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SLMA NEWS+

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Foundation Sessions

SRI LANKA MEDICAL ASSOCIATION

ANNUAL GENERAL MEETING

Friday 23rd December 2022

Notice is hereby given that the Annual General Meeting of the Sri Lanka Medical Association will be held at 7.00 p.m. on Friday, 23rd December 2022, at the Lionel Memorial Auditorium, 6, Wijerama Mawatha, Colombo 7.

All members are cordially invited to be present.

Honorary Secretary, SLMA

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SLMA President

Prof. Samath D. Dharmaratne
MBBS (Colombo)
MSc (Community Medicine)
MD (Community Medicine)
President
Sri Lanka Medical Association

President's Message

Foundation Sessions 2022

Dear SLMA Members,

In my message for the November 2022 newsletter, I will talk about the SLMA Foundation Sessions 2022, the other main academic activity following the 135th Anniversary International Medical Congress 2022. The Foundation Sessions 2022 was held at Prof. N.D.W. Lionel Memorial Auditorium (SLMA Auditorium) from November 11th to 12th 2022.

The event was initiated with the Inauguration Ceremony and Dr E.M. Wijerama Endowment Oration on the evening of November 11th, 2022. The Chief Guest was Dr Padma Gunaratne, the immediate Past President of the SLMA and the oration was delivered by Dr B.J.C. Perera, the President in 2013. The oration was highlighted by the oratory capability of Dr B.J.C. Perera who presented his editorial experience through, "The quarter-of-a-century-long-trek: a tryst with destiny". The inauguration and the oration were followed by dinner and networking.

The next day, November 12th, Day 2 of the Foundation Sessions, had two sessions, targeting primary care physicians and the Sir Marcus Fernando Oration delivered by Dr Dineshani Hettiarachchi on "A study of the genetic aetiology of rare inherited conditions in the Sri Lankan population. The academic committee co-chairs Senior Professor Anuja Abhayadeera and Dr Surantha Perera, ably supported by the Honorary Secretary, Senior Professor Ishan De Zoysa and Ms Nirmala Wijekoon with the support of our ever-working office staff, Nadeehsa, Nadeera, Jayarani, Samararatne, Justin and Raja, helped to conclude a successful Foundation Session 2022.

I thank all participants, resource persons, orators, well-wishers, sponsors and especially the office staff of the SLMA, for their continuing support, encouragement, and motivation. Special thanks to the Executive Committee of the SLMA and the members of the Council, especially Senior Professor Anuja Abhayadeera, Dr Surantha Perera and Senior Professor Ishan De Zoysa. We are coming to the end of another successful year at the SLMA. December will host the SLMA Dance at the Cinnamon Grand hotel on December 16th, the Law-Medical cricket match on December 18th and the Annual General Meeting on December 23rd. I will describe the year in my last message to the newsletter in December.

Hope to see all of you at the SLMA dance and the Law-Medical cricket match.

With Best Wishes

Professor Samath D. Dharmaratne
President - SLMA

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SLMA Foundation Sessions

The inauguration of the SLMA Foundation sessions 2022 and the Dr. EM Wijerama Endowment Oration was held on 11th November 2022 at the Prof. N.D.W. Lionel Memorial Auditorium, SLMA, Colombo 07.

Dr BJC Perera, Consultant Paedatrician & Past President SLMA (2013) delivered the oration on 'The quarter-of-a-century-long trek: a tryst with destiny'.

The Chief Guest at the occasion was Dr Padma Gunaratne, Immediate Past President, SLMA. She spoke on the current economic and social crisis in the country and its effects on health of the Sri Lankans. She also spoke about the work carried out by SLMA in 2021 and how SLMA can play a major role in advocating for better health for the Sri Lankan people in the current context.

Two distinguished Past Presidents of SLMA, Dr Preethi Wijegunawardena (2002) & Dr Sunil Seneviratne Epa (2003) were awarded with Honorary Fellowships.

Awarding certificates and cash prizes for the best papers presented (both oral & posters) at the 135th Anniversary International Medical Congress 2022 and the SLMA research awards was also held on the same day.

The Foundation Sessions were held on 12th November 2022 along with the Sir Marcus Fernando oration delivered by Dr Dineshani Hettiarachchi, Senior Lecturer, Department of Anatomy, Faculty of Medicine, Colombo on 'A study of the genetic aetiology of rare inherited conditions in the Sri Lankan population'.

The resource persons and topics of lectures delivered at the sessions are given below;

Dr Wathsala Gunasinghe, Consultant Pulmonologist on 'Acute asthma', Professor Shaman Rajindrajith, Professor of Paediatrics on 'Functional abdominal pain', Dr Yasas Abeywickrama, Consultant Plastic Surgeon on 'Caring for a patient with a wound', Dr Indika Lanarolle, Consultant Emergency Physician on 'Identifying a critically ill patient', Dr Sandaru Hettiarachchi, Consultant Haemotologist on 'Iron deficiency anaemia', and Dr Gunendrika Kasthuriarachchi, Consultant Rheumatologist on 'Back pain'.

Day 01




Day 01






Day 02


SRI LANKA MEDICAL ASSOSICATION


SRI LANKA MEDICAL ASSOSICATION
THE INAUGURATION CEREMONY OF THE FOUNDATION SESSIONS - 2022

Best Papers (Oral and Poster) presented at the 135th Anniversary International Medical Congress

E M Wijerama Award - for the best paper
OP 27
Association of pathological prognostic factors with tumour budding in invasive breast carcinoma, no special type
Vinothika S, Wijesinghe HD, Lokuhetty MDS, Constantine SR

S E Seneviratna Award - for the best paper
OP 20
Cannabis promotion via Facebook in Sri Lanka: A content analysis
Senarath GUC, Sandaraje JDSAM, Sandaruwan KADH, Selvaratnam U, Senanayake SMAH, Perera KMN

H K T Fernando Award - for the best paper
OP 09
Association of long - term meditation with telomere dynamics, selected psychological variables and quality of life in healthy adults: A case control study
Dasanayaka HMNN, Sirisena ND, Samaranayake N

Sir Nicholas Attygalle Award - for the best paper
OP 05
Validation of whole blood clotting test (WBCT) to detect venom - induced consumption coagulopathy (VICC) in snake envenoming
Wedasingha S, Silva A, Siribaddana S, Seneviratne K, Isbister GK

Wilson Peiris Award - for the best paper
OP 30
Outcome after curative resection for colorectal cancer liver metastasis in Sri Lanka
Fernando KIC, Harryprashath M, Tillakaratne S, Cooray S, Gunatilleke B, Siriwardana R

Daphne Attygalle Award - for the best paper in Cancer
OP 27
Association of pathological prognostic factors with tumour budding in invasive breast carcinoma, no special type
Vinothika S, Wijesinghe HD, Lokuhetty MDS, Constantine SR

Sir Frank Gunasekera Award - for the best paper in Community Medicine / Tuberculosis
PP 71
Perceptions and concerns over sharing sexual and reproductive health information with their daughters; A qualitative study among mothers of adolescent girls aged 14-19 years in Sinhala families residing in Kalutara district
Mataraarachchi D, Vithana PVSC

Kumaradasa Rajasuriya Award - for the best paper in Tropical Medicine
OP 05
Validation of whole blood clotting test (WBCT) to detect venom-induced consumption coagulopathy (VICC) in snake envenoming
Wedasingha S, Silva A, Siribaddana S, Seneviratne K, Isbister GK

SPECIAL Prize in Cardiology - for the best paper in Cardiology
OP 02
Recalibration of Framingham coronary heart disease risk score for a selected Sri Lankan population and its association with carotid artery intima media thickness (CIMT)
Abeysuriya V, Wijesinha NAI, Priyadharshan PP, Chandrasena LG and Wickremasinghe AR

S Ramachandran Award - for the best Scientific Communication in Nephrology
OP 06
Chronic kidney disease following hump - nosed pit viper (genus: *hypnale*) bites
Rathnayaka RMMKN, Ranathunga PEAN, Kularatne SAM

Award for the best presentation in Pharmacology
PP 79
Antimicrobial activities of different parenteral antibiotic products: A comparative *in-vitro* study
Chathuranga BAG, Dissanayake T, Fernando N, Wanigatunge CA

SLMA Prize for the best Poster
PP 02
Frequency of germline variants of uncertain significance and clinicopathological features in Sri Lankan patients with hereditary breast cancer
Gunawardena KW, Sirisena ND, Anandagoda G, Neththikumara N, Dissanayake VHW

Research Awards

SLMA Research Grant
Strengthening Near - Miss Reporting System at Curative Health care Institutions in Sri Lanka
Dr M P Jayalath





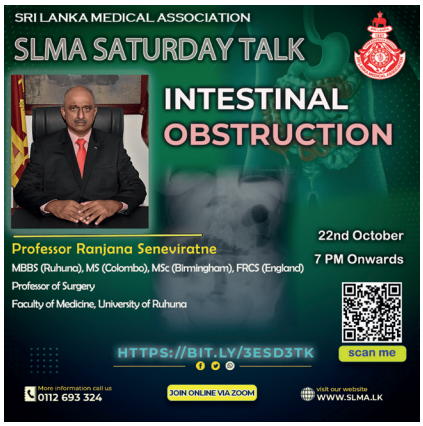





Activities in Brief (16th October - 15th November)

SLMA Saturday Talks

22nd October



'Intestinal Obstruction' by Professor Ranjana Seneviratne, Professor of Surgery, Faculty of Medicine, University of Ruhuna.

