

SOUTHERN SUDAN MEDICAL BULLETIN

May 2008
Vol 1, Issue 2



Right pleural metastases and pleural effusion due to carcinoma of the ovary

Pass this Bulletin to Healthcare Professionals in the Hospital near you in Southern Sudan.

Published by Healthcare Association of Southern Sudan (HASS)

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

Manuscripts typed by Mrs Madeleine Linington, Medical Secretary

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Editorial

Continuing Medical Education (CME)

Continuing Medical Education (CME) refers to specific form of continuing education that helps those in the medical profession maintain competence and learn about new developments in the field of medicine. CME has evolved in the last ten years necessitated by the realization that the practice of medicine is constantly changing. New diseases are emerging; diagnostic techniques are being updated and new drugs and therapeutic methods being introduced into the market. Added to this is the need for evidence based medicine (EBM) as the basis for rational choice of drugs and treatment.

All countries in the developed world but also many in the developing world require CME for medical professionals to maintain or renew their practicing licenses. This require that a medical professional has to engage in activities geared to keeping abreast with development in his/her specialty through out the year and produce evidence of such activity for them to maintain their license. Activities may include attending seminars and conferences, contributing publications to referred medical journals or imparting knowledge to members of the medical profession for a clinician whose primary activity is not teaching.

One of the aims of South Sudan Medical Bulletin (SSMB) is to provide continuing medical education to members of medical professions in general and South Sudan medical and nurse practitioners in particular. It is the medium through which experts in various clinical areas can review a subject, publish original research or highlight important or unusual clinical problem to stimulate discussion in the medical community.

Cont...

In this issue Dr Eluzai Hakim Abe, consultant physician at St Mary's Hospital Isle of Wright UK discusses issues related to CME. Hakim has in the past been teaching and holding workshops on CME in the UK and has been travelling to East Africa frequently to develop this subject. I hope his article will help us realize the importance of CME in our day to day practice of medicine and our responsibility to pass our knowledge to colleagues in this profession profession.

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Information to Authors

The Southern Sudan Medical Bulletin (SSMB) is a quarterly peer-reviewed publication intended for the consumption of 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 will be published in mid-February, May, August and November of each year.

The publication will be **free online** and viewed via the Health Association of Southern Sudan (HASS) website and the St.Mary's Hospital, Isle of Wight(United Kingdom)-Juba Teaching Hospital Link ("www. low.nhs.uk/juba). After accessing the relevant website click on the link for the SSMB. The Bulletin aims to offer education and information to Healthcare Professionals in all Specialties and identify research which will inform development of Health Services in the Southern Sudan.

The content of the Bulletin will consist of 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 history of health services in the Southern Sudan.

Articles submitted to SSMB must not be submitted simultaneously to other publications and should not have been accepted for publication elsewhere. All articles will be reviewed by two independent reviewers (peer-reviewed).

All authors must declare any conflict of interest as will members of the Editorial Board.

Articles of any author(s) suspected of medical or other misconduct will not be published. Depending on the seriousness of the matter, the authors will be reported to the appropriate Regulatory Bodies wherever they live.

Referencing articles

SSMB has adopted the Vancouver style in which references are cited in numerical order as below. For economy of space journal names may be written in full or abbreviated, viz :

Article

- i) Majok MN, *New Treatment for Trypanosomiasis*. BMJ 2008; 400 : 10 – 15.

Book

- ii) Lado CS, Woro ME. *Health Development in Southern Sudan*. Juba University Press: 2010.

Chapter

- iii) Gbuduwe C, Lumayat A, editors. *The Nodding Disease*, 10th Edition. Nairobi : East African Publishing House 1998.

References should accompany a statement quoted as superscript, for example, reduced efficacy demonstrated².

Capitalise Book titles :

Page numbers should be written as 10 – 19 (meaning from 10 to 19).

Journal Titles may be abbreviated for example BMJ (for British Medical Journal).

Reports should be written beginning with the origin of the Report followed by the title, the Publisher, the year and possibly include the website, for example, Department of Health. *National Service Framework for Coronary Disease. London : DOH (Department of Health 2000 (www.doh.gov.uk/nsf/coronary.htm) from BMJ guideline for authors).*

How to read a chest x-ray – a step by step approach

This article is an attempt to give the reader guidance how to read a chest x-ray. There is no perfect way to read an x-ray. However, the important message I would like to give is, to adopt one or the other approach, and to use the chosen approach consistently.

General Checklist

- Check patient details
 - First name, surname, date of birth.
- Check orientation, position and side description
 - left, right, erect, ap, pa, supine, prone
- Check additional information
 - inspiration, expiration
- Check for rotation
 - measure the distance from the medial end of each clavicle to the spinous process of the vertebra at the same level, which should be equal
- Check adequacy of inspiration
 - nine pairs of ribs should be seen posteriorly in order to consider a chest x-ray adequate in terms of inspiration
- Check penetration
 - one should barely see the thoracic vertebrae behind the heart
- Check exposure
 - one needs to be able to identify both costophrenic angles and lung apices

