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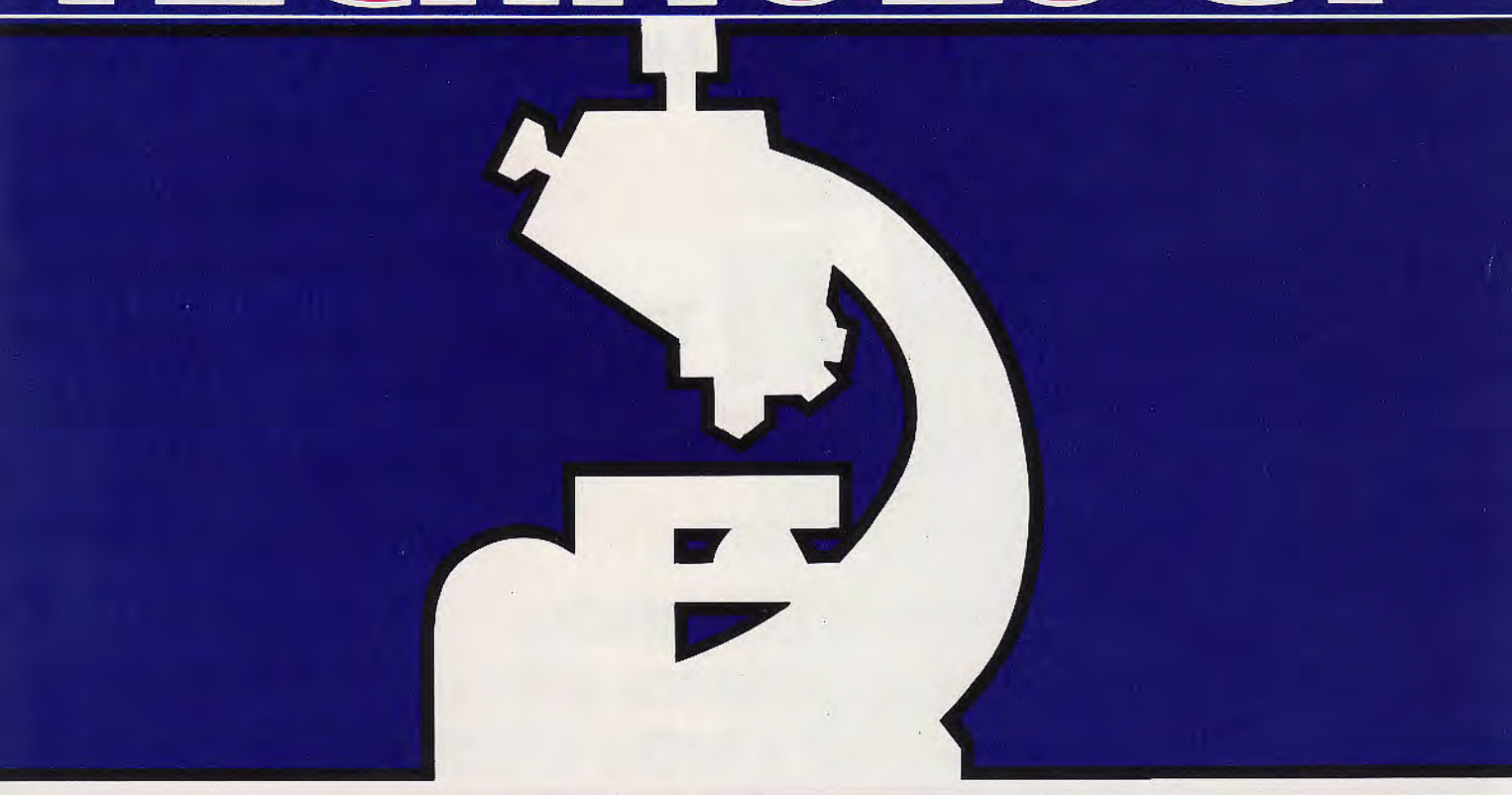
MEDICAL LABORATORY TECHNOLOGY



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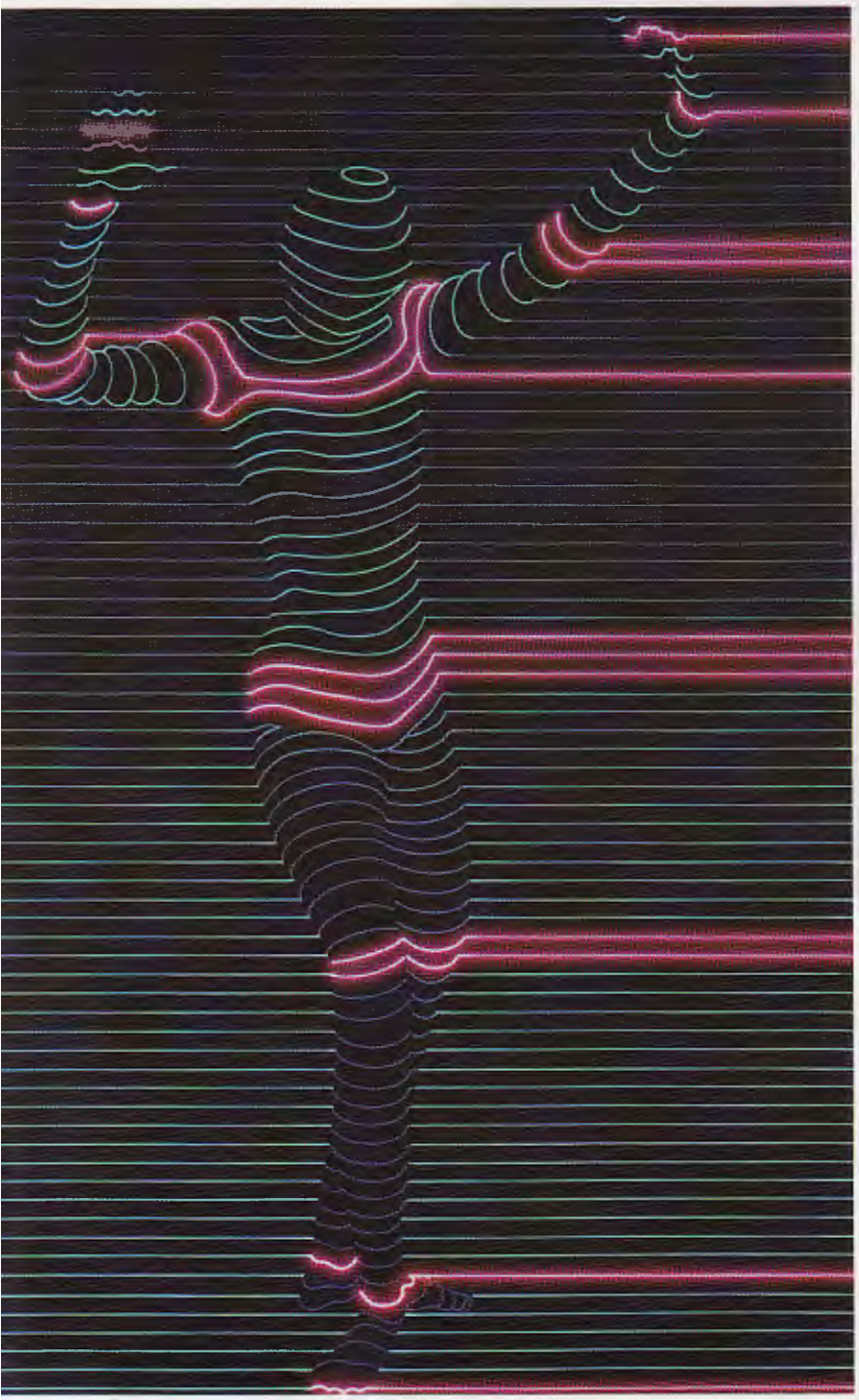

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Original Articles

Subscriptions to the Journal for non-members requiring delivery in New Zealand is $NZ33.00 for 1 year surface mail paid. Single issues are $NZ12.00 surface mail paid.

Subscription to the Journal for non-members requiring delivery overseas is $NZ39.60 for 1 year surface mail paid. All subscriptions except for single issues are due in February.

DIRECTIONS FOR CONTRIBUTORS

From Vol. 36 No. 1 all papers published will be in the form known as "Vancouver Style" or Uniform Requirements for Manuscripts submitted to Biomedical Journals. Full details may be found in the New Zealand Journal of Medical Laboratory Technology, Vol. 42 No. 2, page 54 to 60 or from the Editor.

Intending contributors should submit their material to the Editor, M. Gillies, Microbiology Laboratory, Princess Mary Hospital, Auckland, New Zealand, or the Editor, P.O Box 9095, Newmarket, Auckland, New Zealand Acceptance is at the discretion of the Editor, and no undertaking is given that any article will be published in a particular issue. The copy deadline for each issue is the first of the month prior to the month of publication.

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DATES OF PUBLICATION

The months of publication for 1990 are March, May, August and November.

This Journal is abstracted by: Biological Abstracts, Chemical Abstracts, Cumulative Index to Nursing & Allied Health Literature, Current Clinical Chemistry, Hospital Abstracts, Institutnautchnoi informatsii.

