The Garamut

Issue #4: September 2011

The Newsletter of the PNG Society of Rural and Remote Medicine

From the Editors Desk:

Hi all,
Firstly let apologize for the long delay since the last edition of Garamut. Local disturbances saw us had to leave our work for a short time, but that is life in the bush sometimes.
No one perhaps knew that better than Dr. Steve Lutz (see Obituary facing). Raymond Saulep who is currently doing an amazing job following in Steve's footsteps at Mambisanda, sometimes has us in stitches with his "running for cover in Wapenamanda" song, but a tough part of the world it was and is at times, yet Steve, Julie and family stuck at it for 25 years, and Julie continues the work in Steve's absence. It's role models like these that you have to be thankful to God for. Many others of you are in similar circumstances, and you are our boast.
This year too, saw the unexpected passing of Don Kudan, past Chairman of Churches Medical Council (see photo on page 6). Don tirelessly steered CMC through most of its formative years and continued on as National Lutheran Health secretary until his death. Just last October we visited his beloved Kar Kar Island together where he was passionate about placing MMED (Rural) trainees to work together with Drs Chris and Tania Ihle at Gaubin hospital (Dr. Terry Francis recently finished his first surgical rotation there.)
So we are sad at the passing of these two fine men, and yet blessed to have been touched by their lives for this short time.

Blessings on your own work. Ed.

Obituary – Dr. Steve Lutz
5th Nov 1949 – 15th July 2010

Stephen A. Lutz was the son of missionary Rev. Arnold J. and Juanita A. (Becker) Lutz and born in Nagercoil, South India, on Nov. 5, 1949. He attended school at Kodikanal, South India, through high school, received his B.S. Ed. from Concordia Teachers College in Seward, Nebraska, and his M.D. degree from the Medical College of Ohio at Toledo. He married Julia D. Behrens March 27, 1978. Following residency, he practiced surgery in Muscatine for three years before accepting a call to serve with the Lutheran Church Missouri Synod in the medical mission work in Papua New Guinea, beginning in 1986 until the present, based at Mambisanda Hospital, Enga Province.

I remember Steve as the doctor who seemed to be able to do anything. A true allrounder as a surgeon, yet he seemed to be equally comfortable fixing something for the hospital hydro or radio network. Walking through the wards of Mambisanda recently, his "fingerprints" were still everywhere. He seemed to have endless capacity to improvise, to problem solve, combined with the technical skill to actually bring the idea to life.

His genuine concern for those still without health care in the remotest parts of the country saw him devote much time in his latter years to health centre and airstrip construction in previously untouched parts of west and north Enga.

He was my first introduction to medicine in Enga. Together with Julie, their perseverance in a difficult location long after other missionaries had gone home, was a lesson and inspiration to me.

Steve is survived by Julie and Anton, of Papua New Guinea, Paul (and Rebecca and four grandchildren), Laura (and Nathan) Hall, and David who are all home back in the States.

"Steve has been a traveler, a sojourner on this earth. An inveterate patroller, ever seeking to make Christ known and to serve his Lord. Steve is at home now." His body was laid to rest in Ames, Iowa.

Contents of this Edition:

Dr Raymond Saulep in the theatres at Mambisanda hospital, Enga Province.

Murtagh's Practice Tips.

Hypertrophic Scars and Keloids.

Keloids are the result of an overgrowth of dense fibrous tissue that usually develops after healing of a skin injury. The tissue extends beyond the borders of the original wound, does not usually regress spontaneously, and tends to recur after excision. The first description of keloids (recorded on papyrus) concerned surgical techniques used in Egypt in 1700 BCE. Subsequently, in 1806, Alibert used the term *cheloide,* derived from the Greek *chele,* or crab's claw, to describe the lateral growth of tissue into unaffected skin.

In contrast, *hypertrophic scars* are characterized by erythematous, pruritic, raised fibrous lesions that typically do not expand beyond the boundaries of the initial injury and may undergo partial spontaneous resolution. Hypertrophic scars are common after thermal injuries and other injuries that involve the deep dermis. Papua New Guineans are highly susceptible to hypertrophic scarring and keloid formation. Here are a few useful tips in treatment and prevention.

Hypertrophic scars: Multiple puncture method

Hypertrophic scars are usually treated by multiple intradermal injections of long-acting corticosteroids. The injections are not normally painful, but the procedure can be distressing, particularly to children.
It is possible to achieve the same results without 'an injection', delivering the steroid by the multiple-pressure technique used for smallpox vaccinations.