Specific Radiological Checklist

A - Airway

- Ensure trachea is visible and in midline
 - trachea gets pushed away from abnormality, eg pleural effusion or tension pneumothorax
 - trachea gets pulled towards abnormality, eg atelectasis
 - trachea normally narrows at the vocal cords
 - view the carina, angle should be between 60 –100 degrees
 - beware of things that may increase this angle, eg left atrial enlargement, lymph node enlargement and left upper lobe atelectasis
 - follow out both main stem bronchi
- Check for tubes, pacemaker, wires, lines foreign bodies etc
 - if an endotracheal tube is in place, check the positioning, the distal tip of the tube should be 3-4cm above the carina
- Check for a widened mediastinum
 - mass lesions (eg tumour, lymph nodes)
 - inflammation (eg mediastinitis, granulomatous inflammation)
 - trauma and dissection (eg haematoma, aneurysm of the major mediastinal vessels)

B – Bones

- Check for fractures, dislocation, subluxation, osteoblastic or osteolytic lesions in clavicles, ribs, thoracic

spine and humerus including osteoarthritic changes

- At this time also check the soft tissues for subcutaneous air, foreign bodies and surgical clips
- Caution with nipple shadows, which may mimic intrapulmonary nodules
 - compare side to side, if on both sides the “nodules” in question are in the same position, then they are likely to be due to nipple shadows

C - Cardiac

- Check heart size and heart borders
 - appropriate or blunted
 - thin rim of air around the heart, think of pneumomediastinum
- Check aorta
 - widening, tortuosity, calcification
- Check heart valves
 - calcification, valve replacements
- Check SVC, IVC, azygos vein
 - widening, tortuosity

D – Diaphragm

- Right hemidiaphragm
 - should be higher than the left
 - if much higher, think of effusion, lobar collapse, diaphragmatic paralysis
 - if you cannot see parts of the diaphragm, consider infiltrate or effusion
- If film is taken in erect or upright position you may see free air under the diaphragm if intra-abdominal perforation is present

E – Effusion

- Effusions
 - look for blunting of the costophrenic angle

- identify the major fissures, if you can see them more obvious than usual, then this could mean that fluid is tracking along the fissure

- Check out the pleura
 - thickening, loculations, calcifications and pneumothorax

F – Fields (Lungfields)

- Check for infiltrates
 - identify the location of infiltrates by use of known radiological phenomena, eg loss of heart borders or of the contour of the diaphragm
 - Remember that right middle lobe abuts the heart, but the right lower lobe does not
 - The lingula abuts the left side of the heart
- Identify the pattern of infiltration
 - interstitial pattern (reticular) versus alveolar (patchy or nodular) pattern
 - lobar collapse
 - look for air bronchograms, tram tracking, nodules, Kerley B lines
 - pay attention to the apices
- Check for granulomas, tumour and pneumothorax

G – Gastric Air Bubble

- Check correct position
- Beware of hiatus hernia
- Look for free air
- Look for bowel oops between diaphragm and liver

H – Hilum

- Check the position and size bilaterally
- Enlarged lymph nodes
- Calcified nodules
- Mass lesions

- Pulmonary arteries, if greater than 1.5cm think about possible causes of enlargement

Extended Radiological Checklist – Lateral Film

B – Bones

- check the vertebral bodies and the sternum for fractures or other osteolytic changes

C – Cardiac

- check for enlargement of the right ventricle and right atrium (retrosternal and retrocardiac spaces)
- trace the aorta

D – Diaphragm

- check for fluid tracking up, costophrenic blunting and the associated hemidiaphragm

E – Effusions

- check to see the fissures here as well – both major fissures and the horizontal may be found in the lateral view

F – Fields

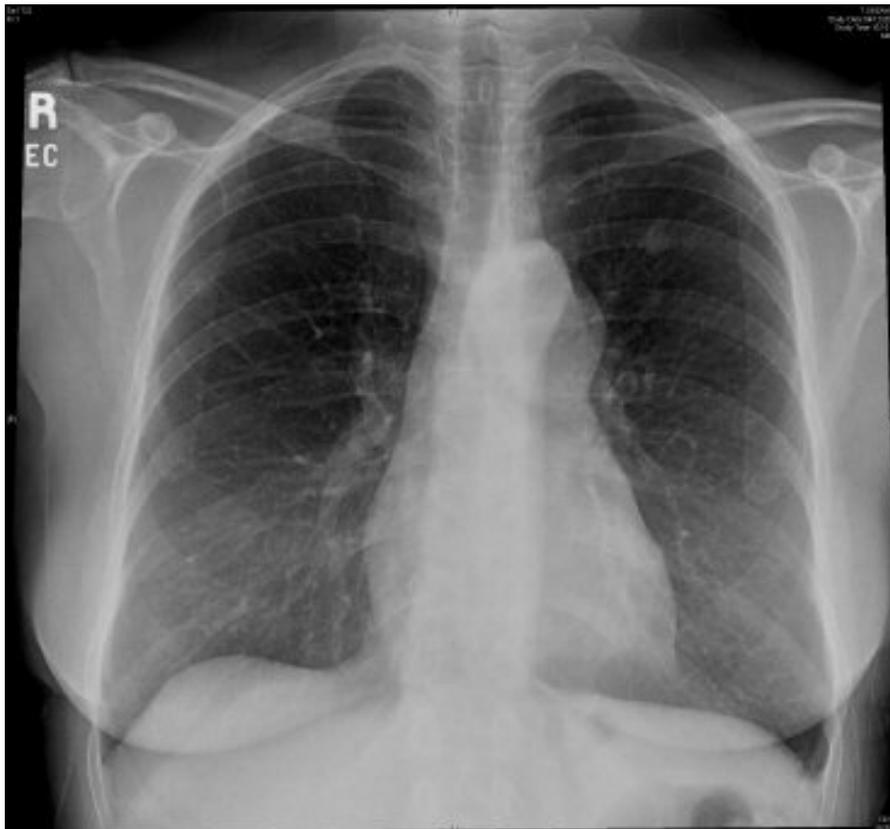
- check the translucency of the thoracic vertebrae in the lateral view, when there is a sudden change in transparency, then this is likely to be caused by infiltrate
- also try to find the infiltrate that you think you saw on the pa-film to verify existence and anatomical location
- pay special attention to the lower lung lobes

