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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 Science, Vol. 45, No. 4, page 108 to 111 or from the Editor.

Intending contributors should submit their material to the Editor, M. Gillies, Microbiology Laboratory, Auckland Hospital, 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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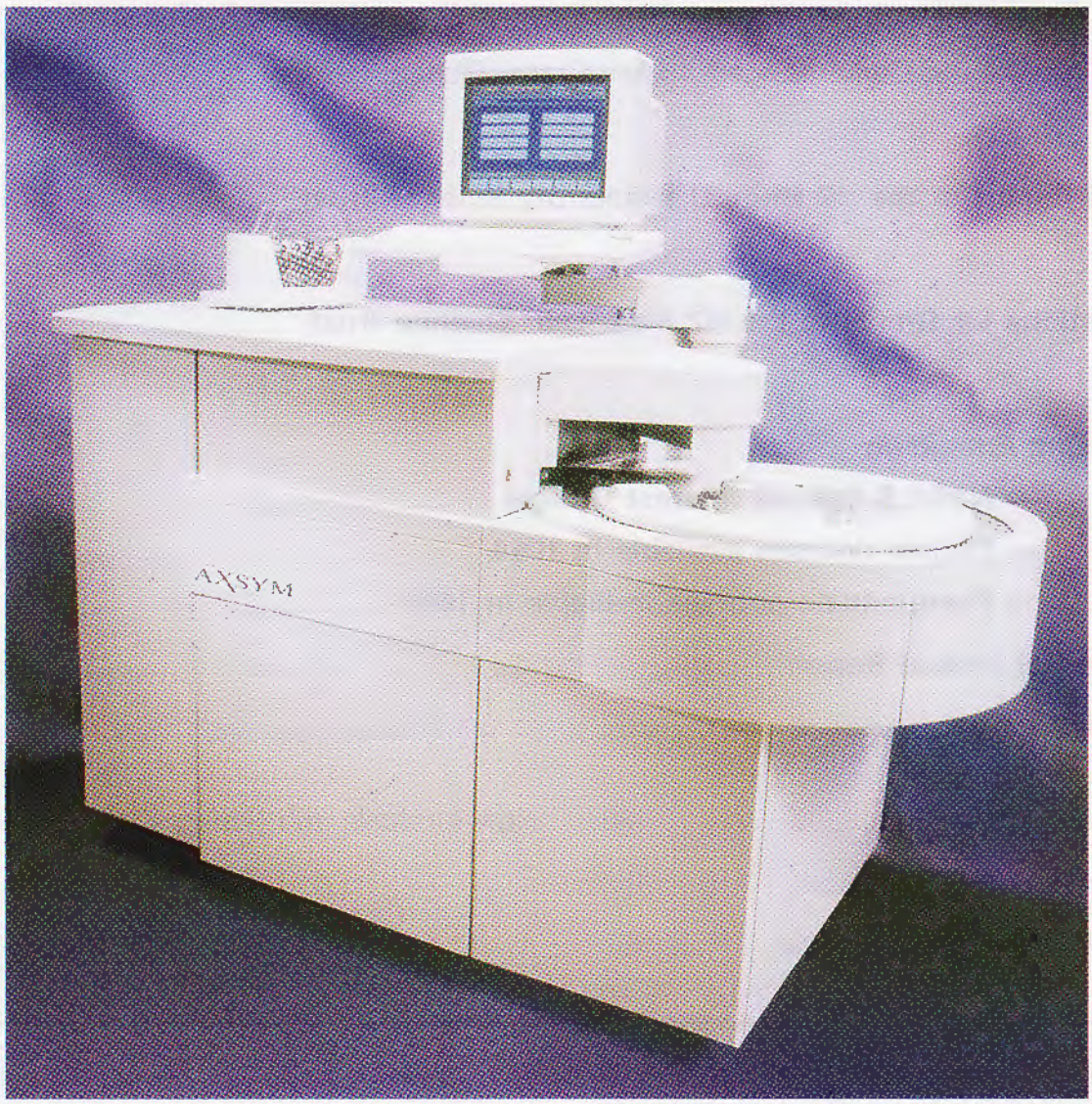

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NZJ Med Lab Science 1993; 47(4) : 127-128

Biochemical Effects of Inhaled Bronchodilators in Asthma

Robert WL Siebers, MIBiol, MRNZS, FNZIMLS, Carl D Burgess, MRCP, FRACP, MD, Julian Crane, FRACP, Richard Beasley, FRACP, MD.

Department of Medicine, Wellington School of Medicine, Wellington

Address for correspondence: Robert WL Siebers

Introduction:

Beta adrenoceptor agonists, such as salbutamol, terbutaline and fenoterol are widely used as bronchodilators in the treatment of asthma. Apart from their therapeutic pulmonary effects, they also have extra pulmonary effects due to their action on beta receptors. These extra pulmonary effects can be classified into haemodynamic, electrophysiologic and metabolic categories. The metabolic responses to inhaled bronchodilators can further be subdivided into two categories. Firstly, those concerned with the energy substrates such as glucose, insulin, free fatty acids and lactate. Secondly, those causing cellular shifts or excretion of cations, such as potassium and magnesium.

It is the purpose of this paper to briefly review the metabolic effects of inhaled bronchodilators and the resultant changes in biochemical parameters that may be seen in the clinical biochemistry laboratory.

Keywords:

Asthma, Beta Adronoceptor Agonists; Bronchodilators; Biochemistry; Metabolism.

Glucose and Insulin

Beta-2 adrenoceptors are involved in beta agonists stimulation of glycogenolysis and gluconeogenesis. Thus nebulized salbutamol has been shown to increase plasma glucose in normal volunteers[1]. The increase in plasma glucose following beta agonists is dose related and has also been demonstrated in asthmatic subjects [2]. Insulin response to beta agonists is either due to direct stimulation of functional beta-2 adrenoceptors of the pancreatic islet cells, or due to beta agonist induced hyperglycaemia.

Clinically the increase in glucose and insulin due to beta agonist stimulation, may be of importance in the management of diabetic asthmatics where these drugs are given in high doses. Diabetics who are insulin dependant will be unable to respond to beta agonist induced hyperglycaemia as they are unable to increase insulin production.

Free Fatty Acids

Lipolysis is predominantly mediated by activation of the beta-2 adrenoceptors in adipose tissue, leading to an increase in plasma free fatty acids (FFA). Marked increases in plasma FFA have been demonstrated after salbutamol inhalation in normal volunteers (1), but to a lesser degree in asthmatic subjects[3]. In asthmatic subjects the modest increase in plasma FFA is unlikely to be of clinical significance, but in asthmatic diabetic subjects it maybe, as increased FFA together with hypoxia has been implicated as a cause of cardiac arrythmias[4].

Lactate

Lactic acidosis has been described in acute severe asthma[5]. It is most likely due to respiratory muscle over production of lactate. Beta agonist therapy has also been implicated in asthmatic lactic acidosis[6]. This is thought to be due to beta 2 adrenoceptor stimulation of muscle glycogenolysis, but the contribution of muscle lactate production could not be ruled out.

Preliminary studies from our group have shown that in recumbent normal volunteers and asthmatic subjects, inhaled beta agonists cause a rise in blood lactate (unpublished results). The increase in blood lactate concentration was dose dependant reaching a plateau after prolonged use, and was significantly higher with fenoterol when compared to salbutamol. Whether beta agonist enhanced lactate production (of up to 2.5 mmol/L) contributes to further respiratory muscle lactate production to clinically significant lactic acidosis in asthmatic subjects needs to be determined.

Potassium and Magnesium

Hypokalaemia mediated by inhaled beta agonists[7] is due to stimulation of Na^+, K^+ -ATPase resulting in a shift of potassium from the extracellular to the intracellular space[8]. The commonly prescribed beta agonists, such as salbutamol, terbutaline and fenoterol demonstrate differences in their hypokalaemic responses in normal volunteers[9], and the effects are long-lasting(10). These hypokalaemic response differences have also been demonstrated in asthmatic subjects [11, 12]. Fenoterol has constantly shown the greatest hypokalaemic effects[9-12], and may be implicated as one factor linking increased asthma mortality in New Zealand with the use of this drug[13]. However this has been disputed and some have suggested that all beta agonists are implicated in asthma mortality[14].

Beta agonist induced hypokalaemia is enhanced by the concomitant use of other drugs causing hypokalaemia, such as diuretics[15] and theophylline[16]. Additionally, subjects with pre-existing lowered plasma K^+ concentrations, such as found in ischaemic heart disease or diarrhoea; and those participating in strenuous sporting activities causing adrenaline induced hypokalaemia; are at greater risk of developing ventricular arrythmias whilst taking beta agonists acutely.

Both potassium and magnesium depletion can play a role in the generation of ventricular arrythmias. Intravenous infusion of beta agonists lowers serum magnesium[17], but inhalation does not cause a fall in serum magnesium[2, and unpublished observations]. The lowering of serum magnesium induced by intravenous infusion of beta agonists is predominantly due to increased urinary excretion of magnesium[8].

The lowering of serum magnesium and potassium by beta agonists thus differ in their mechanisms. Magnesium is eliminated by excretion from the body, while potassium is temporarily shifted from the extracellular to the intracellular compartment. The latter happens mainly in the muscle compartment[8] and cannot be demonstrated in easy accessible cells with functional Na^+, K^+, -ATPase pump units such as the erythrocyte[19], contrary to earlier reports[20].

Other Biochemical Parameters

Relaxation of bronchial smooth muscle, induced by beta agonist administration is mediated through cyclic AMP. Various studies have demonstrated a rise in plasma cyclic AMP [9,21,22] after beta agonist administration, which is dose dependant and greatest with fenoterol. Although plasma cyclic AMP levels are correlated with improvement of pulmonary function[22], cyclic AMP also has a positive inotropic effect on the heart.

Asthmatic subjects with reduced blood selenium concentrations and glutathione peroxidase activity appear to have more severe asthma[23]. Reduced selenium in asthmatic subjects may lead to a decrease in the reduction of 12-hydroperoxeicostetraenoic acid (part of the arachidonic acid lipoxygenase pathway), which in turn stimulates the

synthesis and release of leukotriene-B4, a potent inflammatory mediator. Alternatively, reduced glutathione peroxidase activity may cause lack of protection from free radicals and hydroperoxides, which are released in the airways during the inflammatory process. The lowered selenium status in some asthmatic patients is most likely due to the disease severity, as beta agonist therapy does not acutely affect blood selenium concentrations or glutathione peroxidase activity[24].

Conclusions:

Although beta agonist therapy has therapeutic benefits during acute attacks of asthma, metabolic side effects can occur. Changes in blood chemistries caused by beta agonist therapy in asthmatic subjects that may be seen in the clinical biochemistry laboratory include potassium, glucose, FFA, lactate, insulin and cyclic AMP. These changes are listed in Table 1. The newer long-acting beta agonists, such as formoterol and salmeterol, also show the biochemical changes as seen with fenoterol, salbutamol and terbutaline. These changes are predominantly due to beta agonist stimulation of beta 2 receptors in muscle and adipose tissue.

Table 1:
Effect of inhaled beta agonists on biochemistry parameters

Plasma/blood changes	
Glucose	↑
Insulin	↑
FFA	↑
Lactate	↑
Potassium	↓
cAMP	↓

↑increased – ↓decreased

Some of the beta agonists such as fenoterol have a greater effect most likely due to greater potency[12]. Indeed fenoterol has been withdrawn from the subsidised drug tariff in New Zealand following reports implicating the use of this beta agonist with increased asthma mortality[13].

Acknowledgements:

The authors thank Maureen Gordon for secretarial assistance. Studies from our unit mentioned in the paper were supported by the Health Research Council of New Zealand, the Lottery Board (Medical) of New Zealand, the Wellington Medical Research Foundation, Fisons and Glaxo. R Siebers was supported by the National Heart Foundation of New Zealand, and J Crane is a senior research fellow of the Health Research Council of New Zealand.