5th November

'Frailty & Sarcopaenia' by Dr FHD Shehan de Silva, Senior Lecturer in Medicine, Faculty of Medicine, University of Sri Jayawardenapura.

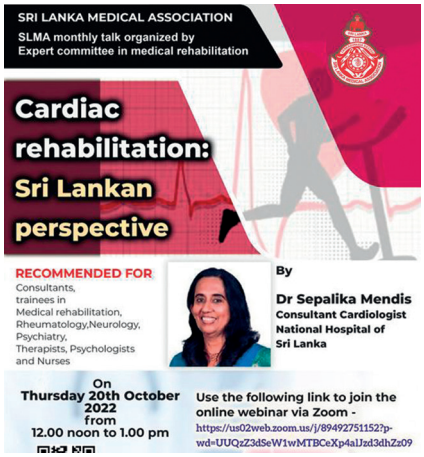
18th October

A clinical meeting was conducted with the collaboration of the Sri Lanka College of Psychiatrists on 'Problematic Internet Use in Children'.

Dr Gayani Rathnayake, Senior Registrar in Child & Adolescent Psychiatry presented a case and Dr Darshani Hettiarachchi, Consultant in Child & Adolescent Health did a review lecture on the subject of discussion.

20th October

The SLMA Expert Committee on Rehabilitation organized a symposium on 'Cardiac Rehabilitation: Sri Lankan Perspective'.



The resource person was Dr Sepalika Mendis, Consultant Cardiologist, NHSL, Colombo.

26th October

The SLMA Expert Committee on Communicable Disease organized a symposium on 'Polio Eradication: Are we there yet?' with the collaboration of the Sri Lanka College of Microbiologists to mark the World Polio Day.

The resource persons and topics are as given below;

Dr Samitha Ginige, Chief Epidemiologist, Epidemiology Unit, MoH on 'History, epidemiology and strategies to eradicate Polio: What are the obstacles in front of us?', Dr Janaki Abeynayaka, Consultant Virologist, MRI, Colombo on 'Detection of Polio virus from different sources, including sewage: How can we differentiate, wild types from vaccine types', Dr Saamir Mohideen, Consultant Neurologist, District General Hospital, Negombo on 'Clinical manifestations, management and Post-Polio syndrome: Does the management vary with wild types and vaccine-derived types?

27th October

The SLMA Expert Committee on Women's Health organized a seminar on 'Breast Cancer Awareness'.

The resource persons and topics of discussion are given below;

Dr Suraj Perera, Consultant Physician, National Cancer Control Programme, on 'Burden of Breast Cancer & Services available for Breast Cancer Screening', Dr Udari Liyanage, Consultant Radiologist & Senior Lecturer, Faculty of Medicine, University of Colombo on 'Breast Cancer Screening: , Evidence, Guidelines & Practices' and Dr Kanchana Wijesinghe, Consultant Surgeon & Senior Lecturer, Colombo South Teaching Hospital on 'Evolving Trends in Breast Cancer Management'.

12th November

The opinion of Professor Samath D Dharmaratne, President SLMA was requested by the media regarding the malnutrition situation and its effects on children in the country.

Mr.Sivarajah Thumilan
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Leprosy: Beyond the myth

Dr Indira Kahawita,

Consultant Dermatologist,
Anti Leprosy Campaign

Dr Dilini Wijesekara,

Consultant Community Physician,
Anti Leprosy Campaign

Leprosy has been known to mankind since Biblical times and has been a source of considerable fear due to its consequent disability and disfigurement.

Leprosy is a chronic infection of the skin and peripheral nerves caused by the intracellular bacterium *Mycobacterium leprae*. The bacterium, shed in the nasal and oral secretions of persons affected by multibacillary leprosy, enters susceptible individuals through the respiratory system. The majority of people who are infected will not develop the disease. In the approximately 10% of those infected developing the disease, the incubation period is long, sometimes extending up to about 10 years in the case of multibacillary leprosy.

Leprosy in Sri Lanka

Sri Lanka achieved the WHO target of "Elimination of leprosy as a public health problem" (prevalence of less than 1 per 10,000 population) in 1995, five years prior to the WHO target, as a result of the Multi Drug Therapy (MDT) and the successful social marketing campaign started in the year 1990 (1, 2).

Leprosy was incorporated into general health services in 2000. At present all cases of leprosy are diagnosed and managed by Consultant Dermatologists while preventive activities, including contact tracing, are carried out by the Medical Officer of Health staff at the district level. A separate public health inspector is there to coordinate the preventive and curative activities

Nearly 2000 new leprosy cases are diagnosed every year in Sri Lanka. About 40% of cases are reported from the Western Province while Southern and Eastern provinces and Anuradhapura and Polonnaruwa districts are the other high endemic areas.

About 10% of these are children below 14 years of age. Since the paediatric cases are indicative of ongoing transmission, this relatively high child rate has implications for leprosy control in Sri Lanka. More than 50% of the patients are diagnosed six months after the first appearance of symptoms. This delay in the presentation may result in a high rate of visible disability. Nearly seven per cent of the patients are found to have grade two deformities at the time of starting MDT. The majority of the affected patients are in the age groups between 25 to 55 years and are males. Hence there is an unseen burden on the economy.

Most of the important indicators of leprosy were found to be in a static status for the past two decades. Therefore, identifying the patients with leprosy and starting MDT as early as possible is important to interrupt the transmission of leprosy in the country,

Leprosy is a stigmatized disease and those affected are liable to be discriminated against by society. To minimize the stigma and for early case finding, the second social marketing campaign "LIFE SRILANKA" was launched by the Anti-leprosy Campaign this year.

Immunopathology

The immunopathology of leprosy is the key to its spectrum of clinical presentations. When there is good cell-mediated immunity (CMI) against *M. leprae* there will be one or a few skin lesions which is known as Tuberculoid Leprosy. In the Lepromatous pole, there will be no cell-mediated immunity against *M. leprae*, giving rise to diffuse skin involvement. Between these polar forms of leprosy, borderline forms with varying degrees of skin involvement occur. The CMI defect in lepromatous leprosy is unique by being exclusively against *M. leprae* without there being a generalized immune deficiency.

Clinical presentations

Leprosy may have varying clinical presentations. As the bacillus prefers a cooler temperature, certain areas of the skin like the scalp are less likely to be involved.

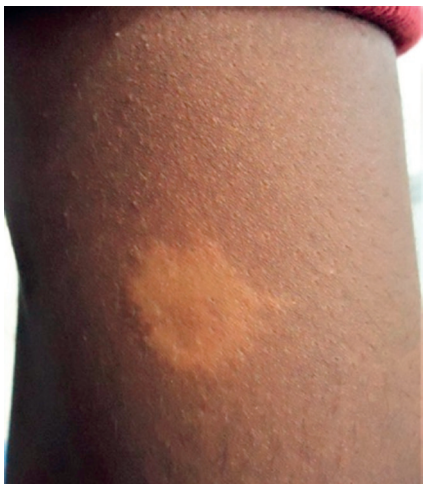

Figure 1: Hypopigmented anaesthetic patch in a child

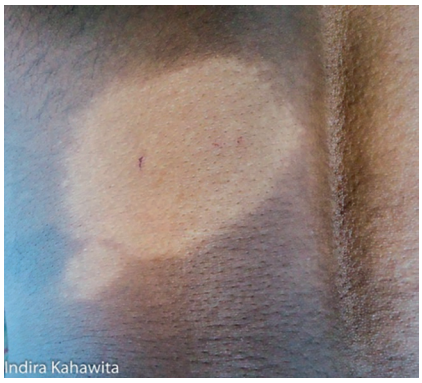

Figure 2: Larger copper coloured patch with formation of pseudopodia (indicative of disease spread)

The commonest skin lesion is a hypo-pigmented anaesthetic patch, which is usually single (figure 1, 2). Early lesions may show impairment of sensation only. Facial lesions may not show sensory impairment. The bacillus affects the skin appendages thus leading to dryness and loss of hair within the lesion. When a lesion overlies a bony prominence (the elbow, wrist) tapping on the skin lesion gives rise to deep pain. This is called the "tap sign". Sometimes cutaneous nerves leading to the skin lesion may be thickened. A major nerve trunk in the vicinity of the skin patch may be thickened, e.g., a skin lesion at the back of the elbow may be associated with a thickened ulnar nerve.

The lesion at the back of the elbow is important because it is a common location, less likely to be observed by the patient, and likely to give rise to ulnar nerve involvement (figure 3).

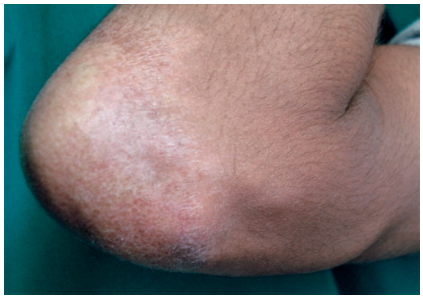

Figure 3: Dry anaesthetic patch in back of elbow

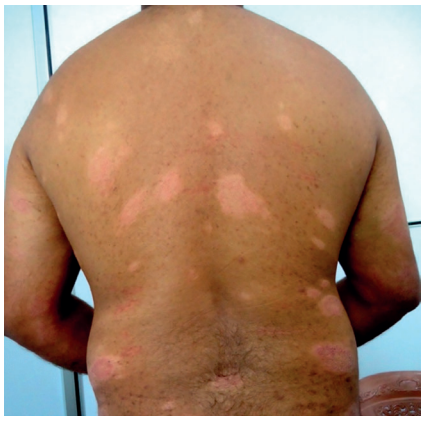

Figure 4: Multiple hypopigmented patches in the trunk

Multiple hypopigmented patches may resemble Pityriasis Versicolor (figure 4). Since the two conditions may co-exist, if in doubt always review the patient after treatment with antifungals (figure 5).

