Inspire

The Official Journal of The Association of Respiratory Technicians and Physiologists

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Reg. Charity No. 2900907

FIRST WORD

Well the 25th Anniversary Conference is all over, and what a conference it was ! With over 200 ARTP delegates, and over 400 attendees including company representatives, invited guests and speakers we celebrated the 25th conference in true style. Now we have reached a new conference standard we must work hard to maintain the momentum. All of us on the Executive Committee sincerely hope everyone found something of interest in the conference programme, and that all who attended the conference dinner had a thoroughly good time. The ARTP extends a grateful thank you to all the speakers who helped to make the conference a success, to the many sponsors and exhibitors, and to the staff of the ICC. As for your verdict on the conference, - we are in the process of analysing all the evaluation sheets and we will write a detailed report for the next edition of INSPIRE. The 25th AGM ushered in a new chairman for the ARTP - Dr Brendan Cooper, - we all wish him every success in the new post. At the same time we said goodbye, and a huge thank you, to Sue Hill after many years in the chairman's role. Sue will remain on the Executive Committee developing ARTP links with the European Respiratory Society and acting as the Association's spokesperson and advisor on a number of DOH committees examining the role of technicians and scientists in the NHS.

We are producing a record of the scientific sessions of the conference. After much debate we will print a separate booklet containing the transcripts, instead of binding these into INSPIRE. We feel a permanent and separate record of the event should be made. This should act as a useful information source and point of reference for current practices and thinking in most areas of respiratory physiology.

In this issue of INSPIRE our new chairman has an introductory word (or two); we re-visit 'profile of a department' with the spotlight on the Cardiorespiratory Department at the Kings Mill Hospital, Notts; there is an extended 'review of recent articles', including an appraisal of the European Respiratory Society paper on the standardisation of clinical exercise testing; Sue Charlesworth gives us her impressions of the winter BTS meeting; report from the 25th AGM and all the usual features including calendar, health and safety, charity news etc.....

Finally, I would like to welcome Jane Benson, from Rotherham District General, onto INSPIRE's editorial board. Jane joins as an associate editor and advertising manager. One of her first missions will be to 'encourage' people to submit articles to INSPIRE. So please make her job as easy as possible and send us your news, views and scientific reports for future editions of INSPIRE. The deadline for the summer edition is July 20th 1998.

Sue Revill
The Editor, INSPIRE
Department of Respiratory Medicine
Glenfield Hospital
Leicester LE3 9QP

Dates for your Diary

6th - 9th April 1998
Short Course for Advanced Respiratory Physiology
Coventry University

25th - 29th April 1998
ATS, Chicago

11th -15th May 1998
Short Course in Basic Respiratory Function
Queen Elizabeth Hospital, Birmingham.

14th - 15th May 1998
Exercise Testing
(Joint ARTP/BTS short course)
Glasgow

2nd - 3rd July 1998
BTS Summer Meeting
Edinburgh

14th - 18th September 1998
Short course for Advanced Respiratory Physiology
Coventry University

19th - 23rd September 1998
ERS, Geneva.

2 - 4th December 1998
BTS winter meeting
London

See page 7 for more details

Successful Candidates in the ARTP/BTS National Assessment

Congratulations to the successful candidates in the 1997 ARTP/BTS National Assessment

Adele Ajimati ***(Merit)***
Doncaster Royal Infirmary

Tracey Broom ***(Merit)***
Grimsby District General

Susan Charlesworth ***(Merit)***
Rotherham General Infirmary

Adrian Fineberg ***(Merit)***
Papworth Hospital

Sharon Sibblies
Birmingham Chest Clinic

Lisa Rogers ***(Merit and the Sally Gough Award)***
Derbyshire Royal Infirmary

Jodie Carter ***(Merit)***
Queen Elizabeth Birmingham

Darren Murray
Addenbrookes NHS Trust

Leanne Barnard ***(Merit)***
Stoke City General

Donna Rutherford
East Kilbride Hospital

Steven Haire
Cartnavel General Hospital, Glasgow

WORK EXCHANGE - IN AUSTRALIA

Louise Roberts, chief clinical scientific officer in the Lung Function Laboratory, Queens Medical Centre, Nottingham, is undertaking a job swap with a counterpart in Brisbane, Australia. The exchange, for one year, has been set up by Louise after contacting our sister association down-under - The Australia and New Zealand Society of Respiratory Scientists (ANZSRS).

If any member of the ARTP is interested in a similar job swap to Australia, please contact me (The Editor, Sue Revill) for further details. I already have information from a respiratory technician in Sydney who is keen to come to the U.K. The work would be at St George's Hospital which is just 15 minutes drive from the city centre, 10 minutes to the Southern Beaches and 2 minutes from Botany Bay. The Hospital is a large teaching hospital attached to the University of New South Wales. The Respiratory Department performs a wide range of investigations and has a regular involvement with the Sleep and Respiratory Failure Unit. .....Interested. Contact me ASAP for more details:-

Sue Revill, Dept of Respiratory Medicine, Glenfield Hospital, Leicester LE3 9QP.

Occasional series . . .

Profile Of A Department

In this occasional series INSPIRE will feature the staff and work of a Respiratory Function Department.

The Cardiorespiratory Department, Kings Mill Centre, Sutton-in-Ashfield, Nottinghamshire.

Left to right (front row): Jan Fawcett, Lynne Knowles, Sue Easom, Sean Tilbrook.

Left to right (back row): Dawn Nix, Sue Manton, Judy Peel, Julie Harrison, Sarah Taylor.

Back in 1990 Lynne Knowles took on the job of Chief Technician at the Kings Mill Hospital, with a brief to expand and develop the run-down lung function services at this medium sized District General in North Notts. Over the past 7 years both the respiratory service and the Hospital has grown in size so it now fights it's corner with the two 'big brother hospitals' in the county of Nottinghamshire. Back in 1990 there were just three qualified technicians for both cardiac and respiratory services, and 6 ECG technicians - all cramped into one room. In 1998 there is a total of 16 staff, and two vacancies for student or recently qualified clinical scientific officers (CSO). There are 10 CSOs, 4 ATOs, and 2 administrative staff. You will be relieved to hear the staff are not still cramped into one room. A new department was built in 1990, and in 1996 this received an extension of 4 extra rooms. There are 2 exercise rooms, a cardiovascular investigation room, staff and reporting office, meeting room, Echo lab, lung function lab, 24 hour tape lab and a pacing office.