Contributions to the Journal do not necessarily reflect the views of the Editor, nor the policy of the Council of the Institute.

The Erythrocyte Sedimentation Rate (ESR) in Pregnancy

Eileen Anne Brosnan, ANZIMLT, MBChB., Dip. (Obs), MRNZCGP, General Practitioner; Marilyn M. Eales, FNZIMLT, Charge Technologist, Haematology Department, Middlemore Hospital.

Abstract

960 Erythrocyte Sedimentation Rates (ESR) estimations were performed on blood samples taken from pregnant women in an endeavour to establish a reference interval for the three trimesters of pregnancy (0-12 weeks, 13-28 weeks, 29-40 weeks). In addition the samples were divided into different racial groups: European, Maori, Polynesian and other races to establish any racial difference in the Erythrocyte Sedimentation Rate in pregnancy.

Reference intervals were established in each group. The ESR was shown to be significantly higher in Maori and Polynesian races than in Europeans in all trimesters ($p > 0.001$). There was no statistically significant difference between the ESR levels of Maori and Polynesian races.

Seventy three of the 960 samples had an ESR outside the established reference interval. In only 6 (8%) of these was there any documented clinical abnormality on retrospective review of patient case notes.

Introduction

The first recorded mention of the ESR in the literature was by Galen, a Greek physician in the 2nd century which probably qualifies the test as the most ancient analytical method in the clinical laboratory today. The first report of the ESR in pregnancy was by a Swedish physician, Dr. Robin Fahreus (1) in a Doctoral Thesis in 1921. While working in a maternity hospital in Stockholm he was curious to see whether the blood of a pregnant woman differed from that of a non-pregnant woman and whether such a difference could be used as a pregnancy test. He noticed that an obvious clear layer of plasma rapidly appeared on top of the erythrocytes, in samples of blood extracted from pregnant women. He then did a simple experiment on pregnant and non-pregnant women, applying tourniquets at the wrist and below the elbow and then holding the arm vertically for 15 minutes after which time he took a blood sample from near the wrist. From the pregnant woman he obtained clear plasma and from the non-pregnant woman he obtained blood. He explained this observation by relating the increased sedimentation rate to the effect of increased plasma globulins/or fibrinogen on the aggregation of the erythrocytes, a view which still remains today.

Despite the antiquity of the test the precise mechanism is not clearly understood and is undoubtedly multifactorial (2). The red cell size, shape, and surface characteristics all influence cell aggregation and sedimentation but it is the plasma which exerts the dominant influence on the ESR. Fibrinogen and other acute phase proteins as well as immunoglobulins particularly α 1 and α 2 globulins strongly influence the ESR (3, 4) and correlations between ESR's and plasma lipid concentrations have also been made in pregnancy (5, 6).

A literature search revealed that very little has been recorded since Fahreus's time relating to ESR values in pregnant women. In view of the paucity of information this study was carried out to determine and assess the usefulness of the reference intervals in clinical practice.

Method

Blood was randomly collected from 1010 women referred to the laboratory for ante-natal screening. These women were all considered normal in terms of pregnancy and were attending ante-natal clinic or a general practitioner for their routine visits. A blood screen was taken at first presentation (booking visit) and again in the third trimester at around 36 weeks and in between when clinically indicated. The patient population included in this study were of different races defined as European, Maori, Polynesian (which includes all other Pacific Island races — Tongan, Samoan, Rarotongan, Niuean) and other, which comprised mainly Indian, Vietnamese and Chinese. The women attending the ante-natal clinic were predominantly from a low socio-economic group who typically present late for their initial booking visit, hence the relatively low numbers in the first trimester group. Most first trimester values were taken from patients presenting to their general practitioner. An ESR was performed at the same time as the blood screen. The method used was the Westergren method as recommended by the International Committee of Standardisation in Haematology (7).

Blood samples were processed within 3-5 hours of taking the sample. The population was divided into 3 groups corresponding to the 3 trimesters of pregnancy, i.e. 0-12 weeks 12-28 weeks and 29 weeks to term. A mean ESR and the distribution within $\pm$ 2 SD was determined for the overall population and for each different racial group, European, Maori, Polynesian and other. Fifty patients were deleted from the study either because of incomplete documentation with regard to age, and/or race or because the hospital case notes were unavailable for retrospective review to confirm abnormal results.

The ESR was also correlated with Mean Cell Haemoglobin Concentration (MCH) to establish if there was any relationship between iron deficient patients and a high ESR.

The case notes of those patients with an ESR outside the established reference interval (mean $\pm$ 2SD) for each trimester were reviewed to assess any clinical reason for the abnormal result. 960 results have been included, 116 first trimester, 318 second trimester and 526 third trimester.

Results

The reference intervals established in the different racial groups and for all races for the three trimesters were as follows:

First Trimester
Sample size 116
ESR range 1-40mm/hr

Race	Reference Interval Established mm/hr	
European	0-26	(Mean 10)
Maori	2-28	(Mean 15)
Polynesian	0-32	(Mean 17)
Other	3-23	(Mean 13)
ALL RACES	0-30	(Mean 14)

Reference Interval Haemoglobin 115-165g/l
Reference Interval MCH 27-32pg.
(The haemoglobin and MCH levels established in this group were equal to the established reference intervals of the adult female population.)

Second Trimester
Sample size 318
ESR range 5 — 103mm/hr

Race	Reference Interval Established mm/hr	
European	0-57	(Mean 28)
Maori	0-66	(Mean 32)
Polynesian	6-66	(Mean 36)
Other	13-76	(Mean 45)
ALL RACES	**0-64**	(Mean 32)

Reference Interval Haemoglobin 99 — 142g/l
Reference Interval MCH 25 — 33pg

Third Trimester
Sample size 526
ESR range 5 — 110mm/hr

Race	Reference Interval Established mm/hr	
European	7-68	(Mean 38)
Maori	15-72	(Mean 44)
Polynesian	16-72	(Mean 44)
Other	0-93	(Mean 46)
ALL RACES	**12-72**	(Mean 42)

Reference Interval Haemoglobin 98-143g/l
Reference Interval MCH 24-33pg

Discussion

The upper limit of the ESR established in the first trimester pregnancy was approximately twice the upper limit of the currently accepted reference range for the non pregnant female population (0-12mm/hr). The values for Maori and Polynesian races were higher than those for Europeans. These values were statistically significant $p > 0.001$. There was no statistical significant difference between the ESR's of Polynesians and Maoris.

A previous study of the ESR done in New Zealand on a similar racially mixed group of non-pregnant adults also found Maori and Pacific Islanders to have higher ESR values than Europeans.

The ESR rises in the second and third trimesters. This confirms the findings of the single previous study on pregnant women reported in the literature (9) but differs in one major respect in the extent of the increase e.g. 0-64mm/hr and 12-72mm/hr in the second and third trimesters respectively. The single previous study reported an increase only as high as 40mm/hr in the second and third trimesters but only 100 samples were tested.

A plot of samples with ESR's above the reference interval established for the patient trimester was made against the corresponding M.C.H. Only one sample out of a total of 76 with raised ESR's had an MCH value below the reference interval for pregnancy.

There were 38 samples (3.9% of total sample numbers) with an MCH below 24 i.e. below the established reference interval. All ESR's from these samples with a low MCH were within the reference interval established in this study. These findings suggest there is no relationship between iron deficiency and the ESR value in pregnancy.

A retrospective study was made of those samples with an ESR above the established reference intervals in each

3rd Haematology Seminar June 14th and 15th 1990

June 14th **Haematology in Pregnancy**

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Haematology Department, Laboratory
Middlemore Hospital
Private Bag, Otahuhu
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trimester. The clinical notes were reviewed to ascertain the presence of any clinical or laboratory documented abnormality.

First Trimester	
Sample size	116
Number of samples with raised ESR	2
No abnormality detected on retrospective review of patient case notes.	2
Second Trimester	
Sample size	318
Number of samples with raised ESR	18
Urinary tract infection documented by laboratory	1
No abnormality detected on retrospective review of case notes.	17
Third Trimester	
Sample size	526
Number of samples with raised ESR	53
Urinary tract infection documented by laboratory	4
Other infections (bronchitis)	1
No abnormality detected on retrospective review of case notes.	48

Summary

A reference interval for ESR's in all trimesters of pregnancy was established and the following points noted:

1. The reference interval of the ESR in pregnancy is higher than the reference interval for non-pregnant women in all three trimesters of pregnancy. The increase is most marked in the second and third trimesters.
2. Only 8% (6 of 73) of patients with an ESR outside the established reference interval had some clinically documented abnormality. (Urinary tract infections 7%, respiratory infections 1%).
3. There was no correlation shown between a raised ESR and low mean cell haemoglobin concentration.
4. The reference interval of the ESR in Maori and Polynesian races in our study is higher than that of Europeans. This confirms previous reports on both pregnant and non-pregnant populations.

