Abstracts of papers presented at the annual scientific conference of the Association of Surgeons of East Africa held in Lusaka, Zambia on 5th to 7th December 2001.

GENERAL SURGERY

Should all hernias undergo elective surgery?

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It is generally accepted in the international surgical community that all inguinal hernias should be operated electively unless the patient is extremely old or frail. However, the main argument rests on the risk of strangulation despite the fact that little is known about the actual risk in a particular patient.

This study presents a risk calculation based on a few historical reports dealing with the risk of incarceration and on contemporary epidemiological data from Germany. Three strategies are presented: prophylactic indication on principle (A), elective operation in every second case (B) and operation in case of strangulation only (C). It is calculated that for the male German population aged 65 years and above 69954 (A), 36292 (B) and 2630 (C) inguinal hernia repairs would be necessary annually; 167 (A), 145 (B) and 123 (C) perioperative death would occur associated with 1702 (A), 1373 (B) and 1048 (C) years of life lost respectively. Thus operation of every inguinal hernia would even result in a (small and negligible) reduction of life expectancy. These data provide evidence that that in elderly patients, the indication to operate inguinal hernias should depend upon symptoms and suffering. In Europe there is no reason to operate asymptomatic cases because of a presumed risk of strangulation. These figures change dramatically in an environment like rural Africa where the mortality of a strangulated hernia is much higher thus increasing the need for prophylactic surgery.

Conclusion:
Contrary to current practice health policy should encourage less hernia repair in industrialized countries and probably more hernia repairs in rural Africa.

Short-stay thyroidectomy:
Trends in length of post-operative hospitalisation over a period of ten years in a developing country central Hospital.

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Short-stay surgery is an established form of patient management in the developed countries. There is little published on the subject from the developing world. This paper describes the personal experience of short-stay thyroidectomy over a period of 10 years. It is a retrospective study on the work carried out in the Department of Surgery, University Teaching Hospital, Lusaka. Seventy-nine consecutive thyroidectomy patients were included in the study. There were 65 female and 14 male patients with an average of 38n years. General anaesthesia was used in 60 patients and 19 had local anaesthesia. Type of operation included subtotal (32), lobectomy (28), total (5), near total (3) and various other operations (11). Malignancy was diagnosed in nine patients. Minor post-operative complications occurred in16 patients and airway related difficulties were noted in eleven, seven of who had temporary voice change. There were four tracheostomies performed, two permanent ones before thyroidectomy and two temporary ones post-operatively. There was no record of iatrogenic permanent recurrent nerve palsly. Four patients had thyrotoxicosis one of which developed a thyroid crisis. Another patient developed hypocalcaemic crisis. There was no post-operative mortality. Seventy-seven patients
were followed-up and there were three readmissions, two with terminal cancer and one with hypocalcaemic crisis. The length of stay varied between 4.1 days early in the series to 1.3 days in 1999. Short-stay thyroidectomy offers advantages and is safe where expertise is available. Early review following hospital discharge is recommended.

FNAC of breast lumps in the University Teaching Hospital, Lusaka, Zambia.

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This was a prospective study done to assess fine needle aspiration cytology (FNAC). As a diagnostic tool in the investigation of breast lumps in the University Teaching Hospital. Though this method is inexpensive and has been shown to be highly accurate, it is not in common use.

Seventy-three female patients from surgical outpatients clinic were included in the study. Their average age was 25 years. Most of the lumps were clinically benign (71%). All the patients consented to FNAC but only 49% went on to have histopathological diagnosis. Of all these, 31% were malignant while 69% were benign. The average age of patients with malignant lumps was 30 years while that of benign was 24 years. Patients above 25 years had a higher likelihood of malignancy than those below 25. In this study, it was found that FNAC had a sensitivity of 73% and a specificity of 96%. This level of accuracy compares favourably with that reported in centres in the United Kingdom and meets the quality assurance requirements recommended for the United Kingdom. FNAC was found to be a safe and accurate method of screening and investigating breast lumps in the University Teaching Hospital. Guidelines for its use in the Hospital are given.

ONCOLOGY


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This paper describes the technique of mandibulectomy as used by the author in a series of fifty patients with large mandibular tumours. The operations were performed in the Department of Surgery of the University Teaching Hospital between 1987 and 2000.

The operative management is given in detail including anaesthetic considerations, oropharyngeal packing, positioning, the type of incision used, resection of the mandible, vascular control, the technique of reconstruction used by the author and the type of wound closure. General anaesthesia was administered for mandibulectomy and local anaesthesia for tracheostomies. Elective tracheostomy was performed in 22 patients as first step, followed by the mandibulectomy. The oropharynx was packed with iodinated cotton gauze as a routine. Patients were restrained on the operating table with a belt to maintain a reverse Trendelenburg position. The operative approach was lip splitting in 34 and submandibular alone in 16. mandibular resection for lateral body tumours started with division of bone at the ipsilateral parasymphysis. Resection required control of the inferior dental vessels either within the mandibular canal or above the foramen. Troublesome bleeding from pterygoid plexus of veins sometimes created difficulties. Carotid vessels control and/or ligation of the external carotid were rarely required and were done in 10% of patients during the first few years of the series. Twenty-three patients underwent hemimandibulectomy, 14 segmental and 13 had various other operations. Half the patients were reconstructed with wire implant. The implant was buried deep to the pharyngeal dilators by using 4/0 nylon in three layers. The mucosa and the muscle layers were closed separately. The mucosa was closed with catgut 2/0 or 3/0 everting stitches and the muscle layer with a running suture. Skin was closed with vertical mattress continuous suture preferably using absorbable monofilament. Drains were not routinely used. The commonest tumour excised was ameloblastoma in 22 patients. The most common complication was sepsis in 21 patients. Three implants removed for exposure, fracture and migration.

Genetic epidemiological aspects of gastric cancer in Iceland.

A K Imislund, BJ Eldon, S Arbjamarsone et al., Iceland

Purpose
To describe genetic epidemiological aspects of gastric cancer in Iceland.
Background: associations between gastric cancer and environmental factors e.g. diet and infections have been
established and somatic genetic changes are well described in adenocarcinomas of the stomach. Less is known regarding clinical features of hereditary gastric cancer and whether other malignancies are associated with family clustering.

**Methods**

Family trees of all patients diagnosed with gastric cancer in Iceland between 1955 and 1999 were identified in the Genealogical Database of the University of Iceland. Probands with age of onset <60 years were used in the study. Families of all probands (N = 455 males and 161 females) all reported cancers were identified. The expected number of cases was calculated using the age specific population rates in Iceland.

