Inspire

The Official Journal of The Association of Respiratory Technicians and Physiologists

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FIRST WORD

DeVilbiss Bursaries to attend international respiratory meetings

DeVilbiss Health Care (UK) Ltd have generously donated £1,500 in bursaries to support the attendance of ARTP members to this years European Respiratory Society meeting in Stockholm, and the American Thorax Society meeting in San Franisco during May 1997.

DeVilbiss would like an element of competition for the bursaries so we require a report of 1500 to 2000 words which will be judged by the ARTP and DeVilbiss. The report should be on one of the following topics: treatment or diagnosis of sleep disordered breathing, LTOT assessment and treatment, inhalation therapy e.g. nebulisers and delivery systems. In the event of a tie the money will be shared between the winners. The report will be reproduced in a future edition of INSPIRE.

Unfortunately the deadline for the ERS bursary has passed, BUT the deadline for the ATS competition has been extended to 10th October 1996 and the competition has been opened up to more ARTP members up to and including MTO4 grades. DeVilbiss are particularly keen to support more junior grades to attend meetings, so come on all you students, basic and senior technicians dust down those HNC projects, or seek fresh inspiration and get writing—what could be more of an inducement than San Francisco in Springtime on study leave!

All entries should be accompanied with a letter from your manager/head of department confirming your grade and sent to:

Dr Brendan Cooper, Manufacturer Liaison Officer, Lung Function Department, City Hospital, Nottingham NG5 1PB

A big Thank You to DeVilbiss Health Care (UK) Ltd for supporting the ARTP in this manner and bringing the opportunity of major international conferences within the reach of our members.

A reminder that renewal of ARTP membership for 1996/7 passed in May 1996. If your membership has lapsed please forward payment to membership secretary Steve Scholey ASAP at the following address:

Lung Function Laboratory, General Infirmary
Friarwood Lane, Pontefract, West Yorkshire WF8 1PL

BACKDATED TAX RELIEF ON ARTP SUBSCRIPTION

One day, whilst running up Thorntons Avenue a kindly tax inspector informed me that tax relief on subscription fees to professional associations and societies can be backdated for up to a period of 5 years.

Tax relief is available on your subscription fee to the ARTP (and the BTS if you are a member). Write to your local tax office with details of your membership, when you joined the ARTP, the current fee you pay and the total amount you have paid since joining (up to 5 years). Include other details such as NI number, place of work, personnel number etc. Tip: you must refer to your membership fee as a subscription fee!

DATES FOR YOUR DIARY

See page 3 for more details

7th–11th September 1996	European Respiratory Society Annual Congress (The ERS) Venue: Stockholm SWEDEN
16th–20th September 1996	Short Course in Advanced Respiratory Measurements Coventry University (HNC Specialist Option)
22nd–23rd November 1996	(Friday pm/Saturday am) ARTP Winter Meeting Aintree Liverpool
9th– 11th December 1996	British Thoracic Winter Meeting Queen Elizabeth 11 Conference Centre London
14th–18th April 1997	Short Course in Advanced Respiratory Measurements Coventry University (HNC Specialist Option)
April 1997	ARTP/BTS Joint Advanced Course Diagnosis and Treatment of Sleep Disordered Breathing Organises Mrs Sue Bradbury and Dr Martin Allen Department of Respiratory Medicine City General Hospital Stoke-on-Trent

Continued on Page 2

FIRST WORD ..... Continued from front page

Following the editorial in the last edition of INSPIRE concerning a name change for the ARTP I have received two letters of opposing views (see page 10). If you support a view expressed in the correspondence please let me know. If we are to maintain the status quo, or before any change can occur, we need to know the opinions of the membership. If there is overwhelming support for change any suggestions for the alternative name will be put before the membership for ballot. Please write to me on this or any other matter:

Miss Sue Revill (Editor)
Department of Respiratory Medicine
Glenfield Hospital
Leicester LE3 9QP

Calendar of Forthcoming Events

MEETINGS

7th–11th SEPTEMBER 1996

European Respiratory Society Annual Congress (The ERS)

Venue: Stockholm SWEDEN

This meeting will contain a number of sessions organised by the Respiratory Technology and Health Care Section. The sessions are aimed at technicians, scientists and other associated health care workers. There will be two post-graduate workshops on Saturday 7th Sept, and in the main body of the Congress the section has been awarded 2 major symposia, an assembly symposium as well as poster sessions.

A business meeting of the section will also take place to which all members of the ARTP are invited. Please support this very important European venture.

22nd–23rd NOVEMBER 1996

ARTP Winter Meeting

Aintree, Liverpool

After the extremely successful meeting in Pontefract last year which commenced Friday afternoon and finished at lunchtime Saturday, culminating in the Annual ARTP dinner Friday night (sponsored by P K Morgan, SenorMedics and DeVilbiss), this formula is to be repeated in November. The meeting will be held at a Hotel not far from the famous Aintree race course, and Pat Mitchell from the Fazakerley Hospital has already started to put together what looks to be a very interesting and varied programme. The booking form for this event and full programme details will be posted separately to all ARTP members. It is hoped the dinner for ARTP members will be sponsored.

9th–11th DECEMBER 1996

British Thoracic Winter Meeting

Queen Elizabeth 11 Conference Centre London

Deadline for abstracts 3rd September, forms may be obtained from the BTS office, the final programme will be circulated to BTS members in December. There are usually several sessions of interest to respiratory function technicians. ARTP members are able to attend as guests. The fee is usually around the £15 per day level.

