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SLMA NEWS

THE OFFICIAL NEWSLETTER OF THE SRI LANKA MEDICAL ASSOCIATION

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30 Years

From Strength To Strength

SLMA President

Dr. Iyanthi Abeyewickreme

MBBS (Ceylon),
Diploma in Venereology (London),
MSc, MD (Colombo),
FCVSL, Hon. Senior Fellow PGIM
Consultant Venereologist

SLMA News Editorial Committee 2016

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PRESIDENT'S MESSAGE

February was a busy month for the SLMA during which a number of important events were organized. The tradition of commemorating the initiation of the SLMA in 1887 was continued for the 5th year by holding the History of Medicine Lecture on 26th February. This year's lecture was delivered by Dr. Upali Banagala, Consultant Orthopaedic Surgeon, on the 'Evolution of Orthopaedics in Sri Lanka'. It was a very interesting and informative narrative of the history of orthopaedic surgery from 1932 to the present day.

The first Regional meeting for 2016 was held in collaboration with the Homagama clinical society at Homagama Base Hospital on 19th February. It was a very successful meeting where around 100 doctors participated. The Family Planning Association and the Dengue Control Unit of the Ministry of Health sponsored the meeting. Dr. Amali Lokugamage, Consultant Obstetrician and Gynaecologist, Whittington Hospital, UK delivered a guest lecture on 'Birth: risk, evidence and autonomy'. The monthly clinical meeting was held in collaboration with the Sri Lanka College of Haematologists.

A workshop to identify gaps in priority areas for strengthening health systems was held at the SLMA with the participation of a number of Professional Colleges. A consultant from the World Health Organization who is assisting the Ministry of Health in developing the new National Health Policy also attended the workshop. The report on the workshop will be presented to the Director General of Health Services.

In response to the Government of Sri Lanka's request for the public and professionals to submit proposals for the proposed new Constitution, Prof. Saroj Jayasinghe submitted a proposal to include health as a fundamental right. His proposal was approved by the Council and was forwarded to the Organization of Professional Associations for consideration.The SLMA intends to discuss this issue at a wider forum and members' views are welcome.

The 'Antibiotic Open Day' was organized by the Medicinal Drugs Committee. Participants included members of the public, the media and medical professionals. Various aspects of rational use of antibiotics were presented by eminent medical personnel. The role of the pharmacists and nurses as well as that of the pharmaceutical industry in overcoming antibiotic resistance were also included in the programme. It was an educative and enlightening exercise. Following the Antibiotic Open Day an editorial was published in one of the daily newspapers highlighting the importance of curbing antibiotic resistance. There was also a detailed article in a leading Sunday news paper about this event.

We have had discussions with many potential partners and sponsors including a number of new partners and the response has been very encouraging. Planning for the 129th Academic Congress and SLMA Run and Walk are ongoing and I thank all the colleagues who are devoting their time and energy to organize these events. The enthusiasm displayed by the young council members in these preparations has been infectious and has further increased the resolve of all of us to make this year's Congress even more successful than in the past. Of course, the success of the Congress as well as the Run and Walk will depend on the active participation of doctors and on behalf of the Congress committee, I appeal to all members of the SLMA to support both events by participating in them.

I wish to conclude by once again appealing to all doctors who are not members of the SLMA to obtain membership and become partners in the educational, professional and social activities of the SLMA.

Thank you and best wishes to all.
Dr Iyanthi Abeyewickreme

"EVOLUTION OF ORTHOPAEDICS IN SRI LANKA: WISDOM OF THE PAST AND MARVELS OF TODAY"

Dr. Upali Banagala
Consultant orthopaedic surgeon

The History of Medicine Lecture is delivered to commemorate the initiation of the SLMA in 1887. The tradition was continued for the 5th year by holding the event on 26th February 2016 at the Lionel Memorial Auditorium, SLMA. This year's oration on the 'Evolution of Orthopaedics in Sri Lanka' was delivered Dr.Upali Banagala, Consultant Orthopaedic Surgeon. He spoke about the history and evolution of orthopaedic practice in Sri Lanka since its inception. It was a very interesting and informative narrative. The script of the oration, edited version is given below.

Orthopaedic: "straight child"

The word 'Orthopaedic' was first used by Prof. Nicholas Andry, a professor of Medicine, in Paris in 1741.

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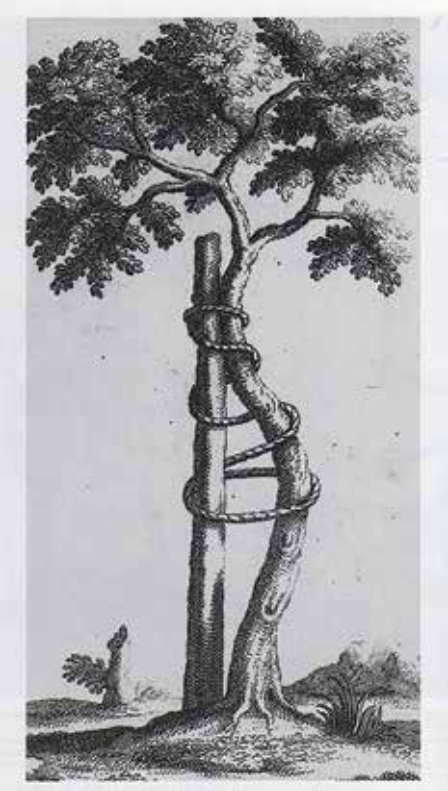
Evolution of...



Ortho meaning 'straight' and Paedi meaning 'children' 'Orthopaedic' means a "straight child". Up to 1890 Orthopaedics was limited to the correction of deformities of children. Thereafter it incorporated adult musculo-skeletal diseases as well.

Father of Orthopaedics in Sri Lanka: later a cabinet minister!


Dr. M. V. P. Peiris

Dr. M.V.P.Peiris is recognized as the Father of Orthopaedics in Sri Lanka. He was a General Surgeon at the General Hospital Colombo from 1932 to 1950 and was entrusted to develop Orthopaedic services in the country by the government of Sri Lanka. Dr.Peiris established orthopaedic clinics in 1940, Khan Memorial


Khan memorial ward was opened – 1939

Ward for children in 1939 and orthopaedic workshops for limb fittings and appliances in 1947. He later became a Professor in Surgery from 1950 to 1960 and a cabinet minister from 1960 to 1965.

First orthopaedic surgeon: the first 'Pin and Plate' surgery in Sri Lanka


Mr. Gerad M. Muller

The first dedicated orthopaedic surgeon was Mr.Gerad Muller. Mr. Muller was a Sri Lankan who went for orthopaedic training in the UK, but could not return to Sri Lanka because of the war. He settled down there and practiced as an orthopaedic surgeon in the UK. When Dr.M.V.P.Peiris retired, Mr.Muller was invited to return to Sri Lanka and was appointed as the first orthopaedic surgeon in Sri Lanka. He is credited as the first surgeon to perform 'Pin and Plate' surgery for fracture neck of femur in Sri Lanka. This operation changed the outlook of the elderly patients with fracture neck of femur. When Mr. Muller migrated, Dr.Rienzie Peiris was appointed to the same unit in 1957.