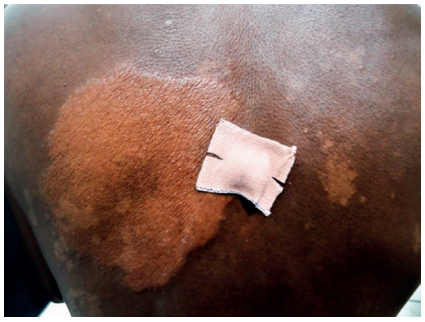

Figure 5: Co existence of leprosy (thick copper coloured lesions) and Pityriasis versicolor (flat pale lesions)

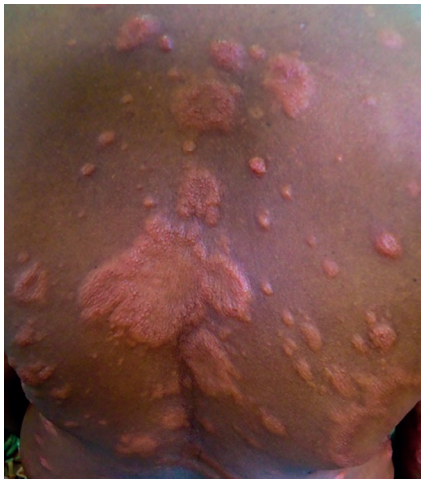

Figure 6: Copper coloured plaques with doughnut appearance

The number of lesions and the thickness of the lesions will increase over the spectrum from tuberculoid to lepromatous leprosy. In the borderline and borderline lepromatous forms, skin-coloured plaques and nodules may occur. These lesions are unlikely to have a sensory impairment. The typical lesion in borderline leprosy is a skin-coloured plaque with central clearing, a "doughnut lesion" (figure 6).

Lepromatous leprosy is characterized by facial changes. The "leonine facies" includes diffuse involvement of the facial skin, earlobe nodules, loss of eyebrows and nasal bridge collapse in some cases (figure 7). There may be diffuse thickening of the truncal skin or multiple skin-coloured nodules or plaques and peripheral neuropathy.

Nerve involvement in leprosy

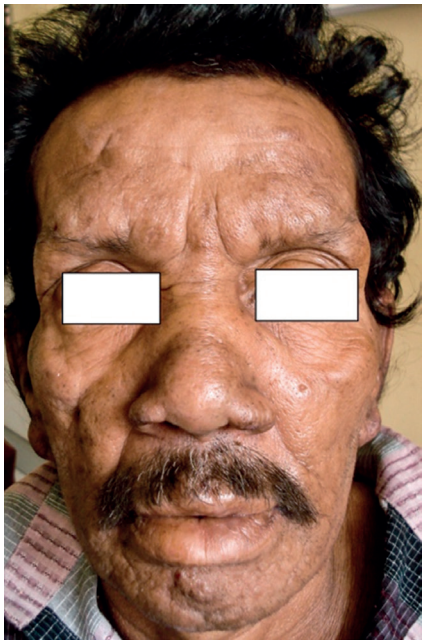

Figure 7: Leonine face with diffuse facial thickening and loss of eyebrows

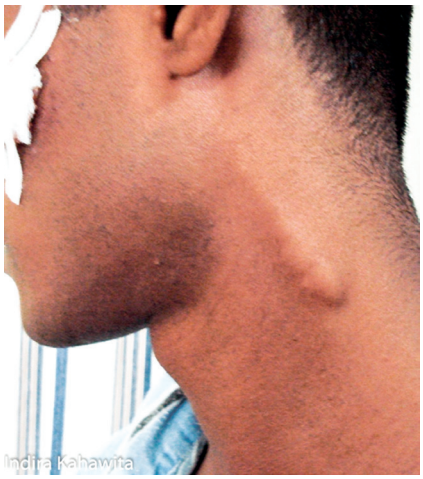

Figure 8: Irregularly thickened greater auricular nerve

In tuberculoid leprosy, the most likely nerve lesion is a single nerve involvement (irregularly thickened nerve) with sensory or motor impairment (figure 8). In lepromatous leprosy, peripheral neuropathy occurs with trophic ulcers in the hands and feet (Figure 9). Leprosy may sometimes present as a "primary neural" form with single nerve involvement (mononeuritis multiplex) without skin lesions. In such instances, the diagnosis may depend on investigations like nerve conduction studies, ultrasonography of the nerve or even nerve exploration and biopsy from an affected area.

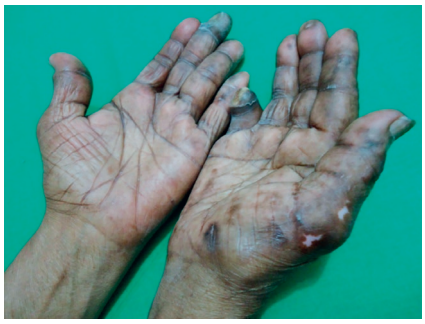

Figure 9: Anaesthetic hands with trophic ulcers, clawing of digits and loss of phalanges

Lepra reactions

Reactions are immunological phenomena due to the release of *M. leprae* antigens. Type I reactions are characterised by inflammation of the skin lesions and the nerves, which may give rise to new nerve impairment and nerve tenderness. Type II or erythema nodosum leprosum (ENL) reactions present as crops of tender subcutaneous nodules which may be associated with fever, joint pain, bone pain, iridocyclitis and other systemic features. ENL reactions are likely to run a chronic course.

Diagnosis of leprosy

The diagnosis of leprosy is mainly clinical and based on the presence of one of three major criteria (table 1). Slit skin smears and skin biopsies may be used to support the diagnosis. There are no serological tests that can be used in general clinical practice. The presence of PGL I antibodies has been demonstrated but cannot be used as a routine diagnostic test. PCR techniques can be used to demonstrate the presence of *M. leprae* DNA but these tests are not used in regular clinical practice. Nerve conduction studies, ultrasonography and ultrasound-guided FNAC are useful in the diagnosis of neural leprosy.

Table 1
Diagnostic criteria for the diagnosis of leprosy
Diagnosis of leprosy is based on the presence of at least one of the following 3 cardinal clinical signs

1. Definite loss of sensation in a pale (hypopigmented) or reddish skin patch
2. Thickened or enlarged peripheral nerve with loss of sensation and/or weakness in the muscles supplied by that nerve
3. Presence of acid-fast bacilli in slit skin smear

Management of leprosy

Leprosy is treated with a combination of antibiotics, multi-drug therapy (MDT) which is supplied free of charge by the WHO. Pauci-bacillary leprosy (PB), less than 5 skin lesions, is treated with monthly rifampicin and daily dapsone for 6 months. Multi-bacillary leprosy (MB) characterized by more than 6 skin lesions, neurological involvement or positive skin smear, is treated with monthly rifampicin, daily dapsone and daily clofazimine for 12 months. According to the WHO guidelines of 2018, the use of the multibacillary (3 drugs) regimen has been suggested as a provisional recommendation for all patients, 6 months for PB leprosy and 12 months for MB leprosy. Sri Lanka has not adopted these recommendations.

Lepra reactions are managed with prednisolone as the first-line therapy. Second-line drugs for type I reactions include azathioprine and ciclosporin, while thalidomide is the best second-line drug for type II reactions. Neurological impairments due to leprosy need supportive therapy including pain relief and physiotherapy.

Multi-drug therapy can be used safely in pregnant and breastfeeding women. Dapsone-induced haemolysis, hepatitis and dapsone hypersensitivity syndrome (fever, organomegaly and skin rash with eosinophilia occurring within 4 – 6 weeks of starting MDT) are the best-described adverse effects. Dapsone-induced agranulocytosis is rare, potentially life-threatening adverse event.

Orange discolouration of urine due to rifampicin and dry skin and brown discolouration of the skin due to clofazimine are other benign adverse effects.

Disability in leprosy

Disability in leprosy is due to neurological impairment, which may be sensory, motor or both. World Health Organization has classified disability into 3 grades, 0, 1 and 2. Impairments in eyes, hands and feet are considered in the disability grading. Sensory impairment by way of numbness of hands and feet constitutes grade 1 disability while visible deformities like trophic ulcers, clawing of hands and feet or foot drop constitute grade 2 disability.

The grade 2 disability rate in Sri Lanka shows a rise in the past few years. This is a matter for grave concern as these impairments are likely to be permanent and can affect individuals, families and society both economically and psychologically.

Public health considerations

Leprosy is a notifiable disease in Sri Lanka and the public health aspects are being handled by the Anti-Leprosy Campaign. A routine investigation has to be carried out by the Public Health Inspector for each notification. The main aims of this investigation are to ensure that the patient is compliant with the treatment and to facilitate the examination of household contacts. It has been shown that in Sri Lanka 1 in 5 index cases has at least one other person affected by leprosy within the household. Hence contact examination is a major activity in leprosy control (3, 4).

Key learning points

- Leprosy is a disease still being actively transmitted in Sri Lanka. Approximately 2000 new cases are diagnosed each year.
- Even though the hypopigmented anaesthetic patch is the commonest feature, leprosy may have varying clinical presentations including nerve involvement.
- Effective treatments are available at Dermatology Units. Please refer in case of doubt or on suspicion.
- Examination of household contacts is an essential part of leprosy control.