I would like to close with a clarification of two important radiological findings, whose understanding is very useful for a correct interpretation of chest x-ray findings. The first is the silhouette sign, which can localise abnormalities on a pa-film without need for a lateral view. The loss of clarity of a structure, such as the hemidiaphragm or heart border, suggests that there is adjacent soft tissue shadowing, such as consolidated lung, even when the abnormality itself is not clearly visualised. The reason is, that borders, outlines and edges seen on plain radiographs depend on the presence of two adjacent areas of different density. Roughly speaking, only four different densities are detectable on plain films; air, fat, soft tissue and calcium (five if you include contrast such as barium). If two soft tissue densities lie adjacent, then they will not be visible separately (eg the left and right ventricles). If, however, they are separated by air, the boundaries of both will be seen.

The second important x-ray finding is the lung collapse. A collapse usually occurs due to proximal occlusion of a bronchus, causing subsequently a loss of aeration. The remaining air is gradually absorbed, and the lung loses volume. Proximal stenosing bronchogenic carcinoma, mucous plugging, fluid retention in major airways, inhaled foreign body or malposition of an endotracheal tube are the most common reasons for a lung collapse. Tracheal displacement or mediastinal shift towards the side of the collapse is often seen. Further findings are elevation of the hemidiaphragm, reduced vessel count on the side of the collapse or herniation of the opposite lung across the midline.

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**Left mid mediastinal / paraortic tumour and
left upper lobe satellite lesion**



Left basal pleural effusion and consolidation



Left upper lobe tumour



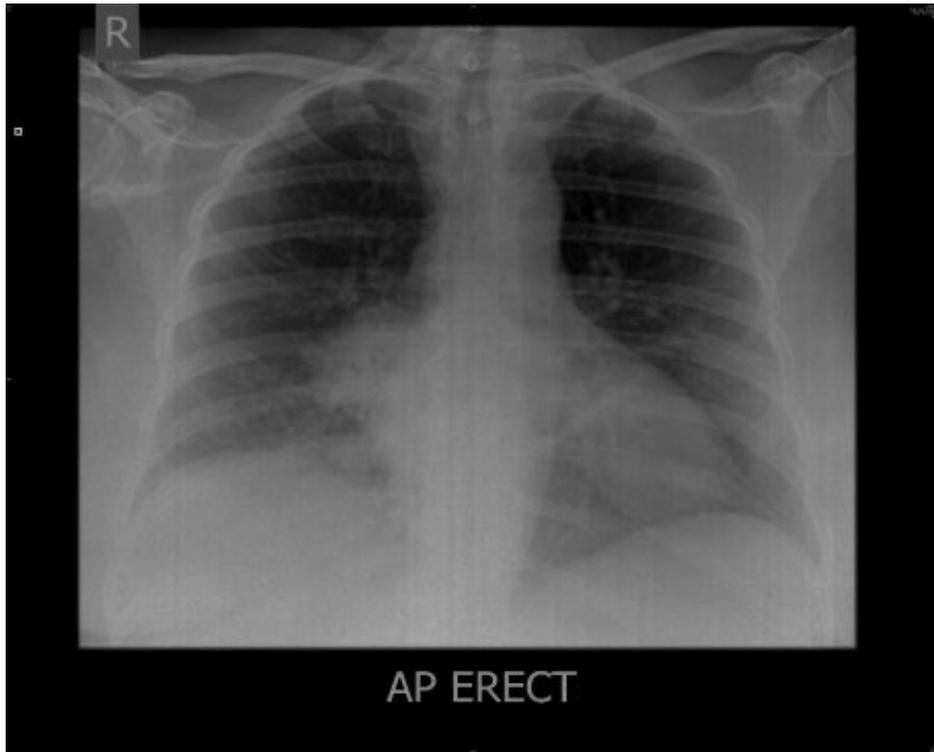
Right pleural metastases and pleural effusion due to carcinoma of the ovary



Pleural calcifications and adhesions due to asbestos exposure



Pulmonary fibrosis and superimposed infection



Right middle lobe pneumonia

Undernutrition in Adults and Children: causes, consequences and what we can do

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Undernutrition^a occurs when people do not eat (or absorb) enough nutrients to cover their needs for energy and growth, or to maintain a healthy immune system. **Micronutrient deficiencies** are a sub-category of undernutrition and occur when the body lacks one or more micronutrients (e.g. iron, iodine, zinc, vitamin A or folate). These deficiencies usually affect growth and immunity but some cause specific clinical conditions such as anaemia (iron deficiency), hypothyroidism (iodine deficiency) or xerophthalmia (vitamin A deficiency).