Evolution of orthopaedics: 'Silva elbow' and the 'Father of orthopaedics in Malaysia'

The next surgeon appointed was Dr. Francis Silva. He was famous during that time for an artificial elbow, the 'Silva elbow' which he developed at that time. Later he left Sri Lanka to become the first professor of orthopaedics in the University of Malaya, Malaysia. Many Malaysians consider him as the Father of Orthopaedics in Malaysia. Dr. T.N.Shanmugalingam succeeded Dr. Francis Silva.


Dr. Francis Silva

In 1960 the third orthopaedic surgeon, Dr. V. Rasanayagam was appointed. When Dr. Rasanayagam migrated to Australia, Dr. T. Parameswaran succeeded him.

Spreading out of orthopaedics to Kandy and Galle

In 1961 Dr. Mark Amarasinghe was appointed as the first orthopaedic surgeon to General Hospital Kandy. During this time an Orthopaedic unit was opened in Galle as well.

A big boost to orthopaedics: opening of the first accident service at General Hospital Colombo

Orthopaedic services in the country were given a big boost when the first accident service was opened at the General Hospital Colombo in 1965. The first Surgeon-in-charge was Dr. D. D. Jayawickrama (FRCS) who thus headed the fourth orthopaedic unit at the General Hospital Colombo.

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Evolution of.....

A progressive era in orthopaedic practice in Sri Lanka (1960-1970)

During the late 1960's and early 1970's, Dr. Rienzie Pieris, Dr. T. N. Shanmugalingam and Dr. T. Parameswaran were able to introduce many new techniques to orthopaedic practice.

These included the following:

(1) Open reduction and internal fixation using Sherman plate and screws

(2)Kuntcher Nailing of long bones

(3) Hemiarthroplasty for fracture neck of femur

(4) Total hip replacement

With the introduction of these techniques, there was a complete revolution in orthopaedic practice in Sri Lanka.

1970s-1980s: The first two Orthopaedic Surgeons Board Certified by the PGIM

In late 1970's and early 1980's, there were no major changes in orthopaedic practice. However establishment of the Post Graduate Institute of Medicine (PGIM) in 1980 helped in the progression of orthopaedic surgery in Sri Lanka immensely.

In 1980, there were only 8 Orthopaedic Surgeons in Sri Lanka. The first two Orthopaedic Surgeons Board Certified in 1986 were Dr.Upali Banagala and Dr. Vasantha Perera.

The next major change in orthopaedic practice was in 1986, when Dr. S. Sritharan, who had been practicing in UK until then, introduced many new techniques to Sri Lanka. Among them were the followings:

(1) AO/ASIF method of fracture fixation.

(2) Arthroscopy without video.

(3) Total knee replacement in the private sector operating at Ratnam's hospital.

First dynamic hip screw surgery in Sri Lanka was on a surgeon who fell in the theatre

Gstandard operation is done for fracture neck of femur in Sri Lanka. About 3000 DHS's are been performed every year in Sri Lanka at present. The first person to undergo this operation was Dr. R. L.Thambugala, who was a Consultant General Surgeon at the General Hospital Colombo, and worked at the accident service after his retirement. He had a fall in the theatre and he sustained an external capsular fracture neck of femur. Since no one was able to do this surgery in Sri Lanka, one of Dr. Thambugala's registrars, Dr. S. Sundaram came down from UK and performed the operation. Dr. Sundaram is a leading orthopaedic surgeon in Victoria, Australia, at present.

In late 1989 the Military Hospital established an orthopaedic unit with two orthopaedic surgeons.

"The Finland project": a new beginning of a Golden Era

One of the most important developments in orthopaedic services in Sri Lanka was the "Finland" project This revolutionized orthopaedic practice in Sri Lanka. The project was initiated by Dr.Rienzie Pieris. Since Dr. Pieris's retirement, Dr. Susiri Weerasekara executed the project.

With the commencement of the project in 1991, many new technologies were introduced as mentioned below.

(1) AO/ASIF method to State sector

(2) Video arthroscopy

(3) Power tools

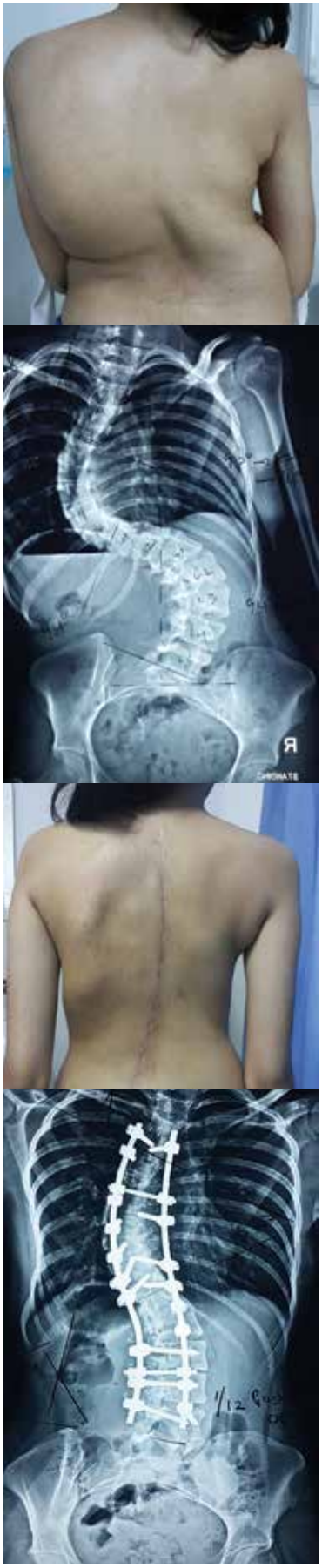
(4)"C" arm image intensifier

(5) Laminar flow theatre

(6) Different kinds of external fixations

Introduction of surgery for scoliosis

In the 1990's, scoliosis surgery was introduced to Sri Lanka by Dr. Randuna Corea, operating at a private hospital and Sri Jayewardenepura General hospital. In the government sector, Dr. Vasantha Perera performs the majority of scoliosis surgery. Since his retirement from state service, he does these operations at a private sector hospital in Colombo.



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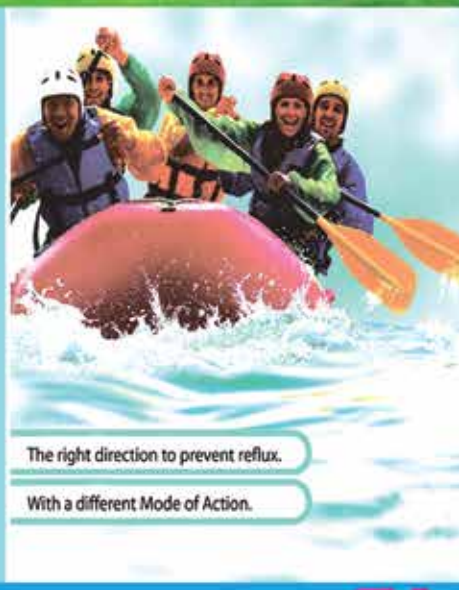

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Evolution of...

