Ghaiath M. A. Hussein (ghaiathmc@gmail.com) aims to create an online community for the researchers and all those involved in research involving Sudanese people. The site gives information on Grants and Fellowships, and National and International Guidelines (including guidelines for preparing a research proposal). The materials may soon be available on CD.

Did you know?

Africa accounts for nine out of every 10 child deaths due to **malaria**, for nine out of every 10 child deaths due to **AIDS**, and for half of the world's child deaths due to **diarrhoeal disease and pneumonia**.

The top five causes of all deaths in low-income countries are pneumonia, heart disease, diarrhoea, HIV/AIDS and stroke.

From WHO's *Global Burden of Disease 2004 Update* published 27 October 2008

http://www.who.int/healthinfo/global_burden_disease/2004_report_update/en/index.html

TALC is there to serve you

Professor David Morley^a

The NGO, Teaching-aids At Low Cost (TALC), has been providing learning material for health workers in less privileged countries for over 40 years. Starting with teaching slide sets and interactive scripts, it moved on to provide low cost books, accessories and more recently, free and low-priced CDs.

TALC CDs

Since 2001, TALC has produced a series of free Health and Development (H&D) CDs that are especially suitable for nurses and other health staff who have access to a computer but not *broadband connections* to the internet. These CDs provide a wide range of carefully-selected resources including material from The Lancet, British Medical Journal, Archives of Disease in Childhood, World Anaesthesia, PLOS Medicine, Footsteps, WHO, UNICEF, and much that is more suited to community level. The HIFA 2015¹ website has been useful as a source of materials and in publicising these CDs.

To date TALC has produced 9 H&D CDs and regularly sends out over 6,000 of each one (see photo below). TALC continues to seek permission to include easily-viewed, useful material including books and video clips on these H&D CDs.

If you want to receive a sample of a free H&D CD, please send your postal address to info@talcuk.org or TALC, PO Box 49, St Albans, Herts, AL1 5TX, UK. To see information about these and other CDs/DVDs from TALC see www.talcuk.org under 'Shop' and then CD-ROMs.

TALC also produces priced CDs and distributes free and priced CDs and DVDs from other organisations. Chart 1 lists those likely to be of use to readers of this Bulletin. If you are ordering priced items (e.g. books) from TALC and you work in Southern Sudan, you can choose one of the free CD in chart 1.

At present, the majority of health workers in less privileged countries, including some in Universities², do not have ready access to websites due to the lack or expense of broadband internet facilities.

However, this is likely to change over the next few years. If workers in these countries follow the trend seen in Europe and America, health workers will use websites for most of their studies and may even prefer to read from a screen rather than from the page of a book. By becoming familiar with searching



for information on a CD, they will develop valuable skills in readiness for when high-speed internet connections become available. Experience from one country suggests that nurses prefer to read a CD's content than a book. One CD could contain all the health information a nurse is likely to need.

Chart 1. CDs and DVDs available from TALC

Free

- Anaesthesia Resource Vol 2
- Brain Imaging for the Non Radiologist working in a resource poor setting
- Community Eye Health Update 2007
- Community Nutrition
- Continuing Education in Anaesthesia, Critical Care and Pain Vols 1-6
- Family Planning: A Global Handbook for Providers
- International HIV/AIDS Alliance Publications and Resources
- Maternal and Women's Health: Focal Surgical Interventions (DVD)
- Neurology Teaching Resource for African Students
- Obstetric and Neonatal Emergencies for Poorly Resources Countries
- Safe Anaesthesia (3rd edition)
- Schistosomiasis Control Initiative: Advocacy and Training Interactive Guide
- Young People We Care: Making a Difference in our Communities

Low priced

- Caring for severely Malnourished Children Book and CD ROM
- Child-to-Child Early Years Children Promote Health
- Low Cost Water Source Improvements
- Topics in International Health CDs. These include: Acute respiratory infections, Dengue; Diarrhoeal diseases; HIV/AIDS; Human African Trypanosomiasis; Leishmaniasis; Leprosy; Malaria; Nutrition; Schistosomiasis; Sexually Transmitted Infections; Sickle Cell Disease; Trachoma and Tuberculosis.