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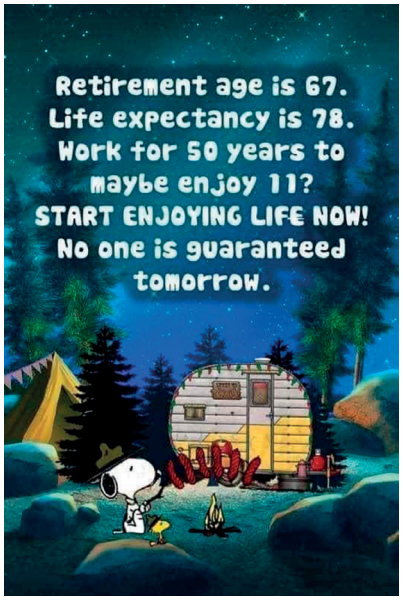

A man asked an artist
"How do you make such beautiful things from stone?"
He replied,
"Beauty is already hidden there. I just remove extra stone.."
Your happiness is hidden within yourself. Just remove your worries.

Medi KAL Nutrience

PULMOSOL

Purpose Formulated Food Mix

SCIENCE BASED NUTRITION

Benefits of formulated Nutrition in Managing COPD [1,2,3,4]

Inclusion of nutritional support in COPD, mainly in the form of Oral Nutritional Supplements (ONS), can **help to overcome energy and protein imbalances, improve anthropometric measures, increase the grip strength** and most importantly **improve the nutritional status** and **functional capacity** of the patients

High Energy 240kcal	Helps to improve patient rehabilitation, improve dyspnea scores and overall body weight
High Protein 12.5g	Helps to improve respiratory symptoms, muscle strength and overall functional status
High BCAA 2.45g	Helps to stimulate muscle protein synthesis
High Fat 11g	Helps to reduce partial pressure of carbon dioxide (PaCO2), respiratory quotient (RQ) and overall lung function
Low Carbohydrate 24g	Lowers production of carbon dioxide supporting for an easier breathing
Omega 3 400mg	Helps to lower TNF and improve exercise tolerance
Vitamin D3 2.3mcg	Helps to reduce COPD exacerbation rates in most deficient patients
Glutamine 1.8g	Helps to prevent further metabolic disturbances in COPD patients
11 vitamins & 5 minerals	Helps to exert potent anti-inflammatory and antioxidant effects, reduce lipid peroxidation, which are likely to be protectve in the progression of COPD

Enriched Nutrition for Easier Breathing & Improved Pulmonary Outcomes

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To Err is Human. What about us doctors?

Dr Shehan Silva

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University of Sri Jayewardenepura
(An extract of the College Lecture of the Ceylon College of Physicians, presented by the author in 2019)

Case 1

A 56-year-old male presented with cough and fever. Other than finding a right side consolidation, intracardiac coils of metallic wires were seen incidentally in the chest X-ray. On further questioning, the patient had undergone a vascular interventional procedure for varicose veins 3 years back. (The surgeon had failed to retrieve the guide wire). The patient was informed of the findings without any reservation (duty of candour maintained). He was treated for pneumonia and was excluded from having infective endocarditis. The patient underwent open heart surgery. An inquiry after patient's complaint was conducted by the ministry of health halted midway without any records or results. Was the process terminated due to poor association and causation (unlikely), withdrawal of complaint by the patient (mediation) or manipulation by involved parties (foul play)?

In 1977, the worst disaster in the aviation industry occurred in Tenerife, Canary Islands. Two 747 jumbo jets collided with each other losing 582 souls while trying to depart from the same runway. Many reasons were attributed to this including unfavourable weather, faulty communication systems, flight delays, not following protocol and stringent demeaning hierarchical behaviour (God phenomenon) in the cock pit. Can one compare aviation and medicine regarding errors? Medicine too is a high-risk field that deals with a threat to human lives due to errors. However, the field of aviation is much safe than medicine as it is considered an ultrasafe field whereas the latter is on the border between dangerous and regulated levels. (figure 1)

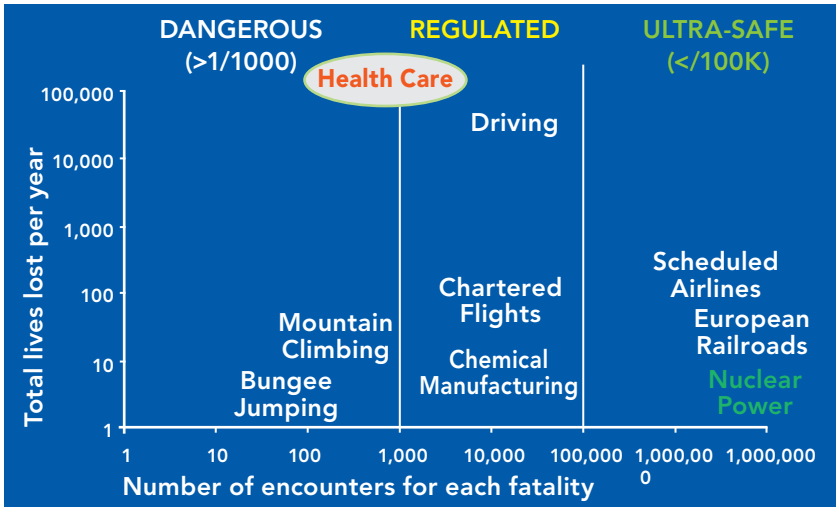


Figure 1. Safety of Medicine

In 1999, the Institute of Medicine, USA published *To Err is human: Building a safer health system*. This resulted in increasing awareness of US medical errors of which contributed to 44,000 – 98,000 preventable deaths. This surmounts 3 jumbo jets crashing every 2 days over a year. Unfortunately in Sri Lanka, there are no reliable statistics on medical errors and there is no category of morbidity and mortality in the annual health bulletin. We rely on a large body of anecdotal narratives from patients, relatives and fellow doctors. As disciples of Hippocrates, our responsibility is primarily *primum non nocere*. The service to humanity in absence of personal gain is ideal, incurring an obligation to uphold dignity and honour extending bounds of usefulness.

Terminology

Safety and quality are closely related but not closely overlapping. Healthcare must guarantee delivery of safe service, preventing errors and adverse events. Is this Utopian? *Harm* is the physical and psychological damage to an individual. A *hazard* is something that has the potential to harm that individual while the *risk* is the

likelihood of causing harm. *Errors* are failures of planned actions to be completed or intended or wrongly planned by omission or commission. They are manifold. A *near miss* is an unplanned event that did not result in injury, illness or damage but had the potential to do so. An *adverse event* is an injury caused by medical management rather than the underlying condition. A preventable adverse event is attributable to an error. *Never events* are serious largely preventive safety incidents that should not occur when preventable measures are available. *Negligence* is failure to meet the accepted standards of practice of an average professional in the speciality. (figure 2)

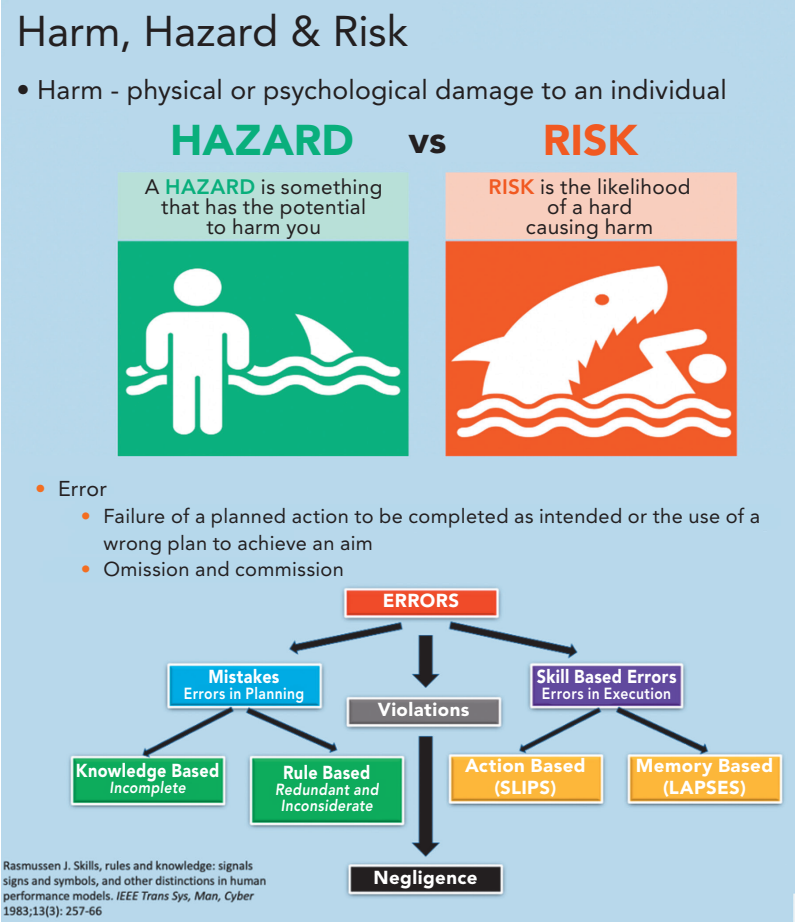


Figure 2. Terminology of medical errors

Theory of Errors

It was in the past that errors were merely considered as shame, blame and punitive. At present, errors are considered to be a triad.

a. Human error - difficult to eliminate and not blameworthy.

b. At-risk behaviour - intentional behaviour resulting in errors when drifting from rules and taking shortcuts.

c. Reckless behaviour - conscious disregard for safety.