First Total Knee Replacement

In 1992 the first Total Knee Replacement was done at the General Hospital by Dr. Vasantha Perera and Dr. Upali Banagala. At present 1200 to 1500 total knee replacements are performed in Sri Lanka every year. In 1993, the first uncemented total hip replacement was performed by Dr. Vasantha Perera and at present 400 to 600, Total Hip Replacements are being done every year, mostly uncemented.

Sri Lanka Orthopaedic Association

By 1992, the Orthopaedic Surgeons felt the need of an Association for the development of orthopaedic care and thus the 'Sri Lanka Orthopaedic Association' was formed, with Dr.Rienzie Pieris as the Founding President and Dr. Upali Banagala, as the Founding Secretary. Figure 8

Introduction of more surgical techniques to Sri Lanka

During the years 1990 to 2010, further development of Orthopaedic Services occurred in the country, with the introduction of new surgical techniques, such as

(1) Total Knee Replacement

(2) Total Hip Replacement

(3) Partial Knee Replacement

(4) Instrumental Spinal Fusion

(5) Intervertebral Disc Replacement in cervical and lumbar spine

(6) Close Nailing of long bone fractures

(7) Megaprosthesis for Bone Tumor Surgery

(8) Minimal Invasive Fracture Surgery

Sub-specialization

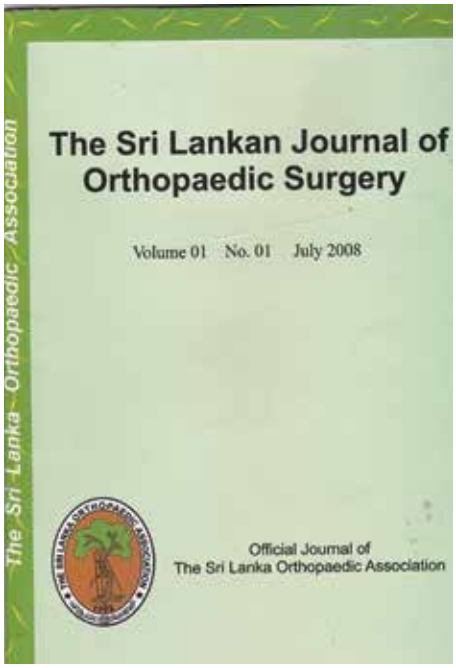
Orthopaedic Surgeons realized the need for sub-specialization. In 2004 the first Paediatric Orthopaedic Unit was opened at the Lady Ridgeway Hospital (LRH). At present there are two Paediatric Orthopaedic units; one at LRH and the other at Sirimavo Bandaranayake Hospital, Peradeniya.

Further sub-specialties were established in 2013, with the first Orthopaedic Spinal Surgeon being appointed to the Neuro-trauma Unit at the National Hospital, Colombo.

Expansion of services to the periphery

During 2004 to 2010, further expansion of services to the periphery occurred, with the opening of units in Matara, Hambanthota, Kegalle, Trincomalee, Vauniya, Polonnaruwa etc.

Academic and research culture commences



In 2009, the Sri Lanka Journal of Orthopaedic Surgery was inaugurated under the editorship of Dr.Upali Banagala. In 2009, Orthopaedic Surgeons held their first dedicated Annual Congress, when Dr. Narendra Pinto, was the president of Sri Lanka Orthopaedic Association.

Establishment of Specialty Board in orthopaedic surgery

In 2009, the Specialty Board in Orthopaedic Surgery was established, and a separate training programme for Orthopaedic Surgery was commenced. In 2011, the first Examination in MD (Orthopaedics) was held.

Has Sri Lanka got enough orthopaedic surgeons?

Since the establishment of the PGIM in 1980, 61 Orthopaedic Surgeons were Board Certified. Four of them have retired, 3 are in the Defense service, 5 in the private sector and 5 are abroad. Forty five surgeons serve the government sector. At present we have 55 trainees (Registrars and Senior Registrars) in the training programme and all will be board certified by 2022.

The ratio of orthopaedic surgeon to patient in other countries is as follows in: UK-1 per 20,000; USA-1 per 14,000; Hong Kong-1 per 20,000; Australia-1 per 20,000; Malaysia-1 per 47,000. When compared to them, we are still short of Orthopaedic Surgeons as one orthopaedic surgeon has 520,000 patients to look after!

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THE MONTHLY CLINICAL MEETING OF THE SLMA FOR MARCH 2016

By Dr.Kushlani Jayatilleke,
Assistant secretary /SLMA

The monthly clinical meeting of the SLMA for March 2016 was held on 15th of March from 12 noon to 1.30pm at the SLMA Auditorium in collaboration with the Sri Lanka College of Anaesthesiologists and intensivists of Sri Lanka. The theme was sepsis and it was chaired by Dr G. Weerasinghe, Vice president of SLMA.

The case presentations were done by Dr. Rasanee Wanigasuriya, Senior Registrar in critical care medicine. Review lecture on " Sepsis & septic shock: The initial moments and beyond" (published in this issue as an article) was done by Dr. Vihara Dassanayake, Senior lecturer in Anaesthesiology, Department of surgery, Faculty of Medicine, University of Colombo. The MCQs on sepsis were discussed by Dr. Ramya Amarasena, Consultant Anaesthetist, National Hospital of Sri Lanka and Dr. Buddhika Vidanagama, Consultant Anaesthetist, National Cancer Institute, Maharagama.

SEPSIS & SEPTIC SHOCK: THE INITIAL MOMENTS AND BEYOND

Dr. Vihara Gunasekera Dassanayake
(MBBS, MD, FRCA)
Consultant Anaesthetist
Senior Lecturer in Anaesthesiology
Department of Surgery
Faculty of Medicine
University of Colombo

Sepsis is a systemic, deleterious host response to infection leading to acute organ dysfunction. Septic shock is a serious condition often seen in Intensive Care Units (ICU). Treatment is complicated and options vary.

In the United States of America sepsis accounted for more than 20 billion dollars in hospital costs in 2011. A NHS England report suggests in 2014 more than 123,000 people suffered from sepsis. In a prospective cohort study in 16 Asian countries the hospital mortality from sepsis induced organ dysfunction was 44.5%. Despite advances in medical technology sepsis is still prevalent, costly and often fatal.

Sepsis (defined as infection in the presence of two or more indices under general, haemodynamic, inflammatory, organ perfusion or tissue perfusion variables) and septic shock, was re-defined in February 2016 and the Third International Consensus Definition for Sepsis and Septic Shock (Sepsis-3) has been emphasised. These definitions will facilitate early identification of patients with this condition. Absent from the definition is "Severe Sepsis" (which existed in 2012 SSC guidelines). Task force has deemed this term redundant as sepsis has a mortality rate of 10% or higher making this condition already severe.