MAY 1997

American Thoracic Society Meeting

San Francisco, USA

SEPTEMBER 1997

European Respiratory Society Meeting

Berlin, GDR

More details will be posted to ARTP members next year.

COURSES

16th–20th SEPTEMBER

Short Course in Advanced Respiratory Physiology

Coventry University (HNC Specialist Option)

Topics include:

Flow volume curves

Respiratory Muscle Function Measurement

Blood Gas Analysis

Lung Volume Measurement

Skin Testing

FEE: £125 for the whole week. Day fee £25.

DISCOUNT FOR ARTP MEMBERS

Reduced fee for ARTP members–£112.50 (£22.50 day fee).

Participants may attend for the whole week, part of the week or just for one day.

14th–18th APRIL

Short Course in Advanced Respiratory Physiology.

Coventry University (HNC Specialist Option)

Target audience:

Technicians working in Respiratory Function wishing to update and extend their knowledge, as well as students following the National BTec HNC.

Topics include:

Respiratory exercise testing, and interpretation

Sleep studies, CPAP and nasal ventilation

Inhalation therapy

Ventilatory control

Bronchial challenge testing

Reduced fee for ARTP members–£112.50 (£22.50 day fee).

Participants may attend for the whole week, part of the week or just for one day.

Write to Mr T Jones, Biological Sciences, Coventry University.

APRIL 1997

Diagnosis and Treatment of Sleep Disordered Breathing

Organises

Mrs Sue Bradbury and Dr Martin Allen Department of Respiratory Medicine City General Hospital Stoke-on-Trent

This is a must for all technicians and medics involved with the diagnosis and treatment of sleep disordered breathing. As well as lectures and workshops, there is hands-on experience with a wide range of diagnostic equipment, as well as nasal ventilators and CPAP equipment with real-life patients. This course was run in 1995 and 96 and heavily over subscribed. Course fee and exact date to be announced.

USEFUL ADDRESSES

A number of organisations have recently moved premises e.g. the BTS and BLF are now housed in the same building. Below is a list of addresses that you may find useful.

The British Thoracic Society (BTS)
6th Floor, North Wing
New Garden House
78 Hatton Garden
LONDON EC1N 8JR
Tel: 0171 831 8778
Fax: 0171 831 8766

The European Respiratory Society (ERS)
1, Boulevard de Grancy
CH-1006 Lausanne
SWITZERLAND
Tel: Switzerland 41 21 617 28 68
Fax: Switzerland 41 21 617 28 65

British Lung Foundation (BLF)
78 Hatton Garden
London EC1N 8JR
Tel: 0171 831 5831

American Thoracic Society (ATS)
1740 Broadway
New York
NY 10019-4374
USA

National Asthma Campaign (NAC)
Providence House
Providence Place
London N1 ONT
Tel: 0171 226 2260
Fax: 0171 704 0740

EDUCATION UPDATE

BSc (Hons) Degree in Clinical Sciences with Respiratory Physiology

From September 1996 the North East Surrey College of Technology (NESCOT) is offering a BSc (Hons) degree in clinical sciences with a major optior in respiratory physiology. This is a four year block release course, entry is with 2 A-levels (relevant scientific subjects) or with the BTEC Nationa Certificate in MPPM. Applicants with a BTEC Higher Certificate in MPPM may be eligible to enter year 3 of the course.

Students are required to attend 9 one week blocks during each of the 4 academic years.

A large work-based, practical component has been incorporated into the course, and each student will be supervised by an appointed work-based supervisor. College supervisors liaise closely with the work-based supervisor. The structure is of a modular scheme that is CATS rated (credi accumulation and transfer). In each academic year students study 3 common modules designed to provide a broad scientific base to underpin the specialist degree work and to integrate different aspects of clinical science.

In addition, students follow a module in their chosen discipline, and follow the professional practice module back at the work base and a specialist case study. In year 3 students are required to complete two dissertations, and in year 4 complete a major project for the honours award. The respiratory physiology syllabus has been developed in conjunction with the ARTP.

For more details concerning this exciting development you should contact Dr Chris Suter in the Faculty of Science and Technology on Tel 0181 394 1731, or write to him at the following address:

Faculty of Science and Technology, Nescot, FREEPOST, Reigate Road, Ewell, Surrey, KT17 3BR

HURRY, or you may miss Septembers registration!

ON THE BLOWER

MANUFACTURERS NEWS

Well, they're going to let me publish again! No court cases yet, but a lot of interest from both manufacturers and ARTP members. This edition of 'on the blower' is full of info from the manufacturers.

The DeVilbiss/ARTP Travel Bursaries

As many ARTP members will be aware DeVilbiss have given a tremendous thumbs up to the ARTP by offering bursaries to support attendance at the ERS for the next three meetings, and a fabulous £1000 bursary for the ATS. On behalf of all in the ARTP–A BIG THANK YOU to DeVilbiss Health Care (UK). See the front page for more details on how to apply for a bursary.

Are there any other manufacturers out there interested in creating a bursary to support attendance at one (or both) of the international respiratory meetings?

Trade Stand

Pharmaceuticals

A new company in the respiratory field Evans Medical Ltd have just launched their Spacehaler which is an MDI that reduces the particle speed from 70 mph to 4 mph thus decreasing throat impaction. The preliminary data seems promising.

Baker Norton seem to have got around the expensive breath-actuated inhaler device by offering an Optimiser (ie an optional extra) which circum-navigates the complex FDA rules.

You may be award that the 3M Autohaler has to be replaced with every new prescription, thus pushing the cost up considerably. 3M have brought out a new spacer device—the Aerochamber—which has been trailled successfully in New Zealand. More fast breaking news stories from the drug industry as they happen!