References:

1. Rolf-Smith S, Ryder C, Kendall MJ, Holder R. Cardiovascular and biochemical responses to nebulized salbutamol in normal subjects. *Br J Clin Pharmacol* 1984; 18: 641-4.
2. Lipworth BJ, Clark RA, Fraser CG, McDevitt DG. The biochemical effects of high dose inhaled Salbutamol in patients with asthma. *Eur J Clin Pharmacol* 1989; 36: 357-60.
3. Bateman SM, Pidgeon T, Spiro SG, Johnson AJ. The metabolic effects of inhaled Salbutamol. *Br J Clin Pharmacol* 1978; 5: 127-9.
4. Kurien VA, Oliver MF. A Metabolic cause for arrythmias during acute myocardial hypoxia. *Lancet* 1970; i: 813-5.
5. Appel D, Rubenstein R, Schrager K, Williams MH. Lactic acidosis in severe asthma. *Am J Med* 1983; 75: 580-4.
6. Braden GI, Johnston S, Germain M, Fitzgibbons JP, Dawson JA. Lactic acidosis associated with the therapy of acute bronchospasm. N Engl J Med 1985; 313: 890-1.
7. Smith SR, Kendall MJ. Metabolic responses to beta-2 stimulants. *J R Coll Phys* 1984; 18: 190-4.
8. Clausen, T, Flatman JA. Beta-2 adrenoceptors mediate the stimulating effect of adrenaline on active electrogenic Na-K transport in rat soleus muscle. *Br J Pharmacol* 1980; 68: 749-55.
9. Scheinin M, Koulu M, Laurikainen E, Allonen H. Hypokalaemia and other non-bronchial effects of inhaled fenoterol and salbutamol: a placebo controlled dose-response study in healthy volunteers. *Br J Clin Pharmacol* 1987; 24: 645-53.
10. Burgess CD, Flatt A, Siebers R, Crane J, Beasley R, Purdie G. A comparison of the extent and duration of hypokalaemia following three nebulized beta-2 adrenoceptor agonists. *Eur J Clin Pharmacol* 1989; 36: 415-7.
11. Windom HH, Burgess, CD, Siebers RWL, et al. The pulmonary and extrapulmonary effects of inhaled B-agonists in patients with asthma. *Clin Pharmacol Ther* 1990; 48: 296-301.
12. Burgess CD, Windom HH, Pearce N, et al. Lack of evidence for beta-2 receptor selectivity: a study of metaproterenol, fenoterol, isoproterenol, and epinephrine in patients with asthma. *Am Rev Resp Dis* 1991: 143: 444-6.
13. Crane J. Pearce N, Flatt A, et al. Prescribed fenoterol and death from asthma in New Zealand, 1981-83: a case-control study. *Lancet* 1989; i: 917-22.
14. Spitzer WO, Suissa S, Ernst P, et al. The use of beta agonists and the risk of death and near death from asthma. *N Engl J Med* 1992; 326: 501-6.
15. Struthers AD, Whitesmith R, Reid JL. Prior thiazide diuretic treatment increases adrenaline-induced hypokalaemia. *Lancet* 1983; i: 1358-6.
16. Whyte KF, Reid C, Addis GJ, Whitesmith R, Reid JL. Salbutamol induced hypokalaemia: the effect of theophylline alone and in combination with adrenaline. *Br J Clin Pharmacol* 1988; 25: 571-8.
17. Whyte KF, Addis GJ, Whitesmith R, Reid GL. Adrenergic control of plasma magnesium in man. *Clin Sci* 1987; 72: 135-8.
18. Bos WJ, Postma DS, van Doormal JJ. Magnesiuric and calciuric effects of terbutaline in man. *Clin Sci* 1988; 74: 595-7.
19. Siebers RWL, Burgess CD. Flatt A, Beasley R, Crane J. Unsuitability of the human erythrocyte as a model for in-vivo sodium transport activation by beta-2 adrenergic agonists. *Ann Clin Biochem* 1989; 26: 444-6.
20. Bodeman HH, Irmer M, Schluter KJ. Reininghaus M, Keul J. Activation of sodium transport in human erythrocytes by beta adrenoceptor stimulation in vivo. *Eur J Appl Physiol* 1987; 56: 375-80.
21. Crane J, Bremner PR, Siebers R, Pearce N, Beasley R, Burgess C. Partial v full ß receptor agonism: a clinical study of inhaled salbutamol and fenoterol. *Thorax* 1992; 47: 882.
22. Yamakido M, Inamizu T, Ikuta T, Onari K, Yunake M, Nishomoto Y. Evaluation of a new bronchodilator, formoterol using biochemical parameters. *Int J Clin Ther Tox* 1985; 23: 461-8.
23. Flatt A, Pearce N, Thomson CD, Sears MR, Robinson MR, Beasley R. Reduced selenium in asthmatic subjects in New Zealand. *Thorax* 1990; 45: 95-9.
24. Bremner P, Woodman, K. Thomson C, et al. Beta agonist drugs do not influence short term selenium status in asthmatic subjects. *Austr NZ Med* (Suppl.2): 659.

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ANNUAL REPORT 1993

ANNUAL REPORT
NEW ZEALAND MEDICAL LABORATORY SCIENCE TRUST 1993

Again the Science Trust has continued to maintain its position over the current year and thanks to the generous support of Abbott Diagnostics we have been able to offer a substantive Study Award for those involved in the area of Infectious Disease Serology.

The trustees are disappointed in the relatively few number of applications from Institute members seeking assistance in furthering their education. The Trustees are very aware of the current economic and political situation and the uncertainty and pressure that most laboratories throughout the country are working under. We acknowledge that as a result many laboratory personnel have little opportunity for travel or to undertake post graduate research or development projects. The Trustees are certain that provided The Trust is able to maintain its financial situation and slowly consolidate, when the improvement comes, which it surely will, the Trust will be in a very good position to assist the development of Medical Laboratory Science in New Zealand.

The Trustees are pleased to confirm that Abbott Diagnostics Ltd have agreed to again offer the Award for 1994 and on behalf of the membership of the New Zealand Institute of Medical Laboratory Science sincerely thank Abbott Diagnostics for this very positive declaration of support for Medical Laboratory Science in New Zealand.

Trustees:

The trustees are Mr J.S. Beattie of Wellington, Mr C.H. Campbell of Palmerston North, Mr B.T. Edwards of Christchurch, Mr D.J. Philip and Mr W.J. Wilson of Auckland. At the recent Annual Meeting of the Trustees Mr W.J. Wilson was elected Chairperson for the next term.

The Trustees gratefully acknowledge the work and efforts of Mr D.J. Philip as the Trust's Chairman since its establishment in 1988.

Grants:

In the 1992-93 year four Grants were approved from the Abbott Study Award. Three to allow Technologists to attend the 1993 NZIMLS Annual Scientific Meeting in Christchurch, and one to allow a Technologist to attend the 1993 Australasian Retrovirus Conference to be held in Adelaide. The Trustees would like to record their disappointment that there were so few applications for this Award.

The Trust invites applications for 1994 Grants and reminds members of the Institute that Application Forms are available from the Executive Officers of the Institute and the Trust.

Grant and Awards available for 1994 are —

1994 Abbott Study Award, closing date 31 January, 1994
NZMLST Travel Grant, closing date 27 May, 1994
NZMLST Research and Development Grant, closing date 27 May, 1994
NZMLST 1994 Medical Laboratory Science Annual Scientific Meeting
Travel Grant, closing date 27 May, 1994.

Unless there are very extenuating circumstances Grants are not considered at other times of the year.

W.J. Wilson
CHAIRMAN

N.Z. MEDICAL LABORATORY SCIENCE TRUST (INC)
BALANCE SHEET
AS AT 31 DECEMBER 1992

Accumulated Funds:	
Balance as at 1 January 1992	$12,862.00
Add excess income	776.92
	$13,639.03
Represented by:	
A.N.Z. Banking Group; Current Account	$13,639.03

Auditor's Report:
To the Trustees of the N.Z. Medical Laboratory Science Trust

I have examined the financial records of the above Trust and have received such explanations as I required and have carried out such procedures as I considered necessary. I confirm that the Balance in the Trust's current account is $13,639.03.

In my opinion, the above statements give a true and fair view of the financial transactions of the Trust for the year ended 31 December 1992.

David R Gordon
Hon Auditor

Palmerston North
19 January 1993

N.Z. MEDICAL LABORATORY SCIENCE TRUST (INC)
INCOME AND EXPENDITURE ACCOUNT
FOR YEAR ENDED 31 DECEMBER 1992

INCOME			
Interest Received		510.92	
Donations:			
Abbott	5,000.00		
Examiners	820.00		
Other	20.00	5,840.00	$6,350.92
EXPENDITURE			
Grants:			
N.I.C.E. Conference	1,000.00		
R. Austin	1,750.00		
G. Storey	500.00		
S. Henry	1,750.00		
G. Findon	574.00		$5,574.00
Excess Income			$776.92

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APPLICATION FOR GRANTS

In 1987 the New Zealand Institute of Medical Laboratory Science (Inc), responding to a change in the direction of our society from "State Funding" to "self support" and "user pays", and as there was no organisation with the specific responsibility for supporting and fostering the aims and ambitions of the New Zealand profession of Medical Laboratory Science, established the Medical Laboratory Science Trust, with the following principal objectives —

(a) To promote and assist research by members of the NZIMLS.

(b) To promote and assist the education of members of the NZIMLS by the provision of grants of money and the organisation of lectures, demonstrations and tutorials.

(c) To promote and assist in the provision of equipment, travel and accommodation for members of the NZIMLS to further their research and education.

(d) To promote and assist in the provision of course fees, enrolment fees, study bursaries and book purchases for members of the NZIMLS to further their education and research.

(e) To promote and assist in the publication of any research by members of the NZIMLS.

(f) To co-operate with other bodies or organisations, both within New Zealand and overseas, having objects in whole or in part similar to the objects of the Science Trust.

(g) To promote, obtain and achieve any of the objects of the Science Trust by or through the facilities available at any Hospital, University, or recognised medical, veterinary, scientific or research institute or other organisation and make grants of money, apparatus, equipment or otherwise, as the Trust Board may think fit.

The Trustees appointed by the Institute are Mr John S. Beattie of Wellington, Mr Colvin H. Campbell or Palmerston North, Mr Barrie T. Edwards of Christchurch, Mr Desmond J. Philip, and Mr Walter J. Wilson both of Auckland.

The Science Trust invites applications from financial members of the NZIMLS who wish support —

(1) To enable them to attend the 49th Annual Scientific Meeting of NZIMLS in Hamilton from 24 to 26 August, 1994.

(2) To request travel expense assistance to attend other meetings or undertake study within the above objectives.

(3) To enable them to undertake a research or development project.

All practising Fellows, Associates and Members of the NZIMLS are eligible to apply, applications will be considered on expected benefits from the project, travel etc and where appropriate consideration for the members' participation in promoting Medical Laboratory Technology. An application form for (1), attending the 1994 NZIMLS Annual Scientific Meeting is on the following page.

Application forms for (2) and (3) are available from the following —

Executive Officer,
NZIMLS,
P.O. Box 3270,
CHRISTCHURCH.

Executive Officer,
Medical Laboratory Science Trust,
C/- Pathology Department,
Palmerston North Hospital,
PALMERSTON NORTH.

Please indicate the type of application form required.

Applications must be on the official Application Form and be received by the Executive Officer, NZIMLST, no later than 5 pm on Friday, 27 May, 1994.

W.J. Wilson
Chairman
MEDICAL LABORATORY SCIENCE TRUST

MEDICAL LABORATORY SCIENCE TRUST
GRANT APPLICATION FORM FOR
(1994) NZIMLS ANNUAL SCIENTIFIC MEETING

Date: _____

NAME: _____

ADDRESS: (Business): _____

PRESENT POSITION: _____

PROFESSIONAL EXPERIENCE: (Positions held etc) _____

_____

_____

Do you intend to submit a paper for presentation at the Scientific Meeting?:

YES ☐ NO ☐

Note: A condition of the grant is that papers presented at the Meeting will be submitted to the NZIMLS Journal for publication. If "yes", on what subject?

_____

Attendance at the (Christchurch) Scientific Meeting will assist in my development in Medical Laboratory Science by: (in less than 200 words)

_____

_____

_____

(Continue on another page if required).

Nature and value of support sought: _____

_____

Member of the NZIMLS YES ☐ If "yes", what category? _____

NO ☐

Have you ever held office in any position in either a branch or the Council of the NZIMLS?

YES ☐ NO ☐

If "Yes", give details: _____

_____

_____ (Over)

Have you been or are you involved in assisting the activities of the Institute, eg a member of sub-committee, examiner etc?

YES ☐ NO ☐

If "yes", give details: _____

_____

I agree to abide by the terms of the Grant and the decision of the Medical Laboratory Science Trust Board of Trustees.

Signed: _____ Date: _____

If successful the above applicant has my support and permission to attend the NZIMLS Annual Scientific Meeting in Hamilton, 24-26 August, 1994.

Signed: _____ Date: _____

(Charge or Principal Technologist or Laboratory Director)

Applications close with the —

Executive Officer,
Medical Laboratory Science Trust,
C/- Pathology Laboratories,
Palmerston North Hospital,
Private Bag,
PALMERSTON NORTH

at 5pm on Friday, 27 May, 1994.

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Please address all correspondence to the Executive Officer, including Examination and Membership enquiries.

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Membership Fees and Enquiries
Membership fees for the year beginning April 1, 1991 are:
For Fellows — $88.40 GST inclusive

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For Associates — $33.80 GST inclusive

For Non-practising members — $33.00 GST inclusive

All membership fees, change of address or particulars, applications for membership or changes in status should be sent to the Executive Officer at the address given above.