The new recommendations define sepsis as a life threatening organ dysfunction due to a dysregulated host response to infection. Organ dysfunction can be represented by an increase in Sequential {sepsis related} Organ Failure Assessment Score (SOFA), clinically characterised by an acute change of 2 points or greater in the score.

Septic shock includes sepsis with fluid unresponsiveness, hypotension, serum lactate >2mmol/L (>18mg/dl) and the need for vasopressors to maintain a mean arterial pressure (MAP) of 65mmHg or greater.

Similarly the consensus document introduces a new bedside index called the quick SOFA (q SOFA) which will enable physicians to identify patients with suspected infection who have been treated outside critical care units and likely to develop complications of sepsis. It requires 2 of the following 3 variables to identify patients at risk of sepsis.

- An alteration in mental status
- A drop in systolic blood pressure of <100mmHg
- A respiratory rate of >22 bpm

The new definitions represent an important step forward, but certainly not the last one in the evolving study of sepsis.

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Contd. from page 08

Sepsis & Septic...

Similarly these definitions will be of limited help in directing specific therapies to individual patients or in developing clinical trials focused on specific mechanisms of sepsis induced organ dysfunction.

Accurate execution of the Surviving Sepsis Campaign (SSC) bundles is essential to a successful outcome when managing patients with sepsis and septic shock. A bundle is a selected set of elements of care distilled from evidence-based practice guidelines that, when implemented as a group have an effect on outcomes beyond that of the individual elements.

The management bundle (to be completed within 6 hours) was revised in 2015 by the SSC executive committee based on the publication of results of three trials (ProCESS, ARISE and ProMISE). They did not demonstrate superiority of required use of a central venous catheter to monitor central venous pressure (CVP) and central venous oxygen saturation (ScvO2) in all patients with septic shock, who have received timely antibiotics and fluid resuscitation compared with controls or in all patients with lactate >4 mmol/L. However the immediate resuscitation bundle (to be completed within 3 hours) was not affected.

The following steps should be completed within 3 hours from the time of presentation of a patient to the emergency department with suspected sepsis:

1. Measure lactate levels
2. Obtain blood cultures prior to administration of antibiotics
3. Administer broad spectrum antibiotics
4. Administer 30ml/kg crystalloids for hypotension or lactate >4mmol/L

To be completed within 6 hours of time of presentation:

5. Apply vasopressors (for hypotension that does not respond to initial fluid resuscitation) to maintain a MAP of equal to or greater than 65mmHg
6. In the event of persistent hypotension after initial fluid administration (MAP <65mmHg) or if initial lactate was >4mmol/L, reassess volume status and tissue perfusion and document. Assessment of volume status and tissue perfusion should be done by;

- either repeat focused examination after initial fluid resuscitation (including vital signs, capillary refill time, pulse and skin findings)
- OR two of the following
  - Measure CVP
  - Measure central venous oxygen saturation
  - Bedside cardiovascular ultrasound
  - Dynamic assessment of fluid responsiveness with passive leg raising or fluid challenge

7. Re-measure if initial lactate level was elevated

Since the first publication of recommendations by the SSC in 2004, the guidelines have been updated and the current set of recommendations are based on 2012 SSC guidelines.

Key Recommendations from the SSC guidelines (2012)

- Early resuscitation of the septic patient instituting the 3 hour and 6 hour bundle after recognition (do not delay treatment pending ICU admission)
- Obtain blood cultures before antibiotic therapy (to both aerobic and anaerobic culture bottles)
- Imaging studies performed promptly to confirm potential source of infection
- Administer broad spectrum antimicrobial therapy within 1 hour of recognition of septic shock (re-assess therapy for de-escalation, when appropriate)
- Infection source control with attention to balance of risks and benefits of the chosen method within 12 hours of diagnosis
- Initial fluid resuscitation with crystalloids and consideration of the addition of albumin in patients who continue to require substantial amounts of crystalloids. Avoid hetastarch formulations
- Initial fluid challenge of 30ml/kg in the presence of sepsis induced tissue hypo-perfusion and continue fluid challenges guided by haemodynamic improvement
- Norepinephrine is the initial vasopressor of choice to maintain a MAP>65mmHg
- Epinephrine as second line when additional agents are needed to maintain adequate blood pressure
- Vasopressin (0.03U/min) to be added to norepinephrine but not as the initial vasopressor
- Dopamine to be used in highly selected group of patients (at low risk of arrhythmia)
- Add dobutamine to the vasopressor in the presence of myocardial dysfunction or in the presence of ongoing signs of hypoperfusion despite adequate volume loading
- If adequate fluid resuscitation and vasopressor therapy are able to restore haemodynamic stability, avoid intravenous hydrocortisone in adult septic shock patients (if required use intravenous hydrocortisone 200mg/day, preferably as an infusion)
- Target haemoglobin in septic patients (in the absence of ischaemic coronary artery disease, acute haemorrhage, severe hypoxaemia) is 7 to 9 g/dl
- Management of sepsis induced ARDS: Low tidal volume (6ml/kg of predicted body weight)/ limitation of inspiratory plateau pressure and application of at least a minimal amount of PEEP
- Target upper blood glucose levels <180mg/dl
- Institute ICU care bundles and supportive measures (DVT and stress ulcer prophylaxis- proton pump inhibitors are preferable)
- Early initiation of nutrition (enteral route preferable whenever appropriate and initially commence a low calorie feed). Avoid prolonged periods of fasting
- Renal replacement therapy (veno-venous haemofiltration or intermittent haemodialysis)
- Avoid using sodium bicarbonate therapy for the purpose of improving haemodynamics or reduced vasopressor requirements in patients withhypo-perfusion induced lactic academia with a pH >7.15
- Additional goals of care including treatment plans and end of life care planning as early as feasible

The SSC has promoted best practice interventions and using bundles simplifies the complex care of patients with sepsis. It is important to bear in mind that early recognition and early treatment can reduce mortality from this life threatening spectrum of sepsis.

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SRI LANKA FORUM OF MEDICAL EDITORS: JUST BORN

The Sri Lanka Forum of Medical Editors has been constituted and inaugurated as an independent affiliated organisation under the SLMA. This venture has been approved by the Council of the SLMA. The main objective of the organisation is to provide support to Editors and Editorial Board Members and to improve the quality of medical journals. There are more than 20 medical journals listed in the Sri Lanka Journals Online (SLJOL) site and most of them publish regularly. The Editors and Editorial Board Members of these journals function in an honorary capacity and devote much time to reviewing articles and publishing regular issues of the journals.

The journals have been supported by the International Network for Availability of Scientific Publications (INASP), a Charity Organisation based in Oxford, UK. The SLJOL site which incorporates all the medical journals published in Sri Lanka is hosted by INASP, in collaboration with the National Science Foundation of Sri Lanka.