**Results**

A relative risk (RR) of 2.2 (95% CI = 1.6 - 3.0) and 1.3 (95% CI = 1.0 - 1.7) for the gastric cancer risk was observed was observed among 2846 first and 8658 second degree relatives of male probands respectively. For female probands the corresponding RR was 1.6 (95% CI = 1.1 - 2.6) and 1.4 (95% CI = 0.9 - 2.0) and statistical significant for the first-degree relatives (N = 2764). The excess risk was even more pronounced for relatives of males and females diagnosed with gastric cancer before the age of 50 years. No difference in RR was found between relatives of probands that were diagnosed as Lauren 1 (intestinal) or Jervi-Lauren 2 (diffuse). Special attention was also given to other common cancers such as prostate, breast, kidney and brain cancers among the relatives although no significant risk elevations were found. Fifty-eight families with at least two or more relatives with cancer were identified. In 32 families two relatives with gastric cancer were identified and in and in 26 families three or more relatives had gastric cancer.

**Conclusions**

Relatives of gastric cancer patients have 2 – 3 fold increased risk of developing cancer. The risk is elevated for both sexes although more for males.

**Limb Saving Surgery in Osteosarcoma**

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Osteosarcoma is common in Kenya. The age groups affected are mostly children and adolescents. Since 1972 the age has been noticed to rise to include 3rd and 4th decades. The time of presentation has continued to be late. Investigations available will determine the ability of early diagnosis or otherwise. We are now able to do, in addition to plain X-rays, C.T. scans, MRI scans and radio isotopic scans. Immunological studies such as HEGFR2 are still not available. Treatment has continued to be biopsy, amputation and adjuvant chemotherapy of various combinations having high dose methotraxate as a major component. In Kenya patients and parents are becoming increasingly reluctant to accept amputation. In developed countries 90% of all cases are treated with limb sparing surgery.

**Is this practical in developing countries?**

Presented here are a number of osteosarcoma cases I treated and one case in which limb sparing operation was done and the problems that were encountered.

**INFECTIONS**

**“Damage Control and ‘Second Look’ in Emergency Abdominal Surgery”**

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The major causes of mortality after emergency abdominal surgery – whether this is necessitated by trauma or by some other instance of “Acute abdomen” – are hypothermia, acidosis, coagulopathy and abdominal compartment syndrome. In order to avoid these complications, emergency operations in physiologically compromised patients should consist of “damage control” only: haemostasis, reestablishment of blood flow in large vessels, peritoneal lavage and avoidance of further soiling. Anastomoses should be eschewed at this stage and temporary stomata should be fashioned. The abdomen is best left open, this saves time, prevents wound infection, and forestalls abdominal compartment syndrome. (Intrabdominal pressures can be measured by using the indwelling bladder catheter as a measuring device).

There are various ways in which the temporary closure of the abdomen can be achieved, one is the use of the “Bogota Bag”. The correction of organ dysfunction, under optimal circumstances in the ICU, includes rewarming, ventilation, normalization of the acid/base balance etc. Improvement is usually rapid and the “Second look” operation can be undertaken after 48 to 72 hours. At this stage reconstruction of the abdominal contents as well as the abdominal wall may be possible.
The preoccupation of surgeons with anatomy has caused much morbidity and mortality. By shifting the focus to physiology, many complications can be avoided, others are easier to treat. The principles of damage control are simple.

There is no reason to fear an open abdomen (or, indeed, the reopening of an abdomen in the ICU, if the intraabdominal pressure rises). A “Bogota Bag” is a cheap, ubiquitously available device, easily applied. Evidence for its usefulness is overwhelming and the reluctance to use it is merely emotional.

Primary Squamous Cell carcinoma Presenting As Psoas abscess

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Squamous cell carcinoma is a common malignancy affecting all tissues, which arise from ectoderm. Untreated, metastases occur to regional lymphatics. Occasionally metaplasia occurs in non-ectodermal tissues such as the urinary bladder, lung and elsewhere, resulting in transformation to squamous cell carcinoma. However, primary squamous carcinoma arising de novo in psoas muscle and presenting as an abscess must be an extremely rare occurrence that merits reporting.

This is a case report of a 42-year old female patient who presented to University Teaching Hospital in May 2000 with a complaint of right loin pain and “appendicitis”. The chronology of the disease progress, investigations carried out on the patient and the operative management is detailed in this report. The patient survived six months.

Ipsilateral vascularised fibular transfer for reconstruction of osteomyelitic and traumatic tibial gap defects

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Gap defects in the tibia shaft can arise as a result of trauma or as a consequence of chronic osteomyelitis. A severe compound fracture may result in segmental diaphyseal loss with subsequent non-union and gap defect. In chronic osteomyelitis, although doctrine would advocate delaying sequestrectomy until sufficient mature involucrum capable of weight bearing has formed, occasionally auto-sequestrectomy will occur in advance of this; again leading to a tibial defect. Whilst bone transport techniques can be utilised to treat such defects, the skills and equipment necessary for such procedures are seldom available in the developing world. An alternative, and more freely available method of reconstruction is to use ipsilateral vascularised fibular transfer. Approach to the fibula is posterolateral. Muscle attachments to the lateral and antero-medial surfaces of the bone are released but care is taken to maintain the posterior proximal vascular pedicle, arising from the peroneal artery to keep the periosteum intact. The fibula is then osteotomised proximally and distally and then transported, by translation and rotation into a pre-prepared graft bed spanning the tibial defect. Some form of fixation and stabilisation may then be required and cancellous bone graft applied. Over the past 12 months 6 cases of ipsilateral vascularised fibular transfer have been performed in Malawi. In 5 cases the defect was of osteomyelitic origin and the remaining case was traumatic. Mean age of the patients was 9 (range 3 – 22), 4 males and 2 females. In three cases stabilisation was effected by a trans-calcaneal, intramedullary K-wire. In the other three cases interfragmentary screws were used at the proximal and distal ends of the graft, supplemented by external fixation. Cancellous bone grafting was only performed in those cases also undergoing external fixation. In all cases the graft united satisfactorily at both the proximal and distal ends. No further procedures were necessary to effect this union. Particularly in the younger age group compensatory hypertrophy of the fibula, in response to the increased weight bearing demand, was both marked and rapid. 4 of the five cases that completed treatment needed no mobility aids when walking. The fifth case can weight bear but still requires crutches. A further procedure is contemplated on this patient; not to the graft site, but to correct a fixed ipsilateral equines deformity which developed secondary to the longstanding traumatic tibial defect.