Active failures are unsafe acts that can be directly linked at the level of the operator. They occur at the time of the incident giving rise to effects felt immediately. In contrast, latent failures are not under the direct control of the operator. They could arise due to fatigue, stress, emotions, interruptions, complexity of systems and transition of duty (handover).

James Reason reasoned that most errors occur due to a series of small failures lining up. This has been described as the "Swiss Cheese Effect", where the slices are defences, barriers or safeguards. The holes of the cheese can be likened to weaknesses or breaches. The alignment of these holes gives rise to a trajectory (figure 3). As an example, an older adult falling in the ward can be attributed to frailty, postural hypotension, reduced supportive care, cluttered ward with wet floors.

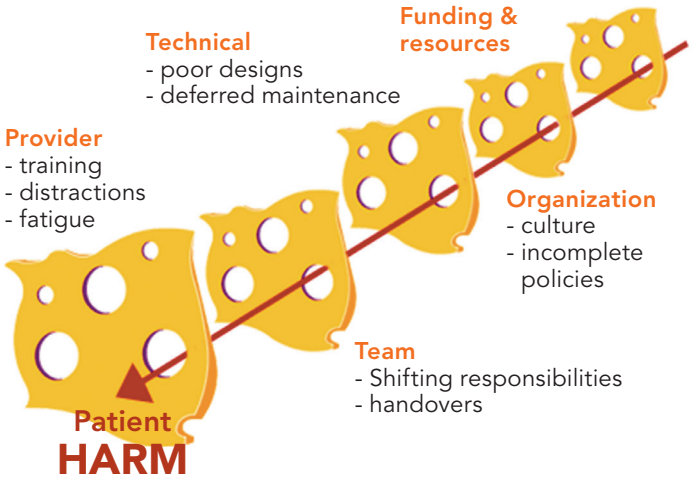


Figure 3. Swiss Cheese Effect

Reporting of Errors

Reporting medical errors leads to learning and improvement of safety. It generates alerts and disseminates lessons learnt. Furthermore, analysis can reveal unrecognized trends and hazards. Successful reporting and learning systems should be merely non-punitive. They will lead to constructive responses and recommendations.

Root Cause Analysis

Root cause analysis aims to learn from mistakes to reduce the likelihood of repetition and not to apportion blame. However, recklessness, malice or instabilities needs disciplinary steps. The following steps are essential

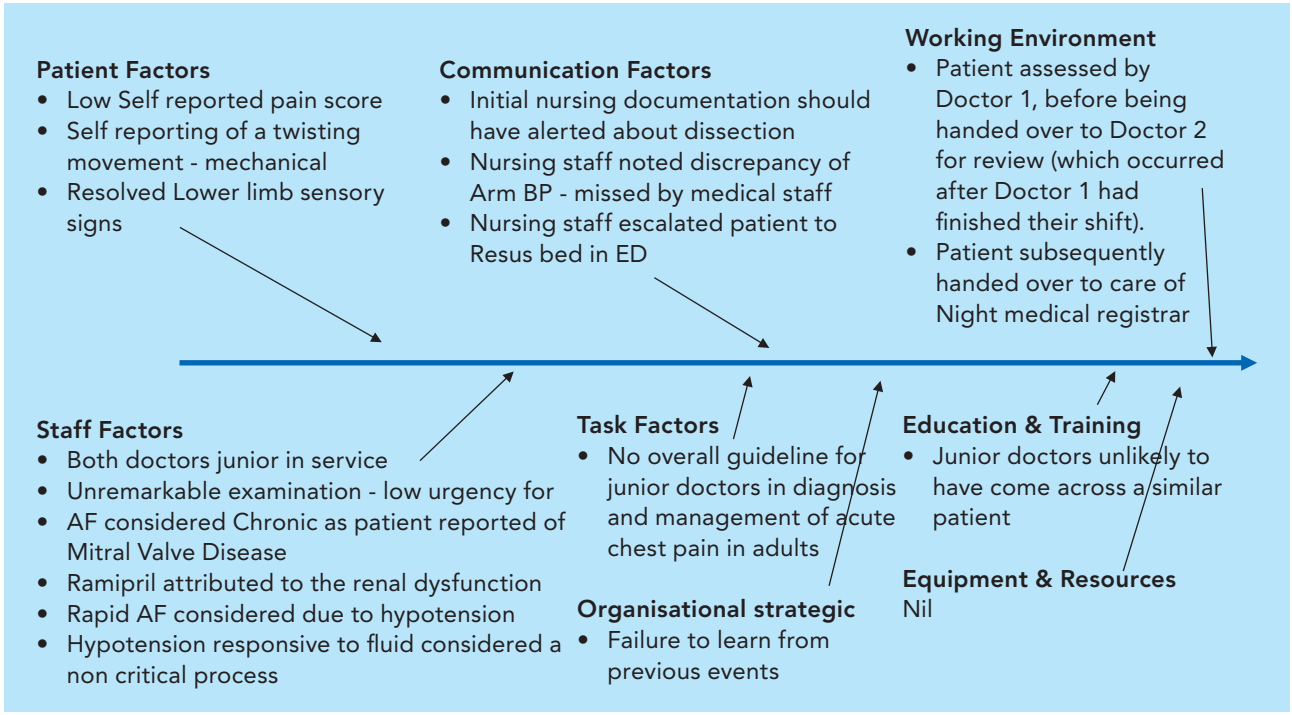
1. Gathering and mapping information by listening to all parties
2. Identification of care and service delivery problems by omission and commission
3. Analysis of problems using tools such as fishbone diagrams and assessment of risk (figure 4)
4. Generation of recommendations and solutions by discipline and protocol
5. Implementation of solutions (action plan)
6. Reporting and dissemination.

			Potential Consequences				
			L6	35	L4	L3	L2
			Minor injuries or discomfort. No medical treatment or measurable physical effects.	Injuries or illness requiring medical treatment. Temporary impairment.	Injury or illness requiring hospital admission.	Injury or illness resulting in permanent impairment.	Fatality
			Not Significant	**Minor**	**Moderate**	**Major**	**Severe**
Likelihood	Expected to occur regularly under normal circumstances	**Almost Certain**	**Medium**	**High**	**Very High**	**Very High**	**Very High**
	Expected to occur at some time	**Likely**	**Medium**	**High**	**High**	**Very High**	**Very High**
	May occur at some time	**Possible**	**Low**	**Medium**	**High**	**High**	**Very High**
	Not likely to occur in normal circumstances	**Unlikely**	**Low**	**Low**	**Medium**	**Medium**	**High**
	Could happen, but probably never will	**Rare**	**Low**	**Low**	**Low**	**Low**	**Medium**

Figure 4. Assessment of risk

Case 2

A 60-year-old man with hypertension and mild mitral valve disease was brought at 2100 hrs to the accident and emergency unit in a UK hospital. He had sudden onset interscapular pain, dizziness and transient lower limb sensory impairment of 3 hours. All these symptoms had resolved at the time of assessment by 2 on-call doctors. However, there was evidence of multiorgan dysfunction with hypotension, hyperlactataemia, and raised creatinine. Intravenous fluid resuscitation was commenced while antihypertensives were withheld. The chest X-ray showed a widened mediastinum. The ECG demonstrated atrial fibrillation with a ventricular rate of 100/min. The blood pressure remained low overnight while being on ongoing iv fluids in a medical ward (rather than in an ICU). At the next day's post-casualty round the consultant considered the patient to have an aortic dissection which was confirmed with a CT scan that showed rupture with moderate haemopericardium. The patient was transferred to a cardiosurgical unit where an emergency repair was done. He developed mild dysphasia which was attributed to a perioperative stroke. He recovered spontaneously but was complicated by dysphagia and recurrent aspiration pneumonia. Root cause analysis was done for which an Ishikawa (fishbone) diagram was drawn from these circumstances. The level of harm was considered to be absent. The likelihood of recurrence was rare. Thus the risk rating was considered low risk (figure 5). The root cause was considered a lack of comprehensive guidelines to assist juniors in diagnosis and management. A trust patient safety improvement plan was devised. Apologies were extended to the patient both informally and by letter.