At a Workshop for Medical Editors organised by the Sri Lanka College of Paediatricians and sponsored by INASP held in June 2015 the editors reiterated the need to set up a National Association of Medical Editors. At the follow up workshop held in November 2015 a decision was made to set up the Sri Lanka Forum of Medical Editors as an affiliated forum of the Sri Lanka Medical Association. The following office bearers were appointed.

Founder Chairperson:
Dr.B.J.C.Perera

Chairperson Elect:
Dr.Anuruddha Abeygunasekera

Vice-Chairperson:
Prof. Shalini Sri Ranganathan

Secretary:
Prof.Varuni de Silva

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Dr.Jithangi Wanigasinghe

The Forum plans to secure affiliation and work in collaboration with related organisations, both locally and internationally.

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"ANTIBIOTICS: A FRIEND TURNING ENEMY"

Dr. Pradeepa Jayawardane
Secretary/ Medicinal Drugs Committee of the SLMA

A symposium to promote rational use of antibiotics; ''Antibiotics: A Friend Turning Enemy'' was held on 26th February, 2016 at Lionel Memorial Auditorium of SLMA. It was organized by the Medicinal Drugs Committee (MDC) of the SLMA. There were about 120 participants including doctors, pharmacists, nurses, representatives from the pharmaceutical industry, media personnel and the general public.

The session was chaired by Professor Gita Fernando (Chairperson, MDC) and Dr. Iyanthi Abeywickreme (President, SLMA). Professor Gita Fernando, in her opening remarks explained the objectives of the symposium. She stressed the importance of collaborative action by the health professionals such as doctors, pharmacists and nurses in combating the problem of antimicrobial resistance (AMR). She also mentioned the importance of educating all stakeholders including healthcare personnel and the general public about appropriate use of antibiotics. The support of media personnel to disseminate important messages to the Sri Lankan population was essential. Consultant Microbiologists had carried out laboratory studies on resistance patterns of some pathogenic bacteria in different parts of the country. Hence she stated that evidence based information on AMR was available.

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Antibiotics...

The following presentations were made during the symposium:

- **Rational use of antibiotics - how to reduce antibiotic resistance?**
- Prof. Chandanie Wanigatunge – Professor in Pharmacology, University of Sri Jayewardenepura

- **Antibiotic resistance in children - how to reduce?**
- Prof. Shalini Sri Ranganathan - Professor in Pharmacology, University of Colombo

- **Antibiotic resistance patterns; what can be done?**
-Dr. Kushlani Jayatillake – Consultant Microbiologist, Sri Jayewardenepura General Hospital

- **Antibiotic resistance in the community; are there solutions?**
- Dr.Eugene Corea – Family Physician

- **Role of pharmacists in reducing antibiotic resistance**
-Ms. Savini Senadheera – Lecturer in Pharmacy, University of Sri Jayewardenepura

- **Role of nurses in reducing antibiotic resistance**
- Ms. Sujatha Seneviratne – Senior Lecturer in Nursing, University of Sri Jayewardenepura

- **Role of pharmaceutical industry in overcoming antibiotic resistance**
-Mr .Palitha Jayathilake – Vice President, Sri Lanka Chamber of Pharmaceutical Industry

Professors Chandanie Wanigatunge and Shalini Sri Ranganathan summarized the presentations in Sinhala and Tamil respectively. An active discussion followed the proceedings. Certificates were awarded to resource persons and all participants.

Key messages delivered by resource persons:

- Resistance to antibiotics is high in Sri Lanka. Inappropriate use promotes AMR.
- Multi-stakeholder approach with responsibilities at different levels starting with policy makers is required to address problem of AMR.
- National antibiotic guidelines should be disseminated to prescribers. Monitoring compliance to such guidelines was recommended.
- Pharmacists and pharmaceutical industry should promote/ comply with these guidelines.
- Policies should be implemented to regulate use of antibiotics in humans and animals and to monitor adherence to guidelines.
- Awareness should be created among the general public on rational use and harmful effects to individuals and community due to irrational use.
- When prescribing antibiotics, it should be ensured that appropriate selection, use of correct dose, appropriate route of administration and duration of treatment are adhered to.
- Prescription of antibiotics in children is different compared to adults. Children should not be considered as "miniature adults".
- Antibiotics are not recommended for viral infections commonly encountered in children such as acute diarrhoea and upper respiratory tract infections.
- Antibiotics are not recommended to reduce fever in children. Instead advise parents on non pharmacological methods to reduce fever. Antibiotics are indicated only if there is suspicion of a bacterial aetiology.
- Pharmacists should ensure that they act within their expertise and legal provisions. They should also make sure that patients are given proper instructions about the correct use of antibiotics. If pharmacists are in doubt they should always contact/refer patient back to the prescriber.
- Pharmacists should never dispense part of reconstituted antibiotic syrup.
- Pharmacists should advice patients on proper use of antibiotics and to improve adherence to advises given.
- Patients must be advised not to demand antibiotics.
- Patients should not stop antibiotics when they feel better. They should continue until they complete the course.
- Patients should be advised against self medication and to avoid taking antibiotics leftover from previous prescription.
- Patients should always obtain antibiotics according to a legitimate prescription and should not ask for antibiotics directly from a pharmacist, as pharmacists are not qualified to prescribe medicines.
- Patients should also ask for information about use and cost of antibiotics from doctors and pharmacists.
- Promotion of good hygienic measures such as hand washing should be done at individual/ hospital / community level.
- During this workshop pharmaceutical industry representatives agreed to collaborate with healthcare workers to reduce AMR.






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ANTIBIOTIC RESISTANCE PATTERNS; WHAT CAN BE DONE?

Dr Kushlani Jayatilleke,
MBBS (Colombo), Diploma in Medical Microbiology, MD Medical Microbiology; Consultant Microbiologist,
Sri Jayewardenapura General Hospital, Nugegoda, Sri Lanka.

A bacterium is said to be resistant to an antibiotic when it is **not inhibited or killed** by an antibacterial agent **at concentrations of the drug achievable in the body after normal** dosage. There are 2 types of resistance, one is **intrinsic resistance,** meaning that the organism was never sensitive to the particular antibiotic and the other is **acquired resistance** which is when a particular microorganism obtains the ability to resist the activity of a particular antimicrobial agent to which it was previously susceptible. This acquired resistance is what we are worried about.

How do bacteria acquire such resistance?

When bacteria multiply they randomly change their genetic material DNA which is called mutation. Some of these bacteria which have changed DNA may code for a particular resistance mechanism, eg. may produce an enzyme which can destroy an antibiotic, say penicillin. If this population of bacteria is not exposed to that particular antibiotic (penicillin in this example), as there is competition from the non-mutated bacteria which are in larger numbers, the few resistant bacteria will die a natural death. When this population is exposed to that antibiotic (penicillin) the penicillin sensitive non-mutated bacteria will be killed by the antibiotic and the few bacteria which have developed resistance to penicillin will survive. Now without competition from other bacteria, the penicillin resistant bacteria will multiply and form a population of resistant bacteria. This is how the use of antibiotics results in development of resistance.