In conclusion we feel that the ipsilateral vascularised fibula graft is a useful method for treating tibial gaps defects both of osteomyelitic and traumatic origin. Few specialised resources are required and thus it is a suitable technique for the developing world.
False Aneurysms In Association with Aids

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Two patients with three false aneurysms (one carotid and two femoral) associated with HIV infection are presented. Both patients made good recovery post-operatively. A few African reports suggested the affection of young population without arteriosclerosis, rapid development of focal vasculitis, leading to rupture or slow progression to granulomatous vasculitis. Aetiologically, these aneurysms may result from inflammation of the vasa vasorum or periadventitial vessels. These aneurysms should not necessarily prelude the patients from surgery. These patients are young, without arteriosclerosis, collateral and cross-circulation is adequate to sustain perfusion after division and ligation of major vessels.

TRAUMA

Audit of the conservative treatment of an adult diaphyseal femoral fractures in Lilongwe Central Hospital.

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Adult femoral fractures are a common presentation to Malawian hospitals and are often associated with severe trauma. Several alternatives exist for the definitive treatment of these injuries: traction, plating, external fixation and intramedullary nailing. Due to severe shortage of both orthopaedic operating theatre time and skilled staff, combined with a massive demand on these services, acute femoral fractures in Lilongwe have traditionally been treated conservatively on skeletal traction. In order to assess the success of this protocol from October 2000 all patients presenting with such injuries were prospectively followed up.

On admission all patients were given opiate analgesia and placed in a temporary traction splint device. Conversion to skeletal traction, by insertion of a Steinman’s pin, usually under local anaesthesia or ketamine, was done at the first opportunity. Perkin’s traction was utilised, with up to 10% of body weight being applied until the fractured limb was out to length. From 4 weeks onwards, the fracture site was assessed weekly for evidence of clinical union. When the fracture was thought to be clinically united, check X-rays were done to assess the extent of callus formation. If satisfactory on X-rays, traction was removed but S-pin left in situ for a further week whilst the patient exercised in bed. At the end of one week, the pin was removed and the patient mobilised partial weight bearing on crutches. After discharge, outpatient follow-up was continued. A total of 39 femoral fractures presented during the study period; 35 males and 4 females. The mean age was 37 (range 14-85). Road traffic accidents accounted for 53% of cases and 25% resulted from falls. Four fractures were compound. By AO classification, 49% were A (“simple”), 38% B (“wedge”) and 13% C (“complex”). Thus far 23 (58%) have completed treatment, with a mean time to union of 11 weeks. An average of 1.7 X-rays were taken per patient during treatment. At follow-up, 3 cases were noted to have shortening. There were no cases of non-union.

We feel that treatment of femoral fractures by conservative methods has a high union rate with minimum complications. Theatre time is spared and the use of expensive implants and materials is avoided. Potential metalwork infection is also avoided. Although in-patient stay was on average 11-weeks, this has minimal cost implications in Malawi. Clinical officers in district hospitals can readily assimilate the technique, thus obviating the need to refer closed femoral fractures to Central Hospitals for specialist care.

BODA BODA INJURIES AT MULAGO HOSPITAL IN KAMPALA, UGANDA.

A 3-Month Cross Sectional Retrospective Study For The Period July to September 2001.

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During the last 5 years, Ugandans have taken up seriously the practice of riding small motorcycles (SUZUKI and HONDAS) imported from Japan, which are popularly known as Boda Boda by the Ugandans. This name originated from the bicycle means of transport operating at the “Border” between Uganda and Kenya, which was introduced in the late 1970s and early 1980s by the Ugandans to ease the INTERBORDER Trade. These Boda Bodas, which
are mainly operated by the youth, have been responsible for musculo-skeletal injuries with serious consequences. In some cases, the injuries have been fatal. The purpose of this paper is to highlight the Musculo-Skeletal injuries that are directly or indirectly a result of Boda Boda traffic accidents, with a view of assisting the Policy Makers in their effort of controlling Road Traffic Accidents in Uganda. A Cross Sectional Retrospective Study was hence conducted at Mulago Hospital on the Surgical and orthopaedic Wards. During the period under study, total of 182 Road Traffic injuries were admitted. 46 [25%] of these were as a result of Boda Bodas. The commonest injury was open tibial fracture [21%]. The majority of the victims [20%] had polytrauma. The motorcyclists were mainly youth with an average of 24 years.

It is strongly recommended that strict legislation be put in place to curb the reckless Motor Cyclists as an effort top control these emerging traffic injuries.

### Diagnostic criteria for AC-joint pathology

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The literature and standard textbooks is scanty on specific presentation and examination methods for acromio-clavicular joint pathology.

**Purpose of study:**
To define and identify the most reliable tests.

**Materials and Methods:**
Thirty patients with probable AC-joint pathology were identified and examined. Eight patients who did not have pain relief after local lignocaine infiltration were excluded. Twenty-two patients with 24 shoulders were examined.

**Results:**

**Pain localization:** AC-joint (15), anterior (13), posterior (5), lateral (5). **Pain radiation:** Anterior (14), posterior (2), lateral (3), cervical (3). **Pain increased:** With weight bearing (18), elevation (5), ADL (6), night pain or lying on shoulder (11), reaching across body (3). **On examination:** Swelling (7), AC-joint prominence (7), local tenderness (21), crepitations (4), forced cross-body test (22), elevation further than 60° (22), Jobe test (20), speed test (19), O’Brien’s test (15), compression test (12), distraction test (13), pain arc less than 160° (13), neck tenderness (13).


**Conclusion:**
Most common symptoms: Pain with weight bearing, elevation and lying on shoulder.

**Pain localization:**
**Anterior and posterior.**

Most common clinical findings: Forced cross-body test, elevation more than 160°, local tenderness, Jobe’s and Speed’s tests. No test is 100% accurate. The whole clinical presentation must be taken into account.

Local infiltration of the AC-joint is extremely helpful.

### ORTHOPAEDICS

**Perioperative Normovolaemic Haemodilution in Major Elective Orthopaedic Surgery in Lusaka**

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Operative Normovolaemic haemodilution technique was used on twenty-three patients who had major elective Orthopaedic Surgery both at the University Teaching Hospital, Lusaka and the Zambian-Italian Orthopaedic Hospital, Lusaka between July 1997, and June 1999.

There were twelve males and eleven females with ages ranging from 13 to 78 years (mean 42.1 years). The Preoperative haemoglobin of these patients ranged from 9.2g/dl to 16.8g/dl (mean 12.9g/dl). The postoperative haemoglobin measured at 72 hours ranged from 7.0g/dl to 13.1g/dl (mean 10.6g/dl). The drop in haemoglobin at 72 hours postoperatively ranged from 0.3g/dl to 5.8g/dl (mean 3.7g/dl).