The emphasis is on delivery of a quality service and an on-going commitment to staff training and development. All CSOs undergo in-service training in addition to college based study for the requirements of OTEC and HTEC qualifications. As this remains a committed combined department all CSOs undertake both ARTP and ASCT professional assessments, and scientific officers rotate through both cardiac and respiratory work up to MTO grade 3. A new innovation for the department will be the development of personal professional development programmes. These will ensure continuing professional development and updating of skills and knowledge. Lynne anticipates the service will continue to grow with an increase in patient numbers year on year. There are proposals for two new consultant posts to add to the current establishment of two respiratory and two cardiac consultants.

The range of investigations offered by the lung function service include the mainstay tests such as measurement of lung volumes and transfer factor and reversibility testing. The service also offers a range of exercise tests including full cardiorespiratory disclosure with measurement of maximum oxygen consumption and ventilation, exercise induced asthma tests, field walk tests such as the 6 and 12 minute walk tests and the shuttle walk test. The department provides sleep studies and domiciliary inspiratory pressure support, and has recently piloted a ventilator/CPAP clinic. The department has always offered a capillary blood gas service. Other investigations include: saccharin test for timed nasal mucociliary clearance; monthly home spirometry monitoring for asthma using the Vitalograph 2120 with memory download every fortnight; and mouthpressures. The service is actively involved with the assessments for the Hospital pulmonary rehabilitation programme, and also provides H&S spirometry screening for local industry. The department is involved with education to other health care workers especially concerning measurement of spirometry.

On the cardiac side of the business, under the managerial auspices of Julie Harrison, the department provides ECG, Echo, isotope exercise, ECG exercise testing, ambulatory BP and 24 hour tape services. In addition a cardiovascular measurement service has been developed and is moving from strength to strength along with pacing implants and follow-up.

The department is committed to keeping abreast of new developments and fully endorses staff attendance at local and national scientific meetings and conferences. Where possible staff are encouraged to present summaries and debriefings from meetings they have attended. Standard operating procedures are in force and regularly updated. Lynne feels professional registration and national requirements for continuing education cannot come soon enough to the profession. And finally .....if anyone is interested in the current vacancies in the department they can contact Lynne on 01623 622515 ext 3670.

ARTP AGM CHAIRMAN REPORT 1997/98 - DR. SUE HILL, BIRMINGHAM

It gives me great pleasure to give this report at this historic conference at the 25th AGM of the Association. This was one of the reasons why the conference on Respiratory Measurement into the Millennium was chosen to start the celebrations of 25 years since the formation of the association.

Most of the activities of the Executive Committee this year have revolved around the planning and the organisation of the conference. As you can imagine from concept to end result in such a short time required enormous effort and diversion from some of our usual activities. One of the major decisions we took, however, when we decided to use the International Convention Centre in Birmingham as a venue was to use some of the ARTP funds to enable us to stage the event and to keep the delegate fee low. Until we analyse the completed evaluation forms we will not know if this is one of the main reasons why we had such an overwhelming response to the conference or if it was a combination of the reduced fee and the programme content. An important decision for the future will be whether the Association holds conferences such as this one. I personally feel that if we are going to change our identity with a new name to reflect the importance of Respiratory Measurement in our future health care system then we should be the organisation that stages high calibre events specifically related to this area.

Meetings

We were very pleased to have such a distinguished panel of nationally and internationally recognised leaders in the field as speakers and chairpeople at the 25th Anniversary Conference. In particular we were delighted that Dr. Flemming Madsen from Denmark presented in the Quality control session and that Neijse Verhey from Amsterdam and Felip Burgos (current officers of the Respiratory Technology and Measurement Group of the European Respiratory Society) co-chaired sessions. Our grateful thanks to all for their excellent contributions which stimulated much lively discussion and to all of you who have attended the event. We hope that you also enjoyed the social programme which included an excellent gala dinner with our guest speaker John Youngman providing many humorous anecdotes of what it is like living with obstructive sleep apnoea.

A very successful summer meeting was held at the University of Loughborough which preceded the BTS Summer Meeting and covered a range of topics. Our grateful thanks to Local Organiser, Sue Revill for working on this event with Pat Mitchell, our Meetings Organiser.

Forthcoming Meetings

We have an exciting new development this year when the BTS Summer Meeting (Edinburgh 2nd/3rd July 1998) will not only see the joint ARTP/ BTS Symposium on Assessing the Bronchodilator Response but parallel sessions on both days aimed at Technicians/Scientists in Respiratory Physiology, Physiotherapists and Nurses. A comprehensive range of topics will be covered in the parallel sessions. I would like to encourage you all to attend this meeting in the historic city of Edinburgh where we look forward to meeting many of our Scottish colleagues again. The full programme for the meeting will be circulated to you soon. Please start to apply for your study leave asap. We will evaluate the success of the parallel sessions and decide after the meeting whether we should continue this format for the future. It is obviously very helpful to the association that we link with the British Thoracic Society and it certainly helps to publicise our existence. It is also appropriate that we join forces with other health care professionals who are working in the field of Respiratory Medicine to demonstrate the multidisciplinary approach to the investigation, management and care of patients with respiratory disease.

We will probably move the Winter Meeting from its usual slot in November to early in the New Year, given the response we have had to the 25th Anniversary Conference. However, no venue or date for the next meeting has been set at present. We will keep you informed and hope that a preliminary announcement will be made in the next few months.

Industrial support

We are very grateful for the support from the commercial sector for the exhibition and for many other activities at the 25th Anniversary Conference. Without this support it would have been impossible to stage the event. It was a very impressive exhibition and comprehensive in its coverage of the area. We look forward to working together with our industrial partners over the forthcoming year, in particular through the Manufacturers Liaison Committee and addressing issues not only relating to the education and training of staff but also the standardisation of lung function measurements.

BTS/ARTP Liaison Committee

The Liaison Committee has been busy over the last year and there are a number of news items to report. At the 1997 BTS Summer Meeting a very successful ARTP/BTS joint symposium on New Technologies in Respiratory Physiology was held. We are grateful to our speakers, Professor John Moxham, (London), Dr. Dominic McLeod (London) and Angela Evans, (Stoke-on-Trent) for making it such an excellent session which was enjoyed by all. A Nasal Ventilation and Sleep Short Course was run once again in Stoke-on-Trent and was extremely successful. A number of other short joint courses are planned for the forthcoming year including Clinical Exercise Testing in Glasgow in May and Interpretation of Lung Function Test in Birmingham in June.

We are currently updating the lung function guidelines published in 1994 and also looking to extend guidelines for the range of lung function investigations that are performed. We are trying to resolve issues relating to when ATPS and BTPS conversion factors should be used with different equipment, when and how ethnic predicted equations should be applied and if there is a national consensus on which paediatric predicted equations should be used. We will continue to work through the liaison committee with manufacturers on the production of a generic lung function reporting sheet and also on a suggested format for recording serial lung function data.