Lung Function Equipment

Clement Clark have launched a new low range peakflow meter—the mini-Wright AFS—which is compatible with the mini-Wright Std. As an incentive for children they have included detachable windmills. These have kept me amused for hours. A quantity of these windmills are free to readers directly if they write to Jon Bell, Clement Clark International Ltd, Airmed House, Edinburgh Way Harlow CM20 2ED. They are also available free from pharmaceutical reps, so the official source—Pulse Doctor Shop (0181 316 3172—may not get a load of business. Clement Clark reminded me that they merged with Medix last summer.

CaSE (exAirspec the mass spectrometer people)have launched a new model the cheaper Vanguard at around £28K comparing favourably against the QP9000 at £40K. Probably targeted as a research tool, with clever software these systems are becoming much more user friendly as fully versatile gas analyser exercise/lung function systems.

Kevin D'Silva informs me that Ferraris Group Plc have been to the supermarket to buy some respiratory companies. Not just stopping with PK Morgan they are now the holding company for Densa Ltd, based in Flint, North Wales and also for Precision Medical based in Pickering North Yorkshire. Densa have a good reputation for innovative sleep analysis systems. Precision Medical make spirometers and a portable mouth pressure meter (PK Morgan making one of the other 3 commercially available hand-held meters. Should we call the Monopolies and Mergers Commission??) and a range of hand held spirometers. Ferraris appear to want to concentrate on quality and customer service.

For those of you a little confused, DeVilbiss acted as distributors for Precision Medical and Ferraris Wright Peak flow meters until recently. However, I was told at the BTS that DeVilbiss will still

supply peakflow meters until August.

The Ferraris theme of quality and customer care is to extend to all the companies that are new to the Ferraris Group. PK Morgan have set up a customer care service and Roy Kernaghan urges all ARTP members to write to PKM on how they should improve their services to the customer.

Sleep studies and associated equipment

3M Healthcare launched the Breath Right (or was it the Breathe easy?) This is basically a modified Band-Aid that gets stuck across your nose to stop snoring, increase libido and cure the common cold! Anyway it helped England RFU not win the Grand Slam, Liverpool not to win the FA Cup, but apparently British Airways Business Class cabins are silent as the jet-setting giants of industry stop snoring during the movie! (Stopping the free booze would have been cheaper). All this without any clinical trial information being offered (despite numerous requests). I've stuck one of these to the windscreen of my Mazda 626 and I now get over 85 miles per gallon. Of course I don't have any clinical trial information yet! Get a life!!

I heard a nice story from Steve Thomas about the name Friday Medical. He was telling a German doctor at the ERS why Thomas Medical Instruments has changed name to Friday Medical. "Why? Well because Friday is a good day that everyone likes and remembers" "In Germany" replied the doctor "it would be Monday Medical!" I suspect in Japan it would be "Night and Day Medical".

Miscellaneous

An emerging French (Thermoformed plastic injection) company STI is attempting to break into the spirometer market with a PC hand held device. They are looking for UK distributors (I would if they have phoned Ferraris?) Please contact me if you have an interest.

A relatively unknown (in the UK) range of blood gas machines—from Nova Medical (the allegedly largest seller in the USA) is being distrubuted by Biomen Diagnostics. I've not seen or tried one of them but they are certainly worthy of a check out. Contact 0173 473 0013 for details.

Complaints Database and Watchdog

Nothing much to report yet! Well there were a few phone calls received about a single manufacturer and other Chinese whispers but nothing in writing yet. Remember you may not be the only one experiencing problems with a piece of equipment or a company. By pooling our problems we will be more effective at bringing about action. Drop me a line now.

1) Mobile phone health and safety. I have received phone calls from several reps recently using mobile phones whilst driving. Indeed one (nameless) character (who me Jimmy!?) rang off abruptly as a Police Range Rover overtook him and indicated he should stop! Does this happen to you? I Believe this practice is dangerous but also rude to us as customers. Can all manufacturers (and ARTP members) using mobile phones please maintain high safety standards. As BT says: It's good to talk—but not with the tail-end of an Eddie Stobart

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PERTH '96
22nd–28th March

Adrian H. Kendrick
Bristol

Perth, Western Australia, was the venue for this years meeting of the Australian and New Zealand Society of Respiratory Science Inc. (ANZSRS), the Thoracic Society of Australian and New Zealand (TSANZ) and the Australian Sleep Association Scientific Meeting (ASA). This report covers the first day of ANZSRS Scientific meeting only.

Perth is situated on the south west tip of Western Australia, some 3276 km from Sydney, 1976 km from Alice Springs and 2808 km from Darwin. The city was dubbed the "City of Lights" by John Glenn, who when orbiting the Earth in 1962 was surprised to see a beacon of light in the black void of night-time Western Australia. In fact, everyone in Perth had switched their lights on as a greeting to Glenn. Today Perth is a growing city, with a relaxed pace of life, a sunny climate and a location next to the Swan River. It is 16km north of Fremantle, which hosted an America's cup defence in 1987. Australia lost.

After an uneventful flight via Kuala Lumpur on Malaysia Airlines, we arrived in darkness at 0330 in Perth. Since leaving Heathrow, we had managed to have dinner, breakfast and lunch consisting of curry, and its variations. I love curry, but not for breakfast!

The first evening of the ANZSRS meeting consisted of a buffet dinner at the Kings Park restaurant, which overlooks Perth. Wonderful views of Perth at night, good food and excellent company. The science started on the Saturday. As one of their guest speakers, I had the honour of opening the meeting, talking on CO Transfer Factor on Exercise.