Hip surgery was the commonest operation performed. There was one death (4.4% mortality); all the other patients had uneventful recovery. None of the patients had homologous blood transfusion and no operation was cancelled due to failure of the technique.

(This paper was presented at The Surgical Society of Zambia Scientific Conference in October 1999, Lusaka.)

Additional cases have been performed which were
NEW NEUROSURGERY

New Approach To The Classification Of Head Injury

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Due to the latest achievements in the field of neurology and neurosurgery and particularly in pathophysiology of the Nervous system, the development of a new classification of the Head Injuries (HI) has become somewhat a necessity. Based on our Clinical observation and also on the data from a large number of neurosurgeons we are suggesting the following classification of HI. We distinguish two major types of HI: closed and open, depending on the presence or absence of the wounds on the head (see fig.) In the group of closed HI we have included the three main forms: concussion of the brain contusion and compression, recognising three degrees of contusion - light, moderate and severe. In the group of HI there are four sub-groups:

1. Damage to the soft tissues of the head without neurological symptoms.
2. Damage to the soft tissues of the head with neurological symptoms.
3. Damage to the skull and brain (cranio-cerebral injury):
   (a) Non-penetrating dura mater
   (b) Penetrating dura mater
4. Gun shot wounds of the peacetime.
5. Separate group - Fractures of the base of the skull.

In addition to the above forms, the latest data on the pathogenesis of HI has convinced us in the necessity of outlining the four major pathophysiological syndromes, which may accompany the above clinical forms:

1. Syndrome of cerebral hypertension
2. Syndrome of cerebral hypotension
3. Syndrome of cerebral haemorrhage
4. Syndrome of diffuse axonal brain damage

The article provides a detailed analysis of the principle behind this division and the characteristics of these syndromes.

The Separation Of Zambian Craniopagus Twins

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INCIDENCE:

It is well known that Siamese twins can be joined at various parts of the body, for instance, the thorax, the back, the abdomen, as well as the hips. When they are joined at the head, it is called craniopagus twins. This is least common of all the sites of union. In fact, the quoted incidence in literature is one out of every 2.5 million births worldwide. It is a rare occurrence and hence experience to deal with the problem surgically is also rare.

CASE REPORT OF RECENT CRANIOPOAGUS SEPARATION IN SOUTH AFRICA

In 1998, the author was part of a team headed by the late Professor R. Lipschitz of the Baragwanath hospital, University of Witwatersrand. This team separated a set of craniopagus twins that were presented to them. A complete separation was achieved. Both twins survived, although one died several months later. However, the surviving twin has significant higher mental function impairments. In 1994, the author was Acting Head of Neurosurgery at the Medical University of Southern University Ga-Rankuwa Hospital. We were also presented with another set of craniopagus twins to separate. It made sense to bring together the team that was involved not only in the South African experience, but also to incorporate Professor Benjamin Carson. This was done and the entire team came together. A complete separation was achieved. However, one twin died on the operating table, it was discovered that there was a phenomenon of interdependence between the two twins. This phenomenon had not been previously described and in fact changed the course of future preparations for such operations. In 1996, a set of craniopagus twins was brought in from Zambia to our institution, the Medical University of Southern Africa, for the purpose of separation. Once more, the entire neurosurgical team was brought together, viz. the Medunsa neurosurgeons, the Baragwanath...
neurosurgeons, as well as professor Benjamin Carson from Baltimore, USA. In addition, the surgical team was complimented by Zambian specialists who were part of the project. This time round, with the lessons learnt before, thorough operations were done. The anaesthetic was the same as the one that did the previous separation, as was the theatre set-up and staff. It came as no surprise therefore that this was the most successful separation of craniopagus twins in comparison with the previous separations that were done in South Africa and in America by the members of the same team.

Conclusions:
The past 15 years has seen a team of medical experts in South Africa and Zambia gain valuable experience in the separation of craniopagus twins. This team was headed by the author and included Professor Benjamin Carson from John Hopkins hospital in Baltimore, USA. It is the intention of this paper to share the experience of this team with the rest of the world, and it makes very good sense that this presentation will take place in Zambia, the home of the most successful craniopagus twins separated to this date. The author aims to highlight the following recommendations from the valuable experience learnt:

a) Pre-operative evaluations and investigations.
b) The timing of the operation.
c) The execution of the separation itself
d) Subsequent management, inclusive of operations done on the separated twins themselves.

CT DIAGNOSIS OF CEREBRAL STROKES COMPLICATED BY HEAD INJURY

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The combination of disorders of cerebral circulation (DCC) complicated by head injury (HI) following a fall due to loss of consciousness is quiet common. We had 415 patients with DCC under observation. In 75 patients (17%) DCC were in the form of Cerebral Stroke (CS) and were combined with HI. Out of 71 cases with CS, 58 patients (82%) suffered from haemorrhagic stroke (HS) and 13 patients (18%) had ischaemic stroke (IS). Our investigations have revealed a certain CT criteria enabling us to differentiate the lesions produced by stroke from the ones produced by trauma. Haemorrhagic lesions due to CS were mainly round or oval in shape, had a high-density homogenous structure and were usually found in areas of cerebral hemispheres supplied by the major cerebral vessels. Haemorrhagic lesions resulting from a HI were mainly localised in the cortico-subcortical zones, irregular in shape and heterogeneous in structure in structure (i.e. partially hypo- or hyperdense). Intracranial, epidural or subdural haematomas resulting from HI have a homogenous structure and they can easily be distinguished from DCC based on their shape and localisation. Analysis of the results has allowed us to make the following conclusion. Cerebral strokes complicated by HI cause more severe deterioration of the general condition of the patient often with disturbances of the vital functions. CT investigation enables us to make an early detection of the traumatic area in the brain and evaluate properly the disorders caused by the HI with due consideration of the main focus of acute DCC.

RESOURCES

ORTHOPAEDICS WITH LIMITED RESOURCES: A Mozambican Experience

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The Orthopaedic National Programme aim is to coordinate the provision of efficient orthopaedic and trauma services from central and provincial to rural hospitals. The country is divided into southern, central and northern regions, each with a Central Hospital with orthopaedic surgeons.

The 1500-bed Central Hospital in Maputo is the national referral centre and the teaching hospital for Eduardo Mondlane University. The Orthopaedic department has 200 beds and 12 orthopaedic surgeons. In each provincial hospital an orthopaedic surgeon provides specialist care and supports and supervises the surgical paramedical staff (surgical technicians) at district and rural hospitals.