References

1. The HIFA2015 discussion forum is strongly recommended. To join send your name, organization and brief description of interests to HIFA2015-admin@dggroups.org
2. World Health Organisation: World Health Report 2006: Working together for Health. Geneva World Health Organisation, 2006.

A printed list of TALC products and prices can be requested on-line at www.talcuk.org or by contacting TALC at +44 (0) 1727 853869 or PO Box 49, St Albans, Herts, AL1 5TX, UK.

^a Founder of TALC. Email: David@morleydc.demon.co.uk

Summaries/Extracts from Journals, Reports, etc.

Please send us more material for future issues of the Bulletin.

Zinc Supplements Reduce Diarrhoea in Drug Users with HIV

Persistent diarrhoea affects the great majority of patients with HIV/AIDS, resulting in malabsorption, weight loss and reduced survival. Dr. Campa from Florida International University and colleagues randomised 231 HIV-positive drug users with diagnosed zinc deficiency, 62.3% of whom were on antiretroviral therapy, to receive either zinc supplements or a placebo. Men received 15 mg while women received 12 mg daily for a year.

Zinc supplementation cut the episodes of diarrhoea in half. Specifically, the prevalence of diarrhoea was 14.1% and 29.3% in the zinc-supplemented patients and the controls, respectively. Zinc supplements produced a significant benefit even after accounting for confounding factors like HAART, viral load and CD4+ cell counts. Dr. Campa and colleagues conclude that zinc supplementation is a safe and effective adjunct therapy for HIV-associated diarrhoea.

Extracted from email sent to pronut-hiv@healthnet.org on 8/10/08 by C. Vidya Shankar, MD

HIV, antiretroviral treatment, and HIV sexual transmission: what's new?

Many factors affect the risk of HIV transmission from one individual to another. These include structural, social and biological aspects of both the individual and the virus. One of the most important factors is the level of circulating virus in the blood or other body fluids including semen, vaginal secretions and, in mother to child transmission, breast milk.

Reducing the viral load in a person living with HIV by antiretroviral treatment greatly reduces the risk of HIV transmission. In studies of couples where one partner is positive and the other negative no transmissions have been reported when viral loads are below a certain level.

For individuals, understanding the issues of HIV transmission while on antiretroviral treatment will allow them to make decisions about their sexual relationships with long term partners, including the use of protection and decisions about conception. There are several important caveats when advising HIV positive individuals about the risk of sexual transmission while on long term suppressive antiretroviral treatment. These need to be dealt with at individual level and require clear unambiguous messages about risk.

At a population level the possibility exists that increasing the number of people who are aware of their HIV status and are on antiretroviral treatment

may help reduce the number of new cases of HIV (incidence). Although we cannot treat our way out of the HIV epidemic, identifying and treating people living with HIV is of benefit in itself and for the prevention effect. Although it still needs to be understood that this is useful as one tool in the prevention portfolio.

There is an urgent need to scale up comprehensive country and population specific HIV prevention in order to properly address the 2.5 million new infections that occur every year.

Summary of an article by Ade Fakoya, senior adviser on HIV and health services in the Alliance secretariat's HIV Best Practice Unit and extracted from **The Loop - News from the International HIV/AIDS Alliance: Nov. 2008** <http://www.aidsalliance.org>.

To receive this e-newsletter register at this website or write to mail@aidsalliance.org or tbeoop@aidsalliance.org

Congo-Kinshasa: Pre-eclampsia reduction

A diet rich in vegetables and increased physical activity lowered the risk of pregnancy-induced hypertension (pre-eclampsia) among rural women in the DR Congo. Pre-eclampsia incidence was 33.3% in pregnant women with rare daily servings of vegetables and little physical activity, compared to only 3.7% in those with three or more daily servings of vegetables and daily physical activity.