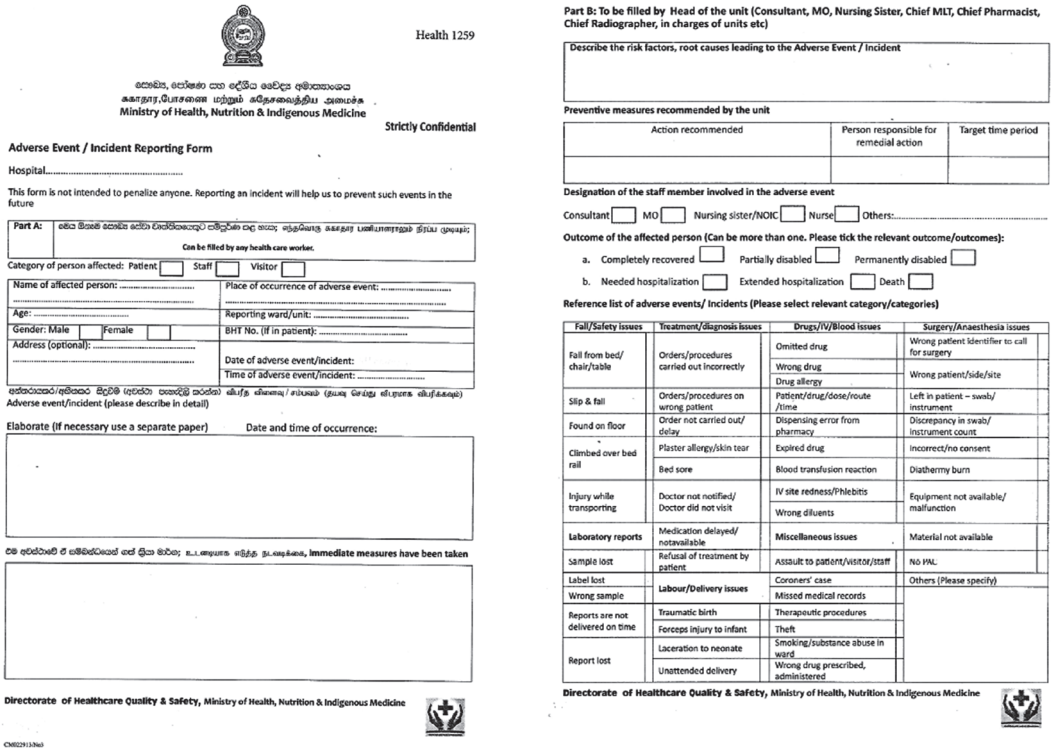
A **Level of harm** *No harm (1) to death/ catastrophic (5)*		B **Likelihood of recurrence** *Rare (1) to Almost certain (5)*		C **Risk Rating** *(C = A x B)*	
No Harm (1)		Rare (1)		Low risk (1)	

Figure 5. Risk assessment of Case 2

Milestones in Sri Lanka

Until 2010 the 5S concept was the main focus of improving quality in Sri Lanka. In 2010 the Ministry of Health guidelines for the Improvement of Quality and Safety of Health Care Institutions were released. This resulted in the establishment of quality management units (QMUs) in hospitals. The guidelines acknowledge covering up of incidents, lack of knowledge, blame and shame leading to underreporting. In many hospitals in the private sector, critical incident reporting mechanisms are in existence although they may not be operating at their full potential with poor attitudes towards a culture of reporting questionable incidents.

At present in the government sector, an incident reporting mechanism similar to the notification of diseases has been established. The system utilises the form H1259 (Figure 6). Part A of the form can be filled by any healthcare worker in any language which should be done immediately after the occurrence of the event when the affected is safe. The reporting should be made to the most senior official and the director. Part B is to be filled by the head of the unit. An investigation of the root cause and contributory factors after a discussion with involved individuals. This should be then dispatched to the QMU. Further root cause analysis should be done by the director and the relevant stakeholders without any breach of confidentiality and criticism. Every attempt should not find fault unless there is gross negligence. Thereafter preventative and corrective actions should be implemented followed by monitoring and auditing.



Health 1259

Ministry of Health, Nutrition & Indigenous Medicine

Strictly Confidential

Adverse Event / Incident Reporting Form

Hospital.....

This form is not intended to penalize anyone. Reporting an incident will help us to prevent such events in the future

Part A: Can be filled by any health care worker.

Category of person affected: Patient ☐ Staff ☐ Visitor ☐

Name of affected person: ..... Place of occurrence of adverse event: .....

Age: ..... Reporting ward/unit: .....

Gender: Male ☐ Female ☐ BHT No. (If in patient): .....

Address (optional): ..... Date of adverse event/incident:

Time of adverse event/incident: .....

Adverse event/incident (please describe in detail)

Elaborate (If necessary use a separate paper) Date and time of occurrence:

Immediate measures have been taken

Directorate of Healthcare Quality & Safety, Ministry of Health, Nutrition & Indigenous Medicine

Part B: To be filled by Head of the unit (Consultant, MO, Nursing Sister, Chief MLT, Chief Pharmacist, Chief Radiographer, in charges of units etc)

Describe the risk factors, root causes leading to the Adverse Event / Incident

Preventive measures recommended by the unit

Action recommended	Person responsible for remedial action	Target time period

Designation of the staff member involved in the adverse event

Consultant ☐ MO ☐ Nursing sister/NOIC ☐ Nurse ☐ Others:.....

Outcome of the affected person (Can be more than one. Please tick the relevant outcome/outcomes):

a. Completely recovered ☐ Partially disabled ☐ Permanently disabled ☐

b. Needed hospitalization ☐ Extended hospitalization ☐ Death ☐

Reference list of adverse events/ Incidents (Please select relevant category/categories)

Fall/Safety issues	Treatment/diagnosis issues	Drugs/IV/Blood issues	Surgery/Anaesthesia issues
Fall from bed/ chair/table	Orders/procedures carried out incorrectly	Omitted drug	Wrong patient identifier to call for surgery
		Wrong drug	Wrong patient/side/site
		Drug allergy	
Slip & fall	Orders/procedures on wrong patient	Patient/drug/dose/route /time	Left in patient – swab/ instrument
Found on floor	Order not carried out/ delay	Dispensing error from pharmacy	Discrepancy in swab/ instrument count
Climbed over bed rail	Plaster allergy/skin tear	Expired drug	Incorrect/no consent
	Bed sore	Blood transfusion reaction	Diathermy burn
Injury while transporting	Doctor not notified/ Doctor did not visit	IV site redness/Phlebitis	Equipment not available/ malfunction
		Wrong diluents	
Laboratory reports	Medication delayed/ notavailable	Miscellaneous issues	Material not available
Sample lost	Refusal of treatment by patient	Assault to patient/visitor/staff	No PAL
Label lost	Labour/Delivery issues	Coroners' case	Others (Please specify)
Wrong sample		Missed medical records	
Reports are not delivered on time	Traumatic birth	Therapeutic procedures	
	Forceps injury to infant	Theft	
Report lost	Laceration to neonate	Smoking/substance abuse in ward	
	Unattended delivery	Wrong drug prescribed, administered	

Directorate of Healthcare Quality & Safety, Ministry of Health, Nutrition & Indigenous Medicine

Figure 6. Adverse Event/ Incident Reporting Form

Building a Safe Healthcare System

a. Principles

- Safety is everybody's business at all levels with high priority.
- Senior members need to accept setbacks and anticipate the possibility of errors (the 'God phenomenon' is to be discouraged).
- Effective risk management depends on the collection, analysis and dissemination of data.
- Adoption of a proactive approach to improving safety by seeking error traps, eliminating error-producing factors and brainstorming new scenarios of failure.
- Concentrate on rectifying the system rather than blaming the individual.

b. Policies

- Avoid 'shooting the messenger'.
- Safety-related information channelling to higher levels.
- Risk management is considered not as an outlier.
- Regular multidisciplinary safety meetings.

- Creation of a culture of reporting, justice and openness.

c. Procedures

- Training in recognition and recovery of errors.
- Providing feedback on error protocols.
- Descriptive job protocols.
- Establishment of intelligible, workable and available protocol e.g. The WHO surgical safety checklist.

d. Practices

- Rapid useful and intelligible feedback on lessons learnt and actions needed.
- Acknowledgement, mitigation, information and apology when mistakes happen.
- Welcoming conclusions and acting upon them.

One must look after himself before looking after patients. The well-being of the care provider is important before taking responsibility for a high-risk prone duty. Furthermore before the commencement of work, one should HALT (Are you Hungry/ Angry/ Lonely/ Tired?). In the airline industry, pilots perform the sterile cockpit rule where the well-being of each team player is actively questioned and evaluated before the flight.

Duty of Candour

The professional duty of candour is an essential quality that all healthcare providers must practice. They must be open and honest when something goes wrong with the care or has the potential to cause harm or distress. Thus the patient (or when appropriate the next of kin) should be informed when something goes wrong along with its short and long-term implications. Apologies should be extended with sincerity. This should be followed by appropriate remedy or support. This duty of candour should also be present among peers, seniors and other relevant stakeholders.

Novos Ordo Seclorum

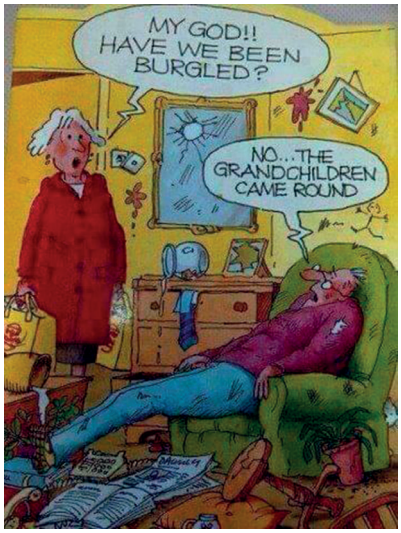
Healthcare staff should have confidence in a local incident reporting system to use to notify all kinds of incidents (Reporting culture). All parties should be treated with fairness with empathy and consideration when they have been involved with an incident or raised safety issue (Just culture). The healthcare staff should feel comfortable discussing patient safety incidents and raising safety issues with both colleagues and senior managers (Informed culture). The organisation should be committed to learning safety lessons through communication and training (Learning culture). Above all, a "No-blame culture" should be established where honest errors are reviewed. On the contrary wilful repetitive dangerous behaviour should be identified, distinguishing culpable from non-culpable mistakes.

SAFETY first

In summary, all professionals at all levels of the organisation should be geared to **s**ense errors and **a**ct to prevent them. Guidelines should be **f**ollowed and **e**nquiry into the event should be done. Remedial action needs to be **t**aken promptly. Safety must be considered always **y**our responsibility.