The referring hospitals have been equipped to provide conservative treatment. The types of fractures that should be treated surgically have been clearly defined. In some rural hospitals with surgical facilities, there are well-trained surgical paramedics, but where possible patients are treated conservatively. We guarantee the supply of equipment and material and provide regular refresher training.
In Mozambique fractures constitute more than 70% of the orthopaedic pathology. In adults the most common are fractures of the femur, tibia and fibula, radius and ulna, pelvis, humerus and ankle.

In children under 16 years, 60% of hospital admissions are for trauma, usually sustained in falls from trees or motor vehicle accidents. Infections account for 30% of admissions. In contrast with developed countries, we have few patients with fractures due to osteoporosis.

Lignocaine 0.1% with adrenaline 1:1000 000 in general surgery. Further experience in 328 patients.

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There is little published in the English language surgical literature on the use of very dilute solutions of lignocaine and adrenaline in general surgery. The author has used 0.1 per cent lignocaine with 1:1000 000 adrenaline in 328 patients following premedication with pethidine, chlorpromazine and diazepam. The response to surgery was evaluated using six categories. Ninety three percent of patients were categorised in the top three categories of perfect, excellent and very good. Good and fair categories were seen in seven patients. The poor category, which meant conversion to endotracheal general anaesthesia, was not recorded.

The discussion section deals with the method of preparing the solution, technical considerations, relative contraindications, complications in 2 common operations, drawbacks of the technique and its advantages.

The solution is effective, inexpensive and safe.

POSSIBLE ROLE OF SPECIALIST IN RURAL ZAMBIA
Two Years of FlySpec Visits and Telemedicine

We reviewed 2 years of FlySpec visits to Zambian Rural Hospitals by orthopaedic and Plastic Surgeons together with our experience of telemedicine and Specialist support to District Hospitals through E-mail and computer network. District and Mission hospitals do not have specialists. They have medical officers that very often need specialist opinions. Provincial hospitals (Secondary Referral centres) have specialists in very few disciplines. They depend on referral of patients to a Tertiary Referral Centre (U.T.H. in Lusaka) for consultation and treatment.

In the past three years, we have tried to answer consultations of the doctors working at district levels over the Internet by conducting requests for consultations to respective specialists and then sending answers back to them. Over 421 requests so far. The FlySpec project has flown Orthopaedic Surgeon to the districts for 20years, and, for the past 8 years has involved a plastic surgeon.

We present our experience of the past 2 years. In that time we have seen almost 2000 patients and performed over 500 operations. In addition we have taught the resident District Medical Officers and helped in referring difficult patients to Lusaka. We also present the shortcomings of these visits and the obstacles and problems related to Specialist visits to the District levels.

ORAL KETAMINE:
A Four-Year Experience in a Developing World Tumour Clinic

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Pain management is an important component in cancer patients. The administration of painful injections to the children in an oncology clinic can create difficulties.

The study was undertaken to determine the role of oral ketamine to modify the response to pain.

Between 1996 and 1999, 6324 patients attended a Tumour Clinic in a developing country teaching hospital. Forty-eight children required cytotoxic injections on 103 occasions. These children were subdivided into 3 groups according to the year of attendance: 1996, 1997 and 1998/9. Each group was premedicated differently. The first group received ketamine 4.5mg/kg, the second group received ketamine 6mg/kg and the last group in 1998/1999 received ketamine 6mg/kg with diazepam 0.1mg/kg.

The response to pain in each group was evaluated by using an observer based scoring system. The visual analogue scale was not used.
The study has shown that oral ketamine is an effective and safe drug for use in a clinic setting. However, its action was not always predictable due to a number of confounding factors. A phenothiazine should be routinely used in these children to enhance the effectiveness of ketamine and to diminish the likelihood of its well-known side effects. Further studies using less costly lower doses of ketamine is recommended.

**EDUCATION/ PLASTIC:**

**Results of a standardised approach for correction of hypospadias in young boys.**

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Paediatric Surgical Centre, University of Amsterdam and VU University Medical Centre, Amsterdam, The Netherlands

**Introduction.**
The overall incidence of hypospadias is about 1:125 males, most of which are distal (granular or coronary) types. More severe forms are hypothesized to be associated with decreased androgen sensitivity or exogenous oestrogen administration to the mothers. Operative correction is indicated in the distal types for psychological reasons. In more severe forms the proximal location of the meatus and the ventral curve interfere with normal micturition and sexual activities.

In Amsterdam, the Meatal Advancement and Glanuloplasty (MAGPY) procedure is applied for distal forms and the Island onlay procedure for proximal forms. The results of these operations were reviewed.

**Patients and Methods.**
Between 1995 and 2000, 131 boys with hypospadias were operated. The mean age at operation was 23.6 months. Half of them had distal hypospadias (glandular or coronary), the other half more severe forms: subcoronary, midshaft or penoscrotal. Significant curvature was present in these proximal types.

Operations done were: MAGPY in 42%, island onlay or tube in 41% and other various procedures in the rest. Technical details of the procedures will be presented. All procedures were performed by general paediatric surgeons or by trainees under their supervision.

**Results.**
All operations were done under general anaesthesia. The MAGPY operations were usually performed as day cases.

Complications occurred in 30% of the patients: fistula formation in 17%; infection in 3%, structure of the neo-meatus in 2%, urinary retention in 3% and redundant skin in 7%. Secondary operations were performed for these complications in most patients. The overall cosmetic and functional results were good in 69%, acceptable in 18%, poor in 2% and not known in 11%. There was a strong correlation between the type of hypospadias and the risk of complications and the final result.

**Conclusion.**
Correction of hypospadias with modern surgical techniques can be done at a young age with satisfactory results by general paediatric surgeons. In the majority, a good result is achieved in one procedure. The more proximal type of hypospadias carries a higher risk of complications.

Long-term follow-up is needed to assess the functional and cosmetic results in adolescence and adulthood.

**EDUCATION**

**Defining Core Anatomy for a Surgical Clerkship**

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**Introduction**
The General Physicians Education Programme (GPEP) report in the USA and General Medical Council (GMC-UK) in its tomorrow’s doctors have all recommended radical undoing of undergraduate curricula. Defining the core provides the challenge in the “core and options” strategy. In particular defining core anatomy for undergraduate medical education presents a unique challenge because of the variable endpoints of specialisation in medicine: each demanding unique and specific demands of anatomical knowledge. This paper is summary of an ongoing project that proposes a solution to defining core anatomy for medical education, in this case, the surgical clerkship.

**Methods:**
Content analysis, participant observer techniques by
way of attachment to two general surgical firms, four
speciality (Urology, Orthopaedics, Neurosurgery,
Paediatric surgery) firms and review of records
formed the mainstay of methods in Phase I of the
research. The researcher also reviewed the Department’s
clinical audit records for at least four years for each
unit he was attached to.