There are other ways of acquiring genes encoding for mechanisms of resistance. Bacteria have extra chromosomal DNA which can be transmitted from one bacterium to another directly via conjugation, or by viruses called phages via transduction, or via transformation where after death of bacteriatheir DNA is released to the environment and taken up by another bacterium. The genes encoding for resistance mechanisms can be transmitted by these means to other bacteria and thus the resistance to antibiotics can spread.

There are several mechanisms of resistance that bacteria develop. Some bacteria produce enzymes which can destroy antibiotics, or they may change the target molecules to which the antibiotic binds so that the antibiotic cannot bind to it any more. Some bacteria will change the cell wall so that they prevent entry of antibiotic into the cell or some others may develop efflux pumps through which the antibiotic can be pumped out before they act on the cell.

Data on different mechanisms of antibiotic resistance is scarce in Sri Lanka.

When Penicillin was first discovered, *Staphylococcus aureus,* which is a bacterium which can produce toxins and can produce serious infections, was very sensitive to penicillin. Few years after discovering penicillin *Staphylococcus aureus* developed resistance to it by producing an enzyme penicillinase. Today around 90% of *Staphylococcus aureus* isolated in hospitals in Sri Lanka are resistant to penicillin.[1]

Extended Spectrum Beta Lactamase (ESBL)producing Gram negative organisms are resistant to 1st, 2nd and 3rd generation cephalosporins. Extended Spectrum Beta Lactamaseproducing *Escherichia coli* and *Klebsiella pneumoniae* accounted for 23.15% of total Gram negative bacterial isolates in blood cultures in 2009 in a multicentre surveillance conducted by the Sri Lanka College of Microbiologists.[2] In the same surveillance in 2013, 20% of *E. coli* isolates and 28% of Klebsiella isolates from blood cultures were ESBL producers.[3]

Methicillin Resistant *Staphylococcus aureus* will carry *mecA* gene which encodes for penicillin-binding protein 2a (PBP2a), which differs from other penicillin-binding proteins as its active site does not bind methicillin or other β-lactam antibiotics. Thus MRSA is resistant to all β-lactam antibiotics currently available in Sri Lanka. In the above mentioned study MRSA constituted 50.5% (n=195) of *S. aureus* isolated from all clinical samples and 7 of the 18 (38.9%) *S. aureus* isolates from blood cultures. MRSA strains have shown a high level of resistance to antibiotics such as erythromycin, clindamycin (54% and 44% respectively) and ciprofloxacin (34.3%). [1]

In another study carried out in the National Hospital of Sri Lanka, 86% of the *S. aureus* isolates from wound curettings were MRSA.[4]

60/102 (59%) of the *E. coli* and 51/104 (49%) of the *Klebsiella* spp. from blood cultures were resistant to ciprofloxacin.[2]

Carbapenem resistance was not seen in coliforms from blood cultures in 2009 surveillance2 but in 2013 data it was very high (*E. coli 5-9%, Klebsiella 28-36%*).[3]

In another study 22 carbapenemase producing *Klebsiella pneumoniae* isolates from Sri Lanka were analysed for the molecular mechanisms of β-lactam resistance and the predominant resistance mechanisms detected in this study were OXA-181, NDM-1 carbapenemases and extended-spectrum β-lactamase CTX-M-15. Porin mutation was an independent predictor of high-level meropenem resistance in the entire Sri Lankan isolate collection.[5]

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Antibiotic resistance...

In significant urine culture isolates from 7 centres of the National Laboratory Based Surveillance of the Sri Lanka College of Microbiologists, resistance to oral antibiotics including cephalexin, cephradine, ciprofloxacin and amoxicillin-clavulanic acid was high in coliforms, especially in inward patients.[6]

Quinolone resistance was high in Salmonella paratyphi (91.6%) and in *Salmonella typhi* to a lesser degree (50%).[3] In *Pseudomnas aeruginosa*, sensitivity to imipenem and meropenem were 69.2% and 72.7%.[3]

Acinetobacter baumannii calcoaceticus, blood culture isolates showed only 60% and 55.6% sensitivity to meropenem and imipenem.[3] None of the 13 urine isolates of *Acinetobacter* species tested were sensitive to meropenem.[6]

Carriage as well as clinical isolates of *Streptococcus pneumonia* were resistant to penicillin.[7] In another study penicillin resistance was close to 90% and cefotaxime resistance was close to 50% in invasive pneumococcal isolates.[8]

In a study carried out in enteric organisms of farm animals, non-susceptibility to vancomycin among the tested *E. faecalis* and *E. faecium* isolates from broiler was 94% and 24% respectively. Non susceptibility to ampicillin, ciprofloxacin and trimethoprim/sulfamethoxazolein *Escherichia coli* from broiler were more than 50%. Multiple non-susceptibilities were observed in 211 (50%) of the isolates tested and all were from either poultry (48%) or cattle (2%), not from swine. [9]

The human isolates from cultures taken within 48 hours of admission to hospital, representing community acquired organisms, showed 20.4% resistance to cefotaxime in Sri Jayawardenepura General Hospital (SJGH) but only 10.7% in Lady Ridgeway Hospital for Children (LRH). None of the Gram negative isolates showed resistance to meropenem and none of the Enterococci isolates were resistant to vancomycin.[9]

Prevalence of vancomycin Resistant enrerococci in the ICU setting was 5% in a study carried out in the National Hospital of Sri Lanka.[10]

When these rates are compared with other countries, the resistance of Sri Lanka is close to other Asian countries like Pakistan but much higher than the resistance rates in countries like the United Kingdom, where the non-susceptibility to cefotaxime is only around 11% and to meropenem is only 0.1% in *E.coli* from blood cultures.[11]

Antibiotic resistance rates are very high in Sri Lanka and if we do not act now we will very soon come to the end of the miracle lane of antibiotics.

What can be done about this problem?

World Health Organisation has developed a "Global action plan on antimicrobial resistance" where 5 objectives are recommended.

Objective 1: **Improve awareness** and understanding of antimicrobial resistance through effective communication, education and training

Objective 2: **Strengthen the knowledge** and evidence base through surveillance and research

Objective 3: **Reduce the incidence of infection** through effective **sanitation, hygiene and infection prevention measures**

Objective 4: **Optimize the use of antimicrobial** medicines in **human and animal** health

Objective 5: Develop the economic case for **sustainable investment** that takes account of the needs of all countries, and increase investment in **new medicines, diagnostic tools, vaccines and** other interventions

In the executive summary of the WHO global strategy for containment of antimicrobial resistance they recommend interventions at different levels.