Conclusion

The ESR is used by clinicians as a non-specific indicator of disease or as one author aptly puts it "The ESR has become a sickness index, as almost any disease can lead to an increased ESR i.e. infection increases the ESR". In some situations it can indicate serious disease, e.g. in bacterial endocarditis 93% of patients have an increased ESR on admission and 80% of patients with tuberculosis have an increased ESR. However in pregnancy the overall reference interval of ESR is very wide 0-72mm/hr and only 8% (6 of a total of 73) of those with results outside the reference interval documented abnormality. This leads us to conclude that the ESR is of limited value in the routine evaluation of the pregnant patient.

Acknowledgements

The authors thank the staff of the Bleeding Room and Haematology Department, Middlemore Hospital for conscientiously documenting the required details and performing over 1,000 ESR's, Dr. Hillary Blacklock for her valuable comments and Mrs. Moira Mutch for secretarial assistance.

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* Leave two lines and then proceed with abstract
* Photographs and diagrams must NOT be used
* Small tables and/or references may be used but the text should be shortened accordingly.
* References should follow The Clinical Biochemist - Reviews exactly, eg. Gorsky JE and Dietz AA. Clin Chem. 1978; 24:1845 - 1847.
* Only standard and common abbreviations should be used
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1989 President's Address

W.J. Wilson

Ladies and gentlemen, it is my pleasure to report to you on this the 44th Annual General Meeting of the NZ Institute of Medical Laboratory Technology.

I suggest that we take the opportunity to reflect on the past, assess the present and plan for the future.

The past year has seen major changes for this Institue. On March the 18th with the formation of the NZ Medical Laboratory Workers Union a major Institute function since its inception became the responsibility of the Union. We welcome the Union and wish those involved the very best in their endeavours to improve the employment conditions of all NZ Medical Laboratory Workers.

The Institute can be proud of the industrial representation it has undertaken for Medical Laboratory Workers since the 1940's, especially since none of those who have represented your interests over the years have received any formal training in industrial representation and yet have been able to ensure that at all times the role of Medical laboratory Workers in the Health system has been recognized. While we seldom achieved all that we sought we nevertheless had the occasional extra success. I would like to take this opportunity to record our thanks and appreciation to all those members past and present who unselfishly have given much of their time often at considerable inconvenience to themselves, their jobs and their families to argue the cause.

This year we also lose another long standing tradition, the Practical Examination which will be held for the last time this year. The practical has been ritual since certification of medical laboratory workers began in the 1940's. The usefulness of the practical to fairly assess technical competence has been questioned repeatedly at past Annual Meetings. Its passing will be mourned by few whereas mastery assessment while requiring a greater involvement from senior laboratory staff, will I am convinced prove to be a much fairer and effective assessment of practical competence.

This past year the health service has been the target for some very severe criticism and is in the process of major review and change. The Cartwright Commission of Enquiry into the Management of Cervical Cancer treatment methods at National Women's Hospital has had and will continue to have consequences for our profession. The public challenging of the quality of output and the management of the Medical Laboratory Services by senior members of our profession will be viewed in the future as milestones in our struggle to establish independence and that we have a vital role of the modern health service which Medical Laboratory Technologists know and understand better than any other group. While many do not agree with all of the statements made by our colleagues, I for one applaud their courage and conviction and accept without reservation that at all times they have been speaking out of concern for the quality of service being provided to our client patients.

I can also report that another longstanding goal of the profession is also almost within our grasp. A Bachelor of Medical Laboratory Science degree is planned to commence in 1991 by the Otago University. I think that it is fitting that first specific degree in Medical Laboratory Science be offered by Otago. We have a long and warm association with the Otago Medical School since 1950 when it was the host venue for the first Dunedin organised Annual Meeting and as it has continued to be the preferred venue for most Dunedin meetings since.

On your behalf I thank your Council who have with dedication and personal commitment endeavoured to serve your best interest and requirements. I wish to give special mention to Jan Parker who this year leaves the council and the profession as a practicing member. It has been largely due to Jan's singlemindedness and determination that the degree to be offered by Otago has progressed as successfully as it has. As she embarks into the world of management we offer her our thanks and very best wishes. I am sure she will be following our progress with more than casual interest especially the Otago degree. I wish also to acknowledge the services of Dennis Dixon-McIver who will be stepping down as Editor of the Journal after six years in the position. As Editor he has maintained the very high standard set by his predecessors. Under his Editorship the high regard for our Journal has not only been maintained but enhanced.

I wish also to mention those other silent and relatively unknown members who serve on sub-committees, act as Examiners, and undertake syllabus and curriculum reviews. Many have served in these roles for years without any recognition but without whose unselfish service there would have been no examinations, no syllabus development or none of the other routine services provided by the Institute, Medical Laboratory Technologists Board or Technical Institutes. These duties which we all to readily take for granted have often had to have been undertaken in their own time so as not to compromise their full-time job.

And of the future, I suggest to you that we now stand at a crossroads. We can either take up the challenge of the future by taking the initiative and promoting our ideas or we can become subordinates and wait for others to design and direct our profession and its functions in the health service of the future. Should we choose the former then with independence there will be additional responsibility. In particular will be the need for self regulation and disciplining our profession. We can expect changes to our registration requirements to give it more meaning and accountability and I note with interest recent remarks from the Minister of Health in which she alluded to the creation of Annual Certificates of Competence to replace Annual Practicing Licences. The implication being that certificates of competence will require those in practice to convince the reviewing authority of appropriate currency of knowledge and technical competence in order to renew the right to continue in practice. This concept is not new and indeed is quite common overseas. If we claim that such is our job that it requires special training and licensing in the patients interest then the patients have the right to expect that individually we are competent and our knowledge is current. I suggest we should take the initiative and promote an appropriate programme to the Medical Laboratory Technologists Board. The objective of these changes will be to ensure a high quality Medical Laboratory Service which is effective, efficient and operates in the best interests of the patient and the community.

For the immediate future I suggest we set our major goal for the next year to be the review of the Institute, its roles and the structure and organisation to achieve its objective. I believe the need for this Institute is as great today as it was in the early 1940's but as it was in those days that without the involvement of us all and a commitment to its support it will surely wither and slip into oblivion. If this is allowed to happen not only will the efforts and aspirations of the past have been for nought but while the Union may well protect our jobs there will be nobody to represent and develop Medical Laboratory Technology as a career. I do not want this to happen and I do not believe that you do.

45th ANNUAL SCIENTIFIC MEETING N.Z.I.M.L.T.

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You are invited to submit 15-20 minute papers for the above meeting. Abstracts must be typed in single space type in less than 250 words. These must be free of grammatical and typographical errors. The original and two photocopies should be submitted.

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PRELIMINARY PROGRAMME:

Monday 27 August:

WORKSHOPS
Planned workshops to be confirmed.

Tuesday 28 August:

WORKSHOPS
Parasitology — "Parasitology for the Small Laboratory".
Mycology — "Refresher course in medical mycology".
Planned workshops in Biochemistry, Haematology and Histology to be confirmed.

Wednesday 29 August:

Annual Scientific Meeting opening ceremony.
T.H. Pullar address.
GENERAL FORUMS
Direction of Health Services into the 1990's. This forum will be addressed by some high profile, thought provoking speakers.
Discussion forum — current issues.
N.Z.I.M.L.T. Annual General Meeting.

Thursday 30 August:

GENERAL FORUMS
DNA — "What it can currently provide, applications in the 90's, foreseeable developments equipment and resources required". Can we afford it?
THE ANTENATAL PATIENT — A look to the future from all points of view.
THE FRONT OFFICE IN THE 90'S.

CONCURRENT FORUMS INCLUDE:
Small Laboratory forum.
Biochemistry, Haematology, Histology, Immunohaematology and Microbiology.

WORKSHOP
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Friday 31 August:

CONCURRENT FORUMS (continued)
"The Great Debate".
Closing Ceremony.

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A Brief Experience with the Beckman Synchron CX3 Clinical Chemistry Analyser.

Russell S.G. Sargon ANZIMLT, Biochemistry Department, National Women's Hospital, Auckland.

Keywords

Random-access analyser, Beckman Synchron CX3

Introduction

Recently this laboratory had first hand experience of the Beckman Synchron CX3 clinical chemistry analyser which until now has not been seen in New Zealand. This opportunity was taken to compare the CX3 with our current analyser, the earlier Beckman ASTRA 8, for ease of use and speed. We also compared the instrument's observed performance specifications of linearity, precision, accuracy and carryover with the manufacturer's stated specifications (1). This facet of the trial was not designed to be an exhaustive study as this work, and more, has been done previously (2). It was however, important to establish that these specifications could be achieved in our own laboratory. Unfortunately, during the period of this trial, no reagent was available for the CO2 module. Therefore this chemistry was not investigated.

Method

The daily maintenance was carried out and the instrument calibrated as described in the instruction manual. A random selection of patient samples received by the laboratory were analysed for the requested chemistries on the CX3 independently by five staff members (one trainee, two staff technologists, a graded technologist and a pathology registrar). None of the staff involved had any prior experience of, or received any formal training on the CX3. They were asked to run the instrument by following the "Function Key" prompts on the display screen. Upon completion, each of the staff involved were asked for any comments relating to how easy or difficult the instrument was to use and understand and how it compared with the ASTRA 8.