Results:

Review of records:
The pathology of the surgical units mostly falls into
three themes: Trauma, infection and malignancy.
The ten commonest pathologies and or operations
done in Yellow Firm, Green Firm, (General Surgical
Units), Orthopaedics Units, Urology Units,
Neurosurgery and Paediatric Surgery in 4-5 years are
presented and discussed.

Discussion and Conclusion:
Dissecting the whole body from head to toe, and
covering anatomical studies (gross, histology,
embryology) etc. is a challenge because time for
anatomy in most Medical Schools has contracted. The
demands of clinical practice should be foremost in
tailoring the “core” anatomy for medical education.

The Ptolemy Project:
Electronic Health Information in Africa.
Kate Lawrence, Manuel Gomez,
Massey Beveridge

Purpose:
To provide the members of the Association of
Surgeons of East Africa (ASEA) with free access to
the University of Toronto Library (UTL) electronic
health information holdings and assess how they use
the resource. The Ptolemy project will increase
understanding of the health information requirements
of clinicians in the developing world and improve the
research capacity of the ASEA.

Introduction:
Access to electronic health information is essential to
research capacity building in the developing world.

Methods:
An initial survey of members of the ASEA will
determine their demographic computer skills, access
to the Internet, and research interests. Those who wish
to participate will be given proxy server accounts at
the U of T Library, help in getting connected, and on-
line training in performing searches and downloading
information. Electronic hit frequency counting will be
used to assess the popularity of various sites and
resources. Continuous feedback from participants will
lead to ongoing evolution of the Ptolemy web
platform and the services offered.

Tutorials will be offered in critical evaluation of the
literature and reinforced with a visit by the principal
investigators to the ASEA meeting in Lusaka, Zambia
in December 2001. One of the investigators, KL, will
then visit participants to help them use the resource
most effectively.

Results
Analysis of the participant demographics will reveal
how many surgeons in the region are interested in
participating. Analysis of the hit frequency indices will
show which types of information (online texts, search
engines/abstracts, full-text journals, evidence based
medicine sites, and public databases) are most used.
Feedback surveys will measure user satisfaction with
the resource and surveys presented at the ASEA
scientific meetings will assess the participants’
impression of whether access to electronic health
information resources improves the quality of
presentations.

Conclusions:
The Ptolemy Project will build understanding about
the information requirements of medical researchers
in the developing world and will make a tangible
contribution to research capacity building in the
developing world.

UROLOGY

Early Endoscopic Realignment
of Post-Traumatic Posterior Urethral
Disruption

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Zambia

The management of complete or partial urethral
disruption is controversial, and much debate continues
regarding immediate versus delayed definitive therapy.

Between January 1999 and January 2001, 19 men with
posterior urethral disruption underwent primary
urethral realignment by the aid of Cystoscopy 2 to 8
days after injury. Pelvic fractures were present in 15
patients. All patients were evaluated postoperatively for
incontinence, impotence and strictures. After a mean follow-up of 14 months, all patients were continent. Two patients required conversion to an open perineal urethroplasty. Six patients developed short secondary strictures and were successfully treated with Otis urethrotomy.

Primary endoscopic realignment especially in our environment offers an effective method for treating traumatic urethral injuries. Follow-up provides additional support for the use of this technique. In case of failure, endoscopic realignment does not compromise the result of secondary urethroplasty.

**A Review of the management of Vesico-Vaginal Fistulae at UTH**

M. Labib, Consultant Urologist, UTH.
K. Bowa, Senior Registrar, UTH.

A retrospective study of all vesicovaginal fistulas treated in one urology unit at the University Teaching Hospital in Lusaka was done from January 1996 to December 2000. The objective of the study was to determine the number of VVF's seen during the period, their presentation, management and outcome.

A total of 45 patients were seen during this period. This made up to 2% of all urological cases seen over this period. The cause of these VVF was obstetric in 98% of the cases. The most common age at presentation was 15-25 years.

Three methods of surgical management were used. The transvaginal approach to repair was the most common. The success rate following repair was 73%. Recurrence was most common following transvaginal repair and the majority of leaks occurred within one month of repair. Individual success rates were transvaginal 56% and transabdominal 75%.

The study rate concluded that VVF's are common in UTH and have a good success rate, which is comparable to other centres.

**Modified Suprapubic Haemostatic Prostatectomy:**

**Preliminary Experience with twenty Patients at Lilongwe central hospital, Malawi**

A. Muyco, G. Khalil, M. Essam, W. Mulwafu, D. Kamwana, M. Mayponia, C. Munthali, Department of Surgery, Lilongwe Central Hospital, Malawi.

Standard suprapubic transvesical prostatectomy for benign prostatic hypertrophy was formerly one of the commonest major operations performed in Lilongwe Central Hospital. With this technique between 30 and 60 litres of saline with an average of 40 litres were used per case for postoperative irrigation. Approximately 10% required transfusion. Suprapubic irrigating catheters were typically removed on the third day and urethral catheters postoperatively at between 10 to 20 days with a mean of 14 days.

From February 2001, a modified suprapubic transvesical technique was adopted. This involved the application of haemostatic manoeuvres to significantly reduce intra/post operative bleeding and subsequent catheter blockage. Vascular pedicles to the gland, capsule and bladder neck are ligated before the gland is enucleated. Both prostatic vessels are secured by suture ligature followed by placement of Malament suture which future aids in haemostasis by direct constriction of the bladder neck vessels and controls prostatic fossa bleeding by tamponade between the bladder neck and sphincter.

An average of fifteen litres of saline were used for irrigation in the initial 10 patients, reduced to 10 litres subsequently. None required blood transfusion. The first 10 cases had catheters removed at average of 6 days and reduced to 3 days in subsequent cases.

Based on this preliminary report, we believe that this modified technique offers definite advantages as follows:

- Impressive haemostasis, conserving blood and avoiding the hazards of transfusion;
- Much reduced amount of irrigation fluid and use of only one 3-way catheter reduce per operation;
- Removal of the catheter 3 days postoperative reduces length of hospital stay to 8 Days.
A New Technique of Ureteroneocystostomy

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Extravesical seromuscular tunnel is a new ureteroneocystostomy technique, the principle of which is based on the creation of an extravesical tunnel covering the most distal part of the urethera after direct end-to-side ureterovesical reimplantation.

Between March 1997 and March 2000, this technique was performed in 17 patients (14 men and 3 women; mean age 38.5 years). Most of the patients had a unilateral bilharzias stricture of the lower end of the ureter. The patients were regularly seen every 6 months and renal ultrasound scan and ascending cystography were performed. The postoperative course was uneventful in all patients. Improvement in renal function was achieved in 13 patients while the remaining 4 were stable.