Undernutrition is an important underlying cause of illness and death in Africa especially among women and young children – probably contributing to more than half the deaths among under-five year olds¹. In this article we examine the causes and effects of undernutrition at different ages, and give a brief overview of key actions. We hope that this will help you to plan preventive activities and obtain necessary resources.

Causes of undernutrition

We can divide the causes of undernutrition into *immediate*, *underlying* and *basic*.

Immediate causes are:

- **Poor diets.** Meals may be low in quantity, nutrient density or variety, or eaten infrequently. Infants may get insufficient breastmilk.

- **Disease** – particularly HIV/AIDS, diarrhoea, respiratory tract or ear infections, measles, hookworms and other gut parasites – see Box 1.

Underlying causes are family food insecurity, inadequate care of vulnerable household members (e.g. ‘unfair’ sharing of food within families), unhygienic living conditions (e.g. poor water supplies and poor sanitation) and inadequate health services.

Basic causes may include poverty, lack of information, political and economic insecurity, the aftermath of war, lack of resources at all levels, unequal status of women, and/or natural disasters.

Box 1. Undernutrition and infection ‘make each other worse’

Infections increase the risk of undernutrition because sick people eat less, absorb fewer nutrients, lose nutrients (e.g. in diarrhoea) and/or have increased nutrient needs (e.g. fever).

Undernutrition makes infections worse because:

- The body lacks anti-oxidants (to mop up harmful free radicals) and the nutrients needed to maintain immunity.
- The linings of the gut and respiratory systems are weak so pathogens can easily invade.

Undernutrition at different ages

The period during which undernutrition has the most severe consequences that often cannot be fully reversed is from conception until the age of two years.

Unborn and newborn babies

Undernutrition in the womb results in retarded growth and low birth weight (<2500g). A foetus is at risk if the mother was undernourished or anaemic *before* conception or if, during pregnancy, her diet is inadequate or she suffers from malaria, HIV or other infections. Specific maternal micronutrient deficiencies in early pregnancy can lead to severe disabilities such as brain damage of varying degrees (lack of iodine) and neural tube defect (lack of folate).

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^a The term ‘malnutrition’ is also used but this can include conditions related to ‘over-nutrition’ such as diabetes type 2 and cardiovascular disease. We no longer use the term ‘protein-energy malnutrition’ because undernutrition is the result of many nutrient deficiencies usually interacting with infection.

Low birth weight:

- Increases morbidity and mortality among neonates and infants.
- Retards emotional and intellectual development.
- Leads to permanently stunted height.
- Predisposes newborns to nutrition-related chronic diseases such as obesity, diabetes and cardiovascular disease in later life.

Infants and young children

Undernutrition below the age of six months is



rare unless a baby is not adequately breastfed or the baby or mother is HIV positive. 'Inadequate breastfeeding' means:

- Breastfeeds are infrequent or too short.
- Breast milk has been completely or partially replaced with a breastmilk substitute such as infant formula or cow's milk. This carries a high risk of undernutrition due to over-dilution or infection arising from unhygienic methods of preparation. Cow's milk also provides the wrong balance of nutrients for young babies.

Undernutrition and anaemia are common between the ages of six – 24 months because:

- By six months breastmilk alone cannot cover a baby's nutrient needs, especially for iron.
- Family foods (i.e. complementary/weaning foods) may be started too late or be unsuitable for young infants.
- These foods may not cover the increased nutrient needs if they are not 'nutrient dense' (i.e. are too watery) or are fed infrequently. Babies have small stomachs so need foods of high nutrient density and to be fed often.
- The risk of infection increases as infants:
 - lose immunity acquired from their mothers while still developing their own.
 - start new foods and drinks, become more active and meet more people.

The result of undernutrition is that growth slows and common childhood infections last longer and are more frequent and serious. Undernourished children are at high risk of permanently stunted growth and development (because they explore less and interact less with other people). Anything that reduces appetite (such as 'minor' infections or emotional stress) may tip a child into severe acute malnutrition.



Micronutrient deficiencies are also common at this age especially deficiencies of vitamin A (which can lead to xerophthalmia and always decreases immunity), iron (a leading cause of anaemia), zinc (which reduces immunity) and iodine (which causes hypothyroidism and so affects learning)¹.

School-age children and youths

Undernutrition is less common at this age because children:

- Have developed immunity to common infections and, until puberty, have relatively low nutrient needs for body weights.
- Can ask and seek for food.
- Have stomachs and appetites large enough for meals of low nutrient-density to satisfy nutrient needs.

Even so, many school-age children grow slower than they should, are anaemic and may lack other micronutrients. Many children are hungry, and hungry children are less able to learn, play and do physical work. At puberty nutrient needs increase dramatically due to rapid growth and increased activity. Anaemia is common especially among girls when they start menstruation. Adolescent still-growing girls who become pregnant are at high risk of undernutrition.

Adults

Women of reproductive age are at greater risk of undernutrition than other adults in Southern Sudan because:

- Energy and nutrient needs are high due to heavy workloads and frequent pregnancies.
- Iron needs increase during pregnancy, and blood is lost during menstruation and childbirth - so anaemia is common.
- Traditional food sharing behaviours in some households may result in women's diets being less adequate than those of men.

Maternal undernutrition increases the risk of morbidity and death and of having undernourished babies.

Higher energy needs², poor appetite and sometimes lack of food means any adult who is HIV positive is at risk of undernutrition. Undernutrition may increase the rate at which HIV progresses to AIDS.