Our major activity this year, however, has been the development of a joint ARTP/BTS National Assessment in Spirometry. This is aimed at anyone in health care (primary or secondary) who are performing basic spirometric measurements and assessing the response to short acting bronchodilators. This has been precipitated by the publication of the COPD guidelines which outline the requirement for the measurement of forced expiratory volumes. A format for the national assessment is currently being devised and will include a necessity for the formation of training centres who can deliver practical sessions on how to perform spirometry to national guidelines as well as delivering the necessary underpinning knowledge. We are currently preparing guidelines for the criteria for training centres who will require the approval of the ARTP/BTS Liaison Committee. After candidates have completed the training course they will be expected to complete a portfolio together with assignments before being examined for the national assessment. We hope that several laboratories around the country will look towards becoming a training centre and please watch this space for further information.

Clinical Scientists

We continue to work on the development of a supporting MSc for newly qualified graduates who enter the training grade for clinical scientists. Through the Conference of Clinical Scientists Organisations we have commented on several national documents particularly relating to the purchase of Clinical Scientist Education and Training, the registration of clinical scientists in the newly formed Health Council and the Dearing report on higher education. A full update on our current position regarding clinical scientists in Respiratory Medicine will appear in future issues of Inspire.

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European Respiratory Society

At the European Respiratory Society annual congress in Berlin, Brendan Cooper spoke in the Postgraduate Course on Aerosols in the assessment of respiratory disease on Assessing the Bronchodilator response and a variety of ARTP members presented abstracts. We hope that ARTP members will continue to have a high profile in both the congresses and the Assemby. We hope that a number of you have decided to submit abstracts to the 1998 congress in Geneva. An Allen & Hanbury Travel Fellowship is available to people who would like to attend the meeting and this may be supplemented by a further fellowship from Erich Jaeger. We are working together on an initiative with Niejse Verhey from Amsterdam (Chairman Group 9.1) to look at standardisation of lung function in different countries.

Other national news

Over the last year we have responded to the document relating to the re-draft of the Profession Supplementary to Medicine act and have reiterated the case for involvement of respiratory technicians and scientists. This is an ongoing item which relates to state registration which we hope to address over the forthcoming year. Over the next year we will see the formation of a physiological measurement forum by the Department of Health to try to bring together all the disciplines in physiological measurements in a similar way to what FAMT achieved many years ago but to address the many important issues for physiological measurement in the future health care system. There is also a project that will shortly be undertaken on behalf of the NHS executive to look at the feasibility of developing an occupational standards framework for scientists and technicians working in the NHS. As part of this project the key roles and functions of the whole scientific and technical work force in the NHS will be mapped together with existing qualifications and career pathways. This will be performed before investigating the feasibly of developing an occupational standards framework for scientists and technicians. This is crucial for the development of physiological measurement within the NHS and we will see the profession well and truly recognised. This will probably not be on a par with other groups in the NHS, providing very similar functions, which will need to be addressed.

I have been asked to sit on this consortium together with Jocelyn Germain from the Institute of Biomedical Science, Dr. Graham Beastal the Chairman of the Conference of Clinical Scientist Organisations and Philip Griffiths from the Institute of Physical Science representing Medical Physicists and also Medical Physics Technicians. This project will be starting in April and is due to report to the NHS Executive in October so watch this space.

ARTP Survey

A summary of the survey of in lung function laboratories was published in the BTS News and Brendan Cooper gave a spoken presentation on the outcome of this questionnaire at the BTS Winter Meeting. This was very important information to generate and will be very useful for the future.

Bursaries

It is disappointing to report that due to a lack of submissions from the membership that Devilbiss have withdrawn their support. This is something that we were very keen to develop with our industrial colleagues and we will continue to look at ways in which we could offer such financial support. A questionnaire relating to the bursaries will be circulated very soon and we hope you will complete this so that we know if this is something that should be pursued or not.

Membership

As detailed elsewhere in this issues membership fees as agreed at the AGM by the membership will increase slightly in May to ensure we cover the expenses committed by the Association over a year relating to membership. The membership has increased dramatically following the advertisement of the 25th Anniversary Conference and we hope that this will continue over the forthcoming year. Our grateful thanks to Steve Scholey and the staff in Pontefract who continue to do such a excellent job and are responsible for all membership issues and for circulating information.

Inspire

Inspire continues to produce 2 issues per year but hopefully this will be extended over the next year. We are also hoping to provide our editor Sue Revill with editorial support particularly in helping to get more money and support in the form of advertising. Sue Revill is always grateful for any copy to be published in Inspire. We will be publishing the 25th Anniversary Conference proceedings in a separate publication so await your copy. Our grateful thanks to Sue Revill, however, for continuing to do such an excellent job.

Treasurer

I would like to thank Julie Lloyd for keeping our financial accounts in healthy order and a logical manner. Unfortunately the costs of the 25th Anniversary Conference means the books will not look so healthy next year so apologies in advance.

Education

During the last year Sue Revill has resigned as Education Chairmen and this role has been taken over by Evelyn Smith. Thanks to both Sue and Evelyn for their support of this activity in the association.

ARTP National Assessment

Once again there were a number of successful candidates in this years National Assessment which will be detailed separately in this issue. There was an increase in the number of candidates registered and we therefore express our grateful thanks to all candidates and assessors for their continued support of this professional examination. We were delighted that Sally Gough presented the Sally Gough Book Prize for the outstanding performance in the National Assessment and also the certificates to all successful candidates.

Academic/training courses

The BTEC HNC option in Respiratory Physiology continues at Coventry University and is running successfully. Following the launch of the BSC in 1996 in Clinical Science at NESCOT we now have 3 students who are pursuing this course. We hope to explore over the forthcoming year ways in which the length could be shortened for people who have already obtained a HNC and also for people who have obtained a BTEC National Certificate in MPPM.

The revised NVQ Level 3 standards in Physiological Measurement (Respiratory Physiological) have been approved and these will be available soon.

ARTP Short Course

The Short Course to provide the underpinning knowledge and practical skills for the National Assessment was held again in Birmingham, and was well attended. This will be repeated in May 1998 so apply for details now.

Practical Guide

This is currently in final draft form and was on show at the 25th Anniversary Conference where several orders were taken. Unfortunately someone stole one of the copies which also contained a list of orders. We would be very grateful to receive this document back. If the person who removed it reads this report please send it back anonymously. We hope to have the final version available in the very near future. I would like to finish by thanking all of the Executive Committee for their hard work in all their different roles this year. With the 25th Anniversary Conference we have had a very different year but one with much comaraderie and team spirit. At this meeting I am stepping down from my role as chairmen which I have held on and off since 1983. It has been an experience to see the Association grow and to become a leader in defining the standards of education and training for staff, and for Respiratory measurement in general, and to see the Association mostly definitely accepted and established as the reference point for issues relating to Respiratory Measurement. I am not disappearing from the Association but will be concentrating my efforts on some of the National issues that require considerable time and effort. My time as Chairman has given me much to reflect on, there have been many humorous times and I have made many long lasting friendships. I am pleased to be handing over to a successor (Brendan Cooper) who has much to offer to the Association and who has the aims and objectives of the Association most clearly in his thoughts.