1. Patients and the general community
2. Prescribers and dispensers
3. Hospitals
4. Use of antimicrobials in food-producing animals
5. National governments and health systems
6. Drug and vaccine development
7 Pharmaceutical promotion
8. International aspects of containing antimicrobial resistance

In Sri Lanka few initiatives had been taken on this matter:

- National Alliance to combat antibiotic resistance was established in 2015
- National guidelines on antibiotic prescribing was completed-2015
- Combating antibiotic resistance and Infection Prevention and Control were included in the health policy-from 2017 onwards

In summary:

- Resistance to antibiotics is high in Sri Lanka
- Use of antibiotics promote development of resistance
- Do not prescribe or take antibiotics unless indicated (antibiotics are useful only to treat bacterial infections)
- **Stop the unnecessary use of antibiotics**
- **Do not take antibiotics without doctor's advice**
- **When necessary take the correct dose of antibiotics for the correct duration**
- **Practice good hygienic measures such as hand hygiene**

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NEW TECHNOLOGIES IN THE DIAGNOSIS AND MANAGEMENT OF SEXUALLY TRANSMITTED INFECTIONS /HIV / AIDS

Dr. G. Weerasinghe,
Consultant Venereologist

This the summary of the presentation made Dr. G. Weerasinghe (Consultant Venereologist) at the first SLMA joint clinical meeting held at Base Hospital Homagama on 18th of February 2016.

Introduction

In 2013, an estimated 2.1 million people became newly infected with HIV and 500 million people acquired chlamydia, gonorrhoea, syphilis and trichomoniasis in the world (www.unaids.org). In Sri Lanka, 50% STI cases were due to genital herpes and genital warts in 2014 and remaining 50% was due to bacterial and other STIs. Sri Lanka has stand-alone STD/HIV/AIDS services with 30 full time clinics and over 20 part-time clinics throughout the country, services which have been identified by the global STI surveillance report -2013 as a role-model for other developing countries.

HIV prevalence in Asia

Countries such as India, Indonesia, Myanmar and Nepal have concentrated HIV epidemics with Thailand having the highest level of HIV (generalized HIV epidemic). Meanwhile Sri Lanka has low prevalence HIV cases since the first case in a Sri Lankan patient in 1987.

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New technologies...

By end of December 2015, the cumulative number of HIV cases detected was 2,310 and the number of HIV positives followed up in clinics was 951. Out of them there were 799 persons on treatment. However, it was stated that there is an increasing trend of case detection in the country. What was revealed further is that the percentage of men who have sex with men among newly diagnosed HIV positives is also increasing.

What are the new technologies available in the diagnosis of STIs & HIV?

National STD/AIDS Control Programme is planning to introduce Nucleic Acid Amplification Tests (NAAT) for diagnosis of gonorrhea, chlamydia and HSV infections. Antigen – antibody combination test is used to screen for HIV and rapid HIV screening tests have also been introduced. PCR tests are provided through WHO assistance for early infant diagnosis (EID). Tests for EID and detection of drug resistance (HIV resistance to anti-retroviral drugs) are also being carried out. Blood donor screening for HIV has been happening in Sri Lanka since long time.

The other important tests such as CD4 count and viral load are already available at the National Reference Laboratory of National STI and AIDS Control Programme (NSACP). However NSACP has adopted the treat policy that all HIV positives will be treated as soon as they are diagnosed, irrespective of their CD4 levels.

Plans for the future

Sri-Lanka College of Venereologists and NSACP will work together to develop a road map to end AIDS in Sri Lanka. There are certain interventions that have been planned. Escalation of HIV testing , screening all pregnant mothers from 2016 onward, improvement of HIV services including ART services, improvement of STI services, continuation of targeted interventions (for female sex wokers, men having sex with men, beach boys, drug users) promotion of sexual health, promotion of condoms, improvement of monitoring and evaluation, surveillance and research, capacity building, strengthening of stakeholder involvement in control and newer communication strategies including social marketing are some such interventions.. Further all blood donors will be screened for HIV and by the end of 2016 all pregnant mothers will be tested for HIV. Considering the global evidence few policy decisions have recently been taken in Sri Lanka and a movement towards newer tests and treatment policies is included. Moreover, moving another step forward, without depending on donor funds the Sri Lankan government has decided to procure ART (Anti Retroviral Therapy) from 2016 onward.

SITUATIONS EASILY OVERLOOKED IN DENGUE LEADING TO DIRE CONSEQUENCES

By Dr. Jayantha Weeraman,
MD, DCH, DFM
Consultant Paediatrician
Epidemiology Unit
Ministry of Health

This the summary of the presentation made Dr. Jayantha Weeraman (Consultant Paediatrician) at the first SLMA joint clinical meeting held at Base Hospital Homagama on 18th of February 2016.

Management of dengue has improved remarkably over the years in Sri Lanka and as a result the case fatality rate has come down to 0.4% (2012), though the case number continues to rise every year (http://www.dengue.health.gov.lk/). Early detection of plasma leakage, appropriate fluid therapy and continuous monitoring of vital signs have been the reasons behind this accomplishment.

Morbidity and mortality of dengue is largely dependent on the management of DHF. Mainstay of management of DHF is fluid therapy especially during the critical phase. When deaths due to DHF were analyzed several causes such as bleeding, fluid overload leading to pulmonary oedema and underperfusion leading to shock were identified as primary causes. In DHF fluid overload can occur due to 3rd space fluid accumulation which is a summation of plasma leakage due to disease (natural) and excess isotonic solution given as therapy (iatrogenic).

In the management of DHF, leaking should be detected at the defervescence of fever with the rise of haematocrit and presence of fluid in peritoneal and pleural spaces. During this critical phase fluid should be given at an initial rate of 1.5 ml/kg/hour (orally or IV) while maintaining a normal pulse rate, normal blood pressure and pulse pressure around 30mmHg. Thereafter, the fluid rate can be adjusted to maintain the above said parameters. Sero-type 1 & 4 have been co-circulating in Sri Lanka since 2009 and sequential infection due to these serotypes produce minimal leaking. For this reason most DHF patients in Sri Lanka are mild leakers thus iatrogenic fluid replacement during the entire critical phase is usually minimal. Most patients recover uneventfully with the above fluid regime. When an excessive amount of fluid is given to a patient with DHF during the critical phase, the patient develops tachycardia with bounding pulse, wide pulse pressure (>30mmHg) and systolic hypertension. If these signs are overlooked and fluid therapy is continued it may lead to pulmonary and cerebral oedema and may even result in death.

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Situations Easily...

If fluid leakage is not detected for several hours or the patient presents at the stage of shock, he/she may have tachycardia with low volume pulse, narrow pulse pressure (less than 20mmHg) and systolic hypotension (less than 80-90mmHg). When in shock and hypotension, one needs to consider both leaking and bleeding as underlying causes. When resuscitating a patient of this nature, a bolus of normal saline or dextran (if haematocrit is very high) or blood (if haematocrit is low or equivocal) should be administered while correcting acidosis, hypocalcaemia, hyponatremia and hypoglycaemia. Failing to resuscitate the patient may lead to DIC and concealed bleeding and later multi-organ failure.