Method

- The patient is positioned so that the scar to be treated is in the horizontal plane.
- Cleanse the skin thoroughly with an alcohol swab and allow it to dry.
- Draw injectable corticosteroid up into a syringe, preferably before the patient enters the treatment room.
- Spread a film or layer of the steroid aseptically over the scar.
- Make multiple pressures through the solution into the scar, using a 21-gauge needle held tangentially to the skin. The point of the needle should just penetrate the epidermis and not be deep enough to cause bleeding.
- There should be approximately 20 pressures per cm^2.
- Allow the steroid to dry and cover the area with a dressing if desired.

Treatment can be repeated every 6 weeks if necessary; most simple hypertrophic scars, however, settle after one treatment.

Silicon adhesive gel/dressings

Silicon sheet dressings (e.g. Cica-Care) worn continuously over a wound may prevent hypertrophy of the wound. An adhesive gel sheet can be purchased and a piece cut out to fit the wound. The gel sheet should be re-applied daily for 12 weeks.
Alternatively, silicon gels massaged firmly into the wound each day after the wound has re-epithelialised may help.

Elastoplast™ Scar Reduction Patch

These patches can be used to treat or prevent hypertrophic scars. The patch is applied over the scar and changed every 24 hours. It should not be applied to open wounds or burns.

Keloids

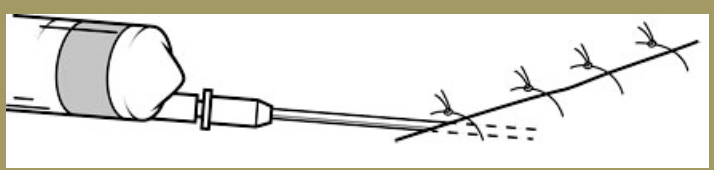
Methods

- Multiple puncture method.
- Inject long-acting corticosteroid, e.g. triamcinolone 10 mg/mL (usually 3 treatments, 6 weeks apart).
- Apply liquid nitrogen, then inject with corticosteroid about 5 to 15 minutes later—the softer oedematous tissue is easier to inject.
- Radiotherapy.

Prevention of keloids (in susceptible patients)

- Apply high-potency topical corticosteroid with occlusive dressing for 2 to 3 days.
- Inject long-acting corticosteroid into the recess of the wound immediately following suture of the wound

Inject long-acting corticosteroid immediately following suture removal. (1)



Bush Mechanics!

HF Radio Email

In these days of spreading mobile phone coverage, the options for communication in remote areas have vastly improved. Portable USB Modems can be easily plugged into any laptop enabling access to email and the internet wherever there is coverage (although currently B-Mobile USB modems are only working where there is access to their wireless phone network – Digicel modems work wherever there is mobile coverage.)
However there are still large parts of PNG without mobile coverage. HF Radio email remains very useful in this setting.

For HF email you need an HF radio modem (see picture at right) which connects your laptop to a standard HF radio. Depending on what model you have, you may need to have the radio slightly modified to accept the connection. New radios come already compatible. Note that the government installed (orange) radios made by Barrett are not compatible at this time.
The advantage of HF radio email is that it is very cheap to run. Set up costs are considerable but much less than satellite options. The modem itself is around K5000 new although second hand ones are available for much less.
The main disadvantage of HF email is that it is slow and is really only useful for email – it can't be used for internet surfing. Like all HF radios, the reception is also dependent on the atmospheric conditions at the time.
Having said all that, HF email has for many remote doctors been a huge step forward in communications that revolutionized the operations of the hospital.
For further information, contact CRMF, Goroka.

Pacific Medical Centre "The PMC Saga"

Debate about the proposed new hospital in Pt Moresby rages on. The Pacific Medical Centre (P.M.C.) was initially proposed as a joint private venture between a number of partners from the U.S. and within P.N.G. providing high quality medical, surgical and O&G services to private patients in Pt. Moresby thereby saving the need for people to travel overseas for top quality care.

The concern has always been of course whether public funds would be diverted to "prop up" this venture. Statements from the previous Minister of Health have raised considerable concern that public funds would indeed be contributed – how much is not clear but some huge figures have been tossed around.

Many doctors both from within Pt. Moresby and outside have argued that if PMC is to be built, that public funds should not be used as this is likely to lead to a further deterioration of existing health infrastructure, and make it very hard to implement the 2050 vision, which calls for the creation of hundreds of new "Community Health Centres" across the rural areas. If you have an opinion on this important issue, please make your voice heard by writing to the new Minister of Health (Hon Jamie Maxtone-Graham), your local Member of Parliament, or the national newspapers.

Retrieving patients by dinghy to Vunapope Hospital – Kokopo ENB

Send us your photos!
- pngruralsociety@gmail.com

Case Study: The pulsating head wound.

This young fellow presented to the hospital with the story of having been hit on the head with a stone by another lad with a slingshot. There was no loss of consciousness and no detectable neurological signs.