CHAIRMAN'S LETTER TO THE ARTP MEMBERSHIP

Dear Members,

Firstly, may I thank all of you who participated in electing me Chairman of the Association at this vibrant and exciting time in its history. I am delighted and honoured to have been selected to represent colleagues nationally and to uphold the aims and traditions of the ARTP. I intend to give you my best efforts throughout my period of office.

I take on the Chair from Sue Hill who has been the longest serving Chair, and who during her very active time in office moved the Association from its early beginnings to the highly respected and authoritative position in respiratory measurement in the UK that it enjoys today. I would like to acknowledge here the gratitude of the Executive Committee, the membership and everyone in respiratory measurement who have gained benefit from the tremendous work Sue has done. Fortunately, Sue will remain a part of the Executive Committee as Past Chairman, to provide continuity, experience, and in and advisory role for the challenges ahead.

Indeed it was very much Sue's driving force that made the recent 25th Anniversary Conference such a tremendous success. It was without doubt the best meeting ever for the ARTP in terms of content, speakers, organisation, attendance, manufacturers exhibition and entertainment! I hope all of you who attended enjoyed the event and appreciated what a watershed this occasion was. The ARTP Winter meeting is now firmly established as a major respiratory physiology meeting - and will provide an important platform for the presentation, discussion and networking point for all health professionals involved in clinical respiratory physiological measurement.

As Chairman, I have already outlined our objectives with the Executive Committee for 1998 and beyond. The biggest issues include (i) updating the Constitution, (ii) reviewing our organisation(iii) obtaining state registration for practitioners and accreditation of laboratories, (iv) developing better communications with the membership, and (v) strengthening our links with the BTS and ERS. However, we will continue to provide the best bits of what we have already established, high standards of training and education, more practical guidelines together with standardisation and a resource of knowledge and expertise for members, manufacturers and other healthcare professionals to draw upon.

Being Chairman will be made so much easier for me by the excellent team I have to work with on the Executive Committee. You will undoubtably work with them yourselves and will appreciate why the ARTP is going from strength to strength. We endeavour to serve you as best we can - but please bear in mind that we each have to run our own busy departments!

My job as your Chairman can only be as good as the support I receive from all of you as members. Your enthusiasm, opinions, concerns, support, involvement and contribution are essential not only for sake of the Association, but are essential for me to take forward our policies and objectives. I appeal to each of you to contribute to the ARTP with your time and effort; be they articles for Inspire, letters to the committee, attendance at meetings, or comments on discussion documents. If we don't work together to support the cause of excellent respiratory measurement - nobody else will!

Best wishes for 1998 and - into the Millenium!

Dr Brendan G Cooper
Chairman Elect of the ARTP.

• CHARITY NEWS •

NATIONAL ASTHMA CAMPAIGN

London H/Q tel no for enquiries or leaflets 0171 226 2260
June 6 - 14th **Bike for Breath**
June 14 - 20th **Midsummer stroll** (aim to walk at least 1 mile a day for 7 days representing the 1 in 7 UK children who suffer with asthma).

Take part in either one of these events (or both) and raise money for the NAC. If you would like to raise money or organise a bike ride, or a stroll, the details and an organisers pack may be obtained from the NAC (tel: 0171 226 2260).

During the 1st week of October the Great British sponsored swim takes place at most local pools throughout the UK. This will be the 10th year of this event so give it an extra boost on its anniversary and take part in a sponsored swim in your area (more details from the NAC).

BRITISH LUNG FOUNDATION

Breathe Easy Week 30th - 7th June 1998

Patron for the week: Sue Barker

The theme for the week will be climbing Mount Everest ! It is 29, 029 ft (5.5 miles or 56,052 steps) to the top. The week will feature absailing events (in Newcastle, and in London, down the front of St Barts Hospital), climbing civic monuments (with permission !), 5.5 mile sponsored walks, step marathons at local sports/leisure centres (all 56,052 of them), and a host of other feats representing the climb up to the top of Everest.

If you would like to participate or organise an event in your area please contact Nicola Prehn at the BLF London office on 0171 831 5831.

Calendar of Forthcoming Events

6 - 9 April 1998
Short Course in Advanced Respiratory Physiology
(incorporating the HTEC Specialist Option)
Coventry University
Topics include: Exercise testing and interpretation; respiratory control mechanisms, sleep apnoea assessment and management, inhalation therapy.
FEE:- **£150** for week (or **£30 /day**)
10% reduction for ARTP members
Quote ARTP membership number on application form.
Contact Sue Revill for application form on 0116 2563652

25th - 29th April 1998
American Thoracic Society Conference
Chicago, USA

11-15 May 1998
Short course in Basic Respiratory Function Measurement
Queen Elizabeth Hospital, Birmingham
This course is essential for candidates taking the ARTP/BTS National Assessment, and forms an excellent basis for scientific officers just entering the profession. Topics include basic anatomy and physiology, measurement techniques and principles, types of equipment, infection and quality control. Covers all the basic lung function measurements (spirometry, lung volumes, transfer factor, flow volume loops etc.).
ARTP members £100 (full course) £30 per day.
Non-members £125 (full), £35 / day.
Contact Joanna Harrison, Lung Investigation Unit, Nuffield House, QE Hospital, Edgbaston, B15 2TH.

14- 15 May 1998
Exercise Testing
Joint ARTP/BTS short course
Glasgow
Contact Roger Carter for details tel:0141 211 5462

2-3rd June 1998 (preliminary date)
Joint ARTP/BTS course
Interpretation of Lung Function
Queen Elizabeth Hospital, Birmingham
Details to follow

2 - 3 July 1998
British Thoracic Society Summer Meeting
Edinburgh
Incorporating the ARTP/BTS joint symposium
Topic: Assessing the Bronchodilator Response
In addition there will be 8 parallel sessions in the main programme for technicians, clinical scientists, physiotherapists and respiratory nurses.