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

Membership Sub-Committee Report — August 1993

Since the May meeting there have been the following changes:

	19.08.93	04.05.93	23.02.92	11.11.92
Membership	1135	1237	1242	1244
less resignations	16	6	3	7
less G.N.A.	10	2	8	19
less deletions	—	118	3	-
less deceased	—	1	-	-
less duplications	1	—	1	-
	1108	1110	1227	1237
plus applications	66	20	10	5
plus reinstatements	4	5	-	-
	1178	1135	1237	1237
Composition				
Life Member (Fellow)	10	12	12	12
Life Member (Member)	8	8	5	5
Fellow	20	20	20	20
Member	686	686	679	678
Associate	372	325	436	443
Non-practising	56	58	59	68
Honorary	26	26	26	26
Total	1178	1235	1237	1242

Applications for Membership
J. NEWTON, IEHFS; C. Kinney, Dunedin Medlab; T. WARNOCK, Christchurch Serology; J. HOWES, Wellington, Histo; D. RODGERS, Medlab South; R. RERITI, Medlab South: L. THOMAS, Dunedin School of Dentistry; S. CORSBIE, Christchurch, Biochem; T. Wells, Napier Medlab; M. CHAMBERS, Napier Medlab; L. HAUTAPU, Palmerston North, Medlab; C. ROWBERRY, Palmerston North, Cyto/Histo; M. BRYHAM, Middlemore, Haem; C. DAVIES, Dunedin, Histo; A. VILE, Palmerston North, Histo/Cytol; J. DAVIES, Dunedin, Micro; M. CHEALE, Auckland, Histo; M. McKAY, Wellington Medlab; T. SMITH, Dannevirke; L. BUTLER, Middlemore, Haem; N. WILLIAMS, Timaru, Cytol; B. DE RIDDER, Wellington Medlab; P. DUFF, Taranaki, Micro; K. VICKERS, New Plymouth Medlab; T. GOURLAY, Northland pathology; S. NUTSFORD, IEHFS; D. HAWKINS, Dunedin Medlab; A. VAN DER PUTTE, Dargaville; L. DEMLER, Wanganui Diagnostic; K. DEW, Waikato, Histo; E. COORY, University of Otago; K. STACK, Cardinal; A. MOTYL, Thames, Micro; J. COOPER, Taranaki, Micro C. BRODIE, Wellington, Haem; D. BREEN, Auckland Medlab; M. MARKWICK, Auckland Medlab; L. DAVIES, Auckand Medlab; D. CASEY, Diagnostic; E. BENGE, Diagnostic; E. GOOD, Diagnostic; C. DONACHIE, Diagnostic; R. CHRISTOPHERS, Diagnostic; T. ANDERSON, Christchurch, Viro; R. PODMORE, Christchurch, Micro; C. McKENZIE, Palmerston North, Biochem; R. MATHESON, Northland, Biochem; H. HEALEY, Christchurch, Trans Sci; G. DAVIES, Auckland Medlab; K. SMITH, Palmerston North, Medlab; G. TEAHAN, Wellington Medlab; I. EPPS, Palmerston North, Haem; A. COPELAND, Valley Diagnostic; E. FORDE, Dunedin Medlab; S. HEYWORTH, Hamilton Medlab; B. O'KEEFE, ARBC; R. ANDERSON, Wanganui Diagnostic; R. VAUGHAN, Green Lane, Micro; C. VAN WOERDEN, Waikato, Micro; S. ASHWORTH, Palmerston North, Micro; M. KHAN, Lomnex Holdings; L. CAHILL, Southland, Micro; C. SIES, Christchurch, Biochem; D. BANGE, Waikato, Trans Sci; F. MASSEY, Hutt, Haem; J. HILLAS, Ebos Group.

Gone No Address
V.F. DEEMING; H.E. HUTCHINGS; C.A. VAN POMEREN; T.L. BULLING; L.L. FALLOW; I. McDONALD; C.M. RASMUSSEN; S. ADAM; M.J. WILDBORE; A.M. O'CONNOR.

Resignations
A.L. GRIMMER; G.F. BEATTIE; R.S. BISHOP; H.J. NORTON; G.F. DAVIS; L.C. DOOLEY; W.M. CROWTHER; C.D. JAGGS; G.L. NICHOLLS; J.S. THOMSON; L.A. EDEN; V.A. TROTTER; K.S. WILLS; B.D. EDWARDS; F.E. HUTCHISON; T.L. PHILLIPS.

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TRANSFUSION SCIENCE

SPECIAL INTEREST GROUP

Convenor: David Wilson
Contact Address: c/- Sheryl Khull, Transfusion Laboratory, Wellington Hospital, Wellington. Fax: 04-389-5608.

Conference

Attendance at this year's NZIMLS Annual Scientific Meeting was down a little on previous years — perhaps a reflection of the uncertain political and economic environment for health workers. For those that managed to attend, Christchurch laid on some really lovely weather, fun-filled social events and excellent scientific papers. I found I simply couldn't get to all those I was interested in because there were so many and occasionally they coincided. The abstracts of the transfusion science papers are published below for those of you who couldn't make it to Christchurch to hear them in person.

The TSSIG met while we were all together in Christchurch. We discussed, and are working on, several items which we hope will benefit many of you.

Examiners

Towards the end of each year the TSSIG sends a list of names of potential examiners to the NZIMLS Council (for QTA and Specialist Level exams) and the MLTB (for Certificate level). We include people who are registered medical laboratory techologists and usually have themselves passed the Specialist level exam in transfusion science. At Conference this year, the NZIMLS Council sponsored a workshop for examiners and moderators. It was very successful and widely judged to be most useful, so we hope more such workshops will be run in the future. We are also looking forward to the imminent publication of some Guidelines for examiners and moderators. Examiners do a very demanding job for very little reward and deserve the thanks of all those who sit the papers which they set and mark. If there is someone who would like the opportunity to tackle this gruelling task who hasn't already been approached, please let me know (contact address above) and we'd be glad to add you to our meagre list.

QTA Syllabus

The NZIMLS is in the process of making some changes to the QTA syllabi to incorporate a common core component which will be the same for all QTA candidates irrespective of discipline. This will include such basics as safety, preparation of solutions and the use of some general equipment. The TSSIG are taking the opportunity to revise the transfusion science component, ready for reprinting next year. If you have any comments you would like to make, please feel free to pass them on to me for consideration as we revise this syllabus.

The NZIMLS are also making some changes to the format of the QTA examination. Details will be released after this year's examination, to avoid confusion.

1994 Conference Workshop

We have already begun planning for a half-day workshop at the 1994 Annual Scientific Meeting to be held in Hamilton, on the topic of 'New Technologies'. This includes such products as gel or bead chromatography cards, which are now beginning to be marketed in New Zealand.

Transfusion Medicine Audio Updates

Several new topics are now available. Please see the separate box which lists topics and serves as an order form.

Massey BMLSc

1994 will see fourth year students from both Otago and Massey Universities in our laboratories for clinical laboratory experience. We were pleased to meet with Chris Kendrick (transfusion science and haematology tutor for the Massey course) and look over the plans for his students' practical requirements. Many of us aren't yet sure what to expect of the BMLSc graduates or what will be expected of us, but I look forward to them as the culmination of many years of work to gain degree status for our qualification.

NICE Weekend

For all those NICE people who want to start planning now, here is advance notification that next year's NICE weekend will be held on 9-10 April at Wairakei. We hope to hold a golf tournament on the preceding Friday, for those who can manage a day off work.

Newsletter

This newsletter is the major way for most of us to maintain contact with what is going on in transfusion medicine in New Zealand. If anything interesting or challenging is happening to you, why not share it with the rest of us? Just drop me a line at the contact address above and I'll arrange for publication.

LITERATURE REVIEWS

Le(a-b-) and Heart Disease

"The Lewis Blood Group — A New Genetic Marker of Ischemic Heart Disease" by Hans Hein et al, appeared in the April 1992 issue of the Journal of Internal Medicine.

Of 3400 Danish men aged 53 to 74 studied, 9.6% were Le(a-b-). The risk of fatal ischemic heart disease was 340% greater in the Le(a-b-) group, and the risk of any ischemic heart disease was 60% greater.

The authors note a resemblance between their findings and Reaven X Syndrome, which is also associated with ischemic heart disease, hypertension, pathological lipid changes and diabetes. Interestingly, both the Lewis gene and the insulin receptor gene are on the short arm of chromosome 19.

Wristband Identification Errors

The June 1993 issue of the Archives of Pathology and Laboratory Medicine contained an article by Stephen Renner et al entitled "Wristband Identification Error Reporting in 712 Hospitals: A College of American Pathologists' Q-Probes Study of Quality Issues in Transfusion Practice."

The information on a patient's wristband is vital to the identification process for specimen collection and safe transfusion. Wristband errors can contribute to ABO-incompatible transfusion reactions or cause significant delays in transfusion. This study evaluated wristband identification problems in 712 hospitals.

The median total error rate was 2.2%. Approximately half the errors (49%) were due to a missing wristband. Other errors included more than one wristband containing different information (17%), erroneous data (9%), illegible data (6%), and patient wristbands containing another patient's information (0.5%).

The authors made the following recommendations to minimise wristband errors:

1. Establish and use a written protocol for patient identification.
2. Have phlebotomists check wristbands continuously.
3. Have phlebotomists immediately notify nursing or clerical staff to correct wristband errors.
4. Delay phlebotomy until errors are corrected.
5. Generate an incident report for each wristband error.
6. Send periodic reports on errors to appropriate hospital services and overseeing committees.
7. Have wristbands attached by admission personnel rather than nursing staff.
8. Designate the ankle as an alternative placement site.
9. Strongly discourage wristband removal for any reason, especially at the time of surgery.
10. Use hospital goals to reduce wristband error rates.

NEWLY RELEASED TEXTBOOKS

Irradiation of Blood Components, published by the American Association of Blood Banks, 1992.
Reviewed by, Mark Bevan, Transfusion Laboratory, Wellington Hospital.

The first piece of good news is that this is not a big book — comprising 75 pages divided into four main chapters. Despite its size, it still contains a lot of relevant information concerning Graft versus Host Diseases (GVHD) and the irradiation of blood components in attempting to prevent the disease.

The first and longest chapter, The Pathogenesis and Diagnosis of GVHD, deals with the immunopathogenic mechanisms of bone marrow associated and transfusion associated GVHD and gives an insight into those at risk and the reasons why they are at risk. It then goes on to discuss the pathology and clinical manifestations of the different organs affected by GVHD and how they relate to the diagnosis of the disease. Although seemingly more relevant to clinicians who may need to recognise and diagnose GVHD, this chapter is both informative and interesting and provides a good base of knowledge concerning most aspects of the disease.

The second chapter, Clinical Indications for Blood Component Irradiation, deals more specifically with those at risk from GVHD and provided a couple of surprises in that area. This chapter also provides information on blood components which have been implicated in the disease, current irradiation practices for prevention of GVHD, and discusses alternatives to gamma irradiation for effective leucocyte reduction.

The final two chapters, The Effect of Irradiation on Blood Components and Quality Assurance of Irradiation of Blood Components respectively, deal with the effect of gamma irradiation on various blood components (it appears that there is scope for more research to be carried out in this area) and radiation dosage for effective reduction of viable lymphocytes. The chapter on quality assurance covers all aspects of irradiation, relating mainly to self-contained irrradiators in a blood bank environment. It also provides quite good information about the different irradiators presently available.

The small size of this book should not be taken as an indication of lack of information. The information is presented in a concise, easy to understand manner, and I believe it can be a useful tool for anyone who may be associated with the use of irradiated blood components, GVHD, or both, and at $120 should not be out of reach of any laboratory's budget.

Blood Transfusion in Clinical Medicine, by P.L. Mollison, C.P. Engelfriet and Marcela Contreras, Ninth Edition, 1993, Blackwell Scientific Publications
Reviewed by: Sheryl Khull, Transfusion Laboratory, Wellington Hospital.

Although the format remains familiar to those of us who have kept "Mollison" at our right hand for years, the ninth edition has quite a lot of information not found in the eighth (1987) edition, mostly in areas of transfusion medicine which have seen significant recent developments.

The immunology of leucocytes and platelets is considered in detail, as are therapeutic aspects of transfusions of leucocytes, platelets and plasma fractions.

The longest chapter in the book is that devoted to infectious agents transmitted by transfusion, with some mention of over a score of them.

New techniques, such as collection of stem cells, mononuclear assays, cloning of A and B transferases, the manual polybrene test, flow cytometry and storage of frozen platelets are all to be found in this new edition of this excellent book.

The Haemolytic Anaemias — Volume Three The Auto-Immune Haemolytic Anaemias, by Sir John Dacie, Third Edition, 1992, published by Churchill Livingstone
Reviewed by: Sheryl Khull, Transfusion Laboratory, Wellington Hospital.

Dr Dacie last dealt with this topic in 1962, in Part II of The Haemolytic Anaemias — a volume which has retained its place as a reference work in spite of its age.

Substantial advances have taken place in the last thirty years in our understanding of the structure and regulation of antibodies and the genesis of autoimmune diseases. These, together with the growing understanding of the complexity of human blood group antigens, the complement system, and the way in which the body deals with antibody-affected cells, have all contributed to the great increase in size of this work.

This book covers the whole history of our understanding of the autoimmune haemolytic anaemias from the beginning of the century up to present knowledge, recognising that a great deal is still not fully understood — in particular the reason why certain individuals suffer from autoimmune haemolytic anaemia while the great majority of us do not.