Rein Simmul (St Leonard's, NSW) followed with the problem of nitrous oxide in CO Transfer Factor. A chance observation on a patient who had had a bone marrow biopsy using Entonox (50% nitrous oxide, 50% oxygen) for analgesia stimulated further study. In 5 normal subjects, transfer fell from 11.7 +- 1.0 prior to a 10 min inhalation of Entonox to 10.7 +- 1.3 mmol.min -1.kPa-1 at two hours post inhalation. The differences were significant. The effects can be attributed to similar infra-red spectral wavelengths of CO and nitrous oxide, and that nitrous oxide is still diffusing out of the blood and soft tissues.

Maureen Swanney (Christchurch, NZ) followed by highlighting some of the problems of doing ear lobe capillary sample. In 24 patients, she demonstrated that differences of up to 1.2 kPa could occur between the arterial and capillary PCO2. Differences of 1.5ka were noted for PO2, but no differences were noted for pH. Maureen concluded that the capillary sampling takes longer and therefore has greater cost implications that arterial sampling. Some of the large differences noted, however, may be due to lack of experise in collecting the capillary samples.

Ann Reynolds (Adelaide, SA) presented on in vitro contractility to Tachykinins in ovine trachea: comparison with in vivo effects. In in vivo studies there are marked increases in airway resistance to substance P and neurokinin A, with substance P having greater effects. Furthermore, this bronchoconstrictor response was potentiated by inhaled phosphoramidon and blocked by atropine and the neurokinin (NK1) receptor agonist—CP96,345. The suggestoin is that tachykinin-induced bronchoconstriction, in vivo, is mediated by a cholinergic mechanism involving NK1 receptors. Using an in vivo techniques, tracheal smooth muscle strips were prepared for the cumulative addition of carbachol, acetylcholine, substance P, neurokinin A, neurokinin B, the specific NK1 receptor agonist [Sar9Met(O2)11]-SP, the specific neurokinin 2 receptor agonist [Nle10]-NKA(4–10) and histamine. The conclusion was that in vitro tachykinins induced smooth muscle contraction by a direct effect that was predominantly mediated by neurokinin 2 receptors, and does not involve a cholinergic mechanism.

Dana L. Ross (3M, USA) was the other invited speaker to this meeting. Dana presented on factors affecting inhalation drug delivery, particularly about the phasing out of CFC propellants. The use of the environmentally friendly HFA propellant has led to considerable research into the likely effects of replacing CFC inhalers. Dana presented an overview of this currently on-going work, regarding salbutamol. The use of the HFA propellant may actually improve MDI performance. Further preliminary data was presented on the CFC-free beclomethasone product that is currently undergoing world-wide clinical trials. The use of CFC-free MDI's appears to be promising.

L. T. Rodwell (Brisbane, Queensland) presented on the reproducibility of hypersmolar saline (HS) challenge in subjects with cystic fibrosis. Previous studies had shown that the majority of cystic fibrosis patients demonstrate a transient airway narrowing during HS challenge. In 8 subjects, challenges to either 10% or 0.9% NaC1 were performed on three occasions. The 10% HS challenge was found to be reproducible in this group of CF patients. It is suggested that 10% NaC1 should be considered when using hyperosmolar saline to aid sputum clearance.

Trevor G. Borgas (Newcastle, NSW) demonstrated that hypertonic saline can provoke inspiratory airflow obstruction in respiratory patients, particularly those with chronic cough. In 54 patients with chronic cough, hypertonic saline provoked expiratory airflow obstruction in 15.7% and inspiratory airflow obstruction in 42.2%. Inspiratory and expiratory airflow obstruction occurred together in 13.3%. Using on the FEV1, a diagnostic abnormality was detected in 15.7% of patients. This increased to 44.6% when inspiratory and expiratory flow were measured.

Eleonora A. Side (Melbourne, Victoria). The TSANZ guidelines on infection control were compared to the use of bacterial filters. Based on an annual number of tests in the unit of 1848 spirometries, 440 TL,CO measurements, 261 body plethysmographic measurements and 81 stage I exercise tests, the estimated cost of the TSANZ guidelines was $71,570 (£37,868). Using a $3.50 (£1.85)

filter reduced this cost to $9,220 (£4878). The largest cost of the TSANZ guidelines was due to loss of productivity (£34,286), with 1120 hours spent on dismantling, cleaning, re-assembling and re-calibrating the equipment. Eleonora concluded that the TSANZ guidelines were expensive and impractical. The use of bacterial filters was cheaper and more practical. A lively discussion resulted from this conclusion!

M. Brown (Brisbane, Queensland) summarized a workshop on infection control in lung function laboratories and related issues. He pointed out that filters were not all they were thought to be, and that on-going infection control procedures were important. He concluded that striking a balance between effective infection control and expensive overkill was an important balance to achieve, particularly against the increase in possible litigation for failure to comply with current standards.

A. Herrero (Woodville, SA) investigated the problems of making serial measurements of spirometry using different spirometers, including those that meet the ATS standards. In eight subjects (FEV1 range of 0.7 to 6.13 litres), measurements were made on 6 spirometers. For the spirometers that met the ATS standards, the within subject variation in FEV1 was 0.07 to 0.58 litres, and for FVC was 0.06 to 0.61 litres. The conclusion was therefor that serial measurements should be made using the same spirometer, unless the spirometers have been shown to be uniform.