To assess linearity, a series of standards for each analyte that exceeded Beckman's stated plasma/serum linearity ranges were made using the appropriate AR Grade materials. The standards were prepared in physiological saline because the CX3 detects the presence of sample by conductivity, and the lower concentration standards would otherwise have little or no conductivity and would not have been analysed. As the usable ranges for both sodium and chloride did not approach zero, these analytes were not affected. Each standard was assayed in duplicate and in ascending order. The linearity of urine and CSF methods was not assessed because there is no separate calibration for them. When a CSF or urine assay is requested, the linearity range is either the same as plasma/serum (eg glucose) or the sample size is altered and the output manipulated to give an expanded range (eg electrolytes and creatinine). Carryover was determined by re-assaying the zero standard after the standard with the highest concentration.

The instrument's precision was assessed by assaying human based lyophilised control material each morning immediately following calibration (Gilford QCS Normal Human Serum, New Zealand Diagnostics Ltd, Wellington), over a one week period. To determine accuracy, the duplicate sample from a recently completed Wellcome Survey Cycle (samples one through eight, 1989) was assayed in duplicate on the CX3. The published "All Method Mean" for the analytes from the eight samples were compared with the values obtained by the CX3. The CX3 urea, glucose, sodium and potassium are in the same method group as those on our ASTRA 8, and this "Method Group" data was available, it was also used. All statistical data was generated by StatWorks(TM) run on Apple Macintosh.

Results

Over the entire period of the trial only one difficulty was experienced. As the calcium reagent pack became very low, a gelatinous precipitate appeared. This was drawn into the reagent lines and ultimately blocked the reaction cup. An in-line filter was placed in the reagent pick-up line so that any precipitate that did get drawn up could be easily and quickly removed before reaching the reaction cup. Peake et al(2) also encountered this problem.

Even without the benefit of formal training and by following the simple screen prompts, none of the staff involved had any difficulty operating the CX3. All thought that this instrument was either as easy, or easier to use than the ASTRA 8. It was noted that the CX3 and ASTRA 8 operating systems were somewhat similar which may explain their ready understanding of the CX3. However, one staff member, new to this laboratory, operated both instruments with similar ease and considered knowledge of the ASTRA 8 of no real advantage when using the CX3.

As claimed, the CX3 achieved an actual throughput of 75 samples per hour, and 525 tests per hour with only seven chemistries running (a maximum of 600 tests per hour when all eight are requested). From standby mode, the CX3 took approximately 125 seconds to print all the results for the first sample when all chemistries were requested. This time reduced to approximately 90 seconds when only a glucose was requested. It is interesting to note that as fast as the CX3 is, our older technology ASTRA 8 was marginally faster! The CX3 produced subsequent sample results (regardless of the number of tests), approximately every 50 seconds.

The CX3 proved to be linear for plasma/serum at least to the manufacturer's specifications, and calcium and creatinine actually exceeded it. No carryover was detected with any analyte. Precision also exceeded the manufacturer's specifications for all chemistries (Table One) including creatinines where the data was generated from results reported in mmol/L rather than umol/L (the CX3 is capable of reporting either). This laboratory reports creatinine results in mmol/L. With the chloride module, an unexplained upward drift (two to three mmol/L within each batch of 20 samples) was noted. This was, however, not sufficient to give poor precision data.

There was excellent correlation between the results from the CX3 and the published "All Method Mean" and "Method Group Mean" from the Wellcome Cycle material (Table Two). It has been demonstrated that the Standard Error of Estimate (sy.x) is a more useful indicator of random effort than the Correlation Coefficent (r) which can be misleading and difficult to interpret (3). Expressed in the same units as the analyte, the Standard Error of Estimate approaches zero as random error decreases. However, as the Correlation Coefficient is still widely used, it has been included with the Standard Error of Estimate in the tabulated data.

Discussion

Unlike the earlier Beckman ASTRA series, the CX3 offers no flexibility from the eight commonly requested chemistries provided (sodium, potassium, chloride, CO2, calcium, glucose, creatinine and urea) and is designed to operate as either a stand alone analyser or interfaced into a larger system. The chemistries employed by the CX3 are the same as those of the ASTRA, with the following exceptions:

chloride, which now uses a Ag/AgCl Ion Specific Electrode instead of Colourmetric Titration,

calcium, which is bichromatic using Arsenazo III instead

technologies make the postage of computor discs containing the copy a real possibility.

It was heartening to have a number of applications for **membership.** Council intends to recommend Kenya, Tanzania and Uganda to the next G.A.D. but is meanwhile treating them as members so that they can get information about the Association. Some other applications received immediately prior to the Council Meeting are being further investigated.

One of our Council members has worked very hard and has arranged a new **Award** which is being offered by Boehringer Mannheim in the field of Lipo Protein Diagnostic next year. Member societies are asked to publicize our Award's programme. The Awards are well worth achieving. By 1992 we are hopeful of having two further awards - one in histology and one in computer technology.

Our involvement with **W.H.O.** is still being actively pursued and we have prepared and submitted an application to have our Non Governmental Organization (N.G.O.) status renewed. This will be considered early in 1990. We have also retained our membership with the Council for International Organization of Medical Science (C.I.O.M.S.).

W.H.O. is a very active organization with interest and activities on many fronts. Our W.H.O. liaison officer is kept very busy sifting through much written material and extracting items of interest to medical technologists which are generally reported in Med Tec International. A number of readers have expressed their thanks for these reproductions as otherwise they tend not to see them. With our Congress being held in Geneva in 1990 we are seeking opportunities of meeting with W.H.O. officials.

Questionnaires on **Education, Med Tec Assessment** and **Health and Safety** have been circulated to all member countries and the results are being collated ready for publication. Member organizations who have not yet replied are urged to do so as soon as possible so that a truly representative view is gained. I know that filling in Questionnaires is time consuming (and probably not all that easy if your language is not the same as thee questions) but we really appreciate the time taken to complete these.

One of the items that will please members regards our Statutes. The **Regulations Committee** has no proposal for changes in 1990 although, of course member countries may make some proposals. The Executive Director will be circulating the "timetable" for 1990 and you are asked to note and observe the dates given. With the G.A.D. 1988 requiring Council to comment on all proposals from member countries PRIOR TO THE G.A.D. it is imperative that all proposals are received by the due date AT LEAST - if they can be earlier then that will help the smooth running immensely.

I want to take this opportunity of thanking the Swedish Society for their offer of a sum of money to subsidize countries who do not have funds to pay their full membership fee. It is a generous offer and is a demonstration of of their interest in the International Association.

There were many other routine items that Council addressed over a busy few days including one about which I will be writing to all member organisations - namely the protocol that we intend to follow for our business session at the Congress - the G.A.D. One of the problems with an international organisation is that we all have different "rules of meeting". In an effort to get around that I will be writing to members to outline the procedure that we will follow in Switzerland.

Which brings me full circle from where I started this President's Voice - namely our biennial CONGRESS. I trust that many of you will plan to come and that together we will

celebrate - our Association's existence and function
contemplate - our reasons for such existence
compare - our present position with our past and in the light of these most importantly
CONTRIVE - (plan) the future together.

Desmond J. Philip - President

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EDITORIAL

HURRAH ! THREE CHEERS! There has been a response to repeated requests for information from member societies, group or individual members and for people to hold a brainstorming session on "What should IAMLT be doing" requested in Med Tec International No.2 1988. A committee meeting of the IMLS Management Discussion Group held such a session resulting in the following list of ideas and comments being generated :

Letting people know that IAMLT exists
Needs more publicity

In UK only advertised in IMLS Gazette

Should bring people together more especially regarding the single European Market

Advertise conferences more

Accessibility of conferences

Sponsoring articles in medical journals - so that (IAMLT) known more

State its brief

Supportive of other organisations with similar interests

Twin Labs., Twin Towns and exchange visits
Just have to get on with it

Forum for bringing together research workers on an international basis

Many articles in Med Tec International are from UK,NZ etc - need more input from developing countries

Liason with VSO,WHO,PAHO etc.

Thank you Christine and your committee - other groups please 'get on with it'.

In Singapore I invited Council to consider means by which we can obtain better and informed publicity for our organisation, improve communications with members of our member societies at a more economic cost. Currently 9000 copies of Med Tec are produced at a cost, including postage, of some SFr. 16,000 which is around twenty per cent of our budget. The feedback from members of member societies does not suggest that the money is being well spent. Indeed, there was a report to the 1988 GAD that "the Association probably needs to address the question (through looking at its objectives) of the ongoing value of the journal". 'all members of member societies, member societies and chief delegates' PLEASE give detailed thought to this suject. In the meantime I will be producing a paper for distribution with the GAD papers on the problems and cost of Med Tec International with possible alternative means of a more effective means of publicising our work.

Compliments of the season to each and every one of you.

Dennis B. Slade

Obituary

It is with much regret we have to report the deaths of two colleagues who have spent much of their lives working for and supporting the work of IAMLT.