The new technique of extravesical seromuscular tunnel is suitable for re-implantation of the dilated ureters. Other studies with a larger number of patients and a longer duration of follow-up are necessary to confirm these results.

Conservative Management of exomphalos major: the preferred option in developing countries

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Introduction.

Exomphalos major is defined as a large defect of the anterior abdominal wall, containing liver and intestines and covered with amniotic membrane (the cele). About 1/3 of the patients with large omphaloceles have associated congenital malformations, mainly of cardiac anomalies. Therefore, operative closure of the abdominal wall carries a high risk and is only feasible in a setting with Intensive Care and long-term artificial ventilation. Alternatively, conservative management is safe and simple, the only risk being infection. Experience with conservative management both in Zambia and Amsterdam is presented.

Patients and methods.

Data was obtained from the patient records of the Neonatal Surgical ward (D-Block) of the UTH. Records for a total of 1740 patients from the stated period were reviewed. There were 940 males and 800 females (male to female ratio 1.2:1). The largest number of patients, 864 (49.7%) was referred from the Southern Province of Zambia while the Northern Province referred only 17 (0.9%) patients, which was the largest number of patients referred by the provinces. Of the records reviewed the aetiology in 573 (32.9%) was ascribed to congenital causes while the remaining 1167 patients (67.1%) there was a secondary cause, mainly bacterial meningitis.

The types of shunts used were the two types of improvised shunt namely UNZA in 1519 patients (87.2%) and Harare in 2 patients (0.1%). The types of conventional shunts used were blockage, infection, shortening, migration and exposure. UNZA shunts had the most complications.

There were altogether 98 mortalities (5.6%) 22(1.3%) of which were direct complications of the shunt, 77 (4.4%) were as a result of malaria and 1 resulted from severe anaemia.

Retrospective Study of the Outcome of the Use of Ventriculoperitoneal Shunts in the Treatment of Childhood Hydrocephalus at the University Teaching Hospital (UTH), Lusaka, Zambia.

L. Munkonge, Paediatric Surgeon,
J. C. Munthali, SHO,

A retrospective study of the outcome of the use of ventriculo-peritoneal (VP) shunts over an eight-year period (1983-2000) in the treatment of childhood hydrocephalus at the UTH in Lusaka, Zambia was conducted. The results of the study were to be used to determine whether in the light of financial constraints use of cheaper improvised shunts could be rationalised against the continued use of more expensive conventional shunts.
patients with major omphalocles were admitted. Conservative treatment was preferred, if the omphalocele was intact and the abdominal wall defect appeared too large to allow easy primary closure. The omphalocles were suspended by the umbilical stump, painted with alcohol daily for five days until the covering membrane became dry and firm. The baby was restrained lightly to prevent injury to the cele. After 7 days, daily bathing was performed and loose pieces of membrane were removed. Granulations started to appear by 10 days and gradually the cele epithelialised. Weekly swabs were taken for bacterial culture and antibiotics were started when septicaemia developed. Enteral nutrition by tube was started on the first day of life in most patients. Ultrasound screening for associated cardiac and renal malformations was performed routinely.

**Results.**

One of the patients in Zambia had a loud systolic murmur, probably a VSD and developed signs of cardiac failure after 7 days. He died 3 days later, despite diuretics and digoxine. The other one survived and was discharged after 6 weeks. Secondary closure of the abdominal wall defect was performed at ages between 4 and 14 years, depending on the cosmetic and functional complaints. In most cases closure was achieved without foreign material. A special problem occurred in one of the patients with progressive eventration, which was managed by a prolonged period of external compression.

**Conclusion.**

Conservative management of exomphalos major is not only feasible, but is preferred because of its safety and simplicity. Closure of the abdominal wall defect can be performed at a later age, usually without foreign material.

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**Challenge In the Management of Omphalocele and Gastroschisis in the Third World**


This was a retrospective study of the Management of Omphalocele / Exomphalos and Gastroschisis at the University Teaching Hospital, Lusaka, Zambia from 1988 to 2000.

The objective of the study was to determine the incidence, presentation, management and outcome of the operations undertaken at the University Teaching Hospital, with a view to improve knowledge on the technique of managing these cases in situations where both equipment and material is highly scarce.

A total of 34 patients were seen and managed in the Neonatal and Paediatric Surgical Wing at the University Teaching Hospital over the period of 12 years. The incidence was worked out to be omphalocele 1:5000 and gastroschisis 1:6500 live births. Out of 23 omphalocele 15 (65.22%) were intact, while 8 (34.78%) were ruptured. 18 (78.26%) were male, the rest 5 (21.74%) were female giving ratio of 3.6 to 1 male to female. The total number of patients with gastroschisis was 8 with sex distribution of 4 (50%) male and 4 (50%) female giving to ratio of 1:1.

The total number of patients with gastroschisis was 8 (23.53%) out of 34 patients had severe congenital abnormalities, which were incompatible to life. These were excluded from surgical management. They died within 24 hours after admission omphalocele 7 (30.43%) and gastroschisis 1 (12.5%). In fact omphalocele were treated by split skin grafts, while ruptured ones were treated by full skin pedicle grafts. Gastroschisis was treated by primary suturing. Mortality for omphalocele was 2 (12%) while for gastroschisis it was 1 (14.29%).

This study concluded that the management of omphalocele/gastroschisis presents a great challenge to surgeons in a developing country like Zambia where Parental Nutrition, dura for implants, and gas-analyser are inaccessible.

Management of omphalocele / gastroschisis requires multidisciplinary approach, creative, innovative, active involvement of the family, early assessment using basic equipment and structured management for the best outcome.

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**POSTERS**

**A six Year (1992 – 1997) Review of Congenital Abnormalities seen at the University Teaching Hospital, Lusaka, Zambia.**

Sekelani S. Banda, Lupando Munkonge, **UTH, Lusaka, Zambia.**

**Introduction.**

The University Teaching Hospital (UTH) is the country's national referral hospital. By virtue of its position the institution receive referral cases from all over the country.
Surgical skills and facilities to definitively manage congenital abnormalities in our centres of the country are scarce and as a result most are referred to UTH. Awareness on the extent of the problem is currently congenital abnormalities in our centres of the country. Surgical skills and facilities to definitively manage the problem. This paper serves to highlight the extent and breadth of the problem in order to help focus medical undergraduate and postgraduate training. It also discusses a pragmatic classification based on life-threatening or non-life threatening concepts.

**Methods:**
The surgery Department’s clinical audit records were reviewed for the years 1992-1997. In addition, Medical illustration archives were reviewed to select matching illustrations of the commonest congenital abnormalities.