P. E. Lynn (Chermside, Queensland) compared the results of maximal inspiratory and expiratory mouth pressures obtained in 38 normal subjects. The instruments studies were Magnehelic (USA), Jaeger Compact Body (Germany) and Morgan Pmax Monitor (UK). The mean PImax in women ranged from 91.1 to 95.1 cmH2O and in men from 117.6 to 129.6 cmH2O. The mean PEmax ranged from 102.8 to 113.7 cmH2O in women and 129.2 to 145.5 cmH2O in men. PEmax was consistently higher in men and women using the Morgan system. The differences between the three devices were significant, but small, and so were regarded as of little clinical importance.

A. G. Dent (Chermside, Queensland) highlighted the problem of choosing appropriate reference values for maximal inspiratory and expiratory mouth pressures. The reference equations of Black & Hyatt (1969), Wilson (1984), Vincken (1987), Bruschi (1992), Gilbert (1978), Leech (1983) and Karvonnen (1994) were compared to the results obtained from 47 normal subjects. There were generally poor correlations for PImax and PEmax in men and in women for the measured data and the predicted value. The study concluded that careful choice of predicted values was important, with each laboratory choosing its values after taking into account the equipment, methodology and patient populations.

S. Pritchard (Melbourne, Victoria) presented a non-invasive method of estimating dynamic lug compliance using mouth occlusion pressure. Mouth occlusion pressure (DP), inspiratory time (Ti) and tidal volume (Vt) were estimated during tidal breathing in 14 normal subjects, 11 mild asthmatics, 11 restrictive ventilatory defect patients, 12 chronic bronchitics, 8 emphysema patients and 6 following methacholine challenge. The slope of Vt/DP.Ti was calculated for each subject. Normal subjects had a mean value of Vt/DP.Ti of 230.5 ml/cmH2O.s. The values obtained for the patient groups was significantly different. Linear relationships were seen between Vt/DP.Ti and FEV1%VC in the emphysema group. The technique appears suitable for repetitive measurements of dynamic compliance.

J. D. Brennan (Camperdown, NSW) compared bronchial provocation testing with 4.5% NaC1 to the symptoms of asthma. Use of 4.5% NaC1is made to diagnose and assess the severity of asthma, and has a high specificity for detecting current asthma. From 200 asthmatics, the challenge results were compared to questionnaire data on symptoms in the "last 3 months". There was a statistically significant relationship between symptoms in the last 3 months and the response to 4.5% saline. Those with a positive response to saline had a frequency of symptom reporting 5 times greater than that of non-symptom reporting. Of 112 subjects with symptoms in the last 3 months, 65 had a positive saline test. Thirteen subjects reported no symptoms, but were positive to saline.

Sandra D. Anderson (Camperdown, NSW) compared the use of bronchial challenge to 4.5% NaC1 to histamine before and after budesonide. In asthmatics and normal subjects, there was a significant correlation between PD20 to histamine and 4.5% NaC1, and dose response ratio after budesonide. After 2 months treatment, PD20 increased 4.6x to histamine and 9.7x to 4.5% NaC1. Responsiveness to histamine remained throughout treatment, whilst 5 subjects did not record a 20% fall in FEV1 after 4.5% NaC1, and the dose response ration decreased to values similar to those of normal subjects. Therefore, challenge with 4.5% NaC1 can be used to assess the early benefits of treatment with aerosol steroids.

M. Hogman (Uppsala, Sweden) investigated the effect of hyperventilation with dry air on the airway response to histamine in rabbits. Mechanically ventilated rabbits had measurements of respirtatory resistance (Rrs) and compliance measured before and after 8 min of hyperventilatoin at 4x normal resting ventilation followed by nebulised histamine (10 mg/ml) for one minute. Expired water was measured. Ventilation alone did not alter Rrs or compliance. Histamine caused a 32% increase in Rrs following normal ventilation with dry air and an increase of 119% after hyperventilation. Lung compliance decreased 15% in response to histamine and by 30% after hyperventilation. Therefore evaporative water loss during hyperventilation with dry gas causes a change in reactivity of the airways for the bronchoconstricting agent histamine.

Having opened the meeting I had the pleasure of then closing it with a presentation comparing different methods of measuring lung volumes. After a short break, the meeting adjourned to the Sandalford Winery for the dinner—plenty of wine, food and good conversation. There was also some music, but few of us heard it.

Acknowledgement: I would like to thank the organizing committee of the ANZSRS for inviting me to the meeting, and in particular to Stephen West, President of the ANZSRS, for his assistance in organizing the arrangements for my visit.

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trailer embedded in your thorax!

2) Inflation What inflation. How many companies are blatantly marketing and profiteering within the Healthcare market. Inflation has allegedly run at approximately 2% for nearly 2 years yet how many of your ventilators, nasal masks, and spirometer accessories increased by 10–15% in the last 12 months? As a taxpayer, it hacks me off. Do any manufacturers or departments want to comment?

3) Manufactuers Questionnaire. From the ARTP questionnaire there seems to be an overwhelming desire to run a questionnaire on equipment and the manufacturers of lung function and sleep equipment. This will be ready towards the end of the year. (I'm still recovering from questionnaire fatigue after the last one!)

4) ARTP Summer Meeting 1996 Warwick University. We are grateful to the following companies for generously supporting this very successful meeting.

AVL Medical Instruments UK Ltd

Cardiokinetics

DeVilbiss HealthPCare (UK) Ltd

Erich Jaeger (UK) Ltd

Rescare (UK) Ltd

Sensor Medics

Stowood Scientific Medical (SSI)

5) Lung Function Watch dog. When writing to the complaints database and Watchdog please state 1) exact dates 2) names of people you dealt with 3) state clearly your grievance. Also give a summary account of your complaint (Maximum of one page of A4). There is no need to send photcopies of correspondence of this stage.