Topics which are not covered in this book include haemolytic disease of the newborn, drug-induced immune haemolytic anaemias, other secondary autoimmune haemolytic anaemias, and paroxysmal nocturnal haemoglobinuria. The author plans to cover these in his next work, "The Haemolytic Anaemias — Volume Four".

ABSTRACTS OF TRANSFUSION SCIENCE PRESENTATIONS at the NZIMLS Annual Scientific Meeting August 1993.

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Dr Chris Curry FACEM, Emergency Department, Christchurch Hospital.

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1982 Susceptibilities by MIC. Gram pos. I.D. Kits.

1983 Gram pos. susceptibility kits. Non-fermentative Gram neg. bacilli I.D.

1984 Expanded I.D.'s, Gram pos. susceptibilities by MIC. Computer enhancements/patient reports.

1985 Vitek Jr. and Flex Panels. More susceptibilities. Information Management System.

1986 Custom susceptibility panels. Neisseria Haemophilus and Anaerobic I.D. Kits.

1987 More susceptibilities. Super Flex Panels. Expanded IMS. Conditional Antimicrobial Reporting.

1988 VIDAS (Vitek ImmunoDiagnostic Assay System). Expanded antimicrobial testing.

1989 Bidirectional Computer Interface and enhancements. More I.D. test kits.

1990 Enhanced IMS and Quality Control.

1991 VIDAS assay releases. Expanded I.D.'s and susceptibilities. Expanded bidirectional interface.

1992 Pharmacy/Laboratory Financial I.M.P.A.C.T. Introduction of workstation computer. Bar code capability. IMS streamlined work flow.

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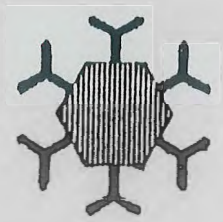

IMMUNOLOGY
SPECIAL INTEREST GROUP

Convenor: Gillian McLeay
Please note new address: Laboratory Training Centre,
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CHRISTCHURCH CONFERENCE, 1993

REPORT FROM THE 48TH ANNUAL
SCIENTIFIC MEETING
OF THE NEW ZEALAND INSTITUTE OF MEDICAL
LABORATORY SCIENCE
Christchurch, August 24-27, 1993

DNA ANTIBODY WORKSHOP, TUESDAY 24 AUGUST

The workshop was held on Tuesday 24 August at the Christchurch School of Medicine. Prior to the workshop, sample RIA kits, ELISA kits and Crithidia slides were sent out for evaluation. The results were returned, collated and simple statistics applied. The collated results were sent out to all participants to review before coming to the workshop.

The workshop began with a brief presentation from Dr John O'Donnell (Clinical Immunologist) about the clinical significance and relevance of double-stranded DNA antibodies. The results, statistics and correlation graphs were presented.

After morning tea, Rob McEvoy (QAP Flinders Medical Centre) presented information regarding the quality control programme and used examples to illustrate the results obtained by participants using Crithidia, Farr or ELISA methodologies.

A discussion regarding the various techniques was held and an agreement was reached that laboratories measuring antibodies to double-stranded DNA should standardise on a Farr assay.

The following consensus statement has been sent out to all workshop participants, including commercial representatives.

CONSENSUS STATEMENT FROM A WORKSHOP ON THE MEASUREMENT OF ANTIBODIES TO DOUBLE-STRANDED DNA
48TH ANNUAL Scientific Meeting of the
New Zealand Institute of Medical Laboratory Science
Christchurch, August 1993

On 24 August 1993, a workshop on measurement of antibodies to double-stranded DNA was held. At that workshop: there was consensus that laboratories measuring antibodies to double-stranded DNA should standardise on a radioimmunoassay (Farr technique).

BACKGROUND

Measurement of high avidity antibodies to double-stranded DNA is useful in the diagnosis and monitoring of patients with systemic lupus erythematosus (SLE). Clinicians recognise that this test has high specificity but low sensitivity. That, in the presence of high titre double-stranded DNA antibodies, a diagnosis of SLE is highly likely.

Conversely, they recognise that this test is only likely to be positive in perhaps 30-50% of patients with SLE. Because of the test's specificity, clinicians will pay particular regard to a positive test and will weight it very highly in the evaluation of patients, either in terms of establishing a diagnosis, or in terms of monitoring a possible relapse of disease. There are three techniques commonly used to measure antibodies.

Historically, the gold standard measurement technique has been the Farr assay. Over the years this technique has been modified, but there is general agreement that, using this technique, antibodies with high avidity are detected. Several studies have demonstrated the diagnostic utility of such antibodies in both diagnosis and monitoring disease relapse.

ELISA assays have developed to eliminate the use of radioactive material. The clinical association and utility in detecting antibodies using ELISA techniques has not been well defined.

There is general agreement that ELISA assays detect both high and low avidity antibodies to double-stranded DNA, and therefore, the clinical utility of the test is relatively poor compared to the Farr assay (ie. it may detect double-stranded antibodies to DNA, but not necessarily those associated with SLE).

The third technique uses *Crithidia luciliae* slides and an immunofluorescence technique. Frequently this assay is used as a screening test, and if positive, some laboratories will then assay antibodies to double-stranded DNA, utilising either an RIA or an ELISA method. Its use in this regard may not be justified as it is less sensitive than either the Farr or ELISA techniques.

Tests used to screen should be highly sensitive but not necessarily specific.

WORKSHOP SAMPLES

A total of 14 different laboratories tested slides and kits. All labs received at least two different Crithidia slides (12/14 received 3 different kinds), six laboratories received one of two different RIA kits, ten laboratoriès received one or both of two different ELISA kits.

Twenty-five serum samples (a mixture of strong positive, borderline positive and negative from Christchurch Immunology Unit) were aliquoted and sent to the participating laboratories. Results of the tests were collated and simple statistics applied.

1. Crithidia assay

When compared with both the RIA and ELISA techniques, the Crithidia assay is neither sensitive nor specific for antibodies to double-stranded DNA. There is no justification for its use as a screening test and it is unlikely to provide a clinician with useful results in terms of monitoring disease activity.

2. ELISA assay

There was no correlation between the results of the two ELISA techniques, or between either of ELISA techniques and the RIA techniques.

3. Farr assay

Antibodies detected by radioimmunoassays have been

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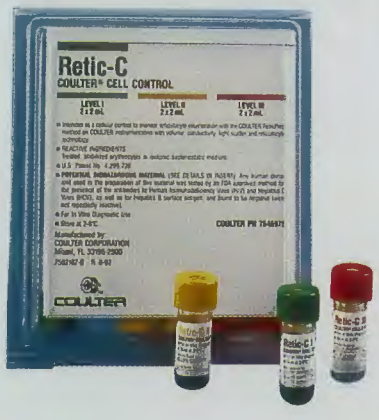

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used in studies of disease predictability and activity. In the survey undertaken, there was a reasonable relationship between the results of both RIA methods, although there was concern expressed as to the different reference ranges quoted, despite reported calibration on the same WHO standard.

Joanne MacDonald, NZRMLT; Deborah Willis, NZRMLT; John O'Donnell, Clinical Immunologist; Immunology Unit, Canterbury Health Laboratories, CHRISTCHURCH HOSPITAL.

IMMUNOLOGY FORA, THURSDAY 26 AUGUST

Immunology of Pregnancy and Reproduction

This was the first session for the day and set the standard for the high calibre of speakers and interesting topics that were covered in all the Immunology sessions.

The first talk was an interesting overview of the topic by Dr Paul Gatenby *(Department of Clinical Immunology, Royal Prince Alfred Hospital, Sydney).* This is Professor Gatenby's main area of interest and he provided an expert introduction to the subject.

The next talk, "Immunoconception: A potential technique for possum control in New Zealand" was presented by Janine Duckworth from Landcare Research. She provided an interesting talk about the possible role of immunological techniques in producing an effective and "environmentally friendly" method of possum control. This work has only recently started in New Zealand, but similar methods for fox control in Australia have shown promise.

The direction was then shifted back to "human patients" as Joanne MacDonald *(Immunology Unit, Christchurch Hospital)* described the sperm antibody test currently used at Canterbury Health Laboratories, and how the results can be used in a clinical situation.

An interesting case study was presented on a patient who had positive circulating sperm antibodies in her serum and follicular fluid. The IVF unit was able to use this information to help in their protocol for the couple. Unfortunately, as yet, there has not been a happy ending — no pregnancy has resulted.

The last talk in the session was by Dr Peter Benny *(IVF Unit, Christchurch Hospital)* who talked about the costs, both financial and emotional, of artificial reproduction.

Immunological Techniques

The second session on Thursday morning consisted of three speakers.

Professor Paul Gatenby discussed the clinical utility of a number of immunological tests and their relevance to various autoimmune diseases; while the presence of double-stranded DNA (dsDNA) antibodies was important for the diagnosis of SLE, their usefulness in monitoring was more limited — mainly during pregnancy, or where central nervous system or renal disease was involved.

Very high levels of rheumatoid factor were normally found only in sub-acute bacterial endocarditis, Sjorgren's syndrome and mixed cryoglobulinaemia; moderate levels of rheumatoid factor were not characteristic of rheumatoid arthritis.

He also looked at the importance of the clinician understanding the strengths and weaknesses of the various tests when interpreting the results — especially when the result is an unexpected one!

Dr O'Donnell *(Immunology Unit, Christchurch Hospital)* presented two case studies in which immunological test results were important in the clarification of a diagnosis.

Jill Smith from Kabi Pharmacia Diagnostics *(PO Box 175, North Ryde, NSW 2113)* looked at allergy in general, and specifically at the CAP system developed by Pharmacia for detecting allergen-specific IgE mediated allergy.

Pharmacia claims a 15% greater detection rate of allergic patients due to increased binding of allergen to the solid phase, compared with the traditional disc support.

Other tests using the CAP system are the measurement of Eosinophilic Cationic Protein (ECP) which shows a clear correlation with cellular injury in severe asthma; tryptase measurements and gliadin antibody measurements were described also.

GENERAL IMMUNOLOGY FORUM

There were three very different papers presented in this session.

The first was a talk by Rob McEvoy *(RCPA, QAP Pty Ltd, Department of Clinical Immunology, Flinders Medical Centre, Bedford Park, South Australia)* who is involved in running the Immunology Quality Assurance Program (QAP).

He showed examples of the types of results that are obtained for various samples and methods.

The QAP can also be used to highlight poor performance of particular techniques and enable participants to compare themselves with their peers in Australasia.

Rob showed examples of how they would like to present the data in the future, including graphs where different methods superimposed on the overall results.

Rob also made a request that if anybody comes across an interesting result and is able to obtain a large volume of blood from the patient, they would love to receive it!

Professor Frank Griffin *(Associate Professor, Microbiology Department, University of Otago)* provided a very entertaining talk about the good ('protective') and bad ('allergic') of immune reactions.

In New Zealand there is very strict control over the deer farm industry and it is extremely important that any infection with *M. bovis* is detected. Professor Griffin showed examples of his "cartwheels" demonstrating different patterns for disease and for protective immunity.

Dr John McKay *(Immunology Scientific Officer, Auckland Hospital)* provided a brief talk about the experience in the Auckland Hospital Virology/Immunology laboratory with the automated computer-assisted programme for the Behring nephelometer to measure low levels of albumin and IgG.

ANTIPHOSPHOLIPID SYNDROME FORUM

The antiphospholipid syndrome forum, held on Thursday afternoon, was a very interesting session with Professor Gatenby summarising the historical aspects of antiphospholipid antibodies and explaining how the advent of the ELISA assay enabled improved clinical correlations to be made with laboratory results. Importantly, that different assays define overlapping, but different antibody families.

The possible role of a co-factor, beta-2-glycoprotein, was also discussed.

Dr David Heaton, Haematologist from Canterbury Health Laboratories, presented a range of case studies that illustrated various aspects (both clinical and test results) of the antiphospholipid syndrome.

John McKay, from Auckland Hospital, discussed the family of autoantibodies that make up the group known as antiphospholipid antibodies (namely anticardiolipin antibodies, lupus anticoagulant and biological false positive results seen in syphilis testing).

He pointed out the importance of performing both anticardiolipin and lupus anticoagulant assays before a diagnosis of antiphospholipid syndrome can be excluded.

He also looked at the requirements necessary for differentiating antiphospholipid antibodies from those seen in treponemal infections.

Without exception, all the papers presented at the Immunology sessions of the conference were interesting, enjoyable and covered a wide range of topics. All contributors of both oral and poster presentations are to be congratulated on the high standard achieved.

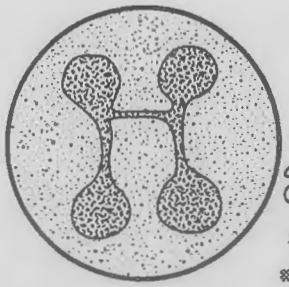
Joanne MacDonald, NZRMLT, Immunology Unit, Canterbury Health Laboratories, CHRISTCHURCH HOSPITAL.