Mr HIROSHI IWATA, Vice president of the Japanese Association of Medical Technologists died at the early age of fifty-four from lung cancer on 24 October, 1989. He will be known by many participants of recent Congresses and, in particular, by those attending the Congress in Kobe where he was chairman of the Scientific Programme Committee.

Mr. REGINALD J BROMFIELD, who died on 20 October 1989, gave a lifetime of service to medical laboratory technology. He was a member of the IMLS Council and its forerunner from 1934 until 1989 being a signatory to the formation of the Institute in 1942, was chairman from 1958 to 1960 and elected a Vice-President in 1959. Reg always has interest in international affairs and was a founder member of IAMLT and its first President, continuing as a Council member and editor of Med Tec until the late sixties.

INFORMATION PAMPHLET

The Worldwide Voice of the Medical Laboratory Technology Profession

The international Association of Medical Laboratory Technologists (IAMLT) is an independent, non-governmental association of national societies in 33 countries (1988), representing more than 150,000 medical laboratory technologists worldwide.

As a representative body, IAMLT works with international organizations to promote medical laboratory technology all over the world. IAMLT is the worldwide voice of the medical laboratory technology profession.

As a federation, IAMLT encourage national societies of medical laboratory technologists to prescribe the minimum standards of training and to raise the standards of training. IAMLT is a valuable resource for the individual society seeking greater involvment in medical laboratory technology related government policy making and planning.

As a means of communication, IAMLT enables medical laboratory technologists from diverse backgrounds to share learning experiences, explore medical laboratory technology issues, and exchange information of clinical and general interest to all technologists. IAMLT is open to all, regardless of nationality, race, creed, colour, politics, sex or social status.

IAMLT is dedicated to

* affording opportunities for medical laboratory technologists to meet to discuss problems of common professional interest in an international forum.

* providing the means of communication between medical laboratory technologists in different countries, to promote national organizations of medical laboratory technologists and to advise them in their continued development.

* prescribing the minimum standards of training in cooperation with the World Health Organization and to raising the standards of training of medical laboratory technologists.

* facilitating the free exchange of labour.

Membership is open to

* organizations consisting of medical laboratory technologists qualified according to the accepted standards of the profession in their own countries.

* groups of medical laboratory technologists in countries, having no association.

Membership has to be accepted by the General Assembly of Delegates.

Any person who has rendered to the profession such services as to merit recognition as an **Honorary Member** may upon recommendation by the Council and approval of a General Assembly of Delegates, be made as an honorary member of the association.

Med Tec International is the official publication of IAMLT. It is published twice a year and obtained free from your own organization. Information about national as well as international events, news from member societies, scientific articles and WHO-matters are published in Med Tec.

Congresses are held every other year and highlight the activities of IAMLT. Up to 1500 participants have enjoyed programmes offered during these week-long events. The Congress includes extensive work-shops, scientific sessions, symposia, the meeting of the General Assembly of Delegates and all its attendant governance committee meeting, a major exhibit of products by industry and a variety of social events hosted in a major world city atmosphere.

AWARD INFORMATION

BAXTER-DADE INC. AWARD FOR ' OUTSTANDING SERVICES TO MEDICAL LABORATORY TECHNOLOGY '

Conditions of Entry:

1. Membership of at least 5 years of one of the national associations.
2. Full time occupation in medical laboratory.
3. Proper professional qualifications.
4. Activity in own professional organisation.

Election:

1. Each national committee may designate one candidate for the prize. The proposal has to be accompanied by:
   a. Curriculum vitae of the candidate including publications if any (please mention any teaching activity and private hobbies).
   b. Certificate by the employer.
   c. Name and address of two referees able to give information about the candidate.
   d. Detailed information from the national committee regarding the standard of work, personal

Congress venues:

1961	Stockholm	1970	Copenhagen	1978	Edinburgh	1986	Stockholm
1964	Lausanne	1972	Vienna	1980	Durban	1988	Kobe
1966	Berlin	1974	Paris	1982	Amsterdam	1990	Geneva
1968	Helsinki	1976	Chicago	1984	Perth		

wards are sponsored by industrial companies and by MLT. The Merz & Dade Award for "Outstanding rvices to Medical Laboratory Technology" is offered ennually. IAMLT Scholarship is given to a deserving ident or qualified medical laboratory technologist for onomic assistance to participate in a course, to study at aboratory in another country or to attend an IAMLT ngress. Ortho Diagnostics Systems Educational Award presented annually to attend a post graduate course of e week at the Philip Levine Laboratory in U.S.A.

he General Assembly of Delegates (GAD) is the gov-ning body of IAMLT, consisting of members of the uncil and delegates elected or appointed by each con-tuent society in a number proportional to society embership size.

he IAMLT Council, the governing body of the Associa-n when the GAD is not in session, is composed of 8 lected representatives from at least 5 member countries.

he Executive Office is maintained by an Executive rector, employed by the Council and is charged with rrying out the directives of the GAD and of the Council.

embership subscription is paid annually to IAMLT by ch national society and is determined by the size of the ciety. Whilst individual membership is not available, tive members of national groups which themselves are tive in IAMLT will find opportunities for personal volvement.

MLT is in itself a large and well established forum for exchange of experience and information on the use and velopment of new biomedical equipment, new tech-ques, new materials, new systems and innovation in the training of laboratory workers. The world's leading experts in medical laboratory science education participate in IAMLT activities. IAMLT collaborates with Governments, national societies and other agenccies concerned with establishing internationally acceptable standards of training and certification of medical laboratory technologists.

IAMLT acts as a Non-Governmental agency in official relationship with the U.N. and the World Health Organization (WHO). In this context IAMLT is represented at meetings of the Executive Health Board of WHO as well as the meetings of the Regional Committees.

IAMLT exist to serve its membership and the profession through programmes and services designed to further the science of medical laboratory technology.

IAMLT is organized to give each member the opportunity to be an active partner in the development of standards and practices enumerated in the polices, positions and publications of the Association. Active participation at all levels is sought by this organization.
If your medical technology society or group is interested in this challenge, please write for more detailed information to the Executive Director.

The above Information Pamphlet has been circulated to all Member Societies and further copies are available from the Executive Office. It has recently been updated but was published before the Boehringer Mannfeim GmbH and Immuno Ag awards were known.

qualities and special considerations for recommending the candidate for the prize.
A member of a national committee assisting in the electi on of a candidate is not allowed to enter for the award, but may be replaced in the committee in order to participate in the contest.

2. Previous applications which fulfill the conditions may be reconsidered on the recommendation of the national society.
3. Names of candidates for the prize along with all supporting documents must be sent to the Executive Office by November 15 of the year preceding the IAMLT Congress.
4. A copy of all information will be sent to the designated representative of Baxter-Dade Inc. by December 31 of the same year. The IAMLT Awards Committee and Baxter-Dade Inc. will jointly select the award recipient.

The prize is given by Baxter-Dade Inc. every two years on the occasion of the International Congress and consists of SFR. 3,000.

ORTHO DIAGNOSTIC SYSTEMS EDUCATIONAL AWARD

Purpose: To further the education of qualified technologists who are active members of IAMLT by sponsoring their attendance at a one-week course in immuno-haematology.
Eligibility: All Medical Technologists who are active members of constituent societies of IAMLT and possess the prerequisite academic as well as professional experience to

One unique feature about this Conference was its multi-disciplinary nature as it embraced all major disciplines of biomedical sciences. The 1st Conference which was initiated in Malaysia in April 1985 drew 211 delegates. The Philippines hosted the 2nd ACMLT had 624 delegates. Although the 3rd ACMLT was ASEAN in nature, it was really international in character because the organising committee of the Singapore Association of Medical Laboratory Sciences had appropriately inivited speakers and participants from many parts of the world.

There was an overwhelming response to the scientific programme. The Pre-conference workshop on Quality Assurance in Clinical Biochemistry that attracted 109 participants provided a comprehensive approach to Quality Assurance of our products - the laboratory results with the end objective being quality patient care. The second workshop for those attached to blood banks demonstrated the use of ELISA and WESTERN BLOT techniques in the diagnosis of HTLV-I and HIV-I infections.

The 1989/91 AAMLT Council

The four plenary lectures were delivered by speakers of international repute from Singapore, Japan, Australia and the United Kingdom. There were 14 symposium sessions covering a broad spectrum of current interests. In addition, there were 3 scientific, 6 free communication, 3 poster and 1 industrial sessions. Many papers were presented by local technologists.

Thirty-eight local and international companies participated in the Scientific Trade Exhibition. All the available 50 booths were confirmed three months prior to the date of the Conference. Participants had the rare opportunity of seeing the latest equipment and products relating to various disciplines.

Highlight of the social programme was the hospital visits. More than 150 delegates visited the Singapore General Hospital Pte Ltd, the National Blood Centre and the National University Hospital. Many commended highly on our sophisticated laboratory equipment, the modern hospital facilities such as the telelift system and of the National Blood Centre.

Chairman of ASEAN Conference present plaque to the IAMLT President

The 3rd ACMLT closed with a solemn simple ceremony of handing-over the Conference Flag to Thailand for hosting the 4th Conference in 1991.