Once again ARTP members and Manufacturers—please continue to send me your news and views. More next issue.

Dr. Brendan Cooper, (ARTP Manufacturer's Liaison Officer), Lung Function Department, Nottingham City Hospital, Nottingham, NG5 1PB. FAX: 0115 960 2140 Tel: 0115 969 1169 ext 46194.

VISIT TO BRITISH THORACIC SOCIETY WINTER MEETING

The meeting took place in December 1995, at the Queen Elizabeth Conference Centre in Parliament Square, London. Just the night before, it had been the scene of the Sportspeople of the Year Awards which went out on BBC TV. In fact, the banners were still in place outside the building at the unearthly hour of the morning I had to be there. I thought that I had turned up for the wrong function!

My main purpose in attending this meeting was to present a poster of a study entitled *"THE EFFECT OF WALKING AIDS ON WALKING DISTANCE, BREATHLESSNESS AND OXYGENATION IN PATIENTS WITH SEVERE CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)."* This took place early on the first day, in a batch of posters presenting studies in similar subject areas. Altogether, these made an interesting morning for those who are working with COPD patients, and in the field of rehabilitation.

Other sessions of interest to me related to pCO_2 monitoring, and oxygen saturation measurements.

I stayed over one night and attended the morning of the second day, when the poster presentations were covering aspects of asthma, and broncho-dilator studies. There was also a lot of work on cystic fibrosis. I attended a session of presentations of environmental pollution studies.

I took advantage of the fact that we were right opposite Westminster Abbey, to pop in and have a look around. It was very crowded with tourists, but it was worth the effort, for me, to see the stained glass windows.

Fortunately, I have a friend in London who is willing to entertain both me and my dog on these occasions, which makes it a lot cheaper for me to attend. I am very grateful to ARTP & BTS for their contribution towards my travelling expenses. I was very proud to be the one to present our poster.

JOAN ASHLEY FRENCHAY HOSPITAL, BRISTOL

RESULTS OF TRAINING FUNDS AND MEETINGS QUESTIONNAIRE

Earlier this year members of ARTP received a questionnaire concerning the availability of moneys for training, attending courses and meetings. In addition we also asked what topics you most wanted covered at meetings and courses organised by the ARTP. The results of that questionnaire are reproduced below.

Number of returned questionnaires 49 (18%)

Only 49% of departments had NHS funds specifically earmarked for training. In most cases this would cover the BTEC course fee and associated travel expenses. In 39% of departments it would also cover HTEC course fee and travel expenses. The ARTP/BTS professional exam fared less well, there were NHS funds to cover the exam fee in only 27% of cases.

Where departmental NHS funds were not available financial help came fro a number of sources including departmental trust/research funds (4%), from a central training budget managed either by a directorate or the hospital (20%), self-finance (12%), or from the general departmental budget (6%).

Attendance's at meetings were overwhelmingly financed from departmental trust/research funds (37%), with sponsorship accounting for 16%, self-finance 14%, departmental budget 22%, and private patient work 6%.

A large number of staff had been unable to attend meetings due to lack of funds or because of staff shortages (51%). And a number had been refused BTEC or HTEC courses for the same reasons.

The majority of departments were able to count on some support from the respiratory consultant (80%), either in the form of letters supporting claims for funding or supplying top-ups from their own funds.

Most departments stated the NHS reforms had made no difference to the funding of training (it had always been underfunded) or it had become worse. A few departments seemed absolutely despairing, they never asked for study leave because it was never granted! Overall less study leave was granted, and training budgets had been cut. A number of departments stated training suffered because of the increased activity as a result of the reforms. Only one department stated that the provision for training had improved since the introduction of the reforms.

As concerns the subject matter for meetings and courses organised by the ARTP the following were the most frequently requested—exercise, sleep, basic courses, interpretation, and use of the guidelines.

CHARITY NEWS

The full range of leaflets for patients from The National Asthma Campaign can be obtained from:

The National Asthma Campaign
Providence House
Providence Place
London N1 ONT

The National Asthma Campaign has set up a Health Professional Subscription Scheme to help keep health professionals up-to-date with developments in therapies and care provisions, leaflets, events organised locally and nationally. More information may be obtained by phoning the NAC on 0171 226 2260 or Fax 0171 704 0740, or writing to the address above.

Fund raising events for the NAC and the British Lung Foundation

NAC

The NAC Great British Swim 1996. This year the NAC have organised 4 regional swims which participants can just turn up to on the day and raise funds for the National Asthma Campaign. These regional swims are taking place in London at the Porchester Centre on Sunday October 6th, in Birmingham at the Ashton Newton Swimming and Fitness Centre on Saturday 19th October, in Armagh at the Orchard Leisure Centre on Saturday 26th October, and in Edinburgh at the Gelnogle Swim Centre on Sunday 27th October. For details of the regional swims please contact Karen Douglas in the Fund-raising Dept on 0171 226 2260 ext 321, or for details on general participation in the Great British Swim contact Beck Bayram at the NAC HQ.

The Shamrock Cycle Challenge. The NAC is looking for teams of four cyclists to ride in relay from Cork to Dublin to raise money for the NAC. The challenge is for cyclists to cover 500 miles in 3 days and teams should be committed to raise a minimum of £1000. Interested in taking part? Contact Helen Stones at the NAC HQ on ext 320 for an information pack.