15th-17th July 1998
International Meeting for COPD
(covering all aspects of assessment and clinical management)
Birmingham ICC
Reduced fee for non-medical delegates and ERS members
Contact Sue Hill, tel: 0121 627 2088

14 - 18 September 1998
Short Course in Advanced Respiratory Physiology (week 2)
Coventry University
Topics:- Bronchial challenge and skin testing, Gas transfer and measurement of lung volumes, respiratory muscle measurement and flow-volume loops, invasive and non-invasive blood gas measurement. Respiratory and cell physiology.
FEE:- **£150** for week (or **£30** /day)
10% reduction for ARTP members.
Quote ARTP membership number on application form.
Contact Sue Revill for application form on 0116 2563652

19th - 23rd September 1998
ERS Annual Congress
Geneva, Switzerland.
Allen and Hanbury travel bursary available (contact Sue Hill, QE Hospital, Edgbaston).
Conference information from ERS office
Tel: Switzerland 41 21 617 2868
Fax: Switzerland 41 21 617 28 65

2 - 4th December 1998
BTS Winter Meeting
QE II Conference Centre
London
Tel: 0171 831 8778 for more details

HEALTH & SAFETY NEWS

The H&S Executive has issued Chemical Hazard Alert Notices (CHANs) for 8 substances, which cause the most serious risks, such as cancer and occupational asthma, and for which it has been unable to identify a safe level of exposure. The working group on the Assessment of Toxic Chemicals (WATCH) judged that the criteria for an occupational exposure standard (OES) - at which there will be no ill health if workers were exposed on a daily basis - can no longer be met for: aniline; bromoethane; 3-chloropropene; alpha-chloro-toluene; 1,2, diaminoethane; **glutaraldehyde**; 2-furaldehyde; and, phenylhydrazine.

The CHANs urge employers, safety reps, users and suppliers to put in place appropriate risk management strategies in advance of the Advisory Committee on Toxic Substances (ACTS)setting maximum exposure limits (MELs). MELs have already been recommended for aniline and glutaraldehyde, with implementation due in January 1999, and ACTS will consider setting MELs for the others.

Copies of these CHANs are available free of charge from: Health Directorate, 6th Floor, South Wing, Rose Court, 2 Southwark Bridge, LONDON SE1 9HS (tel: 0171 717 6181).

The H&S Executive have published criteria documents in its EH65 series of scientific reviews of all available information relevant to setting occupational exposure limits. Copies of glutaraldehyde (EH65/32) are available for £10 from HSE Books, PO Box 1999, Sudbury Suffolk, CO10 6FS (tel: 01787 881165).

MEMBERSHIP UPDATE

A report from membership secretary Steve Scholey

Total number of current members 384.

FEES: Following the 1998 AGM membership fees will increase as from May 1st 1998.

FULL:	£25
Student:	£15
Corporate:	£45

The fees for departmental membership will be calculated on a sliding scale depending on the number of members in the department.

Following requests from departmental members we are increasing the number of copies of INSPIRE sent out to departments, up to a total of 3 (depending on the number of members in the department).

TIMELY REMINDER:
DON'T FORGET TO RENEW YOUR ARTP MEMBERSHIP ON 1ST MAY 1998

Enquiries to:
Steve Scholey, ARTP Membership Secretary, Chest Unit, General Hospital, Pontefract, West Yorkshire, WF8 1PL.

IMAGES OF THE ARTP 25th A
ICC BIRMINGHAM 2

Part of the ARTP Organising Committee.
Left to right: Evelyn Smith, Brendan Cooper, Pat Mitchell, Steve Scholey, Sue Hill, Roger Carter, Jane Benson.

Before the rush –
One half of the exhibition area.

Sue Hill (centre) with guests Felip Burgos (Spain) and Niesje Verhay (Netherlands).

Left to right:
Dave Baldwin, Adrian Kendrick, Sherwood Burge.

NNIVERSARY CONFERENCE
nd-24th JANUARY 1998

STAND UP AND IDENTIFY YOURSELVES!

In these pictures there are some delegates we recognise and some we don't – so we'll leave you to fill in the captions!

"ON THE BLOWER" – Manufacturers News

1. Talk Titles

At one of the Executive Committee planning meetings for the 25th Anniversary Meeting, the Chairman asked for suggestions for "sexier" titles for the talks. In the spirit of the BBC Radio 4's I'm Sorry I Haven't A Clue, the following suggestions have been made for films to be shown to an ARTP/BTS Film Festival:

9½ Leaks - a tale of erotic, passionate but accurate calibration

Last Techno in Paris - the story of a Frenchman, his obsession and a calibration syringe!

Breath Wish - a madman decides to measure the lung volumes of his victims as part of an epidemiological study.

The Terminator - Arnie Schwartzenegger stars in the lead role as an MTO2 let loose in a Health Care of the Elderly ward with the intention of getting maximum results!!

Four Spirometries and a Funeral - the same technician is moved to a terminal care ward!

The English Patient - set in WW1, a prisoner of war faces waiting lists for full tests of over 8 weeks, three cancelled elective admissions, and a refusal by his Health Authority to pay for treatment.

Dr NO - it's not a film really.....it was just a bit of sexual harrassment!

Mission Impossible - a crack team of senior chiefs try to get money for new equipment out of their local Health Authority.

The Elephant (& Castle) Man - Frank Dobson overcomes tremendous hatred, suspicion, revulsion, isolation and loathing as he settles in to his new job as Minister for Health.

The Lung Goodbye - a story of emphysema, asthma and chronic bronchitis.

The Hunchbacks of Notre Dame - an every day story of a Parisian Kyphoscoliosis Clinic

Close Encounters of the Third Kind - repeated blows in spirometry are essential for reliable results!!

Breathless in Seattle - Dyspnoea at the ATS.

Gone with the Wind - a patient miscoordinates their final peakflow measurement.

101 Expirations - spirometry on a Monday morning asthma clinic.

Some Like it Hot - to heat the pneumotachograph or not. A conversion factor dilemma!

Further suggestions would be gratefully received.

2. Trade Stand

Pharmaceuticals

It has been a bit slow getting information from drug companies recently. The drugs that have registered in my brain at the moment are Oxis turbohaler from Astra and the dry powder Clickhaler from Evans. They are both examples of the "fine tuning" that the drug industry is investing in to get the optimal delivery of respiratory drugs.

Lung function equipment

SensorMedics in the U.K. has been taken over/ bought out/ amalgamated with/ gone into partnership with/sold out to EME, the ventilator people from Bournemouth. The tempting carrot was their very successful oscillator ventilator which sells in the the U.S.A. and Europe in big numbers to ICU departments. Many of you will be aware that Kevin Budd, their sales manager for many years, left the company in September.

Some fabulous technical presentations at the ERS in Berlin included an excellent comparison of the P.K.Morgan Transflow system for measuring lung volumes by nitrogen wash-in against helium dilution and body plethysmography and a superb comparison of hand held spirometers.

The Transflow comparison from Cliff et al. at North Staffs Hospital, U.K. showed the errors of using the new system in patients with airflow obstruction. It is clear from this study that the system should not be used as an accurate and reliable lung volume measuring system for this patients group.