Leong Chan Kay
Vice Chairman, 3rd ACMLT
Department of Pathology,
Singapore General Hospital,
Outram Road, Singapore 0316
Republic of Singapore

WHO NEWS

MESSAGE FROM HIROSHI NAKAJIMA, M.D.,Ph.D. DIRECTOR-GENERAL OF THE WORLD HEALTH ORGANIZATION

It is now increasingly evident that more diseases stem from the degradation caused by man to his environment. The potential harmful effects of industrial development on our global ecosystem are now better known. Ozone layer depletion, acid rain, climate change, chemical pollution are some examples of man-made wounds to our planet.

We are at a turning point; warnings of the damage to our health and quality of life are growing louder. An increasing number of people are acting to stop the degradation of our environment.

As Director-General of the World Health Organization, I have chosen the theme of Environment and Health for World Health Day, 7 April 1990.

WHO intends to spotlight the measures that individual,

communities and nations can and must undertake to halt further deterioration of health of our planet. Our own health and that of future generations depends on it.

I make a solemn appeal for solidarity among industrialized and developing countries. We must find viable options for sustainable development and to protect health everywhere on our planet.

Decisions taken by one country can have repercussions not only for its neighbours, but for all countries of the world.

On the occasion of World Health Day I invite the Member States of WHO, governmental and non-governmental organizations and all concerned with the well-being of the world to embark on an awareness campain. We must alert everyone to the dangers of an unhealthy environment and to measures they must take to avert them. The slogan we have chosen:

Our planet - Our health
Think globally - Act locally

* * * * * * * * * * *

The NGO-WHO Newsletter No. 5 was mostly devoted to news from the Forty-second World Health Assembly held in May at which IAMLT was represented. 161 of the 166 Member States and 94 of the 164 non-governmental organisations in official relations with WHO were represented. The valuable work of NGOs and the need for effective cooperation among all partners in health development to acheive maximum impact was frequently referred to in discussions on the programme budget for the period 1990/91; particularly noteworthy were references in the debate on, among other things:

- organisation of health services based on primary health care including management processes.
- development of human resources for health, including strengthening of nursing and midwifery.
- health education and promotion
- food safety
- safe water, sanitation and environmental health.
- maintainence and repair of equipment.
- immunisation
- AIDS
- diabetes prevention and control.

Out of the 45 resolutions adopted by the Assembly as a result of the discussions, 20 refer to the role that NGOs and voluntary organisations can play in support of specific programmes. In connection with the globlal AIDS strategy the Assembly drew attention to the fact that, because of their contacts with and access to individuals and the community as a whole, their commitment and versatility, their knowledge and experience, NGOs can make a special impact on society regarding AIDS.
The assembly approved a detailed plan to eradicate poliomyelitis by the turn of the century, the principal goals being to acheive 80% polio immunisation by the end of 1990 and more than 90% by the year 2000.

Main elements of the plan include increased immunisation coverage with correctly stored vaccine and improved laboratory diagnostic services and further essential research. During the Health Assembly a number of NGO groups meet to discuss and form action plans on a number of subjects, notebly accident and injury prevention, health of the elderly and primary health care. It is the intention of IAMLT to become involved with the latter.

WHO PRESS, the press releases from WHO Media Service, reports the spread of Legionnaires' Disease to Third World is highly probable soon. Dr Taguir Bektimirov warns 'it is highly probable that with increasing urbanisation in developing countries, this infection will cause even greater concern in many other countries in the near future'. Particular problems are envisaged with building of hotels to boost tourism.

WHO has published recommendations for the disinsecting of cabins and cargo holds of aircraft with aerosol sprays containing insecticides that are safe to passengers.
So rapid is air travel today that if disease-carrying insects are transported from one end of the world to another they are unaffected by the voyage, hence cases of malaria have appeared in Amsterdam, Brussels, London, Paris, Geneva and Zurich in persons who have never left home. Irrespective of the disinsecting technique used, WHO calls for compulsory treatment of all aircraft making stopovers in countries where diseases are transmitted by airborne insects.

WHO is very concerned also about the ' stagnation in progress towards reducing the global malaria problem.' 43% of the world population still live in malarious areas and, therefore , are at risk with an estimated 103 million cases a year.
Among major obstacles confronting malariologists is the resistance of mosquito to such insecticides as DDT and dielrin; and resistance of the killer parasite, Plasmodium falciparum, to chloroquine, the drug of choice.

* * * * * * * * * * *

As WHO-IAMLT Liason Officer I attended the first week of the forty-second World Health Assembly in May this year but, being my first visit, spent most of my time finding my way around and getting to meet people - both time consuming occupations in an organisation as vast as WHO.
I was unable to take part in the technical discussions as they continued into the Saturday I was due to leave but, now knowing that WHO week finishes Saturday lunchtime, will make my travel arrangement to coincide.
I also attended a meeting on ' Development of Appropriate Laboratory Technology to Support Primary Health Care' and a report will appear in the next issue of Med Tec.
In January I will be attending my first meeting of the Executive Board where our continuing status as a Non-Government Organisation in official relations with WHO will be reviewed.
This review takes place every three years, one third of NGOs being reviewed each year, and the success or otherwise depends on the collaboration there has been between the NGO and WHO.

Our record for the past three years or so has not been good due mainly to our not receiving reports of WHO activities. We are now receiving these reports and I am hoping the Council and General Assembly of Delegates will take the opportunity of deciding what action we can take to collaborate with WHO in its activities, to which end some members of Council are meeting with WHO staff prior to the Congress.

WHO officers will be taking part in the scientific programme of the Congress and I am hopeful they will be present at functions when participants can discuss WHO activities in an informal atmosphere.

Dennis B Slade

H.I.V. antibody screening was carried out on all donations using the Fujirebio SERODIA HIV assay kit. This is a passive agglutination assay, using coloured gelatin particles coated with attenuated HIV antigen. Positive results were rechecked using the same technqiue and then sent off (to Geneva, Switzerland) for confirmatory testing by ELISA and Western blot technique. It was decided that any case showing a positive result would be examined individually, and that social, family, and environmental factors prevailing for the donor, should dictate what advice be given and/or what other steps be taken to prevent a further spread of the infection.

The issue of HIV positivity in refugee populations is extremely sensitive world-wide. The organisations providing assistance to refugees are acutely aware that the normal rules of confidentiality would be unlikely to be observed by a country reluctantly playing host to refugees, should HIV positivity be found. Even worse, such a finding might well result in maltreatment of indivdiuals or even in the forced return of a population to the situation which made it refugee in the first place.

Table IV: *Blood group distributions. Khmer blood donors (1987).*

Location	Sex	Total	%
A	M	710	21.3
	F	122	23.1
	M+F	832	21.5
B	M	1251	37.6
	F	199	37.6
	M+F	1450	37.6
O	M	1165	34.9
	F	158	29.8
	M+F	1323	34.2
AB	M	208	6.2
	F	50	9.5
	M+F	258	6.7

Dissemination and donor incentives

The single-most difficult aspect of the programme, was not so much how to set it up, but rather how to keep it going successfully once it had come into being. Initial problems included the difficulties the Khmer staff had with techniques; obtaining of camp administration support; and finally the support of the people who it was hoped would become blood donors.

The camp officials were asked to contribute their ideas right from the start. Some were positively helpful, others almost completely indifferent. At least some degree of commitment had to be obtained from each administration before contact with camp residents was made. It became clear that values, with regard to blood donation, of the Khmer people were markedly different from our own, (ie who have a professional medical career, and a lifetime of exposure to television and other media where the concept of blood donation and transfusion is frequently encountered). It was therefore obvious that a different approach would be necessary if the message were to be heard. It took a long time to begin to understand the motivations of Khmer refugee blood donors, especially given the odds against their being interested, and to devise a message to which they could relate.

The straightforward lecture, by way of a translator, had minimal impact, and then generally only with people who had a relatively good education. In the same way, printed hand-out material had limited appeal and success. Many people could not read. The novelty effect soon wore off, although it netted a small number of donors who, initally attracted in this way, became well informed regular donors, who were genuinely interested in what we were doing.

Greatest success was gained with people who had first hand experience of hospitals where blood transfusion had in some way affected them, either directly or indirectly. Next best results were personal contacts with people, explaining on a one to one basis, in the hospitals, in homes, in marketplaces, and coffee shops. Organised military bleeding sessions were not actively pursued, because of the high numbers of returning soldiers carrying malaria, and a sensitive political situation. Soldiers who came individually to donate blood were not refused, but careful attempts were made to get an accurate health history.

School groups, if of sufficient age, (over 18 years), were approached, and this became an especially good source of blood in Site B where schooling activities and opportunities were better organised than in the other camps.

Extensive use of video and photographic material was not possible. Severe restrictions on the use of photographic recording equipment in the camps was not highly conducive to production of such material. Competitions amongst the Khmer workers to produce new T-shirt designs and posters proved interesting, at least for those involved.