CONGRATULATIONS CHRISTCHURCH

The Annual Scientific Meeting was a tremendous success and I should like to extend my thanks, on behalf of the

Network, for the not inconsiderable part played by our ISIG members from Canterbury Health, namely Mike Southern on the organising committee, Deborah Willis and Joanne MacDonald for the DNA workshop and the Immunology forums. They demonstrated great imagination and organisational skills in providing such a varied programme.

And of course, beautiful Christchurch herself, decked out in all her Spring glory, provided such a wonderful setting. 1993 will go down as one of the more memorable NZIMLS conferences.



Haematology
SPECIAL INTEREST GROUP

Convenor: Rennie Dix
Contact Address: C/- Anne Cooke, Laboratory Training Centre, Building 18, Auckland Hospital, Park Rd, Auckland.
Fax (09) 307-4939

LABORATORY SEMINAR

VISIT by DR MARILYN MANCO-JOHNSTON

Date: Thursday, 11 November 1993
Time: 1345 — 1700 hrs
Venue: Seminar Room
Level 7
Auckland Starship Children's Hospital

The Auckland Haemostasis Group and the Haematology Special Interest Group invite you to attend a laboratory seminar.

Dr Marilyn Manco-Johnston is the Associate-Professor of Paediatrics at the University of Colarado School of Medicine; Director of the Mountain States Regional Haemophilia Centre, Denver, Colorado, United States of Amercia.

Her major scientific interests are:

Neonatal and paediatric thrombosis
Ontogeny of the Protein C system
Mechanisms of hypercoagulability in infants of diabetic mothers
Haemophilia
Paediatric AIDS

The programme will be comprised of short presentations by laboratory staff, leading to significant time for questions and discussion on the subject presented.

Subjects for presentation:

Aspects of Blood Collection in Neonates and Children
— microtechniques; cord bloods

Reference Ranges in Neonates and young children
— use of published data
— cord bloods
— premature / full-term

Aspects of Heparinisation in Neonates

DIC / Laboratory Results in Neonates

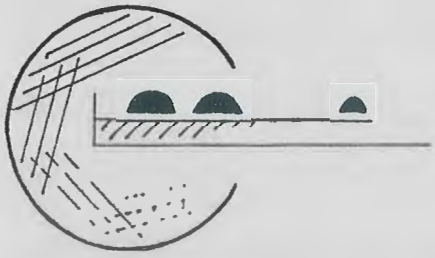
Laboratory Investigation of Thrombosis with particular reference to neonates and children
— protocols and testing procedures
— incidence and relevance of Lupus Anticoagulant

Other paediatric laboratory issues
— diagnosis of difficult Hereditary Spherocytosis

Further questions and/or topics for discussion may be forwarded to:

Ms Janene Madgwick
Technologist-in-Charge
Haemostasis
Haematology Department
Auckland Hospital
Private Bag 92024
Auckland

Afternoon Tea will be provided by the Haematology Special Interest Group.



MICROBIOLOGY
SPECIAL INTEREST GROUP

Convenor: Shirley Gainsford
Contact Address: Valley Diagnostic Laboratories Ltd, P.O. Box 30-044, Lower Hutt.

NATIONAL MICROBIOLOGY SPECIAL INTEREST GROUP
Christchurch (NZIMLS scientific meeting) Thursday 26 August 1993 1230 hrs.

1/ Meeting opened by Shirley Gainsford with a welcome to those attending and an introduction to committee members.

Shirley Gainsford	Convenor
Janet Wilson	Treasurer
Sarah Thirlwall	Secretary
David Riley	Journal club coordinator
Mary Carr	

Welcome to our latest committee member:
Jan Deroles-Main
Medical Diagnostics
Palmerston North.

2/ Review of February meeting.

3/ Discussions regarding 1994 MSIG seminar.

a) Date: March 1994
South Island seminar 11 & 12 March 1994.
Janet noted that it would be difficult for those from the South Island to attend the MSIG seminar, especially as many would be attending the South Island seminar.

b) Venue: ? Taupo yacht club
Unfortunately this is booked for March 1994 and a new venue will be found.

c) Accommodation: Taupo is abundant in accommodation. It was noted that Auckland and Wellington CHE's have houses in Taupo which may be used and sleep many.

d) Programme: Discussions followed regarding the type of speakers we wanted to attract and whether a theme was necessary. General consenses was to keep it casual to attract speakers from all levels. Regional MSIG's may like to put forward speakers. It was suggested that a letter be distributed requesting areas of interest or possible topics for discussion and from this speakers would be sought and a programme drawn up.

e) Advertising: Newsletters will be distributed via the NZIMLS journal, newsletter and via Microbiology departments to ensure as many as possible are informed and welcomed.

4) There is no NZIMLS conference in 1995. This provides an opportunity to host a larger scale microbiology seminar, possibly in Wellington. Suggested topic: Infectious diarrhoea.

5) Shirley noted that the NZIMLS institute discourage the seeking of sponsorship for SIG seminars. Being approached by companies offering sponsorship is acceptable.

SEMINAR
Potpourri Seminar

TAUPO
Great Lake Centre

DATE
Saturday March 12 1994

WE PROVIDE THE VENUE AND FOOD. YOU PROVIDE THE COMPANY AND MICROBIOLOGY

We will start with morning tea at 10.00am and go through to about 5.30pm followed by a barbecue.

All meals and registration will be included for approximately $30.

Accommodation will be your responsibility if you wish to stay the night. However, we hope to book both the Wellington CHE and Auckland CHE staff accommodation in Taupo and sleep as many people as possible at those sites.

PROGRAMME:
We want to have an informal gathering of medical laboratory technologists and assistants. There will not be any guest speakers. Rather, we will all provide the programme by giving short talks which might be a case history, an assessment of new equipment or tests or even bringing along our problems for the rest of the group to help solve.

The idea is to encourage those of you who have not given presentations before to have a go in a relaxed atmosphere, to learn from each other and to make new friends as well as catch up with old colleagues. The MSIG committee will tell you more in the New Year.

PUT MSIG SEMINAR, TAUPO, MARCH 12th 1994 IN YOUR DIARY AND START PREPARING YOUR TALK.

LETTERS TO THE EDITOR

Dear M Gillies

During the weekend of 23-24 April 1994, there will be a reunion of past and present laboratory staff who were in the diagnostic departments of the Otago University Medical School and Dunedin Hospital.

While the organising committee have the names and contact addresses of a large number of previous staff there are many addresses unknown.

We are certain that this letter will inform many previous staff who will have an interest in attending the reunion, as well as making the necessary arrangements to attend.

Please register your interest with:
Mrs Jan Parker
Surgical Services Manager
Dunedin Hospital

Your assistance in this matter is greatly appreciated.

JOHN MORGAN
For the Organising Committee

TRIBUTE TO GEORGINA

Georgina Skorepova whose homeland was Czechoslovakia, came to New Zealand after World War II, to escape the desolation of war-torn Europe and establish a new life here. She obtained a position as a Laboratory Assistant in the Immunology Department at Auckland Hospital in the early 1970s.

The Charge Technologist at that time was Andor Fischmann, a fellow European from Hungary, who had also made New Zealand his home after the war.

Those were the grand days of serology, before the microtitres or automation, when doing eighty rheumatoid titres involved about 30 test tube racks, 300 glass test tubes and a "Cornwall syringe" to dispense the reagents manually into each tube. The days these tests were done did not leave much bench space for anything else.

The Rose-Waalers, as the Sheep Cell Agglutination Tests (SCAT) were called then, were Georgina's specialty, and woe betide anyone who borrowed any of the equipment that she needed when she set it all up the night before, ready for testing the next day.

Georgina worked in Immunology until the early 1980s. These were times when the technology was beginning to change rapidly. Microtitre techniques came in; Georgina did not exactly approve of some of the 'new-fangled innovations', but like the true professional that she was, she adapted and soon could perform all the serological tests in their new formats.

She always got to work at least an hour before everyone else, to get organised for the day. If you had a busy workload for the day you might come to work and find that Georgina had set things up for you too. That was just her way of being part of the team.

Georgina decided one day that she needed a change of scene and much to our dismay (because we could not imagine life without her) she went to work for the New Zealand Dairy Board in their laboratory, where she tested dairy products for protein and fat content etc. She worked there until she reached retiring age.

Georgina died in Auckland Hospital (her hospital) on Saturday, 2 October 1993, after a short illness. She will be remembered with love and affection by those of us who worked with her in the Wallace Block laboratory.

Always a staunch supporter of the NZIMLT as it was known then, she treasured and maintained contact over the years with the friends she made in the laboratory — we were her New Zealand family, the Immunology Department her home base. She is part of the history of our discipline and our profession. We shall miss her.

Gillian McLeay, Virology/Immunology Laboratory, AUCKLAND HOSPITAL.

PRESIDENTIAL ANNUAL REPORT 1993

Paul McLeod, President NZIMLS

It doesn't take me to tell you about the turmoil of the changes in healthcare of the past few years. However, turmoil and uncertainty, which always accompany extensive change can be tolerated if it means we can achieve the goals set for us. What I fear most is that health care in this country is in danger of becoming a political football, along similar lines to that we currently are witnessing with the issue of Superannuation.

The last two years have been extremely difficult for everyone involved with health and we in the laboratory are no exception. We have seen our managers come and go in reshuffles of management structures. We have seen our elected Area Health Board representatives removed. Many laboratories have seen two, three or even four changes in the management structures above them. I haven't counted them out, but a commentator recently said that we have had nine Ministers of Health during the last eleven years. It is my guess that even if the National Party is re-elected in November that we will see this number extended to ten.

If the government loses the upcoming election, then it is likely that the health services will yet again be subjected to more changes. If this were to be the case, it is possible that the health services could collapse. I believe that I speak for most when I say that we have had enough change, we have had enough politics, we have had enough of being pushed around and blamed for everything that is perceived as being bad in healthcare by our politicians and the news media. It is time now to look at what has been put in place and to quietly and efficiently set about to making it work. And speaking of making it work, when you put aside all the verbiage, the emotion and the politics, I believe that as a profession we appear to at last have an environment which could, if we wished, work to our advantage.

Since our profession was spawned some fifty years ago we have always been a subservient group to the pathologists. Up until recent years this situation was probably appropriate, but now the environment has changed. We have a health delivery structure which will allow us if we choose, to settle a contract for services with the Regional Health Authorities. If we meet their requirements, we can practice in our own right. We have never been able to do that before. By achieving TELARC accreditation, by being a Registered health professional group, and being on the eve of seeing our first graduates emerging from the universities, surely we are in a strong position and must meet all the RHA requirements.

It is unclear to me what the environment would be for our profession should there be a change of government later this year. The Labour Party has already announced that it would introduce significant changes again. This seesawing of policy must stop before it reaches any entrenched momentum. If Labour do regain power, then I plead on behalf of our profession, to give us some time to see if these new health structures can be made to be successful. If we cannot, then so be it.

I am now coming to the conclusion of three years as your President. I must say that not only have I enjoyed the presidency enormously, but also the preceding nine years on the Council as well, and I would like to highlight some of the major changes that have occurred during this time.

Without any doubt, in my mind, the major achievement has been the commencement of our degree, the Bachelor of Medical Laboratory Science at both the University of Otago and Massey University. Also it has been announced that the Auckland Institute of Technology has successfully applied to commence a degree programme in 1994. Even with the potential of over supply, we should not allow that to detract from the fact that our profession is now fully recognised by three tertiary institutions to degree level. There has been much discussion about the predicted usefulness of the new graduates coming through the degree education programmes. It is difficult, if not impossible, at this stage to compare these graduates with those who went through on the old apprenticeship style training system. Each will be quite different with their own strengths and weaknesses. It is important however, to have the correct attitude towards the degree graduates. They will be like nothing we have had before. They will challenge us without doubt, but, they are our future. Unlike the apprenticeship style graduates, they may not be up to the same level of bench efficiency on day one, but there again, they may be. But what is far more important is that they will be the researchers, the leaders, the Masterates and the Doctorates in the future. Our old training system could never have achieved that. Do not judge prematurely the degree graduates. One thing is certain; they will be a breath of fresh air and a shot in the arm to laboratory services throughout the country.

Another major development within our profession has been the separation of industrial issues from the professional body with the establishment of the New Zealand Medical Laboratory Workers Union. I was personally involved in industrial issues under the umbrella of the Institute. I remember those days as being high pressure and very exciting. However, I was a strong supporter for the separation of the industrial and the professional roles, as I could see some conflicts in philosophy. A good example of this is the policy we are soon to discuss on Near Patient Testing. The Institute and the Union are to a large extent in agreement on many issues, but by our very nature we have different views on others. I believe that these differing philosophies are best dealt with by different organisations.

Another major development with the Institute that I wish to mention has been the appointment of an Executive officer and the establishment of an office for the Institute. You will all be well aware of the work that Barrie Edwards did for the Institute as Secretary. However, we all knew, that this level of commitment could not last forever. Barrie's departure occurred within weeks of me taking up the position of President, this being due to promotion at his laboratory. The Council was aware that the workload of the secretary was too great for an honorary role. Just prior to the 1990 AGM at Invercargill, the council appointed as Assistant Executive Officer, Fran van Til. A few weeks later with Barrie's resignation received, Fran was "promoted" to Executive Officer. Needless to say, the following few months were a challenge but we got through, and the Institute now has, what I believe, is a very efficient and professional office.