Runners for the Great North Run—raise money for the NAC at this years Great North Run. Phone Deborah Rowbottom at the NAC HQ for an information pack.

BLF

'Sow a Little Hope' is still travelling the country. Embroidery from patients' wishes. More information on forthcoming dates and venues from the London HQ—Susan Kay on 0171 831 5831.

During November there is a special charity Christmas shopping event at Dickens and Jones on Regent Street, London. Date can be confirmed by ringing Susan Kay at the BLF.

Gala Premier of Carmen 6th February 1997. Royal Albert Hall, London. Ticket details from the BLF office.

Red Balloon Ball 16th May 1997, National History Museum. Again more details from the BLF office.

BOOK REVIEW

Interfacing the IBM-PC to medical equipment—the art of serial communication RWD
Nickalls, R Ramasubramanian.
Cambridge University Press 1995
ISBN 0 521 462280 0 hardback.
Price £37.50

This book gives detailed instructions and reproduces sample computer programs for a PC to access, analyse and store data from a range of medical equipment. Written by two anaesthetists, with invited contributed from experts in medical physics and bioengineering sciences, the book concentrates on equipment found readily in any intensive care unit and respiratory medicine department. The book is divided into three parts: part 1 examines the serial interface including the RS-232 Standard, transmission of data and an introduction to serial-interface programming using Microsoft QuickBASIC. Part 2 looks at electrical safety, the use of Kermit and data analysis. Part 3 considers the practical aspects of interfacing a PC to a wide range of medical equipment and includes sample programs.

Some of the equipment considered by the book includes the following oximeters, Ohmeda 3700 and 3720, the Nellcor N-200E, Novametrix 515A, Minolta Pulsox-7. Other equipment covered in detail includes the Datex Cardiocap, the Vitalograph Compact II spirometer, a range of syringe pumps and 2 different types of ventilator.

The book is a wealth of practical information, and gives very detailed, 'idiot proof' instructions that even the most computer illiterate can cope with e.g. 'the powerbase must be mains powered and switched on. The example program is for the normal computer mode (see tabl 10.1) and assumes the oximeter attaced to serial port 1 (COM1).

If you are considering developin your own computer analysis programme for oximeter sleep studies this book is well worth investing in as you will probably find the programme has been written for you.

LETTERS

From John Heath, Southampton General Hospital

I am writing in response to the suggestion that we are no longer 'technicians'. When I first moved into this field technicians were seen as an indispensable part of any scientific endeavour. They not only prepared and maintained equipment but also instructed and assisted students and research workers in its use. Often they had designed and built the equipment in the first place. In many cases the contribution of technicians to research work was recognised in co-authorship. A head technician was responsible for running the laboratory, from arranging leave rosters and job interviews to ordering equipment. The formal training of junior staff was restricted to learning background subjects through ONC and HNC so that training in the speciality was carried out by senior technicians (or in specialised fields by research and medial staff). Incidentally in those days most technicians in the Scientific Civil Service were designated Technical Officers, so this term is not a new one.

I agree the job has changed. There are additional responsibilities, there is much more bureaucracy, more computer integration and networking of services. On the other hand modern equipment has few serviceable parts and the computer makes all the decisions, which has meant substantial de-skilling, to the point where I have met junior technicians who are incapable of tracing (or even noticing) a leak in a gas analyser. Nevertheless, I take pride in doing a technician's job well, and am proud to be able to sign myself

Yours sincerely
Dr R. Heath, Chief Technician

From Laura Watson, Queens Medical Centre Nottingham

I agree with your article stating that the days of technicians being 'yes men' to the consultants are long gone, and agree that perhap now is the time to remove the 'technician' from the Association name.

These days the word technician is used in almost every walk of life, for example motor vehicle technician (mechanic) and waste disposal technician (dustbin man), and no longer reflects our role in respiratory medicine.

I do however feel that our technical role should not be overlooked, and that other professions need to appreciate that we do actually understand the concepts of the equipment we use and the measurements we make. That we are not just a respiratory nurse in a different uniform.

I wondered if technologist would be a more suitable term; and suggest the Association becomes the Association of Respiratory Technologists (ART) or the Association of Respiratory Measurement and Technology (ARMT).

As the Association is forging links within Europe via the ERS should the Associatoin reflect this and include British in the nam e.g. British Association of Respiratory Technologists, or British Association of Respiratory Measurement and Technology.

What does anyone else think?

Yours sincerely
Laura Watson, Senior Chief Technician.

Editors note

Thank you for these letters which have opened up the debate concerning a name change for the ARTP. What does the rest of the membership think about a name change. For or against. Please write to me with your views.

Miss S Revill, Department of Respiratory Medicine, Glenfield Hospital, Leicester LE3 9QP

RECENT ARTICLES

The following summarise recently published articles appearing in medical journals which may be of interest to ARTP members

INVESTIGATION OF SLEEP APNOEA AND TREATMENT

Effects of long term nocturnal nasal ventilation on spontaneous breathing during sleep in neuromuscular and chest wall disorders.

A J Piper, CE Sullivan. Eur Respir J 1996, 9, 1515–1522.

The purpose of this study was to determine whether spontaneous breathing during sleep improved after long-term nasal ventilation. 14 patients with documented nocturnal respiratory failure, who had received NIPPV for at least 6 months, were studied. Polysomnography with oximetry and transcutaneous CO2 were performed on a night when patients did not use NIPPV. Measurements were compared with the initial diagnostic studies performed on these patients. Spontaneous daytime blood gases had improved compared to pre NIPPV treatment, as well as inspiratory muscle strength. Oxygen desaturation during both NREM and REM sleep showed significant improvements compared to the baseline studies. There was also less CO2 retention. The authors conclude that long term NIPPV produces improved respiratory drive both asleep and awake and improved arousal responses to abnormal blood gases.