"Diets rich in vegetables and physical activity are associated with a decreased risk of pregnancy induced hypertension among rural women from Kimpese, DR Congo"

Extract from *Nigerian Journal of Medicine* 2008; 17(3): 265-269

<http://www.ajol.info/viewarticle.php?jid=278&id=42662>

Nutrition and Tuberculosis: A review of the literature and considerations for TB control program

This paper reviews the scientific literature on the role of nutrition in TB disease, summarises key findings and knowledge gaps, and investigates related programmatic experience. The primary target audiences are nutrition program managers in Africa and technical advisors in TB programs.

Based on the information in this report, it is clear that TB affects nutritional status. Many patients with active TB experience severe weight loss and some show signs of vitamin and mineral deficiencies. Persons with TB/HIV co-infection are even worse off nutritionally. However, the evidence surrounding best practices for nutritional management is very limited. HIV is one of the most important factors contributing to the increase in active TB cases in sub-Saharan Africa.

Published by *Africa's Health in 2010 project*/ AED April 2008.

Download at

http://africabealth2010.aed.org/PDF/Nutrition%20and%20TB_Final.pdf

For your resource centre

1. Free DVDs and CDs

- See list of TALC CDs on page 13.
- The free **Tuberculosis Case Management CD-ROM**, produced by the USAID-supported **Quality Assurance Project/ Health Care Improvement Project**, is for training health workers in TB diagnosis and treatment, using the World Health Organization's Directly Observed Therapy Short-Course (DOTS) approach. Users can practice and apply mastery of DOTS on simulated cases and improve treatment and diagnostic decisions using computer-generated feedback on their performance. Trials indicated that health workers learnt faster from this program than traditional paper-based training. Copies of the CD are free to health workers in Southern Sudan without access to overseas funds. For details and to order the CD email qapdissem@urc-chs.com. The project also publishes online materials on child survival, HIV and AIDS, malaria, reproductive health and family planning, safe motherhood and TB at <http://www.qaproject.org>.
- **The Unified Medical Dictionary** is a free CD that is available from the **World Health Organization, Eastern Mediterranean Regional Office**. To request a copy contact M. Mazen Al Abbar, alabbarm@emro.who.int
- **Strategies for Hope Trust** produce DVDs and other materials on **community-based strategies of HIV care, support and prevention** - see www.stratshope.org for details. A limited number of DVDs are available *free* to local NGOs, community groups, faith-based organisations or training centres in Southern Sudan (but *not* to international NGOs, UN organisations and government organisations that receive international aid or to individuals). To request the free DVDs email Glen Williams sfh@stratshope.org and give a reliable postal address, details of your organisation and the work it does, and say how you would use these materials. Note that you need access to DVD equipment. Priced materials from **Strategies for Hope Trust** are available from TALC – see www.talcuk.org.
- Free CDs and other materials on **HIV and AIDS** are available through the **International HIV/AIDS Alliance** website at <http://www.aidsalliance.org/sw5698.asp>

2. Free hard copy newsletters

photo: TALC. Nurses using books supplied by TALC.



- **ICTHES World Care (International Community Trust for Health and Educational Services)** is a Scotland-based medical charity. It publishes, in partnership with the World Health Organization and other organisations, the following printed journals which they send, **free of charge**, to health workers principally in Sub Saharan Africa and Asia.
 - **Community Ear and Hearing Health** covers the prevention, management and rehabilitation of ear and hearing disorders and promotes ear and hearing health.
 - **Developing Mental Health** covers mental health issues.
 - **Community Dermatology** covers the diagnosis and treatment of skin disease, and the promotion of skin health. It has many illustrations to aid diagnosis and treatment.
- To request the newsletters send your name and postal address to Mary Bromilow mary@icttheworldcare.com. Multiple copies may be available. For more information see www.icttheworldcare.com.