Three years ago, the council prepared a plan on what it hoped to achieve. With the union established to look after industrial issues, the Council could focus itself on the professional aspects. Number one goal was the establishment of a university based degree. A Code of Ethics was another goal, along with a definition on the role and function of laboratory assistants. Also included in the plan was the development of a policy for "Near Patient Testing" and this will be discussed at this meeting. Other goals have been added since then, for example, to establish an ongoing competency programme for the licensing of registered technologists. This goal obviously requires the support of the Medical Laboratory Technologists Board, which has been forthcoming, and plans are now well in hand to introduce a programme in the near future.

Another significant development in recent years has been the establishment of the Special Interest Groups. The people

involved in the administration of these groups have to be thanked and congratulated. Their dedication and commitment is tremendous and the entire profession is enhanced by their efforts. The Council will continue to support these groups both administratively and financially as much as is possible. I certainly look forward to the continued enthusiasm for the various disciplines and no doubt they will be supported by the members attending their various courses, seminars and workshops. If attendance numbers are anything to go by, then these programmes are seen as highly relevant by the profession. If this Institute is to survive, which I strongly believe it must, then it is vital that our profession and its numerous disciplines remain coordinated and together. The Special Interest Group concept is pivotal to this continued survival so it is crucial that the Council, SIG committees and the members all support the activities. Equally, the SIG activities should not be all at the expense of the Annual Scientific Meeting. The difficulty the organising committee has had attracting delegates to this meeting is hopefully an aberration, rather than a trend for the future.

This year, the Council membership is in for some change. Geoff Rimmer, as the Auckland Regional Representative is not seeking re-election. Geoff has been a valued member of the council and he will be missed. I wish him well and thank him for his dedication over the years which took up many hours of his family life looking after the thankless task of the membership files.

The wizard casts a spell over incoming President Dennis Reilly at the "Ice-Breaker" opening at the 1993 Conference.

You have a new President about to take office. I know that Dennis Reilly will be very successful and I know that he will receive the tremendous support that I have been lucky to have had from both the Council and the membership. By being elected unopposed, Dennis has obviously got the support of the members and I wish him well. The Institute is also soon to have a new Vice President which will unfortunately result in the departure of one of the current council members. Ted Norman as Central North Island Representative has been a valued member of council, being involved in the portfolios of Overseas Aid, the Rules Committee and on the Board of Management for the Massey University degree. Ted, like Shirley Gainsford, is standing for the Vice Presidency. Shirley is standing down as the Secretary/Treasurer. Apart from the demands involved with that position, Shirley has always been readily forthcoming in offering her services and expertise especially in the area of education. Consequently, she has been the Council representative on various committees, including the Auckland Institute of Technology Advisory Board. To both Ted and Shirley, on behalf of the Institute I thank you for your time and dedication and to whoever is successful, congratulations on the position of Vice President.

Paul McLeod presents Warren Dellow (Med-Bio Enterprises) with the award for the best exhibit at the 1993 Conference in Christchurch.

I welcome Anne Paterson back on the Council and equally to the incoming Auckland representative, congratulations and welcome. The vacant position of Secretary/Treasurer did not appear attractive to anyone. It did not take too much arm twisting for me to agree to stand, however, I look forward to this new role with more trepidation than the presidency!

To the other council members re elected and to our Executive Officer, I thank you all very much for your support and I know that you will offer at least the same to Dennis. I have enjoyed every moment of my presidency. There have been exciting times, disappointing times and challenging times. But always, it has been exhilarating. Finally, to all the members, I thank you for your support and encouragement during the last three years.

This coming year marks the 50th year of our Institute. We have a lot to be proud of. We have come a long way and at last, we seem to have an environment in which we can fully realise our independence. Hopefully within the next year or so, we will be able to say that we have made it!"

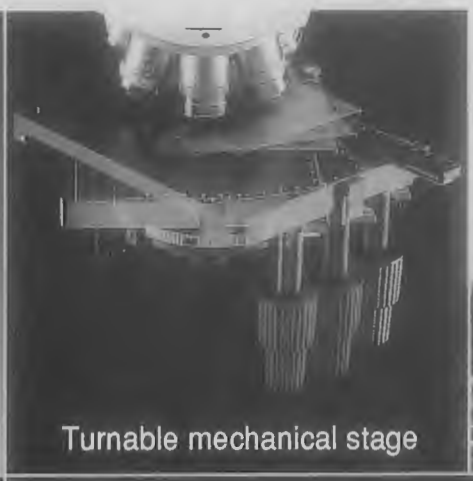
Med-Bio Enterprises winning exhibit.

Leica

DAS Mikroskop LEITZ DMR

...the innovation continues

7 fold revolving nosepiece

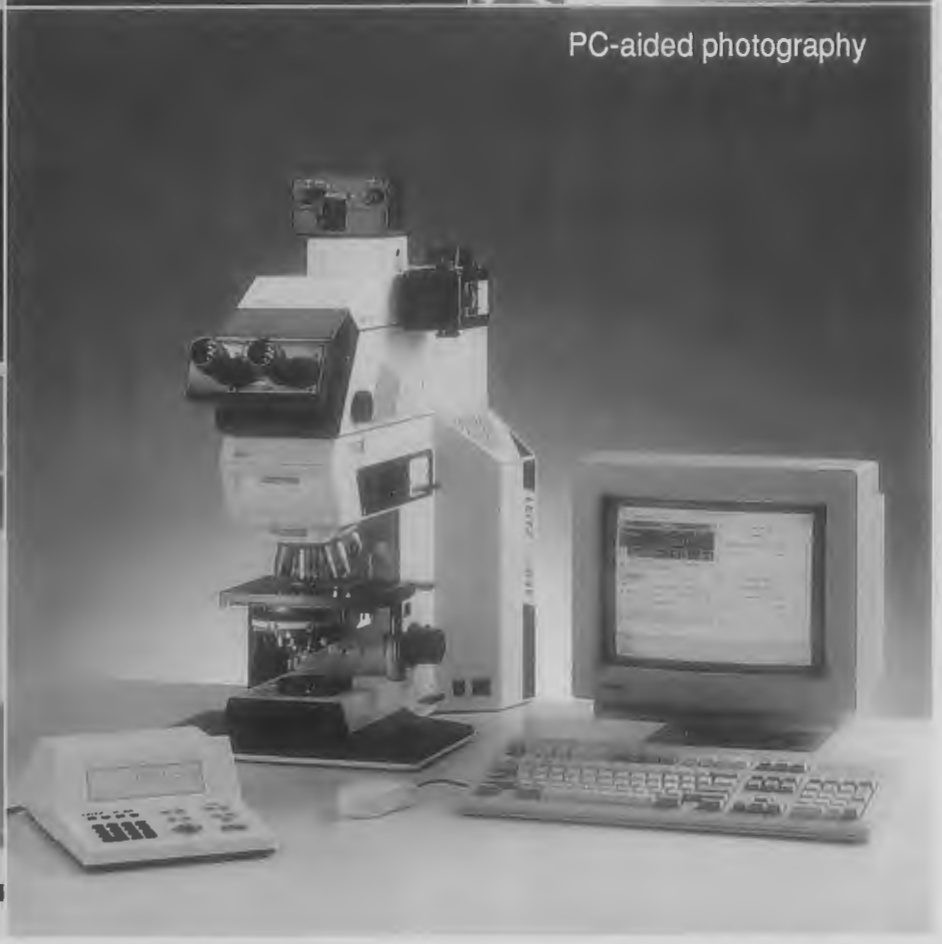


Turnable mechanical stage

Scoposcan

Electronic focus display

Electronic focus controls



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Labsupply
PIERCE

health care instead of relying on scarce resources of Government.

An important aspect of the programme is to introduce a "bottom up" approach to health planning and management, giving people at the village level responsibility for determining the services that are needed and how they should be implemented. The Village Development Committee typically comprises a dozen members, including a village magistrate/counsellor, and other chosen respected figures. It plans and monitors community development activities. The Committees are taught the mathematical principles of data collection, data analysis and basic accounting. They are also taught management and organisation skills so that they can develop project plans, project budgets and project monitoring systems. They learn how to undertake household surveys to determine the priority needs of the members of their community. They brainstorm ways of raising capital and the most appropriate types of projects to implement, given available community resources.

NEW SERVICE TO THE SOUTH PACIFIC HEALTH CARE MARKET

A new service to the South Pacific Healthcare market is how best to describe Medica Pacifica Ltd. George Bongiovanni, the owner of the company is no stranger to the South Pacific. He has spent the past 10 years servicing this region for Bayer Diagnostics as their Sales and Marketing Manager. Medica Pacifica currently represents CSL, Organon Teknika, Bayer Diagnostics, Fisher and Paykel Healthcare, just to name a few companies. Laboratories from the South Pacific have the opportunity to use the vast experience and contacts George Bongiovanni has throughout New Zealand and Australia for product, pricing and technical information. Plans are in progress to open an office and warehouse in Suva, Fiji, when the necessary permits are approved. For further information write to P.O. Box 24-421 Royal Oak, Auckland, New Zealand or Fax 00-64-9-625-4396.

Fiji Medical Technologist Seminar, New Zealand delegates Left to Right:
Gary Lord, Ameeta Chand, Peter Huggard, Kevin McLoughlin, Mr Don Mckay, New Zealand Ambassador to Fiji, Mary-Ann McLoughlin, Clare Murphy, Ross Anderson, Liz Fox, Kirk Dillon, George Bongiovanni, Mike Lynch.

List of Advertisers in this Issue

MEDICAL LABORATORY SCIENCE

DEGREE COURSES AVAILABLE IN 1994

MASSEY UNIVERSITY

THE BMLS DEGREE

(Information extracted from BMLS degree course handbook.)

FIRST YEAR

Course	Title
23.101	Organic and Biological Chemistry
62.101	Cell Biology
57.102	Computers and Information Systems
61.130	Biometrics

Plus 3 or 4 papers selected from the following:

23.102	Inorganic and Physical Chemistry
24.101	Physics 1(a)
24.102	Physics 1(b)
39.107	Applied English
60.103	Methods of Mathematics
99.101	Biology of Animals
	An elective paper

SECOND YEAR

Course	Title
22.201	Biochemistry (a)
62.201	Biology and Genetics of Microorganisms
62.281	Medical Laboratory Practice and Microbiology
94.203	Introductory Mammalian Physiology
22.282	Biochemistry for Medical Lab. Science
62.253	Human Genetics

THIRD YEAR

Course	Title
22.381	Clinical Biochemistry
62.381	Medical Microbiology and Immunology
62.382	Transfusion Science and Haematology
62.383	Histological Technique, Cytogenetics and Medical Cytology

FOURTH YEAR

Two of the following theory papers to be taken in conjunction with the two relevant practical work papers:

Course	Title
22.481	Clinical Biochemistry
62.481	Medical Microbiology
62.482	Haematology
62.483	Transfusion Science
63.484	Immunology and Virology
62.485	Histology and Medical Cytology
62.488	Practical Work A
62.489	Practical Work B

* Students will not normally be allowed to enrol for the fourth year course until they have passed the papers specified for the first three years of the degree.

UNIVERSITY OF OTAGO

THE BMLSc DEGREE

(Information extracted from BMLSc prospectus.)

The degree course is four years of full-time study.

Year 1 is a first year Health Sciences course similar to Medicine, Dentistry and Pharmacy which can be taken at any university in New Zealand offering the prescribed course.
Years 2 and 3 are spent full time at the Otago Medical School in Dunedin.
Year 4 consists of two semesters in selected medical laboratories in New Zealand to gain service experience, combined with an academic course from the Distance Teaching Unit of the University of Otago.

i. SCHEDULE OF PAPERS

Year 1

BIOL	111	Foundation Biology A: Biology of Cells
BIOL	115	Biology for the Health Sciences
CHEM	101	Chemistry
ENGL	124	Language and Communication

Additional Papers at 100 level from Mathematics, Physics or statistics

Year 2

ANAT	213	Anatomy
BIOC	211	Biochemistry IIA
BIOC	212	Biochemistry IIB
MICR	211	General Microbiology
PHSL	211	Introductory Physiology A
PHSL	212	Introductory Physiology B
MELS	299	*Medical Laboratory Practice

* A one-week full-time course at the Otago Polytechnic during a University vacation.

Year 3

MICR	311	Health Microbiology
MELS	301	Clinical Biochemistry
MELS	302	Haematology and Transfusion Science
MELS	303	General Pathology

Year 4

Two of the following

MELS	401	Advanced Clinical Biochemistry
MELS	402	Advanced Clinical Microbiology
MELS	403	Clinical Virology
MELS	404	Cytogenetics
MELS	405	Cytopathology
MELS	406	Haematology
MELS	407	Histopathology
MELS	408	Transfusion Science
MELS	409	Immunology

AUCKLAND INSTITUTE OF TECHNOLOGY

The B App Sci DEGREE

(Information supplied by Programme Supervisor, Medical Laboratory Science)

The degree course of Bachelor of Applied Science at the Auckland Institute of Technology includes a pathway in Medical Laboratory Science, and may be studied full-time or part-time.