"Lord, grant me the *courage to realize my daily mistakes* so that **tomorrow** I shall be **able to see** and **understand** in a **better light**, what I **could not comprehend** in the **dim light** of **yesterday**" (Maimonides)

**Cases presented in this article are real incidents that the author had encountered in his practice in Sri Lanka and in the United Kingdom*



New Perspectives on Breast Cancer in the Post-Genomics Era

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1. Introduction

Globally, the most common cancer among women is breast cancer [1]. Its incidence is rising exponentially and is most evident in developing countries [2]. According to GLOBOCAN 2020 report, 3,975 new cases of female breast cancer were reported in Sri Lanka accounting for 25.7% of cancers among women [1]. The gravity depicted by these figures signifies the importance of implementing strategies for early detection, effective management, and prevention of breast cancer in the country.

In the current post-genomics era, major advances have been made in identifying genetic contributors to breast cancer development. Pragmatically, improved breast cancer diagnosis, prognostication, treatment, risk-directed screening, and prevention, are the main areas which are being revolutionized with advancements in genomics. This article aims to further elaborate the translational implications of these novel technologies on breast cancer care.

2. Genetic basis of breast cancer

All cancers arise due to genetic alterations (variations) in cancer-predisposing genes (CPGs) leading to disrupted cellular proliferation, differentiation, and apoptosis. However, not all cancers are inherited. Genetic variants in CPGs could be either acquired (somatic/confined to tumour tissue) or maternally/paternally inherited (germline). Germline pathogenic variants in high-penetrant genes involved in the regulation of cell growth and/or DNA repairs such as proto-oncogenes, tumour suppressor genes and DNA mismatch repair genes could lead to the development of hereditary cancer, which constitutes 5-10% of all cancers [3]. Based on their frequency and level of risk conferred, CPGs could be categorized as rare, high-penetrant genes imposing a 5-10-fold cancer risk, or rare, moderate-penetrant genes imposing a 2-3-fold cancer risk (Table 1) [4].

Hereditary cancers often present with early-onset disease, bilateral disease, multiple primaries, or familial clustering of cancers associated with a suspected hereditary syndrome. They mainly exhibit an autosomal dominant inheritance pattern.

3. Indications for referral for genetic risk assessment and counselling

According to current NCCN Clinical Practice Guidelines in Oncology, indications for genetic risk assessment and testing for a patient diagnosed with breast cancer include [4]:

- Breast cancer age of onset ≤50 years
- Any age with one of the following specific indications:
  - Treatment indications
    - To aid in systemic treatment decisions using Poly (ADP-ribose) polymerase (PARP) inhibitors for breast cancer in the metastatic settings
    - To aid in adjuvant treatment decisions with Olaparib for high-risk, HER2-negative breast cancer
  - Pathology/histology
    - Triple-negative breast cancer
    - Multiple primary breast cancers (synchronous or metachronous)
    - Lobular breast cancer with a personal or family history of diffuse gastric cancer
  - Male breast cancer
  - Family history
    - ≥1 close blood relative with any of the following:
      - » breast cancer at age ≤50 years
      - » male breast cancer
      - » ovarian cancer
      - » pancreatic cancer
      - » prostate cancer with a metastatic or high or very-high-risk group (Initial Risk

Stratification and Staging Workup in NCCN Guidelines for Prostate Cancer)

- ≥3 total diagnoses of breast cancer in a patient and/or close blood relatives
- ≥2 close blood relatives with either breast or prostate cancer (any grade)

Next-generation sequencing (NGS)-based whole exome sequencing (WES) for germline pathogenic variant detection in hereditary breast cancer patients is now available in Sri Lanka. It is carried out on DNA samples obtained from peripheral venous blood. Genetic testing should always be preceded by pre-test genetic counselling by trained personnel.

Once a germline pathogenic variant is detected in the index case, screening of pre-symptomatic family members could be performed using the Sanger sequencing technique to determine their individual risk status. However, screening asymptomatic children should be awaited till 18 years of age to enable them to make an informed decision on genetic screening.

4. Benefits of genetic testing for detection of germline pathogenic variants in high-penetrant cancer predisposing genes in hereditary breast cancer

The main benefits pertaining to the management of breast cancer (*vide infra*) and the institution of risk-reducing measures regarding the future cancer risk. The risk-reducing approaches vary depending on the CPG involved and are usually discussed with the patient or the pre-symptomatic mutation carrier during the post-test genetic counselling session, to enable them to make an educated, informed decision. Furthermore, options for preventing transmission of the germline variant to future offspring through alternative reproductive technology are also addressed.

Listed below are the recommended risk-reducing approaches and surveillance measures which should be offered to breast cancer patients and pre-symptomatic individuals harbouring germline pathogenic variants in *BRCA1* and *BRCA2* genes, which are the most potent genes predisposing to hereditary breast and ovarian cancer development [4].

BRCA1/2 positive breast cancer affected patients

- Risk-reducingng mastectomy (RRM) and salpingo-oophorectomy (RRSO). RRSO is recommended between the ages of 35-40 years, and upon completion of childbearing. The average age of development of ovarian cancer in individuals harbouring *BRCA2* variants is 8-10 years later than those who harbour *BRCA1* pathogenic variants. Therefore, for individuals harbouring *BRCA2* pathogenic variants, it is reasonable to delay RRSO for management of ovarian cancer risk until age 40–45 years unless age at diagnosis in the family warrants an earlier age for consideration of prophylactic surgery.
- If not already undergone a bilateral mastectomy, screening is recommended with an annual mammogram and breast MRI.

BRCA1/BRACA2 positive pre-symptomatic individuals

- **Females**
  - Breast awareness starting at age 18 years.
  - Clinical breast exam, every 6-12 months, starting at age 25 years.
  - Discussion about the option of RRM.
  - Breast screening with imaging
    - » Age 25-29 years - annual breast MRI with contrast (or mammogram, only if MRI is unavailable) or individualized based on family history if a breast cancer diagnosis before age 30 is present.
    - » Age 30-75 years - annual mammogram and breast MRI with contrast.
    - » Age >75 years - management should be considered on an individual basis.
- **Males**
  - Breast awareness training and education starting at age 35 years.
  - Clinical breast exam, every 12 months, starting at age 35 years.
  - Consider annual mammogram screening in men with gynecomastia starting at age 50 or 10 years before the earliest known male breast cancer in the family (whichever comes first).

❖ **Frequent concerns raised by patients and clinicians regarding RRM and RRSO**

After detecting a *BRCA1* or *BRCA2* pathogenic variant in an individual, uncertainty remains in both patient and clinician parties regarding the place of RRM and RRSO. Table 2 depicts the survival probability offered by those risk-reduction measures which would aid the patients to make an informed decision [4].

Ideally, RRSO should be followed by hormone replacement therapy to avoid the morbidity associated with hormone deficiency which in turn raises concern in both patients and clinicians due to worries about the risk of future breast cancer development. However, current evidence does not show an increased risk of breast cancer with hormone replacement after RRSO in *BRCA1* or *BRCA2* mutation carriers [5]. Yet this information ought to be interpreted considering that there is no long-term data from randomized clinical trials.

5. Genomics in breast cancer prognostication

Traditionally, breast cancer prognostication for predicting recurrence and mortality depended on tumour size, tumour grade (histologic or nuclear), lymphovascular invasion, and hormone receptor status.

Presently, NGS-based genomic testing is increasingly being utilized for this purpose. Validated gene panels to analyze the gene expression profiles in tumour tissue are now available and aid in predicting disease progression and recurrence. Oncotype-Dx and MammaPrint are recommended gene panels currently being incorporated into standard guidelines for breast cancer management. Due to their proven ability for predicting disease prognosis, they are being utilized increasingly in therapeutic decision making.

6. Genomics in breast cancer therapeutics

Advancements in molecular medicine have paved the way for personalized treatment through targeted therapy options which have revolutionized breast cancer treatment by optimizing drug efficacy and minimizing side effects [6,7]. Some examples include:

- Hormone-receptor-positive breast cancer
  - Selective oestrogen receptor modulators (tamoxifen, raloxifene, fulvestrant)
  - Aromatase inhibitors (anastrozole, letrozole, exemestane)
- HER2-receptor-positive breast cancer
  - HER2 inhibitor (trastuzumab)
- Dual HER2/EGFR positive breast cancer
  - Dual HER2/EGFR inhibitor (lapatinib and neratinib)
- HER2-amplified breast cancer
  - HER2 dimerization inhibitor (pertuzumab)
- PI3K/Akt/mTOR inhibitor (everolimus)
- PD-1/PD-L1 overexpression (pembrolizumab, avelumab, atezolizumab)
- Poly (ADP-ribose) polymerase (PARP) inhibitors in patients harboring BRCA1 and BRCA2 germline pathogenic variants (olaparib)
- Genotyping of pharmacogenetic variants implicated in anticancer drug metabolism [8].

7. Challenges in implementing genomic advancements In the Sri Lankan setting

The major obstacle to genetic testing is the financial constraints as there are no government-funded genetics laboratories in the country. At the same time, the paucity of knowledge among healthcare professionals regarding the implications and interpretation of genetic test results and the lack of awareness among the general population about the potential benefits of undergoing genetic risk assessment are additional barriers that need to be overcome.

In our experience, social stigma is another hidden factor that makes patients and family members avoid getting subjected to genetic evaluation in the context of hereditary breast cancer because of its implications on social prospects like marriage. It is an unaddressed factor in conventional communities like Sri Lanka which needs to be addressed by building up social discussion on an open platform.