The fitting of a vehicle with public address facilities, also proved successful. An outsider could be forgiven for not realising that one day is very much like another inside a refugee camp, and a simple reminder that it was blood donation day in each section of the camp was often enough to bring some donors forward. It also helped if the Khmer worker who sat in the vehicle whilst it made it's round of the camp, had a sense of humour, along with an ability to add a little drama to his message of invitation.

In an effort to attract and retain regular donors it was decided that a gift, (a womans' sarong — a handy present for one's wife, or possible offering to a girlfriend, — and toothbrush, and a tube of toothpaste) should be given, whenever a donor had donated on four occasions. These donors were also given a plastic laminated I.D. card which survived better in the prevailing conditions in the camps, along with an individualised letter of gratitude. All were designed to give the donor reason for feeling some self-esteem for his act. The concept that a blood donor deserves the respect of the community in which he or she lives, was developed in a poster campaign.

Transfusion philosophy and guidelines

Obtaining blood from donors in the refugee camps along the Thai/Cambodian border involved considerable effort. Without exception, the resources that were available to us were strictly limited. The transfusion guidelines which were developed were necessarily vague, but were designed in the interests of achieving highly conservative regimes of blood transfusion therapy. They did not pretend to be a comprehensive treatment guide, but served as a reminder of specific points of note in the environment of Khao-I-Dang surgical hospital. Severe burns, hemostatic disorders, and bacterial infections offered little opportunity to formulate even general rules.

Since it was my responsibility to ensure that blood was available for transfusion whenever it might be required, it was important that I thoroughly brief new medical teams on transfusion guidelines before they commenced work.

In general, the medical personnel, who were replaced every three months by a new team, were highly cooperative, and though we came close there was never an occasion which found the supply of blood completely exhausted (nor on the other hand, did any units ever reach their storage expiry date). It would be impossible to say with complete assurance that every patient who required blood was given the correct transfusion therapy. I do believe however, that at

least close to maximum benefit was obtained from the resources available to the transfusion service.

Currently, the situation for the Khmer people living in refugee camps along the Thai/Cambodian border remains unresolved. The political stalemate continues, and the threat of further civil war in their country has not lessened. Hundreds of thousands of men, women and children remain hostage to the political needs of governments thousands of kilometers away, whose decision makers cannot possibly imagine the reality of raising children to know barbed wire, armed guards, relief organisation handouts and the stench of human excrement in open sewers, as normal life. I struggled, often unsuccessfully, to deal with the vast gap which delineated my world from theirs, and of all the tasks which I was called upon to carry out, maintaining a sense of personal balance was by far the most difficult.

I was fortunate that my work contained so many positive aspects, and results which could be readily quantified. I was fortunate too, to have skills and a background in medical laboratory technology to fall back on in those moments when I saw the futility and pointlessness of the lives of those I worked with, in their sharpest focus.

References:

1. Extract from the XXIVth International Conference of the Red Cross code of ethics for blood donation and transfusion, Manila, 1981.

Code of Ethics for Blood Donations.

(i) Blood donations must be voluntary, in all circumstances; no pressure of any kind must be brought to bear upon the donor.

(ii) The donor should be advised of the risks connected with the procedure; the donor's health and safety should be a constant concern.

(iii) Financial profit must never be a motive either for the donor or for those responsible for collecting the donation. Voluntary non-remunerated donors should always be encouraged.

(iv) Anominity between donor and recipient must be respected except in special cases.

(v) Blood donation must not entail discrimination of any kind, either of race, nationality or religion.

(vi) Blood must be collected under the responsibility of a physician.

(vii) The frequency of donations and the total volume of the blood collected according to the sex and weight of the individual, as well as the upper and lower age limits for blood donation, should be defined by regulations.

(viii) Suitable testing of each donor and blood donation must be performed in an attempt to detect any abnormalities:
  (a) that would make the donation dangerous for the donor.
  (b) that would be likely to be harmful to the recipient.

(ix) The donor must be protected by adequate insurance against the risks inherent in the donation of blood, plasma or cells, as well as the risks of immunisation.

2. Launer PA, Dexter R, Fallas D. Ethical and Medical Considerations for a Blood Donation Programme in a Refugee Population. *Lancet* **July 16:** 153-154.

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Members wishing to receive their publications by airmail should contact the Editor to make the necessary arrangement.

Membership Sub-Committee Report — November 1989

Since the June meeting there have been the following changes:

	15.11.89	28.8.89	9.6.89	17.3.89
Membership	1669	1704	1709	1699
less resignations	21	39	37	4
less G.N.A.	22	6	10	-
less deletions	-	-	1	-
less deceased	2	-	1	-
	1624	1659	1660	1695
plus applications	3	10	44	14
plus reinstatements	-	-	-	-
	1627	1669	1704	1709

Applications of Associateship
A. REES, Auckland; P. PATEL, Auckland; M. MANSELL, Auckland; L. ROBERTSON, Tauranga; D. MONK, Wanganui; C. HOLDEN, New Plymouth; J. NORRISH, Dunedin; D. FALLAS, Auckland.

Applications for Membership
G. FOSTER, Auckland; F. BIGGINS, Auckland; L. BROOKES Auckland; R. MAY, Auckland; K. YOUNG, Auckland; J. ORR, Auckland; M. PATON, Auckland; C. READE, Auckland; K. DE JONGE, Auckland; W. HUME, Auckland; L. WATSON, Auckland; R. JONES, Auckland; K. WILLIAMSON, Auckland; R. CONNON, Auckland; J. ROBERTS, Auckland; J. MCGREGOR, Auckland; M. AIRD, Auckland; M. WARDEN, Auckland; M. BONARIUS, Auckland; T. MCNAUGHTON, Hamilton; S. SHEELY, Taumarunui; S. SULLIVAN, Hamilton; K. PUTT, Hamilton; T. NICOL, Hamilton; B. WELLS, Palmerston North; C. FLACK, Palmerston North; D. CRAM, Wellington; R. HARRISON, Hastings; B. SCADDEN, Wellington; H. PEARMAIN, Palmerston North; K. KEMP, Lower Hutt; S. WANKLYN, Lower Hutt; K. ANDERSON, Christchurch; T. KARREMAN, Christchurch; L. BOOTH, Christchurch; C. GOODALL, Christchurch; C. TRAYNOR, Invercargill; E. MCLELLAN, Invercargill; E. BERWICK, Australia; J. ULUI, Fiji; L. BRENNAN, New Plymouth; G. LIBBY, Hastings; K. STADE, Wellington; D. TIPPETT, New Plymouth; D. BAIN, Christchurch; G. LEE, Malaysia.

Application for Non-Practicing Membership
P. LINDSAY, Auckland.

Resignations
R. BELL, M. DIXON, H.K. LEARMOUTH, S.E. CAMPBELL, S. BOWMAN, G. LUNN, F.J. AUSTIN, L. WHITE, D. TINGLE, N.G. TAYLOR, E. MCDERMOTT, J.G. COOPER, K. CLARK, J.D. PINKERTON, J.P. ROOK, V. RENDEL, J. ADAMS, M. LAWSON, J.M. MCDONALD, M.H. TISCH, K.R. WORTHINGTON, B.A. HEATON, D. JOYCE, A.J. STOCKWELL, E.L. MOORE, J.P. WALSH, G.E. PEARMAIN, L.A. SIMPSON, R.J. SILCOCK, J.G. WILSON, A.D. DIXON, J.H. BRISCO, S. JARRETT, F.J. WESTON, M.A. THISTOLL, M.P. POT, F.C. THOMPSON, B. TURNBULL, A. FYFE, D. CHAPMAN, Y. DANIEL, T. FRAME, B. DAVY, L. APPLEYARD, P. COLE, A. COLGATE, B. BISHOP, P. MOFFERT, P. CONSTABLE, H. PEARMAIN, J. WYPYCH, W. BISHOP, S. EADE, J.M. MURPHY, J.S. HUNTER, J.C. GREENWOOD, J.B. KITTO, J. STANIFORTH, F. CRUICKSHANK, B. RALPH, FL OGELVY, M. WRIGHT, R.E. READ, R. OLDERSAW, J. MILLS, W. ROSE, N. DUXBURY, J. LEE, S. DUDLEY, R. WALLER, J. ASHWORTH, B. SILVESTER, A.D. TREMAIN, H. THOMAS, G. THOMAS, H. DENNY—SMITH, D. NASSENSTEIN, G. FRY, N. HERCOCK, J.R. STEVENSON, B. CORNWALL, D. YEOMAN, L. SMITH, T. GUY, H.J. NABNEY, L.J. ALLISON, D. WIMSETT, A.K. DUXBURY, P. ELGAR, D. WARREN, M.A. RENDLE, R.V. JACK, P. TOUGH, D.J. RIACH, W.J. FRATER, C.L. HOLDEN.

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Deceased
L.R. REYNOLDS, M. BARRETT.

LETTERS TO THE EDITOR

Medical Laboratory Technologists adapt : OR — Beware the Nurses are coming

Dear Sir,

In the latest edition of Med Tec International, a prediction was made, that in the next 15-20 years, our profession will see more radical change than ever before.

As a group, we must be prepared to accept changes that inevitably accompany advances in technology.