In summary, during the critical phase, DHF should be managed with minimum fluid replacement sufficient to maintain vital signs within normal limits. Any alarming deviation of vital parameters (Eg: tachycardia with good volume pulse and wide pulse pressure or tachycardia with poor volume pulse and narrow pulse pressure) should be detected early and managed appropriately on time to prevent any dreadful consequences.

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SLMA Notice Board

SLMA events and activities in March 2016

- **2nd March 2016**

A lecture discussion on "Responding to gender based violence victims; responsibilities of the Health staff"

To commemorate the International Women's Day 2016, held at the Accident Service Auditorium, NHSL, Colombo 10, organized by the Expert Committee on Women's Health- SLMA

- **14th March 2016**

A symposium titled "No Zika Yet Know Zika" held at Lionel Memorial Auditorium, SLMA, Colombo 07, organized by the Expert Committee on Communicable Diseases- SLMA

- **15th March 2016**

Monthly Clinical Meeting on "Sepsis" held at Lionel Memorial Auditorium, SLMA, Colombo 07, Organizedby SLMA in Collaboration with the College of Anaesthesiologists and Intensivists of Sri Lanka

- **28th March 2016**

A Workshop on "Vulnerability and Research Ethics" at Lionel Memorial Auditorium, SLMA, Colombo 07 organized by Forum for Ethics Review Committees in Sri Lanka

- **30th March 2016**

Joint CME Programme at Hemas Hospital Auditorium, Thalawathugoda, organized by SLMA

Prepared by Dr. NeelamaniePunchihewa
Honorary Secretary, SLMA

Lewis Sayre, M.D. with his suspension device for the treatment of scoliosis in 1877.

Their Treatment was by suspension and the use of Plaster of Paris Bandages
(London, 1877)

"Data don't make any sense,
we will have to resort to statistics."

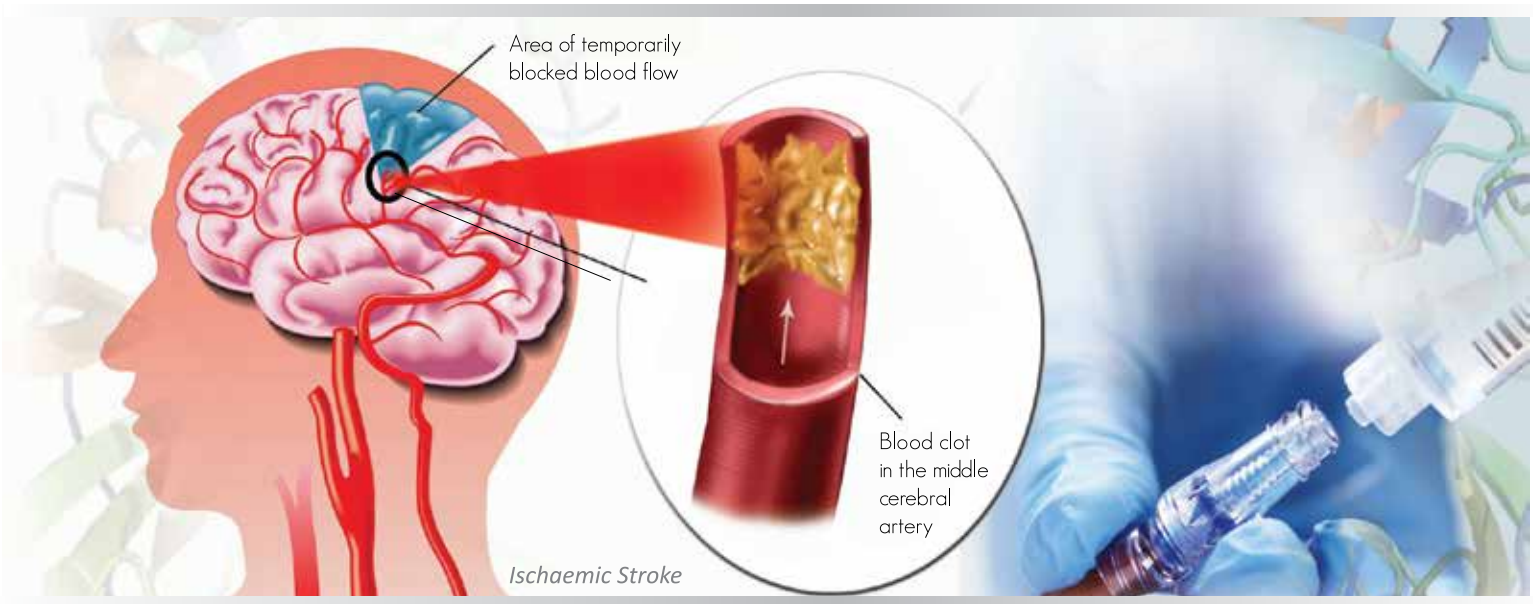
MALARIA COUNT 2016

15
Cases for 2016

All cases are imported !
Let's keep Sri Lanka Malaria free

DURDANS HOSPITAL
A Heritage Built On Values And Expertise

Introducing Advanced Stroke Treatment



- Introducing Clot-Busting Treatment (rtPA)
- Prevent major disability within 3 hours
- Speedy recovery
- Affordable treatment of strokes
- Access to World-Class treatment in Sri Lanka
- 24/7 on call Neurologists
- 24/7 Emergency CT/MRI diagnosis

A stroke is a 'brain attack', it is when the brain does not get the blood it needs due to a blood clot or a burst vessel. Durdans Hospital introduces Tissue Plasminogen Activator treatment (rtPA) (Clot-Busting Treatment) at its Advanced Heart & Stroke Centre. This clot-busting medication rtPA is given within three hours after stroke symptoms start. The treatment can prevent major disability, speeds up recovery and the adverse effects of a stroke can be minimised or completely reversed with swift treatment.

For emergency treartment, Durdans Hospital has a team of Neurologists and Stroke Specialists, available 24/7 with emergency CT/MRI scans for accurate diagnosis & identification of the affected area.

1st Joint Commission International (JCI) Accredited Hospital in Sri Lanka

When Stroke Strikes Act FAST

FACE — Drooping: Has their face fallen on one side?

ARMS — Weakness: Can they raise both arms?

SPEECH — Difficulty: Is their speech unclear?

TIME to Call — Durdans Helpline 1344

Prevent major disability within 3 hours
at Durdans Heart & Stroke Centre

*Conditions Apply

FAST

24/7

Stroke Symptoms → Accident & Emergency Services → Neurologists on Call → Emergency Diagnosis CT/MRI Scans → rtPA Treatment → Nursing Care ICU/Room → Physiotherapy → Return to normal life

Bloated ?

Introducing

an Ideal Solution

1st time in SRI LANKA

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- Functional gastric bloating
- Postoperative gas
- Immediate postprandial upper abdominal distress
- Intestinal distress

Quick Relief
(relieves gas within 5 seconds)

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* Thorax 2012;67:266e267. doi:10.1136/ thoraxjnl-2011-201522
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THE OFFICAL NEWSLETTER OF THE SRI LANKA MEDICAL ASSOCIATION

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