The spirometer comparison from Uijl et al at Nijmegen, Netherlands compared the following 8 machines: OneFlow, AirWatch, Spiromed, Vitalograph 2120, MicroPlus, Vitalograph 2110, Asthma Monitor, VM1. Overall, the **OneFlow from STI Plastics**, [Zone Industrielle, 38160 Beauvoir en Royans, B.P. 7, F-38160 Saint-Romans, France](available in the U.K. through Ferraris) won overall by a system of weighted scoring including compatibility with ATS recommendations. The work was also presented at the ARTP 25th Anniversary Meeting in Birmingham in January 1998. The related paper makes very interesting reading - a comparitive approach which needs repeating on many sets of lung function and sleep related equipment! Manufacturers and HTEC students please note!!

A fascinating new technology for lung function labs is the amazing **Spiroson Ultrsound Spirometer** [ndd Medizintechnik GmbH, Postfach 53 43, D-97003 Wurtzburg, Germany]. This clever device uses ultrasound transit time analysis and is accurate for flow and volume determination (better than 2%). Other advantages include, hygeine, no resistance, independent of gas composition, humidity and temperature, easy to use and apparently no need for calibration (?). The basic system has been ATS test rig evaluated, and allegedly tested against conventional equipment. The manufacturer's data shows some very impressive but fairly incomprehensible equations. This looks like the beginnings of a new and exciting technology. I'll keep you posted.

VacuMed (Ventura, California, USA on FAX: (805) 654 8759) offer an exercise bike calibrator - the VacuMed model 17800 Ergometer Calibrator which calibrates upto 600W. I seem to remember a price tag of around $1000 - so it would be prohibitive for most hospitals. However, I believe that the major exercise system manufacturers should offer a calibration service as either (i) part of their annual preventative maintenance or (ii) be as an option for at most £50. This would do wonders for improved standardisation and quality control nationally. Are any manufacturers takers?

Full Test Systems

I have often referred to the "big four" major lung function systems companies in the U.K. but failed to include a fifth, **Pulmolink** (Tel: 01233 713070 or Fax: 01233 713859) as the sole agents for the French Medisoft systems. They sell body boxes, spirometers and gas transfer systems, etc. as well as nebulisers, oximeters and capnometers at reasonable rates. Of course with **MedGraphics** (sold through CardioKinetics) pulling out of Europe that leaves it back as a "big four" again. This could also return to the "big five" if you include Collins Cybermedic. (I did hear a rumour that Collins were interested in selling through an agency in the U.K. - now that would be a very interesting development!) I have also received information from **CosMed** based in Rome, Italy (Fax:+39 (6) 931.4580) who do superb portable exercise systems as well as full testing lung function systems.

I receive many calls from people asking for advice on which full test system to buy. To be very honest, I have to say that no one

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company stands out as being a "best buy" (excluding those I haven't tried above). There is as yet no company that provides excellent hardware, software, cheap consumables and a good service back up. I see it as a role of the **ARTP** to provide information and awareness on the advantages and disadvantages of all the systems and let the buyer make a more educated choice. Incidentally, I am in the process or replacing our full test system, and contrary to the rumours put about by a certain manufacturer, I have not yet reached a final decision!

Globalisation

On a general note, the tendency towards globalisation - largely by US companies has seen more mergers and buyouts and the changing of company names. For example Sunrise Medical are the force behind DeVilbiss, Mallinkrodt are in the process of taking over Nellcor-Puritan-Bennett, who themselves have collected several companies in recent years. Ferraris are the parent company of Morgan, Case, Densa etc., and no doubt other deals are in the pipeline. The risk for all of us is that the lung function branches of these healthcare industries are a relatively small field with narrow profit margins. This will have the knock on effect of less competition, less choice and probably higher prices. The current price wars in CPAP machines, lung function kits and other equipment are part of a market pendulum which eventually swing back the other way!! I suppose the message is buy now .....if you have the money!

Sleep study and associated equipment

Since their takeover by EME, **SensorMedics** are continuing to sell their Windows '95 based SomnoStar system Alpha software. This offers a flexible way to design your own screen layouts and report formats. I've not tried it yet, but a Quick Test will appear in **Inspire** eventually. They continue to sell the Respitrace respiratory inductance plethysmography system.

Deva Medical Electronics Ltd. are agents for selling this innovative thick gel sealing gasket the "*Ultimate Seal*" (made by VacuMed in the USA) for nasal masks. This gel sandwich seems to last 2-3 weeks with a lot of care (avoid dust, dont get it wet) and costs around £6 for a pack of five. We find it particularly useful in patients on NIPPV who have facial muscle loss.

I have just tried out the **Fisher & Paykel** HC100 humidifier on one of our CPAP patients. It's cheaper than the Sullivan equivalent (about £200 excl VAT) and is very easy to use. It could be the solution for a problematic nasal CPAP patient.

Miscellaneous

Finally, the Manufacturer's stand at the 25th Anniversary meeting was the best the ARTP has ever seen with 33 companies present! The best stand prizes went to : 1st - Morgan Medical Ltd,
2nd (Joint) - BOC Gases & Pulmolink and 3rd - Evans Medical. Well done to all the companies who put in so much effort.

4. Complaints Database and WatchDog.

ARTP / P K Morgan Users Group

Despite ARTP Executive meeting for four 2- hour meetings in May, July and October and November, the software problems with Morgan's equipment in MDAS (Vers 3.08 and before) will not be fixed unless customers upgrade there own PCs to at least a 486 50MHz with 8 Mb RAM. The latest solution to the software program is an attempt to float an inherently dreadful DOS program on Windows '95. What do customers do who can't afford to upgrade to overcome what is essentially a Morgan software problem? Since we have taken up the cause of supporting ARTP membership who have Morgan equipment the company has had two management shake-ups and a number of first team transfers. It has been commented by one observer that PKM have more shake-ups than a Sloane Square Cocktail Bar! December saw the launch of this new "lifebelt" software - but I'm not sure many people will trust Morgan Medical to let them manipulate their valuable patient databases. The Executive will continue to meet with the company to get a better deal for our members.

When writing to the Complaints Database and WatchDog, please state

(i) exact dates,

(ii) names of people you dealt with and

(iii) state clearly your grievance.

Also, give a summary account of the history of your complaint (a maximum of one page of A4). There is no need to send photocopies of correspondance at this stage.

5. ARTP 25th Anniversary Meeting: Birmingham 22nd - 24th January 1998

Finally, our thanks to the following manufacturers for supporting the meeting. Please support them when you come to buy new or replace old equipment - and notice which companies are not present. If they don't support ARTP - will they support you?