When food is scarce all adults may become thin and undernourished and so have lowered immunity and lack energy.

Old people

It is often thought that undernutrition among old people is rare. But many old people are thin and/or anaemic. Old people are at risk of undernutrition if they:

- Have poor appetites – often resulting from illness or depression (e.g. due to loss of status in the family or death of a relative)
- Have eating difficulties because of lost teeth, sore gums, etc.
- Are poor, sick, mentally confused or disabled especially if there is no-one to shop, cultivate or cook for them.
- Have heavy workloads and/or are caring for young or ill relatives.



What can we do to improve nutrition?

Below is a short overview of key activities and



'messages' that you might be able to adapt and *prioritise* for your local situation^c. We all know that to improve nutrition-related behaviours it is best to *share* and *discuss* information (rather than *tell* people what to do). Then people feel free to discuss their problems, needs and ideas, and *together* you can identify behaviour changes that are practical, easy and acceptable.

Babies aged 0 – 6 months

Immediately after birth:

- Wait two minutes before cutting the umbilical cord so babies gets the maximum amount of blood.
- Make sure that babies:
 - start suckling within one hour of birth (unless they cannot suckle). First milk (colostrum) is nutrient-rich and protects against infections.
 - then suckle frequently – every 2- 3 hours.

Counsel mothers to *exclusively* breastfeed for the first six months^d. Breastmilk *alone* provides all the water and nutrients babies need.

Encourage families to:

- Give lactating mothers extra food.
- Bring babies to the clinic for weighing, check-ups and immunisations.
- Consult a health worker if the baby refuses to breastfeed.

Counsel parents on why and how to avoid pregnancy during lactation. Pregnancy does not 'spoil' breastmilk but does put more nutritional stress on the mother.

Children aged 6 months to 5 years

Advise families that:

^c We plan to give detailed guidelines in future issues of the Bulletin.

^d In *most* cases it is safer for mothers who are HIV+ to breastfeed provided they give no other food, milk or drinks (i.e. **exclusive breastfeeding**). The risk of death from feeding breastmilk substitutes (due to infection and undernutrition) is often very high and mixed feeding (feeding both breastmilk *and* a breastmilk substitute) increases the risk of virus transmission through the gut. The risk of transmission also increases if the lactating mother has a breast condition such as bleeding nipples or mastitis³.

- Breastmilk remains an important food for young children until they are at least two years old.
- By the age of six months children need to start family foods. These should:
 - be rich in energy and nutrients, and not watery. As well as porridges, meals should contain increasing amounts of groundnuts and beans, vegetables and fruits, and animal foods such as meat and fish whenever possible.
 - be started one at a time.
 - not be too peppery, salty or sugary.
 - be prepared hygienically. Animal milks should be boiled.
 - be soft and easy to eat.
- Young children need to breastfeed on demand and to eat *frequently*. At six months give meals 2-3 times a day increasing to 4 times a day by the age of one year. Avoid giving sugary or salty snacks.

Advise families to supervise mealtimes and encourage young children to eat, especially when sick – but never to force-feed.

Explain why it is important to bring children for immunisations and weighing and check-ups. Give appropriate advice, without blaming the parents, if a child is not gaining weight at the healthy rate.

Advise how to prevent infections such as malaria and diarrhoea, and make sure families know what to do if a child becomes sick, and how to feed during recovery⁴.

Give vitamin A supplements from the age of six months and continue until the child is 5 years old⁵.

When the time comes to stop breastfeeding, counsel mothers to stop *slowly* (unless advised otherwise^c), and check that they know to continue giving energy and nutrient rich meals *at least* three times a day with healthy snacks if needed.

School-age children

Explain that:

- Children need three meals a day - containing a variety of foods. Children study better if they have breakfast and a midday meal or snack.
- At puberty youths have high energy and nutrient needs and need bigger meals and snacks.

Counsel boys and girls why and how to avoid teenage pregnancy.

All adults

Advise families that all adults, including old people, need diets that provide:

- A *variety* of foods, especially groundnuts, peas and beans, and different fruits and vegetables.
- Animal foods, such as fish, meat and organ meats (e.g. kidney, guts), when available.

Explain that preventing infections helps to prevent undernutrition so promote:

- Washing hands with soap, ash etc. before handling food and after using the toilet.
- Sleeping under frequently-treated bednets. Avoiding malaria is especially important for pregnant women.

Discuss how to persuade sick people to eat and drink (e.g. by feeding frequently and offering small easy-to-eat meals). People who are HIV positive need nutrient-rich meals because they have increased energy needs^{e2}.

Women of reproductive age

Explain to families that:



- Women and girls need a good diet *throughout* life including *between* pregnancies - so they rebuild nutrient stores.
- Pregnant and lactating women need extra food especially iron-rich foods such as meat, liver and other organ meat, poultry and fish.
- Women need extra physical and psychological support during a pregnancy – especially if they are young.

^e Articles on nutrition and HIV, and anaemia are planned for future issues of the Bulletin.

- It is best to leave 2-3 years between pregnancies to allow women to build up nutrient stores.

Encourage pregnant women to attend antenatal clinics and explain why they need supplements of iron and folic acid^e.