I accept this fact. Yet I cannot and will not accept a situation where another group of health professionals willingly offer to replace technologists. Without elaborating too fully, suffice it to say a private commercial laboratory provides laboratory service to a private hospital in Auckland via a STAT lab on site. They now plan to instal a Nova Stat machine in Intensive Care for the nurses to use, thereby saving the cost of on call technologists. The Nova Stat will supply only about one third of all tests available in the present system. The remaining tests required will be sent to the already over burdened public hospitals, involving unnecessary time delays.

We medical technologists are required to be registered in order to practise. The Technologists Board continue to examine candidates and constantly work to improve the standard of education.

Nurses, as a group, are frequently seen in the National Press to cry out that they are overworked and underpaid. Yet, they are so eager to cross that all-important line of demarkation to do laboratory tests, without the broad background of experience of the technologists.

Is this part of the change, or adaption a technologist must undergo, as envisaged by Des Phillips in his recent Pullar Address?

Do our qualifications stand for nothing in the competitive private laboratory situation — where cost cutting means changes are necessary?

I previously believed Employers would support their workers, recognizing their qualifications, and provide remuneration 'at a sustainable level' commensurate with their worth.

Doctors, as another group of health professionals, adequately protect their own profession, against those with different or questionable qualifications, yet at some hospitals they apparently belittle the worth of laboratory personnel, accepting the proposal that nurses could perform laboratory tests.

My main concern, and the reason for this article, is one of awareness. I'm concerned that nurses are attempting to make inroads into the laboratory area. I'm concerned that as a group, technologists be aware of the politics behind economic cutbacks and how this affects their fellow members.

We now have a Union. How many potential members sit on the fence — "to see what happens", or "have no current need of a union"? The Union Newsletter is undoubtedly a medium through which these situations can be aired and discussed fully.

I'm left with some unresolved thoughts. Is our profession worthy of defence or, do we accept that 'anyone can do our work'? Are we, indeed, becoming obsolete? Should we strive for qualifications at all, in an environment where, (perhaps) the market cannot support our existence? Should a few individual technologists carry a disproportionate burden for their employers' benefit? After all, changes surely need to be made, if a situation becomes uneconomic.

The Auckland Area Health Board has taken drastic measures, for example, closing St Helen's Hospital Laboratory. The difference here is subtle, but important. The work was not handed over to nurses.

The N.Z. Medical Laboratory Workers Union is currently negotiating the N.Z. Medical Laboratory Employees Composite Agreement. Such a document would afford protection of jobs, terms and conditions of employment, etc., which does not presently exist, for technologists and other laboratory personnel.

Yours sincerely.
Lyn Happy.

EDITOR'S NOTE: I would welcome any replies to this very important issue.

STAFF TECHNOLOGIST
Waikato Area Health Board
Taumarunui Hospital
A position will be available in March/April for a Staff Technologist to replace the encumbent who will be on maternity leave. The successful applicant must be willing to perform oncall duties. Taumarunui Hospital laboratory has a staff of six and performs routine haematology, biochemistry, microbiology and blood bank.

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The Pacific Way

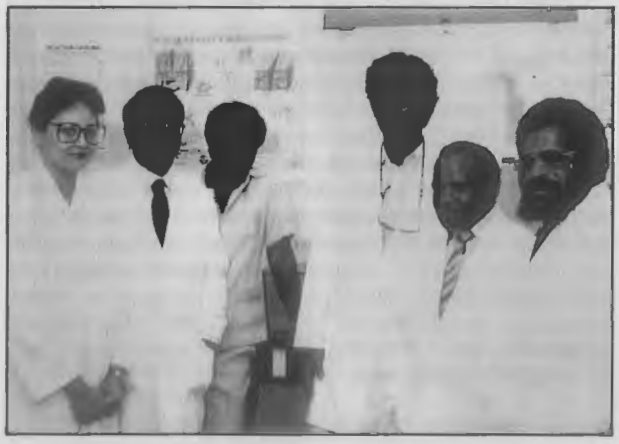
Pacific Paramedical Training Centre (PPTC) News

Two successful courses were held during 1989.
Haematology — Immunohaematology May - August.
Microbiology — September - November.

The main project for the year was the introduction of a three year training course for technicians at National Hospital, Apia, Western Samoa.

The entire course structure and lectures have been prepared by Tutors at the P.P.T.C. Senior technicians at Apia Hospital (some of whom have attended courses at the P.P.T.C.) are doing the lecturing and teaching. P.P.T.C. staff are in telephone contact on a regular basis and visits at approximately 4-6 monthly intervals by P.P.T.C. staff to assess progress of students and to assist the senior staff have been inaugurated.

This course has the support of W.H.O. and, if successful, similar courses may be held in other Islands of the Pacific. Students doing the course will be brought to the P.P.T.C in Wellington for 2-3 months during the third and final year of the course (1991).



Microbiology Course September-November, 1989
Left to Right: Theresa Hosking, Cook Islands; Parmod Kumar, Fiji; Ajit Das, Bangladesh; Foliaki Paolo, Tuvalu; Simeon Gesson, Vanimo, Papua New Guinea; Pai Manundi Mendi, Papua New Guinea.

1990

In January World Health Organisation established the P.P.T.C. as a collaborating centre for W.H.O. External Quality Assessment Programme in Health.

The terms of reference include:

1. Appropriate quality control tests for laboratory services in Microbiology, Haematology, Biochemistry and Immunology, in developing countries especially in the South Pacific countries.
2. To conduct the External Quality Assessment programme on the Health Laboratory Services for developing countries especially in the South Pacific countries.
3. To evaluate results and to collaborate with the countries in improving the services in these fields through appropriate feedback programmes.
4. To collaborate in training laboratory personnel for developing countries at different levels with emphasis on the quality control of laboratory services.

In addition to the training programme in Samoa and the W.H.O. Quality Control Programme in the Pacific area, two training courses will be held at the P.P.T.C. this year.

Haematology — Immunohaematology, May-August.
Microbiology — September-November.

Michael Lynch returns to the position of Tutor Co-ordinator at the P.P.T.C. in April after a year working with W.H.O. as Technical Officer, AIDS Unit, in the Pacific area. This is part of a global programme for the prevention and control of AIDS.

Gilbert Rose who acted as Tutor Co-ordinator during Mike's absence in 1989 is currently on a W.H.O. assignment looking at the prevalence and diagnostic methods of *H. influenzae* and *Strep. pneumoniae* in Fiji, New Hebrides, British Solomon Islands and Tonga.

Tragic Consequence of a Beneficient Military Gift

Cysticercosis, which has been running rampant in Irian Jaya for more than 15 years has now entered Papua New Guinea. Before the current epidemic there had been no reports of human taeniasis or of cysticercosis in humans or pigs anywhere on the island of New Guinea. In 1972 two Indonesian physicians examined faecal samples from 170 Ekari people admitted to Enarotali Hospital in the Paniai Lakes area of Irian Jaya and discovered that 9% contained eggs of *T. solium*. Of 2,000 Ekari people near the Enarotali Hospital surveyed in 1973, 4.2% had developed cysticercosis and 8% had developed intestinal taeniasis infection. Between 1975 and 1977 cysticercosis and taeniasis increased and spread with intestinal infection rates up to 20%. In 1978 serological tests confirmed that at least 24% of adults and children were infected. Undoubtedly, the majority of the Ekari people are now infected.

The Ekari are a "fourth world" people who call themselves the Me. The Me people, who number around 65,000, speak a Papauan language; their homeland is the Paniai Lakes region that forms a large highland basin, 1,500 metres above sea level. Paniai Lakes is the westernmost of four densely settled highland basins; also in the Irian Jaya is the Baliem Valley while the Wahgi and Asaro Valleys are in Papua New Guinea.

Me are labelled by physicians, consultants and even anthropologists as primitives from the Stone Age. This label has been invoked by many to dismiss the health epidemic by which they are now beseiged.

Pigs have been in New Guinea for at least 5,000 years: in the highland basin intensive agriculture has supported competitive big man-pig exchange system, as among the Me, for more than 2,000 years. Pigs are an ancient, integral part of Melanesian culture and identity . . . so how did cysticercosis arrive? and with whom?

David Hyndman, a Senior Lecturer in the Department of Anthropology and Sociology at the University of Queensland, believes that the infection was introduced when President Suharto softened the military action in the Me homeland by sending a gift of pigs. The pigs came from Bali, the area in which pig-rearing in Indonesia is largely concentrated. Since Bali is Hindu and the rest of country is mostly Muslim.

Whatever the political and social advantages of the gift, the medical result was an unmitigated tragedy.

Dr Hyndman says "the Indonesian military is certainly not admitting that it introduced cysticercosis as a diabolical form of biological warfare, but I cannot accept that this cysticercosis epidemic is no more than a tragically unforeseen consequence of a beneficient military gift."

In 1983 an item in the British Medical Journal, "The Lancet", by Drs. Bending and Catford, stated categorically that transmission to the Me was restricted to a single importation of one batch of infected pigs from Bali in 1971. As another researcher has noted, it was the Me "who first noted

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