3M
Air Safety
Allen & Handburys
Astra Pharmaceuticals
AVL Medical Instruments UK Ltd
BOC
Boehringer Ingelheim
CB Scientific*
Chiron Diagnostics Ltd
Clement Clarke International Ltd
Deva Medical Ltd
DeVilbiss HealthCare (UK) Ltd
Erich Jaeger (UK) Ltd
Evans Medical
Fisher & Paykel
Friday Medical
IMT Technologies Ltd
Instrumentation Laboratory
Intersurgical
Medic Aid
Micro Medical
Morgan Medical Ltd*
Nellcor Puritan Bennett UK Ltd
Nikon Kohden
Pari Medical
Protech Medical Ltd
Pulmolink
Radiometer Ltd
ResMed (UK) Ltd
Sensor Medics / EME
SLE Life Support
Stowood Scientific Instruments
Vitalograph Ltd

*N.B. These companies have still not paid their full registration at the time of going to press.

Once again, lung function departments and Manufacturers and Drug Companies - please continue to send me your news and views.

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.

A VIEW FROM THE B.T.S. WINTER MEETING

By Sue Charlesworth

(Cardio-Respiratory Dept., Rotherham District General)

In order to attend the B.T.S Winter Meeting, I needed to obtain funding outside of the Rotherham N.H.S. Trust, so tongue in cheek, here is the article which hopefully will qualify me for the bursary up for grabs.

I wanted to attend the Meeting for the following reasons:

1) To keep up with current topics and issues.

2) To look at new developments in respiratory medicine.

3) To see the latest equipment used in Lung Function laboratories.

4) As part of continuing education in my role as a technician.

Points of interest noted:

1) The lectures and symposiums were very informative, e.g. New therapies for respiratory diseases, BTS guidelines on interstitial lung disease, Asthma and the environment and Management of sleep apnoea were some of the lectures attended.

2) I found some excellent educational packs presented on CD by one of the equipment manufacturers, which would be ideal for technician training especially for A.R.T.P. national assessment students.

   The CDs are:
   a) Alveoli – The Gas Exchange Mechanism.
   b) Bronchial Responsiveness – which includes the airway structure, pre and post bronchodilator response, details of particle size and deposition of aerosols in the lung, and predicted equations for both paediatrics and adults.

3) The manufacturers exhibition was excellent, and they have endeavoured and succeeded in producing comprehensive brochures to back up their completely re-vamped equipment modules and software.

4) There are lots of new inhaler devices on the market which are more cosmetically acceptable, user friendly and CFC free, as well as being competitively priced between companies.

5) The poster presentations were very informative – especially the ones on Sleep Apnoea and Aerosol deposition in the lungs – and I picked up some useful tips to discuss with my colleagues.

6) The book display was also excellent – and I was able to view and suggest titles of several books which could be put to good use in our Lung Function Department.

7) The session on Lung Function Measurements was particularly relevant and reiterated the importance of standardising laboratory practice, testing techniques, and technician training following ARTP and BTS guidelines.

On a lighter note, here are a few tips for getting the most out of the BTS conference:–

- If you have a restricted budget, agree to share the hotel room with a colleague – but **not** the bed! as was expected when my colleague and I arrived at the hotel.
- Have a relaxing weekend before you go to the conference – once there the schedule is hectic.
- Plan your lectures and read the abstracts in advance – otherwise you may miss the sessions most relevant to you.
- Make sure you take your programme with you. Try and get there for the excellent Monday morning sessions if possible.
- If two people attend the conference, each can go to different sessions and make notes which may be exchanged later.
- Ensure that you visit the Manufacturer's Exhibition.

Finally, make sure you know the Spice Girls who had their movie premier in London that week, as we saw two of them leaving the Waldorf Hotel, but I failed to recognise "Posh Spice" Victoria – much to the consternation of my colleague!

I also "hoovered" up so many freebies at the Exhibition that I will no doubt save my impoverished Cardio-Respiratory department a few pounds in the coming year!

Many thanks to the ARTP for financial assistance, and to over-worked colleagues for providing technical cover whilst I attended the conference.

THE RELATIONSHIP BETWEEN CHANGES IN FEV_1 AND S_{GAW} FOLLOWING BRONCHODILATOR ADMINISTRATION

An Abstract submitted by Carter R and Banham SW
Department of Respiratory Medicine, Glasgow Royal Infirmary

PRESENTED TO THE SCOTTISH THORACIC SOCIETY
STIRLING ROYAL INFIRMARY, 28th NOVEMBER 1997

With the continuing discussion about the most appropriate way of expressing a bronchodilator response, we have retrospectively analysed the results of 150 patients (Mean age 54.2, range 17-78 years, 85 Males) who attended for the assessment of bronchodilator response from January 1997. All patients performed forced spirometry and specific airways conductance (S_{Gaw}) in a constant volume body plethysmograph (Sensormedics V6200, Yorba Linda, USA) which were repeated at 15 minutes post bronchodilator administration (Salbutamol MDI 3 puffs via Spacer). The patients selected for analysis all showed an increase in FEV_1 of >200 mls. Mean baseline FEV_1 was 1.48 (SD 0.54) litres; FEV_1 % predicted 51.9 (15.6), mean S_{Gaw} was 0.44 (0.20) $sec^{-1}kPa^{-1}$. There was a significant relationship between FEV_1 % predicted and baseline S_{Gaw} ($r = 0.72$ $p<0.001$). Following bronchodilator administration the response as assessed by the absolute change in FEV_1 (litres) and the absolute change in S_{Gaw} was highly significantly related ($r = 0.75$ $p<0.001$) as was absolute change in FEV_1 and percentage change in S_{Gaw} ($r= 0.71$ $p<0.001$). The minimum change in S_{Gaw} associated with a significant change in FEV_1 was 0.1sec. $^{-1}kPa^{-1}$ and 35%.

In a subgroup of 70 patients (Mean age 61.9, range 45-76 years, Mean FEV_1 0.96 (0.45) litres; FEV_1 % predicted 39.9 ± 13.4, S_{Gaw} 0.29 ± 0.26) who showed a change in FEV_1 of <200mls following bronchodilator administration there was a similar relationship between baseline % predicted FEV_1 and S_{Gaw} ($r = 0.69$ $p<0.001$). There was no relationship between the bronchodilator response as assessed by absolute change in FEV_1 and S_{Gaw} or percentage change in FEV_1 and percentage change in S_{Gaw}. However, 25 patients showed an increase in S_{Gaw} of more than 35% and 0.1 (range 36-229%, absolute change 0.1-0.84) in the absence of a significant change in FEV_1. These results suggest that S_{Gaw} may be a useful additional measurement assessing bronchodilator response in patients with COPD.

THE BAD NEWS . . .