PHYSIOLOGICAL MEASUREMENT TECHNIQUES

Maximum inspiratory and expiratory pressures have no day time variation in healthy men.

X Aguilar et al. Respiratory Medicine 1996; 90: 231–233.

Although many pulmonary function parameters have been shown to have diurnal variation, maximum inspiratory and expiratory pressures were not found to change during the day in normal subjects. 16 normal non-smoking men were recruited. PImas and PEmax were measured at 8am, 2pm, and 9pm on the same day. The variation coefficient for PImax was 0.02% and for PEmax was 0.006%.

Assessment of a new transtelephone portable spirometer. Abbond S Brudermann Thorax 1996; 51: 407410.

Home monitoring of lung function is becoming increasingly important in the management of patients with chest disease. This new spirometer records the patients blow and then transmits all the data by telephone to the receiving centre for analysis. The Spirophone was found to record maximum forced expiratory manoeuvres with acceptable accuracy, reliability and reproducibility. This is probably the shape of things to come!

PHYSIOLOGY

Surfactant: a review of its functions and relevance in adult respiratory disorders.

Hamm et al. Respiratory Medicine 1996; 90: 251–270.

This article reviews the current knowledge on the surfactant system. This is a useful article for students and anyone involved in this area of research.

ASTHMA AND INHALERS

Occurrence of late response to exercise in asthmatic children: multiple regression approach using time-matched baseline and histamine control days.

WB Hofstra, P J Sterk, H J Neijens, J M Kouwenberg, P G H Mulder, E J Duiverman. Eur Respir J; 1996, 9, 1348–1355.

Seventeen children (age 7–14 years) randomly performed histamine challenge, exercise challenge or just lung function measurements (control day) on three subsequent study days. FEV1 was repeatedly measured for 8 hours on each of the test days. Using multiple regression analysis to look for an interaction between the test day and clock time and authors found no evidence to suggest the occurrence of a late reaction to exercise. The authors conclude that exercise is only a symptomatic trigger of asthma, and that further investigation is required to examine its inflammaotry potential.

The influence of breathhold on peak expiratory flow in normal and asthmatic children. I Matsumoto, S Walker, P D Sly. Eur Respir J 1996; 9, 1363–1367.

These workers have previously reported a 10% reduction in PEF in healthy adults following a breathold at TLC. In this paper the authors report a further study investigating the phenomenon in normal and asthmatic children. Maximal forced expiratory manoeuvres wer performed with and without a 5s breathhold at TLC, and following salbutamol. There were significant falls in PEF, MEF50 and FEV1 in the asthmatic group (5.8% fall in PEF) and in the normal group (10.3% in PEF).

Salbutamol diminished the fall, becoming nonsignificant in the normal group. The authors propose that the breathhold at TLC dissipated the visoelastic energy (increasing airway compliance) and decreased maximal expiratory flows in normal and asthmatic children. The findings of this study have important implications for the standardisation of expiratory manaeuvres during lung function measurement.

A portable device based on the interrupter technique to measure bronchodilator response in children. P D Bridge, H Lee, M Silverman. Eur Respir J 1996; 9, 1368–1373.

And Evaluation of a new interrupter device for measuring bronchial responsiveness and the response to bronchodilator in 3 year old children. S B Phagoo, N M Wilson, M Silverman. Eur Respir J 1996; 9, 1374–1380.

These two papers from the same group report on the performance of a new portable device for measuring airway resistance utilising the interrupter method (Microlab 4000; Micromedical Ltd UK). It was compared with measurements of FEV1, PEF and with total respiratory system resistance using the forced oscillatoin technique before and after salbutamol in 25 asthmatic school children. Its repeatability was examined, and its response to methacholine challenge and salbutamol assessed against falls in transcutaneous O2 in the 2nd study with 12 wheezy children (age 3 years). The authors found the device was well tolerated and the technique simple to perform. In terms of detecting a bronchodilator response the device was as sensitive as spirometry and the forced oscillation technique. It was more reliable at detecting bronchodilator responses than induced bronchoconstriction in the 3 year olds, the transcutaneous O2 measurment was a more reliable indirect method of assessing induced airway obstruction. The authors suggest some modifications to the device and conclude it could be of particular value in those too young to perform spirometry.

A comparison of the clinical efficacy and patient acceptability of terbutaline turbohaler and salbutamol rotahaler in adult

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turbohaler and salbutamol rotahaler in adult patients with asthma. D Gioulekas et al Respiratory Medicine 1996; 90, 205–209.

This was an open randomised cross-over study in which 32 adult asthmatics used either terbutaline turbohaler or salbutamol rotahaler for three weeks. Terbutaline was found to be significantly more effective than salbutamol from the rotahaler for this group of patients with mild to moderate asthma. 44% of the patients preferred turbutaline from the turbohaler, and only 16% preferred salbutamol from the rotahaler.

Potential effects of correction of inaccuracies of the mini-Wright peak expiratory flow meter on the use of an asthma self management plan. JF Miles, W Tunnicliffe, RM Cayton, JG Ayres, MR Miller. Thorax 1996; 51: 403–406.

Patient self management plans for asthma use PEF readings for decisions on adjusting asthma treatment. PEF meters have been shown to be inaccurate and in this paper the effect of this inaccuracy on such treatment plans have been determined. The authors concluded that the uncorrected PEF data underestimated the severity of asthma.