**Results**
The 10 commonest congenital abnormalities will be presented and their best management options discussed. The classification will then be applied to commonest abnormalities.

**Discussion and Conclusion:**
The system most affected by congenital abnormalities seen at UTH, the known mechanism of the teratology and appropriate management are discussed.

**Atypical Presentation of Acute Appendicitis in the Northern province of South Africa.**

L. Bashiya, B. S. Linyama, L. R. Monare

Acute appendicitis continues to torture, harass and ill-treat patients and doctors alike.

Despite advancements in health care delivery system, patients with acute appendicitis continue to present late, due to various reasons, but mainly poverty in Africa.

When pregnant ladies (especially), the elderly and children present with acute appendicitis, clinicians develop denial syndromes for fear of complications. Misdiagnosed and non-diagnostic appendicectomy, resulting in spontaneous abortion, lead to severe trauma, whereas death due to undetected acute appendicitis is disaster.

We present three cases of atypical presentation of acute appendicitis to our surgical department in Pietersburg Provincial Hospital within a period of 30 months (January 1999 to June 2001). We shall show the difficulties of diagnosis that we encountered, in fact no diagnosis of acute appendicitis was made before laparotomy, despite our exposure to advanced technology. (U.S and other facilities).

**Syndromic Diagnosis of Musculoskeletal Tuberculosis**

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Tuberculosis is one of the oldest diseases known to man. The causative organism, mycobacterium tuberculosis, first identified by Koch in 1882, causes a chronic inflammatory process via cell-mediated immunity and resulting in caseous necrosis. Tuberculosis of the musculoskeletal system is said to account for 10% of cases, with spine thought to be the commonest site. Untreated, musculoskeletal TB can result in sinuses, joint destruction/ankylosis, paraplegia or death. The HIV pandemic has resulted in an increased incidence of TB in Sub-Saharan Africa.

Diagnosis of TB has traditionally been dependent upon biopsy specimens revealing characteristic histology and/or Acid Fast Bacili (AFB) on Ziehl-Neilsen staining. Due to severe resource constraints, the microbiology / histopathology service in Lilongwe has proved to be extremely unreliable, often with delays of several months if any results are to be forthcoming at all. Additionally, extremely limited operating resources, upon which there is an overwhelming demand, result in very limited opportunity for biopsy procedures. Furthermore, the lack of fluoroscopy in theatre severely limits the ability to undertake controlled biopsies.

As a result of the above constraints, from 1/12/00, the MAP Unit in Lilongwe adopted a policy of *syndromic* diagnosis of musculoskeletal TB. This involved assessment of a characteristic history, X-ray appearances, temperature chart, full-blood count/ESR parameters and counselled, consented HIV testing. Patients so diagnosed were commenced on anti-tuberculosis chemotherapy and had a short in-patient period assess response. Serial ESRs were performed on select cases. Following discharge cases were followed up as out-patients.

20 patients (12 male, 8 female) have been enrolled in the study to date, each with no diagnosis or treatment for TB prior to presentation. Mean duration of symptoms was (range 1month – 1 year). Afflicted joints included hips(7), knees (6) and spines (5). There were no cases of tuberculosis paraplegia. All white cell counts were normal, but all ESRs markedly raised. One patient refused HIV testing but of the remainder 16 (84%) were HIV positive. All Patients responded well to anti-tuberculosis chemotherapy. To prevent flexion deformities traction was used on 7 hips and POP cylinder immobilisation on 5 knees. To date, salvage/reconstructive surgery has not been required on patients. Outside the study group there were no cases treated by the Lilongwe Unit where biopsy of a soft tissue or bony lesion revealed occult tuberculosis.

In conclusion, we feel that, when faced with limited...
laboratory and operating resources, syndromic diagnosis of musculoskeletal tuberculosis can be successful. The MAP Lilongwe Unit continues to use this approach, reserving biopsy for a typical cases.

**Short-Stay Breast Surgery**

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Short-stay surgery and ambulatory surgery is becoming commoner in the developed world. However, there is paucity of information on short-stay breast surgery in the regional literature. This paper documents the personal experience of the author over a period of ten years 1990–1999.

One hundred and three patients were included in the study with a total of 107 operations. Average age was 35 years with a range of 9-77. There were 91 female and 12 male patients. The operations were performed in the majority under local anaesthesia – 99 local and 8 general anaesthesia. Complications included seroma 2, infection 4, hypertrophic/keloid scar 6 and wound breakdown 7. No patient required readmission for these complications. Ninety-seven patients had tissue diagnosis. The commonest diagnosis in the malignant histological grouping was ductal carcinoma and in the benign group fibroadenoma. The various diagnoses included among others 5 gynaecomastia and 2 tuberculosis.

Inpatient stay for the study period was 1.3 days average and for patients who had undergone unreconstructed mastectomy 1.3 days. The range was 0 – 9 days in the former and 0 – 5 days in the mastectomy patients. Follow-up was an average of 115 days. Short-stay breast surgery is a possible option in a developing world environment.

**Total Autonomic blockade and Primary Sinus Node Dysfunction in a patient about to Undergo Thyroidectomy**

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This is a report of rare presentation of primary node dysfunction in a patient about to undergo thyroidectomy. A 40-year-old female patient had been prepared with propranolol for thyroidectomy. In the operating room on receiving intravenous atropine she immediately went into asystole, sinus arrest and arrhythmia with severe bradycardia. She responded to basic resuscitative measures and the operation was postponed. Following cardiological and neurological evaluation she was deemed fit to undergo thyroidectomy for a goitre compressing the trachea. A week later she underwent a thyroidectomy and follow-up was uneventful.

The mechanism of complete autonomic blockade and the resulting sinus node dysfunction is discussed. Propranolol and atropine block the sympathetic and parasympathetic systems respectively. In a normal heart such a blockade does not usually create problems, as the heart will beat at its own fast intrinsic rate of about 100 beats/minutes. In contrast, if there is underlying primary node dysfunction or sinoatrial disease there may be a severe bradycardia and possible complete arrest. The authors advise caution and an awareness of the possibility of such automatic blockade occurring in a patient about to undergo Thyroidectomy.

**Surgical North-South cooperation on an academic level**

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The presentation stresses the need to train general surgeons for developing countries in local programs supported by cooperation and collaboration between medical faculties in developing and developed countries. Special training programs ought to provide medical education and training in advanced medical and surgical skills in developing countries on a western academic training level but with regard to specific requirements of local health situations. Such training programs should focus on the exchange of both medical students and professionals between faculties. Web-based training facilities may be incorporated into such programs. We introduce such a model training program established between the medical faculty at the University Of Dar-es-salaam and a German University Teaching Hospital.