Entry to the course is preferably from students with passes in Bursary Chemistry, Biology, English and Mathematics with Statistics or Mathematics with Calculus.

The first year subjects are:

Human Anatomy and Physiology
Laboratory Chemistry
Introductory Biochemistry
Communication for Employment
Mathematical Models
Quantitative Skills
Statistical Models
Introductory Clinical Chemistry
Introductory Haematology
Introductory Immunology
Introductory Microbiology

In the second year, provided that pre-requisite requirements are met, the student will study

Molecular Biology/Cytogenetics
Pharmacology
Laboratory Quality Control
Pathology I
Introductory Virology
Cellular and Tissue Morphology
Clinical Chemistry I
Haematology I
Immunology/Transfusion Science
Medical Microbiology I
Scientific Communication
Current Medical Issues

In year 3 the student will study

Pathology II
Research and Development Method
Project

and will choose two subjects from the following

Clinical Chemistry II
Haematology II
Immunology II
Medical Microbiology II
Transfusion Science II

These two subjects will be studied through the subsequent semester as well for the equivalent of 3 hours per week.

There will be a free choice of one subject from any other Applied Science module for the equivalent of 2 hours per week.

Students intending to work as Registered Medical Laboratory Scientists will need to gain their Bachelor of Applied Science with the pathway listed above. The Auckland Institute of Technology is applying to NZQA for approval and accreditation to offer a clinical laboratory based Diploma in Medical Laboratory Science. Recognition of this post degree course will be sought from the Medical Laboratory Technologists Board for registration.

21st World Congress of Medical Technology Hong Kong

Organised by

Hong Kong Medical Technology Association

Under the auspices of

International Association of Medical Laboratory Technologists

This is to invite you to the 21st World Congress of Medical Technology scheduled on 25th to 29th July, 1994 at the University of Hong Kong.

The Congress with the theme, Advanced Technology Advances Health, signifies the goal of congregating leading medical technologiest, scientists, health and medical professionals to exchange common interests in promoting health care and present the latest scientific achievements in the following disciplines:

AIDS
Cellular Pathology
Clinical Chemistry
Clinical Immunology
Clinical Mycology
Education & Training
Electron Microscope
Haematology
Information Technology
Laboratory Management
Medical Bacteriology
Molecular Biology
Parasitology
Quality Assurance
Transfusion Science
Transplatation Science
Tropical Diseases
Virology

In addition to plenary lectures, symposia, free papers and poster sessions, workshops are also organised. There is no place like Hong Kong for a meeting. It offers an amalgamation of the efficient cosmopolitan city and the exotic ambience of the Orient. It is also the legendary shoppers' paradise.

Those who wish to receive the 2nd announcement and further information are welcome to contact the Congress Secretariat. Looking forward tomeeting you in the Pearl of the East!

Congress Secretariat: 21st World Congress of Medical Technology, C/o Travel Advisers Ltd, Room 1006, Silvercord, Tower 1, 30 Canton Road, Tsimshatsui, Hong Kong. Phone: (852) 375 8321, Fax: (852) 375 1978 or (852) 375 7893

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Increased sensitivity: The microtitre based assay incorporates recombinant antigens representing core, NS3 and NS5 regions of HCV plus NS4 synthetic peptides to increase sensitivity without compromising specificity.

Enhanced specificity: Baculovirus recombinants are expressed without the use of carrier proteins thereby reducing the risk of false positives.

Greater reassurance: Sample Addition Monitor in the diluent, a unique first for Murex, and colour-coded reagents enable confirmation at-a-glance that all wells have been treated correctly before each processing step begins.

With no requirement for predilution and an incubation time of only two hours, this 4th generation assay can be used for high or low volume screening. The test is complemented by another first for Murex – the new Wellcozyme HCV Western blot confirmatory assay.

At Murex, the commitment to innovation in viral diagnosis continues.

A clear commitment to viral diagnosis

murex

Ask for Murex Diagnostics sales office or distributor: Australia (02) 736 0754 **Argentina** (01) 27 7591 **Belgium** (053) 85 25 96 **Brazil** (011) 262 5511 **France** (1) 46 12 49 12 **Germany** (05) 139 899444 **Austria** (222) 47 015720 **Switzerland** (53) 336335 **Holland** (30) 477536 **Ireland (Rep of)** (01) 6267111 **Italy** (06) 911 891 **New Zealand** (09) 276 1877 **Portugal** (01) 476 2531 **Spain** (01) 673 7385 **Far East Region (Singapore)** (065) 5682106/2177 **Middle East Region (Dubai)** (04) 665408 **Nordic Region (Sweden)** (46) 86181300 **Southern Africa Johannesburg** (011) 975 1146 **Saudi Arabia** (01) 479 3000 **United Kingdom** (0322) 277711. **All other countries:** (0322) 277711 or write to Communications Department, Murex Diagnostics Ltd., Central Road, Temple Hill, Dartford, Kent, DA1 5LR, England.

HEP09

POSTGRADUATE COURSES AVAILABLE IN 1994

THE DIPLOMA IN MEDICAL LABORATORY SCIENCE Dip MLS

The DipMLS is a postgraduate diploma available to registered Medical Laboratory Scientists. It can be taken extramurally, part time over three or more years. This course will be offered for the first time in 1994 and probably only once more after that.

Students who do well in the DipMLS may then proceed to an MSc by thesis alone. This would require one year of full time research or two to three years of part time research.

The regulations for the DipMLS are listed below:

THE DIPLOMA IN MEDICAL LABORATORY SCIENCE DipMLS

The personal programme of study of every candidate shall require the approval of the Academic Board. Approval will normally be granted for programmes which are in accordance with the Course Regulations. For general provisions affecting their programmes of study students are referred to the General Regulations governing Matriculation, Enrolment, Terms and Examinations.

Note: This course is designed primarily for part time extramural students and not all the papers will be available each year. Candidates will normally be expected to complete the DipMLS within three years of first enrolling for part time study but, in special circumstances, it can be completed internally in one year for full time students.

Course Regulations

1. Candidates for the Diploma in Medical Laboratory Science shall have fulfilled one of the following conditions—
   (a) be a registered Medical Laboratory Scientist and have at least two years experience post registration.
   (b) have been admitted *ad eundem statum* as entitled to proceed to the Diploma.
   Note: Bachelor of Medical Laboratory Science graduates will not be permitted to enrol in the DipMLS.
2. The programme of study of every candidate shall require the approval of the Academic Board.
3. Candidates shall follow an approved programme of study, and pass the examinations as prescribed in these regulations.
4. Candidates who complete the programme of study with sufficient merit may be awarded the diploma with Distinction.
5. To qualify for the Diploma a candidate is required to gain at least 90 points from the papers and research project listed in the schedule to these regulations provided that no more than three of the 14 point papers are included.

Note: With the approval of Academic Board, and provided the candidate has achieved sufficiently high grades in the DipMLS and has at least 5 years experience as a registered Medical Laboratory Scientist, a completed programme of study for the DipMLS may be used as a prerequisite for admission to the course for the degree of MSc (without Honours; see MSc Regulation 11).

Note: Students who wish to continue an MSc must do a Research Project (XX.688) in their DipMLS. [The research project will normally be conducted in the Laboratory where the student is employed, using existing equipment and materials. These costs maybe the responsibility of the student.]

B. Amend MSc regulation:

11.(a) Candidates who have been admitted to the degree of Bachelor of Science with Honours, or have been awarded the Diploma in Science or the Diploma in Plant Science or the Diploma in Medical Laboratory Science with 5 years experience as Registered Medical Laboratory Scientists may be awarded the degree of Master of Science (without Honours) on presenting a satisfactory thesis, and/or passing the examinations in other approved work. In cases of sufficient merit, the degree may be awarded with distinction.

Prescriptions for Subjects

22.681 Biochemistry
14 points

Study of cellular processes at the molecular level: metabolism and chemistry of cell constituents, energy metabolism, regulation of metabolism.

62.681 Biology and Genetics of Microorganisms
14 points

An integrated course of study which provides:

(a) an introduction to bacteria, fungi, viruses and to the study of these organisms.
(b) an introduction to microbial genetics which serves to introduce molecular genetics and gene manipulation.

* not actually in Calendar

62.682 Human Genetics
14 points

A course on different aspects of genetics that are important in human biology. The impact of human genetics on human society will also be discussed. Topics include: genes and gene defects, family studies, behavioural genetics, population genetics, genetic engineering, ethical issues.

Schedule of Subjects		Prerequisites	Restrictions	Points	Year Available*
22.681	Biochemistry	—	22.201	14 points	1995
26.220	Management	—	—	14 points	Every
62.681	Biology and Genetics of Microorganisms	—	62.201 62.253	14 points 14 points	1994 Every
62.682	Human Genetics	—	22.381	16 points	1996
22.682	Clinical Biochemistry	22.681	—	16 points	1996
62.683	DNA Technology	62.681,22.681	62.381,62.302, 62.304	16 points	1995
62.684	Medical Microbiology and Immunology	62.681,22.681	—	20 points	Every
XX.688	Research Project	—			

* This timetable is not actually part of the calendar regulations and may be reviewed in 1994 in light of students comments on workloads.

22.682 Clinical Biochemistry
16 points
The biochemistry of human tissues and biochemical analysis, with particular emphasis on disease detection. Quality control and reference values. Common diseases of liver and kidney and disturbances in fluid and acid-base balance.

62.683 DNA Technology
16 points
Studies of nucleic acid structure and enzymology including hybridization, restriction, modification, ligation and sequence analysis. Other topics will include lambda phage, plasmids, insertion sequences, transposons and their use in genetic engineering. Gene regulation and directed genetic change using site-specific mutagenesis will also be examined. In addition legal and medical aspects will be addressed.

This paper will include a compulsory one-week residential course involving lectures and laboratory work.

62.684 Medical Microbiology and Immunology
16 points
The principles of immunology, including cell and antibody mediated immunity, the major histocompatibility complex, the hypersensitivities, immunodeficiency and autoimmunity; application to the diagnosis of infection.

The major bacterial pathogens of humans in terms of the organisms, their habitats, modes of transmission, disease patterns and laboratory diagnosis.

The structure, classification, propagation, assay and transmission of the major viruses of humans. Immunity to viruses and the laboratory diagnosis of viral infections.

If you have any queries, please contact:
Dr Mary Nulsen
Acting Director of Medical Laboratory Science
Department of Microbiology and Genetics
Massey University
PALMERSTON NORTH
Phone: (06) 350 4021 or (06) 350 4012
Fax: (06) 350 5637

NEW PRODUCTS AND SERVICES

QUALITY ASSURANCE

"Carl Zeiss Germany has obtained ISO 9001 / EN 29001 and prEN 46001 certification for all its German divisions and operational areas.

Because of its total commitment to quality, Carl Zeiss had already been certified to meet AQAP 1 requirements as early as 1973 to ensure product conformity to different international standards."

NEW ELECTRONIC MICROTOMES

"Carl Zeiss has introduced its new line of MICROM electronic microtomes, which further enhances its position as the technology leader in microtomy. Two new models are now available with the latest advances in state-of-the-art electronic microtomy: the HM 340E, a multi-purpose rotary microtome for routine and research applications, and the HM 440E sliding microtome.

The HM 340E is the first rotary microtome with a removable touch-pad operating panel. Other unique features include a large removable integrated section waste tray, automatic approach system of specimen from any position, pre-selected coaxial fine/trim feed, and a removable storage unit with cooled surface.

The HM 440E is the first sliding microtome with motorized vertical specimen movement; specimen retraction in the sledges return mode; automatic section thickness feed; one button for up/down movement, fine feed and trimming; pre-selected coaxial fine/trim fee; and an integrated section waste tray.

The increased speed and convenience of these innovative microtomes will improve the productivity of all laboratories engaged in specimen sectioning."

For complete details on the above, please contact:
Carl Zeiss (NZ) Ltd., 5 Wakefield Street, Lower Hutt, New Zealand. Tel: (04) 566 7601 Fax: (04) 566 7501.

HIGH PURITY WATER FROM REVERSE OSMOSIS SYSTEM

Between 60 and 200 litres per hour of high purity water, ideal for central systems requiring up to 5000 litres per day, are produced by a new reverse osmosis system now being marketed by Medic Corporation Limited.

The Barnstead ULTROpure system offers four different RO membranes and is ideally suited as a central supply to a large laboratory, small manufacturing plant or food processing company where it may be either bench or wall mounted, often in a ceiling or service area. The unit can then automatically control a reservoir which in turn feeds to optional polishing units located on different floors of the building.

The system offers up to 50 percent feedwater recovery and is microprocessor controlled, allowing for fully automatic and unattended operation. It incorporates an LCD printout and all functions are monitored, with status lights indicating: the requirement to change the pre filter, to service the membrane, a full reservoir, high/low inlet pressure, salt rejection, and product and reject flow rate, to name but a few. Running costs are lower than for most other water purification systems.