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<http://www.who.int/reproductive-health/stis/mtct/infantfeedingconsensusstatement.pdf>
4. WHO. *Pocket Book of Hospital Care for Children: Guidelines for the Management of Common Illnesses with Limited Resources*. WHO, Geneva. 2005.
5. Burgess A. *Mother and Child Undernutrition – Vitamin A Deficiency* Southern Sudan Medical Bulletin 2008; 1:1; 8-13.

Recommended books and websites

- *Family Nutrition Guide*. 2004. Food and Agriculture Organization of the United Nations, Rome. (Request from nutrition@fao.org).
- *Improved Complementary Foods Recipe Book: Family Foods for Breastfed Children in Zambia*. 2007. National Food and Nutrition Commission, Zambia (download from <http://www.fao.org/docrep/010/ai208e/ai208e00.htm>)
- WHO Nutrition website: <http://www.who.int/nutrition/topics/infantfeeding/en/index.html>
- *The Lancet's Series on Maternal and Child Undernutrition* website: <http://www.globalnutritionseries.org>

Acknowledgements

Thanks to Dr Wani Mena for helping to prepare this article. Line drawings are by Rose Olendi or Anthony Okuku and from *Community Nutrition for Eastern Africa*. African Medical and Research Foundation. 1994.

We declare we have no conflicts of interest.

For your *library/bookshelf/resource centre*

The following journals are available free and in hard copy. To join the mailing list send your name, designation, full mailing address and brief details of how you and your organisation will use the publication. For online version see the websites.

Field Exchange – a well illustrated publication on food and nutrition in emergencies published 3 times a year . It contains field level articles, research and evaluation findings and news items and has carried several articles from Southern Sudan. Contact Emergency Nutrition Network (ENN), 32 Leopold Street, Oxford OX4 1TW, UK. Fax: +44 1865 324997. Email: office@enonline.net. Website: <http://www.enonline.net/fex>

IDD Newsletter – the newsletter of the Council for the Control of Iodine Deficiency Disorders (ICCIDD). It is published quarterly and carries articles and news items related to iodine deficiencies disorders. Contact ETH Zurich, Human Nutrition Laboratory, Schmelzbergstrasse 7, 8092 Zurich, Switzerland. Email: iccidd.newsletter@ilw.agrl.ethz.ch. Website: www.iccidd.org.

SCN News – the newsletter of the UN/Standing Committee on Nutrition that co-ordinates nutrition activities of the UN and associated agencies. It is published twice a year and gives news of international nutrition developments. Contact UN/SCN, c/o WHO, 1211 Geneva 27, Switzerland. Fax: +41 22 798 8891. Email: scn@who.int. Website: <http://www.unsystem.org/scn>

SIGHT AND LIFE magazine – a well illustrated magazine published quarterly. It includes articles, research summaries and news items related to micronutrient deficiencies. Contact SIGHT & LIFE, Box 2116, 4002 Basel, Switzerland. Fax: +41 61 815 8190. Email: info@sightandlife.org. Website: www.sightandlife.org.

A free CD-ROM

The **Child Health Resource Package CD** was designed as a stand-alone and comprehensive package to assist doctors and nurses working in children's wards. It contains guidelines (paediatric and neonatal), a comprehensive record keeping system and mortality audit tools. These include guidelines for the inpatient management of severe malnutrition, the IMCI chart booklet and the WHO pocket book on hospital care for children. The CD is available free (while stocks last) from Dr Mark Patrick MARK.PATRICK@kznhealth.gov.za at Greys Hospital, Private Bag X9001, Pietermaritzburg, 3201, South Africa . Fax: +27 (33) 8973409.

What do you know about Vitamin A deficiency?

Most vitamin A in foods is in the forms of 'retinol' or 'beta-carotene'. Name two Southern Sudanese foods that are high in retinol and two that are high in beta-carotene.

Which of the following groups have the highest vitamin A requirements? Young children : Lactating women : Men

1. What are the main dangers of vitamin A deficiency?
2. Which age group is *most* likely to show signs of vitamin A deficiency disorders?
3. What is 'xerophthalmia'? Why is it a dangerous condition?
4. What are two interventions used to control vitamin A deficiency in Southern Sudan?
5. How many international units (IU) of vitamin A are in a blue high-dose vitamin A capsule? How many blue capsules should you give a child aged 12-59 months? How often?
6. Why is it dangerous to give high dose vitamin A supplements to women who might be pregnant?

See answers on page XX.

Books for Nurses and other Health Workers in Training

David Morley MD. FRCP. Founder and President of TALC

Why nurses and other health professionals need books

Progress towards the Millennium Development Goals of reducing maternal and child deaths, which occur mainly among the poor, is slow in many African countries. Because most doctors work in urban hospitals or private practice, it is nurses, midwives, medical assistants and clinical officers who are in the forefront of the fight to reduce these death rates.

There are often limited resources for training these professionals; particularly books. Books that are available may be 10 or more years out of date - and few training schools have sufficient books for all the students.

However, books are a vital source of information and, if enough books are available, students are able to learn *how* to use them. For example, they learn to use an index, to check drug doses and to find solutions to clinical problems. If the skill of *how* to use books is not learnt during training it may never be learnt. This means that the nurse or other health worker is less likely to keep pace with the rapid changes that are taking place in health care world-wide.