Table 1: Breast cancer susceptibility genes and their absolute risk (AR) for cancer development

Gene	Cancer syndrome	Breast cancer risk (primary)	Epithelial ovarian cancer risk	Other associated cancers and their risk
Rare high-penetrant genes				
BRCA1	Hereditary breast/ovarian cancer	>60%	39-58%	Pancreatic (<5%) Prostate (7-26%)
BRCA2	Hereditary breast/ovarian cancer	>60%	13-29%	Pancreatic (5-10%) Prostate (19-61%) Melanoma
TP53	Li-Fraumeni	>60%	No established association	Pancreatic (5-10%)
STK11	Peutz-Jeghers	32-54%	No established association	Pancreatic (>15%) Ovarian cancer (non epithelial) (>10%)
PTEN	Cowden	40-60%	No established association	Thyroid Colorectal Endometrial Renal cancer
CDH1	Lobular breast cancer and hereditary diffuse gastric cancer (HDGC)	41-60%	No established association	HDGC
PALB2		41-60%	3-5%	Pancreatic (5-10%)
Rare moderate-penetrant genes				
CHEK2	Li Fraumeni 2	20-40%	No established association	Colorectal
BRIP1		Insufficient data to define	5-15%	Insufficient evidence
ATM	Ataxia Telangiectasia	20-40%	2-3%	Pancreatic (5-10%) Prostatic -Evidence emerging

Adopted from reference [4]

Table 2: Survival probability according to breast/ovarian cancer risk-reduction strategy at age 70* for 25-year-old *BRCA1/2* mutation carrier

Intervention	Survival probability (%) in *BRCA1* mutation carriers	Survival probability (%) in *BRCA2* mutation carriers
No intervention	53% [BCD=41%; OCD=36%]	71% [BCD=36%; OCD=20%]
RRSO only at age 40	68% [BCD=45%; OCD=12%]	77% [BCD=30%; OCD=4%]
RRSO only at age 50	61% [BCD=51%; OCD=20%]	75% [BCD=42%; OCD=6%]
RRM only at age 25	66% [BCD=5%; OCD=58%]	79% [BCD=4%; OCD=30%]
RRM only at age 40	64% [BCD=13%; OCD=53%]	78% [BCD=9%; OCD=28%]
Breast screening only from ages 25-69	59% [BCD=26%; OCD=46%]	75% [BCD=21%; OCD=25%]
RRSO at age 40 and RRM at age 25	79% [BCD=6%; OCD=21%]	83% [BCD=3%; OCD=6%]
RRSO at age 40 and breast screening from ages 25-69	74% [BCD=30%; OCD=15%]	80% [BCD=18%; OCD=5%]
RRSO at age 40, RRM at age 40, and breast screening from ages 25-39	77% [BCD=18%; OCD=18%]	82% [BCD=9%; OCD=6%]

Adopted from reference [4]

*Survival probability for 70-year-old woman from general population = 84%

Probability of death as a result of breast cancer (BCD) or ovarian cancer (OCD); RRSO- risk-reducing bilateral salpingo-oophorectomy; RRM- risk-reducing bilateral mastectomy; Breast screening- annual mammography and MRI

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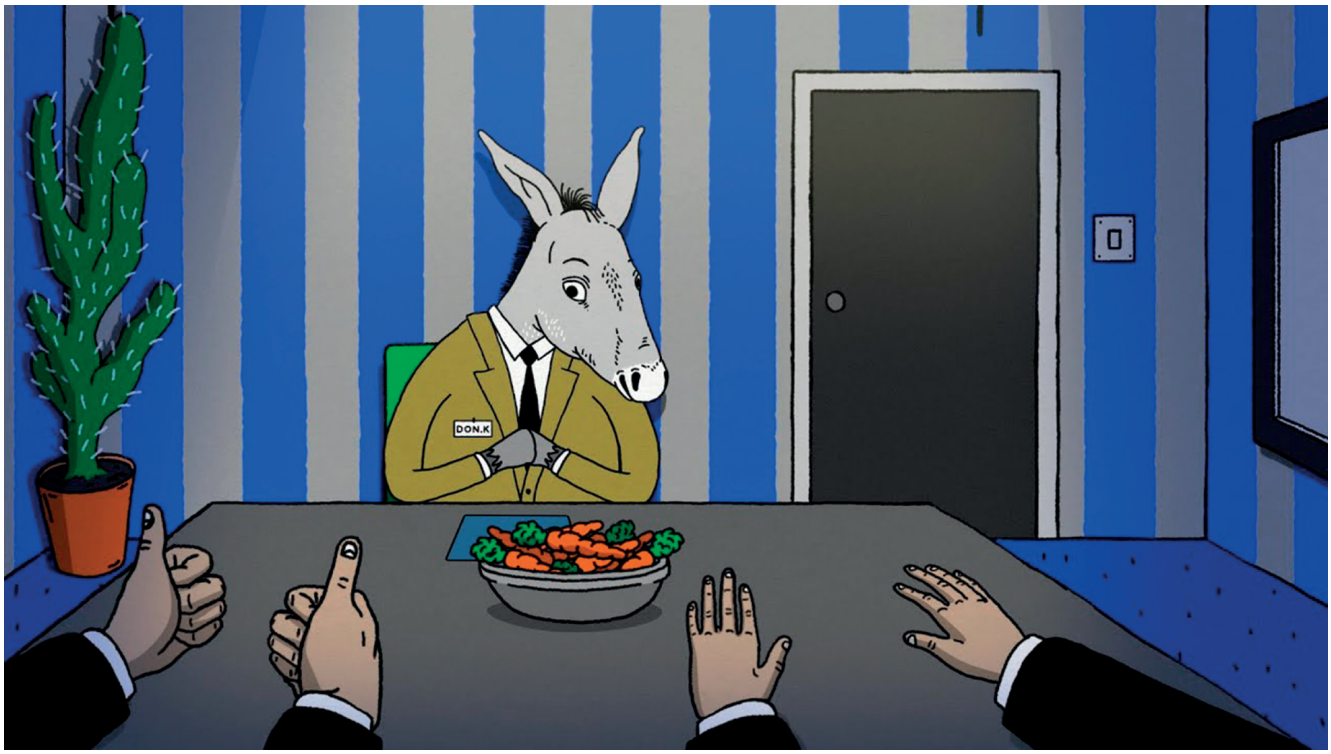

HIRING ASSES BY THE GOVERNMENT

Once upon a time, a king wanted to go fishing. He called the royal weather forecaster and inquired about the weather forecast for the next few hours. The weatherman assured him that there was no chance of rain in the coming days. So, the king went fishing with his wife, the queen.

On the way, he met a farmer on his donkey. Upon seeing the king, the farmer said, "*Your Majesty, you should return to the palace at once because in just a short time I expect a huge amount of rain to fall in this area*". The king was polite and considerate, he replied: "*I hold the palace meteorologist in high regard. He is an extensively educated and experienced professional, and I pay him very high wages. He gave me a very different forecast. I trust him and I will continue on my way.*"

So, they did. However, a short time later torrential rain fell from the sky. The King and Queen were soaked, and their entourage chuckled upon seeing them in such a shameful condition. Furious, the king returned to the palace and gave the order to fire the weatherman at once!

Then he summoned the farmer and offered him the prestigious and high-paying role of royal forecaster. The farmer said, "*Your Majesty, I do not know anything about forecasting. I obtain my information from my donkey. If I see my donkey's ears drooping, it means with certainty that it will rain.*"

So instead, the King hired the donkey on the spot.

Thus began the practice of hiring asses to work in the government and occupy its highest and most influential positions.

Sri Lankan politicians are living proof of this practice.

Sent by:
Dr B. J. C. Perera

Extracted from:
https://www.ba-bamail.com/jokes/political-jokes/?jokeid=483

WHAT GENDER IS A COMPUTER: A HE OR A SHE?

A language teacher was explaining to her class that in French, nouns, unlike their English counterparts, are grammatically designated as masculine or feminine.

"House" in French, is feminine - "*la maison*", she said, while "pencil" in French is masculine - "*le crayon*."

One puzzled student asked, "What gender is a computer?"

The teacher then thought that it would be a good exercise to have the students decide what they thought the gender should be.

So, she split the class into two groups; appropriately enough, by gender, and asked them to decide whether "computer" should be a masculine or a feminine noun.

The men's group decided that computers should definitely be of the feminine gender ("*la computer*"), because: -

1. No one but their creator understands their internal logic.
2. The native language they use to communicate with other computers is incomprehensible to everyone else.
3. Even the smallest mistake is stored in long-term memory for possible later review.
4. As soon as you make a commitment to one, you constantly find yourself spending more and more money on accessories for it.

The women's group, however, concluded that computers should be masculine "*le computer*") because:

1. In order to do anything with them, you have to first turn them on.
2. They have a lot of data but still cannot think for themselves.
3. They are supposed to help you solve problems, but half the time they ARE the problem.
4. As soon as you commit to one, you realize that if you had waited a little longer you could have got a better model !!!!!

Yet for all that, every computer has an essential item called the '**MOTHER**BOARD'. It is never called the 'FATHERBOARD'. Without the Motherboard, there will be no computer.

Now then..., what do you think? Do you agree with the men or the women?

The question is whether computers should be designated as ***"Hommes"*** or ***"Femmes" !!!*** Does the presence of a motherboard make it a ***"Femme"?***

It is a tough choice. You decide..., please do be the Judge and the Jury...

Sent in by:
Dr B. J. C. Perera

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