Medic Corporation will initially conduct a water analysis and complete a questionnaire which they forward to Barnstead who give their recommendation and provide a one year guarantee, including the membrane. Medic Corporation will then do the installation and commissioning free of charge and provide a full back-up by their service staff who are all trained by Barnstead in the U.S.A.

Further information is available from Medic Corporation Limited, Scientific and Industrial Division, Private Bag, Lower Hutt. Tel (04) 569 3539.

CSL BLOOD BANKING REAGENTS

CSL has a very extensive range of blood grouping reagents, both human and monoclonal (under the tradename of "Epiclone"). The majority of the blood grouping reagents are tested by methods recommended by the US Office of Biologicals Research and Review (OBRR) US to ensure that they meet the potency and avidity requirements of that office.

The range includes the following products — ABO grouping reagents — Epiclone Anti-A, Anti-B, Anti-A,B (all murine monoclonal), Anti-H and Anti-A_1. Rh blood grouping reagents including — Anti-D (potentiated), Rh Control, Anti-C, Anti-c, Anti-C^w, Anti-E, Anti-e, Anti-CDE as well as two Anti-D monoclonal reagents — Epiclone Anti-D (IgM) and Epiclone Anti-D (IgM/IgG).

CSL's range also includes a range of rare antisera — Epiclone Anti-M, Epiclone Anti-N, Epiclone Anti-Le^a, Epiclone Anti-Le^b (all murine monoclonals), Anti-K (Kell), Anti-k, Anti-Kp^a, Anti-S, Anti-s, Anti-Fy^a, Anti-Fy^b, Anti-Jk^a and Anti-Jk^b. CSL's Anti-Human Globulin reagents include — Epiclone Anti-Human Globulin: Anti-IgG, C3d Polyspecific, Anti-Human Globulin: Anti-IgG and Epiclone Anti-Human Globulin: Anti-C3d.

• IMMUNOASSAY • IMMUNOASSAY PLUS TDM • IMMUNOLOGY • LIPIDS • PEDIATRIC • QUANTITATIVE URINE • ROUTINE URINE •

• BLOOD GAS CONTROLS • CO-OXIMETER • DIABETES • DRUG FREE SERUM • ENDOCRINE • FRUCTOSAMINE • FERTILITY • HEMOGLOBIN A2 • HIV-1 • URINE TOXICOLOGY CONTROLS

• SERUM ALCOHOL • SPINAL FLUID • THERAPEUTIC DRUG MONITORING • TUMOR MARKER • UNASSAYED CHEMISTRY • URINE METALS • URINE TOXICOLOGY CONTROLS • WHOLE BLOOD •

• TOTAL PROTEIN KIT • ANEMIA • ASSAYED CHEMISTRY • BENZO/TCA • BLIND PERFORMANCE SPECIMENS • CK/LD ISOENZYME •

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Liquichek™ Unassayed Chemistry Control, with its 68 constituents, does not contain organic solvents or glycols, so it's easier on your analyzer and compatible with most testing methods. And because our product is made using human serum, it will be free of the biases frequently seen in controls made from animal sera. Bio-Rad's new Liquid Chemistry Control is supplied ready-to-use, with no complicated pre-thawing required.

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At Bio-Rad, we are committed to delivering the support you need to monitor your clinical chemistry testing effectively, regardless of test method or instrumentation. Thousands of customers use our state-of-the-art QC program and technical support services to ensure the accuracy and precision of their test results. You can now purchase a Chemistry Control that combines the convenience of liquid with the unparalleled stability and quality you come to expect from Bio-Rad.

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GERMANY: 49-89-318-840 **HONG KONG**: 852-789-3300 **ITALY**: 39-2-216-09-1 **JAPAN**: 81-3-3534-7259 **NEW ZEALAND**: 64-9-44-330-99 **THE NETHERLANDS**: 31-8-385-40666
SPAIN: 34-1-661-7085 **SWEDEN**: 46-760-734-89 **SWITZERLAND**: 41-1-810-1677 **UNITED KINGDOM**: 44-4-422-32552

Other reagents are also available to perform specific blood grouping tests and techniques.

For further details contact George Bongiovanni, MEDICA PACIFICA LTD, P.O. BOX 24-421, Royal Oak, Auckland. Phone (09) 625 5261, Fax (09) 625 4396, Mobile (025) 974 913.

AIR SAMPLER ENSURES ENVIRONMENTAL HEALTH

Determination of airborne micro-organisms, required by regulations in some areas, can now be achieved with an air sampler available from Medic Corporation Limited.

Manufactured by Sartorius AG, a German manufacturer of membrane filters and electronic balances, the air sampler is essentially a smart vacuum cleaner, able to measure the amount of air it samples and then adjust its a.c. motor up or down to ensure an exact volume of air is sampled over a specified time.

The air is drawn in through a gelatin filter with a three micron pore size. Because gelatin is naturally moist and sticky, airborne microbes are retained by a combination of sieving out and sticking to the filter. In addition, the moistness of the gelatin filter keeps the microbes viable, even when sampling for longer periods in environments where the user expects to find very few airborne micro-organisms.

The filter can then be processed by two different methods: direct placement of the gelatin filter on a solid culture medium (direct method), or dissolution of the gelatin filter (indirect method). The indirect method is particularly recommended when inhibitors, such as antibiotics or disinfectants, have to be removed. It is the only air sampler validated for phage and viruses.

In the medical field, the detection of airborne pathogens is of prime importance. Airborne microbes can cause life-threatening diseases. This is especially the case in operations entailing an extremely high risk of post-operative wound infection by airborne microbes, treatment of severe burns, intensive care and treatment of allergies.

Further information is available from Medic Corporation Limited, Scientific and Industrial Division, Private Bag, Lower Hutt. Tel (04) 569 3539.

DIAGNOSTIC LABORATORY FIRST TO GAIN QUALITY AWARD

Diagnostic Laboratory, New Zealand's largest medical testing laboratory, has become the first in the country to gain the internationally recognised ISO 9002 accreditation for quality assurance.

Diagnostic Laboratory principal technologist Dennis Reilly, who is responsible for the laboratory's quality assurance programme, says the accreditation is a milestone for a New Zealand medical laboratory.

"It means that as a laboratory, we've reached an international standard," said Mr Reilly. "This is the top of the line in quality accreditation of medical laboratories."

He said Diagnostic had gained the accreditation in all departments — Microbiology, Haemotology, Immunology, Cytology, Histopathology, Clinical Biochemistry, Endocrine/Radioassay and Extra Laboratory (Near Patient) Testing.

Diagnostic Laboratory has been registered with accreditation agency Telarc since May 1983 and has been working towards the ISO 9002 accreditation for the past two years.

Mr Reilly said Telarc had used the ISO 9000 series standards as a basis to develop a special code of quality assurance for medical laboratories known as the New Zealand Code of Laboratory Management Practice. The code covered quality assurance in all aspects of a laboratory's work.

"It looks at the whole system — how specimens are collected, bringing specimens into the laboratory, processing steps, staff training and customer service and satisfaction levels.

"The accreditation looks at the policies and procedures we have in place, how we implement those and the quality audits we carry out to ensure standards are maintained."

He said the accreditation also covered documentation of company structure, lines of reporting, job descriptions and procedures.

"Everything we do is written down in a manual — from administration, personnel, computer useage and training methods to all laboratory procedures."

Mr Reilly said Telarc reassessed organisations every two years but the organisations themselves were required to do internal quality audits to maintain standards.

Diagnostic Laboratory is New Zealand's largest medical testing laboratory and has more than 315 staff. It operates solely in the greater Auckland region with a main laboratory in Symonds Street, Auckland and more than 55 rooms from Whangaparaoa in the north to Pukekohe in the south.

Contact: Dennis Reilly, Diagnostic Laboratory, Ph 357 4100.

BLOOD BANK SEROLOGY DIAMED-ID MICROTYPING SYSTEM

The new DiaMed-ID Microtyping System is now installed in over 4000 laboratories worldwide including some New Zealand laboratories.

The patented gel centrifugation technology offers a new level of standardisation in blood bank serology as well as improved quality of performance and labour saving test logistics.

Specific antisera is supplied in a gel matrix and sealed in each of the six microtubes in a plastic card. Test cells or patient samples are added to the gel columns and the card is centrifuged. Agglutinates are trapped in the gel and non reactive cells are centrifuged to the bottom of the tube. The results are stable for weeks and can be photocopied.

No cell washing is required in any facet of testing.

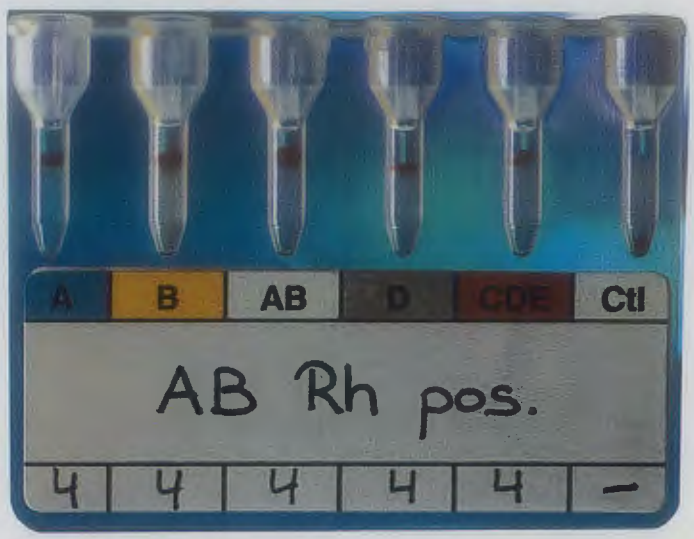
The simple test protocols lead to precise, standardised results.

Cards are available with tests for cell and serum grouping, antibody detection and investigation, crossmatching and other serological testing. Profiles are available for testing antenatals, neonatals, donors, pretransfusion testing, paternity and forensic testing. Most traditional test methods including IAT, DAT, enzymes, saline, multi temperature testing, titrations, elutions etc. are available.

For further information contact DiaMed Toll free ph: 0800 441 525, P.O. Box 222, Surrey Hills, Victoria, 3127, Australia.

DiaMed-ID
Micro Typing System

— The new standard for Blood Bank Serology
— Over 4000 users worldwide



DiaMed is proud to announce the New Zealand release of the ID-Microtyping system for blood bank serological testing.

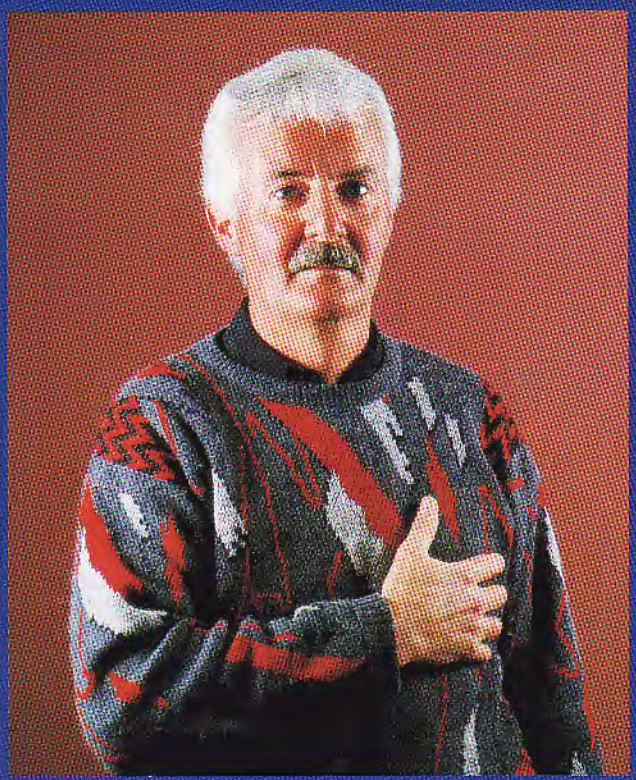
The DiaMed system is the original patented gel method for all aspects of blood bank testing of red cells and antibodies.

Major features are:

- Significant improvement in quality and confidence of testing and validation.
- Improved sensitivity and specificity over other methods.
- Standardised, operator independent results.
- Results stable for weeks.
- Simple protocols.
- No cell washing in any testing.
- Significant labour savings with improved laboratory flexibility.
- Low capital cost hardware.
- Manual, semi-automated and fully automated systems.
- Predispensed, sealed reagents with long shelf life at room temperature.
- Standard methods include ABO/Rh Grouping, Rare Antigens, IAT, DAT, Crossmatching, Investigations, Monospecifics, Subgroups, Antenatals, Neonatals, Donor Unit Group Checking.

For further information contact DiaMed toll free ph: 0800 441 525,
P.O. Box 222, Surrey Hills, Victoria, 3127, Australia.

The right diagnosis down to a T



Troponin T is a unique biochemical marker for the diagnosis of myocardial damage due to its high level of sensitivity, specificity and large diagnostic time window.

Multicentre studies covering patients at more than 80 cardiac centres confirm that troponin T not only diagnoses patients with large sized infarcts, it is also capable of differentiating minor myocardial damage in unstable angina patients. A truly major advancement in cardiac patient care.

TNT
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