3. Items to download from the Internet

- **Childhealth Advocacy International (CAI) online manual: The Practical Approach to Emergencies in the Pregnant Mother, Newborn infant and Child** is online at http://www.caiuk.org/projects/emch_manual.htm. This is an illustrated easy-to-use manual covering essential surgical skills with special emphasis on emergency maternal & child health. The 14 topics include infection prevention, triage, pain management, complications of labour and post-operative care; each section can be downloaded separately. Also on the CAI website (www.caiuk.org) is the section 1 of the e-version of **International Child Healthcare: a practical manual for hospitals worldwide** previously published by BMJ books and Blackwells. Download at http://www.caiuk.org/publications/international_child_health.htm. Other sections of the book will be put on the website when ready.

The website and publications are supported by the UK-based medical charities CAI and Advanced Life Support Group (www.aslg.org). CAI and ALSG have also produced two interactive CDs/DVDs – ‘Advanced Paediatric

Life Support – the practical approach’ and ‘Essential Surgical Skills – emergency maternal and neonatal Healthcare’. Copies are available to consult at the Juba Teaching Hospital Resource Center.

- **Surgery in Africa Monthly Reviews** has published the following online reviews at <http://www.ptolemy.ca/members/>:
October 2008 **Burn Management**.
November 2008 **Surgical Site Infections, Antimicrobial Agents, Universal Precautions and Post-exposure Prophylaxis**.
December 2008 **Surgical Alternatives to Cesarean Section in Obstructed Labour: Maternal and Fetal Destructive Procedures**.
- **The International Child Health Review Collaboration** is a project that reviews the evidence basis behind ‘WHO Pocket Book of Hospital Care for Children: Guidelines for the Management of Common Illnesses with Limited Resources’. To see these reviews go to <http://www.ichrc.org>.
- **International Journal of Diabetes in Developing Countries** at www.ijddc.com is an Open Access journal produced by **Research Society for the Study of Diabetes in India**.
- **National diabetes information clearinghouse** at <http://diabetes.niddk.nih.gov> contains materials on diabetes facts, treatments, statistics, and reports for health professionals, people with diabetes, and the general public. Publications may be downloaded or ordered online, free of charge. The site is supported by the US National Institutes of Health.
- The latest issue of **MotherNewBorNews** covers **Community-Based Management of Newborn Infections**. Download a copy at [MotherNewBorNews_Neonatal Sepsis_July 2007-June 2008_Final.pdf \(168KB\)](#).
- **PATH** has redesigned and upgraded its **Vaccine Resource Library** – which gathers immunisation resources in an easy-to-use website. Materials are from a variety of sources, such as news media, scientific journals, and

leaders in public health. Subjects included range from diseases and vaccines like influenza, hepatitis B, and rotavirus, to related immunisation topics such as injection safety, service delivery, and immunisation financing. Visit PATH's Vaccine Resource Library at: www.path.org/vaccineresources.

- **New guidelines from WHO: Guidelines for the Programmatic Management of Drug-resistant Tuberculosis: Emergency Update 2008**

The emergence of extensively drug-resistant strains of tuberculosis, especially in countries with a high prevalence of human immunodeficiency virus seriously jeopardises efforts to control the disease. These important developments and the availability of new evidence related to the diagnosis and management of drug-resistant tuberculosis are the reason for these updated guidelines that replace previous WHO publications.

The guidelines give recommendations for the diagnosis and management of drug-resistant tuberculosis, and the recording of data that enables the monitoring and evaluation of programmes.

See www.who.int. Hard copies priced; e-copies free online (to download put title of material in WHO, google or other search engine).

- **The Uganda Continuing Medical Education Newsletter September - October 2008 Issue 53** includes the following articles:

- New diseases may still occur
- The young are our future (WHO data about adolescent health)
- Where is the primary site of a cancer?
- Psychiatric disorders associated with chronic physical diseases.
- What is the cause of the fever?
- A reminder of the opportunistic infections (and some other complications) in AIDS and when to expect them.
- *Staphylococcus aureus* and its dangers.

To request an e-copy of this and other Uganda CME newsletters, email Dr David Tibbutt at david@tibbutt.co.uk

Every effort has been made to ensure that the information and the drug names and doses quoted in this Bulletin are correct. However readers are advised to check the doses before prescriptions are made. Unless otherwise stated the doses quoted are for adults.