On examination of the wound, there was a 2 cm laceration to the scalp just to the left side of midline in the parietal region. The laceration was slightly ragged, and on examination of the wound there was noticeable pulsation of the soft tissue.

X -ray was unavailable in this district centre at that time and there were no available options for transfer owing to the impassable road. **(continued page 5)**

Comments on Case Study from Last Edition – Buruli Ulcer

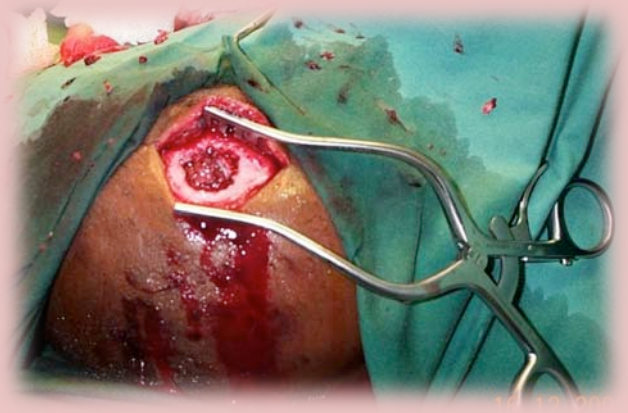
The following comments on 'Case Study: 10 year of girl with ulcer on the elbow' come from Professor Anthony Radford, who worked in PNG for 10 years in various capacities from 1963, and was responsible for the development of the initial rural training program of medical students of the then Papuan Medical College (later SMHS, UPNG).

1. While lesions of ulcerans disease are commoner in tropical countries, the disease was first described by two general practitioners in Gippsland, Victoria, who noticed unusual chronic ulcers in their town in the late 1930s.
2. There are many names for the disease which are usually related to the places were it is found. Hence in PNG the commonest names have been 'Kumusi ulcer' and 'sik bilong wara Sepik'. This case and one other are the first reports as far as I am aware from the Papuan side. Why the disease is common in one or two places in a country, and sporadic or non-existent in others is not known. The bacterium has very occasionally been isolated from mud and even in mosquitoes.
3. It is now recommended that the disease be called "Ulcerans Disease or infection" or simply "Ulcerans". Buruli was a district in Uganda where the disease is common. but there is no justification for it being called 'Buruli ulcer'. Buruli was not the first place from which it was reported, indeed the district no longer exists!
4. Often the disease appears in isolated places where laboratory diagnosis is difficult. Scrapings or direct impressions may reveal Acid Fast Bacilli using Ziehl-Neelson stain. However most cases have a fairly classical appearance of which undermining of the edges is most prominent and treatment can be started without initial laboratory confirmation.
5. While surgery is the foundation treatment, two or three antimycobacterial agents (usually streptomycin/amikacin and rifampicin plus or minus isoniazid) for **two weeks before and two or three weeks after surgery** is recommended.
6. Two significant aids to the management of the disease have been developed in PNG. The amount of excision of tissue required can be greatly reduced by
    a) opening the whole lesion in two or three flaps and thoroughly curetting all visibly affected tissue, top and bottom, with a bone curette, and **excising only necrotic tissue and not the complete lesion**. This results in a much smaller graft being required and a smaller residual scar.
    b) Ken Clezy, long-time surgeon in PNG, found that triple therapy before and after thorough curettage of the lesion, followed by application of a full limb plaster resulted in complete healing in two weeks. Its effectiveness is no doubt related to the fact that the organism only grows at 32-33 degrees and the plaster acts as a hot-house precluding growth. **This procedure could be considered for all limb lesions, especially upper limbs.** However where a significant defect in the surface remains skin grafting is usually necessary.
7. Studies in PNG and Uganda in the 1960s showed there appeared to be significant cross-immunity with BCG, so it suggested that especially children in endemic areas should have high levels of coverage with this vaccine.

References:

1. *Radford AJ The surgical management of lesions of ulcerans infections due to Mycobacterium ulcerans, revisited. Trans Roy Soc Trop Med Hyg (2009) 103(10): 981-984.*

Case Study: - continued.



Soft tissue injuries to the scalp are a common presentation in general practice. Whether from a fall or assault, you will see plenty of these in your career. Failure to inspect closely can lead to mistakes, as was nearly the case here. As in most wounds, it can often be difficult to inspect the degree of damage on superficial examination in the outpatient department. The keys are as always – good light, good anaesthesia and a high index of suspicion. With scalp injury you must have a good feel with a gloved digit to rule out a depressed fracture. Bruising deep to the galea can sometimes give the false impression of changes in the contour of the skull vault so you need to be careful. Any pulsation of tissue means communication with the intracranial cavity. In this case on further exposure there was a depressed fracture of both the inner and outer table of the skull bone. Small degrees of depression can be left alone(less than 2-3mm on X-ray depending on which text you read). Greater degrees are associated with focal seizure activity and need to be elevated if possible. Try to preserve any periosteal "hinges" to bone – devitalized bone in a compound fracture such as this can lead to infected sequestra much like the situation in chronic osteomyelitis. Make sure you get dura cover over the brain. Nurse at 45 degrees until stable.