Teaching-aids At Low Cost

For many years the NGO Teaching-aids At Low Cost (TALC) has been aware of this problem and has been supplying low cost books (and other learning materials) to health workers in 'developing' countries. TALC particularly recommends two recently published low cost books for student nurses and other health workers. These are:

- **Nursing and Midwifery: a practical approach** by S. Hubbard, P. Hamilton-Brown and G Barber, published by Macmillan in 2006. This 400-page well-illustrated book is specifically written for nurses in Africa.
- **Hospital Care for Children** edited by Harry Campbell, published by WHO in 2005, This is a very comprehensive well-illustrated pocket sized book that deals

with both treatment and prevention of common childhood illnesses.

TALC's programme to supply books to nurse and other health worker training schools

Where donors can be found, TALC can supply a collection of materials to training schools. This includes one copy of the above books to every two students of those entering the school at one time. And Tutors can choose 5 additional reference books from the TALC catalogue. TALC has many 'free' materials including books, newsletters, and CD-ROMs that can also be included. Among these is a coloured tape for assessing children's nutrition using the Mid Upper Arm Circumference.

If you want more information on books for training schools or want to access TALC's catalogue and order books and other materials: Go to www.talcuk.org or email info@talcuk.org or write to TALC, P.O. Box 49, St Albans, Herts AL1 5TX, UK or fax +44 1727 846852.

Put answers on separate page

Answers to vitamin A quiz

1. High levels of retinol are found in livers, kidneys, breastmilk, colostrum, milk fat/butter, whole dried fish and egg yolk. High levels of beta-carotene are found in orange/yellow fruits and vegetables (but not tomatoes) and dark green leaves. Usually the darker the colour the more beta-carotene the food contains.
2. Pregnant women. Vitamin A requirements in retinol activity equivalents are: Young children 400mcg; Lactating women 850mcg; Men 600mcg.
3. Reduced immunity, anaemia (due to impaired transport of iron), poor growth and xerophthalmia.
4. Young children especially following an infection such as measles.
5. Xerophthalmia means all the eye conditions caused by vitamin A deficiency. These include night blindness, conjunctival xerosis, Bitot's spots, corneal xerosis and ulcers and keratomalacia (cornea is cloudy and soft). Xerophthalmia is an indication of very severe vitamin A deficiency, can lead to permanent blindness (which can occur very quickly if corneal xerosis, ulcers or keratomalacia is present) and carries a high risk of death.
6. Promoting vitamin A-rich foods in family meals – including how to produce and process more. Supplementation of young child and post-partum women (within 8 weeks of delivery) with high-dose vitamin A capsules.
7. A blue capsule contains 100,000 IU vitamin A. A child aged between 12-59-months should receive 2 blue capsules (200,000 IU) every 4-6 months.
8. High doses of vitamin A can harm a developing foetus.

For more information see the article on vitamin A deficiency in first issue of the Bulletin.

Information to Authors

The Southern Sudan Medical Bulletin (SSMB) is intended for Healthcare Professionals working in the Southern Sudan or those in other parts of the world seeking information on health in the Southern Sudan. It will be published each February, May, August and November and will be **free online** at the Healthcare Association of Southern Sudan (HASS) – see [www. //](http://www.iow.nhs.uk/juba) and click the SSMB link and at www.iow.nhs.uk/juba and click on journals.

Articles submitted to SSMB must not be submitted simultaneously to other publications and should not have been accepted for publication elsewhere. Authors and members of the Editorial Board must declare any conflict of interest.

References

Please use the Vancouver style in which references are cited in numerical order with the number in superscript in the text. Journal names may be written in full or abbreviated and websites are useful. Examples of the style for titles and page numbering are:

Articles

1. Majok MN, *New Treatment for Trypanosomiasis*. BMJ 2008; 400: 10 – 15.

Books

2. Lado CS, Woro ME. *Health Development in Southern Sudan*. Juba University Press: 2001

Reports

3. Department of Health. *National Service Framework for Coronary Disease*. London: Department of Health 2000 (www.doh.gov.uk/nsf/coronary.htm).

Practical Pharmacy for Developing Countries is a free well-illustrated easy-to-read newsletter whose goal is to provide accurate information for front-line health workers. The edition of March 2008 was on the treatment of tuberculosis.

Practical Pharmacy is distributed as an email attachment and you can subscribe by emailing practicalpharmacy@gmail.com.

How things were..... in the 1860s

“Smallpox was not only limited to the northern provinces of the Sudan, however, for the toll of the disease was also felt in the southern tropical reaches of the country where the slave trade was rife. The British explorer, Sir Samuel Baker, (1866), reports that smallpox was a scourge among the tribes of Central Africa and that it occasionally swept through the country and decimated the population. He further specifies that the disease was ravaging the southern districts of the Sudan in 1863 and that natives were ‘dying like flies’. The disease also devastated the Turkish camp, although Baker’s men were spared. Commenting on this, Baker further adds, raising doubts about the efficacy of the Turkish vaccine:

“The smallpox broke out among the Turks. Several people died; and, to make matters worse, they insisted upon inoculating themselves and all their slaves; thus the whole camp was racking with this horrible disease. ...”

From *The History of the Sudan Health Services* by Ahmed Bayiumi. Kenya Literature Bureau, Nairobi 1979 page 59

Continuing Professional Development (CPD) For Healthcare Professionals in Southern Sudan

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This is a continuing process outside formal undergraduate and postgraduate training that allows individual doctors (and other healthcare professionals) to maintain and improve standards of medical practice through development of *knowledge, skills, attitudes and behaviour*¹. Multi professional learning is increasingly becoming the norm² and it is hoped that professionals in the Southern Sudan will find the time to meet together in order to discuss issues which cut across different Specialty boundaries.