MMED (Rural) News

- Surgical Rotation #2 – Dr. Magdeline Taune, July – Sept , Kudjip Hospital
- Surgical Rotation #3 – Dr. Gabriel Yohang, July – September, Kundiawa Hospital
- Paediatric and Anaesthetics Rotation – Dr. Felix Diaku , October- November, Kudjip Hospital
- O&G Rotation #1 – Dr. Grace Raire - October – December, Kudjip Hospital
- Paediatric Revision Course – October. Dr's Kelebi, Yohang and Saulep
- MMED (Rural) Part 1 exams – October . Dr's Kelebi, Yohang and Saulep

Applications for the MMED (Rural) program are still open for 2012. Application is only available to doctors who have secured employment and support with a sponsoring district hospital.

PNGSDF have recently announced their intention to sponsor doctors to the MMED(Rural) program for work in W.P.

Dr. Maggie Taune in Training under the watchful eye of Dr. Jim Radcliffe - MMED (Rural) Surgical Rotation at Kudjip Nazarene Hospital, WHP

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Words of Wisdom.

"Therefore do not throw away your confidence which has great reward. For you have need of endurance, that when you have done the will of God, you may receive what is promised." Hebrews 10:35-36

Silip i dai! Anaesthetics Corner.

Induction of anaesthesia in the hypotenstive patient

Common methods of induction can be broadly divided into two groups – inhalational and intravenous (or sometimes intramuscular) induction.

All drugs used for induction of anaesthesia have some impact on blood pressure either through actions on vascular tone (peripheral resistance), by direct actions on the heart (rate or contractility), or both. These actions can be quite profound especially in the patient who is already compromised.

Patients who may be hypovolaemic (eg from trauma or prolonged dehydration) depend on their sympathetic nervous system to maintain blood pressure and renal perfusion . Induction agents such as propfol and thiopentone, and inhalational agents such as halothane, will seriously blunt the sympathetic response. Even in the normovolaemic patient, signifcant drops in BP are noticeable with the administration of standard doses of these agents.

In patients who are hypovolaemic and thus heavily dependent on sympathetic drive to maintain BP, massive and catastrophic drops in BP (even leading to cardiac arrest) are easily achieved with standard doses of STP and propofol.

Significant dosage adjustment is required if these agents are to be used. (eg. in the profoundly unwell patient, only 2-3 ml of STP or propofol may be necessary to render the patient unconscious).

Ketamine has the advantage of stimulating the sympathetic nervous system leading to increases in heart rate and BP. It is therefore the favoured means of induction in trauma patients with significant blood loss.

Some doctors are unaware that ketamine does also have a direct action on cardiac smooth muscle – this effect is negatively inotropic (ie. it decrease heart contractility). This is normally more than compensated for by the increase in heart rate, and BP will still rise in the normal situation.

However – in the case of the patient in extremis, whose sympathetic nervous system may already be maximally stimulated, the negative inotropic effects of ketamine may be unmasked because the heart rate cannot increase further. The actions of ketamine in this situation may therefore still be adverse to the patient, and care should be administered to give the minimal dose required to render the patient unconscious.

JOB VACANCIES .

E.C.P.N.G. Health Services invites applications from Medical Officers for Rumginae Rural Hospital. The applicant must be a committed Christian with an interest in rural health.

The successful applicant may be considered for later sponsorship to the MMED (Rural) program if performance is deemed of a high level. Also a special salary package will be made available for the successful applicant.

To request an application form, send your emails to rumginae@gmail.com or ring the Medical Superintedent on 649 3400 or fax 6493416. Alternatively, download the forms at www.rumginae.info

Send completed applications forms to:

The Medical Superintendent
Rumginae Rural Hospital
P.O. Box 41
Kiunga W.P, 335

There is also an urgent need for doctors at Vunapope Hospital, Kokopo ENB at the moment after the recent death of Dr. Steven Lellu. Interested applicants, please contact Dr. Felix Diaku at dialea@daltron.com.pg or phone on 71111420

The late Don Kudan with young doctors at his beloved Gaubin Hospital, Kar Kar Island, Madang.

Sources.

1. *Practice Tips* Murtagh, J 4th Ed. McGraw Hill

THE ROYAL AUSTRALIAN COLLEGE OF GENERAL PRACTITIONERS

The PNG Society of Rural and Remote Medicine is supported by the following organizations:

World Health Organization