The aim of Continuing Professional Development is to support changes in practice and should be embraced by all healthcare professionals (nurses, doctors, laboratory technicians, pharmacists, physiotherapists, occupational therapists, nutritionists) in the Southern Sudan, and indeed, in all developing countries.

CPD has been shown to improve job performance, quality of care, organisational performance and service delivery across employment sectors with consequential reduction in costs³.

In the United Kingdom CPD is mandatory for all registered Medical Practitioners and is becoming increasingly so for other healthcare professionals. In Uganda the achievement of a minimum number of CPD credits has been a requirement for the

annual renewal of registration by the Medical Council (Board) since 1996. A CPD credit is taken to be an hour of CPD activity. There are European initiatives to develop common practices of delivery of CPD in the European Union. These initiatives include reciprocal approval of CPD events between different countries and adoption of a common international system of CPD currency (credits). The East African countries of [Uganda](#), [Kenya](#) and [Tanzania](#) agreed at the Third East African CPD Consultation ⁴ held in Dar-es-Salaam on the 29 October 2004 to do the following :

- Make CPD mandatory for re-certification in Kenya and Tanzania as is already the case in Uganda.
- Appoint an East African community health coordinator (Dr Stanley Sanoiya) to monitor implementation of CPD in the East African region.
- Harmonisation of the delivery of CPD in the East African region.
- Develop resource policies in the East African region through the respective Ministries of Health.
- Disseminate evidence based information such as peer reviewed publications to healthcare professionals.
- Initiate and sustain the development of libraries or learning resource centres for various professional groups to strengthen CPD.

CPD is a vehicle for self development and improvement and should be supported by the Government of Southern Sudan. In the Southern Sudan the healthcare professionals can engage in CPD at the Health Centres, county, state and tertiary hospitals. This needs material and equipment such as computers and connection to the Internet to help link in those who work in the rural areas. Health Centres and Hospitals must allow time for healthcare professionals to attend weekly CPD activities. The suggested CPD activities would include the following :

- Weekly meetings to discuss challenging clinical issues and agree ways of dealing with similar problems in the future if encountered.
- Mortality meetings - discussion of all avoidable deaths, focusing on where mistakes were made and how these could be avoided in the future.
- Distance learning.
- Electronic learning using CD ROMS.
- Review of Journal articles and answering self assessment questions.
- Carrying out information searches in the medical, nursing, pharmacy, therapy and nutrition databases.
- Participation in committee or working parties.
- Undertaking research projects.
- Writing articles for publications.

It is easy to organise CPD activities, if CPD is understood as being very important in the delivery of healthcare services in the Southern Sudan. The provision of CPD must not be influenced by financial interest by pharmaceutical firms that volunteer to support CPD activities. All healthcare professionals must register for CPD with their Hospital Director or Head of Department or whoever is appointed to implement this programme. All CPD activities such as clinical meetings or grand rounds must be clearly advertised, giving the time, date and venue, so that those who can attend may make themselves available for the activities. Those attending the activity must be registered and issued certificates at the end of the session, stipulating the number of credits earned through the specified activity.

Each CPD participant needs to keep a diary of the activities, the credits earned and the personal comment on how such an activity might influence their future practice. At the end of the calendar year the Head of Department or the Hospital Director may need to collate the data and issue a certificate of satisfactory completion of CPD activities for a particular year.

In conclusion, CPD is the process of updating all skills and knowledge and gaining new ones. It extends to non clinical areas like computing and management and is relevant to all healthcare professionals. It has been shown to improve healthcare quality and delivery. It is therefore recommended that all healthcare professionals in the Southern Sudan

must organise themselves at all levels from health centres to major hospitals to undertake CPD with immediate effect. Support with resources such as computers, print copies of journals, CD ROMS or distance learning material by the Government of Southern Sudan, non Governmental organisations such as the United Nations Development Programme, the United States Agency for International Development, the African Medical Research and Educational Foundation (AMREF) and the World Health Organisation are crucial in the success of this programme.

Figure I. Continuing Professional Development Certificate.

**This is to certify that
 Attended and participated in the
 symposium on the management of
 falciparum malaria in children at El
 Samani Lecture Theatre, University of
 Juba on the 29th March 2010.**

This was registered for 5 CPD credits.

Signed

Name

Organiser of Malaria Symposium.

Figure II. Personal Reflection Learner Centred CPD Activities

Name CPD ref no.

Topic of course or
CPD activity.

Dates attended or
Undertaken

.....

Provider
(Institution/Web or other)

Reflection - (maximum 300 words)

Notes :

- What was gained from activity.
- What might be done differently now.
- What further learning or reading is planned.

Signed Date

File this per personal reference.

References

1. CPD for UK Physicians. The Federation of The Royal College of Physicians of the United Kingdom 2002.
2. Grant J, chambers E, Jackson G (eds). The Good CPD Guide, A Practical Guide to Managed CPD. The Joint Centre for Education in Medicine.
3. BMJ 2002; 325: 670-1.
4. Recommendations of the Third Consultation to Implement CPD in East Africa, Dar-es-Salaam 29/10/2004. East African Community.