With great reluctance **DeVilbiss** have withdrawn their international travel bursaries to ARTP members, for the time being. The Company have been very disappointed with the lack of response from ARTP members, as have the ARTP executive committee members. There has been very little interest in applying for these generous bursaries. We are not sure if the requirement to submit a report is putting people off. Alternatively, members may not be interested in travelling abroad to attend conferences, or possibly study leave will not be granted by the Head of Department. To find out why these bursaries have not been popular we will be circulating a questionnaire to ARTP members in an effort to gain more insight into the problem.

IN THE MEANTIME . . .

Allen & Hanburys (UK) have kindly agreed to sponsor a £500 annual travel fellowship for attendance to the ERS annual congress for the next five years. More information from Sue Hill, tel 0121 627 2088.

The BTS are still offering bursaries to ARTP members to attend either their winter or summer meeting. For information on the **BTS** bursary please write to our new bursary secretary:

Ms Jane Benson,
Cardiorespiratory Dept.,
Rotherham District General Hospital,
Rotherham
S60 2UD.

RECENT ARTICLES

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

SMOKING & LUNG FUNCTION

Parental smoking and lower respiratory illness in infancy and early childhood. Stratton DP, Cook DG. Thorax 1997; 52:905-914.

Passive smoking and lower respiratory illness in infancy and early childhood. Anderson HR, Cook DG. Thorax 1997; 52: 1003 - 1009.

The first of these two review articles shows the association between parental smoking and lower respiratory disease especially during the first 2 years of life. The second indicates the relationship between sudden infant death and exposure to tobacco smoke. There is a clear indication that both prenatal and postnatal exposure should be avoided.

SLEEP

Natural evolution of moderate sleep apnoea syndrome: significant progression over a mean of 17 months. Pendlebury ST, Pepin JL, Voale D, Levy P. Thorax 1997; 52: 872-878.

It is unclear whether obstructive sleep apnoea worsens with time. This study is a retrospective case study over a mean of 17 months. 55 patients with mild to moderate obstructive sleep apnoea were studied. All had full polysomnography on 2 occasions at least 4 months apart. It was concluded that mild to moderate sleep apnoea progressed in a majority of the patients in the absence of weight gain. Upper airway anatomy and respiratory function were not found to be useful in predicting which patients would get worse.

Daytime mechanical ventilation in chronic respiratory insufficiency. Schonhofer B et al. Eur Respir J 1997; 10:2840-2846.

Since chronic respiratory insufficiency is associated with nocturnal hypoventilation, treatment to relieve the symptoms (and improve daytime blood gases) is applied at night. Daytime mechanical ventilation was compared to nocturnal ventilation in 34 patients. The authors found the daytime application of NIPPV was equally effective as the nocturnal application for the improvement of daytime and nocturnal blood gases. However since the long term safety issues were not addressed the authors recommend the continuation of nocturnal application.

ASTHMA

What is the nature of asthma and where are the therapeutic targets ? Howarth PH. Respiratory Medicine 1997; 915A: 2-8.

This is brief review which examines the interpretation of the current methods of assessing asthma, details of the inflammatory process and discusses targets and actions of inhaled anti-asthmatic drugs in relationship to small and large airway events. The author concludes that in asthma there are abnormalities of both the large and small airways and the lungs. The standard tests of lung function are a poor guide to small airway disease and can therefore be easily overlooked.

LUNG FUNCTION

Pulmonary function after coronary artery bypass surgery. Vargos FS et al. Respiratory Medicine 1997; 91: 629-633.

Serial changes in FVC were monitored after CABG. The authors attempted to identify the factors which may influence the changes. In 120 patients the measurement was made daily pre and post-op for 10 days. The results showed that on the 10th day post-op the FVC was still 30% below the pre-op values.

Effect of alveolar volume on the interpretation of single breath DLCO. Frams et al. Respiratory Medicine 1997; 91: 263-273.

The authors have previously found that DLCO/VA is proportionally less decreased than DLCO in patients who have a restrictive pattern of pulmonary function. Conversely the opposite trend has been observed in patients with abnormally high alveolar volume. DLCO and DLCO/VA was measured in four groups and the results were expressed as a percentage of the normal values. 1) normal volunteers 2) patients with high VA 3) emphysematous patients 4) patients with diffuse ILD. They found that in the normals DLCO% increased and DLCO/VA% decreased with VA. In patients with overinflated lungs DLCO% was increased more than DLCO/VA%. DLCO% was found to be significantly more decreased than DLCO/VA% in those patients with a restrictive disorder. The authors conclude that in patients with restrictive disorder the predictive formulae for diffusion indices should be corrected. In practice it should be remembered that in these patients DLCO is underestimated and DLCO/VA is overestimated.

Evaluation of a pocket sized turbine spirometer for clinical use with children. Paul KP, Schultz T. Respiratory Medicine 1997; 91: 369-372.

A small, low cost, pocket sized turbine spirometer (Stimotrom Co, Germany) was evaluated. 275 patients and normal volunteers aged 4 - 18 yrs were studied. The portable spirometer was compared with a dry bellows wedge spirometer (Spiromat, Jeager). The turbine spirometer was found to give slightly higher values than the wedge bellows. This was more pronounced with increasing degrees of airway obstruction. The turbine spirometer did not have a graphical display so suboptimal efforts cannot be excluded. The authors recommend that the results from spirometers without displays have limitations, especially in patients with asthma.

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Incremental threshold loading: a standard protocol and establishment of a reference range in naive normal subjects. Johnson PH et al. Eur Respir J 1997; 10: 2868-2871.

This study describes a standardised protocol and the results of its application in 60 healthy volunteers. The authors established normal reference ranges for males and females, and after assessing the repeatability of the protocol in 12 subjects, state the test has a within-subject standard deviation of 5.4 cmH2O.

The birth and development of the forced expiratory manoeuvre: a tribute to Robert Tiffeneau (1910-1961). Yernault JC. Eur Respir J 1997; 10:2704-2710.

This is an historical note concerning the measurement of forced expiratory volumes. The article has a comprehensive list of early references charting the development of respiratory volume measurements. The author concludes that Tiffeneau, who first described the FEV1 (capacite pulmonaire utilisable a l'effort) in 1947, deserves to figure among the pioneers of respiratory medicine.

Lack of correlation between bronchoconstrictor response and bronchodilator response in a population-based study. Douma WR et al. Eur Respir J 1997; 10:2772-2777.

The aim of this study was to examine the relationship between bronchodilator and bronchoconstrictor responsiveness, and their supposed interchangeability, in a general population. 101 adults were recruited and cumulative dose response curves to histamine and to terbutaline were obtained. The values for the PC10 (concentration of histamine at which the FEV1 falls by 10%) and the RD10 (cumulative dose of inhaled terbutaline at which the FEV1 increases by 10%) were calculated. Subjects with a bronchoconstrictor response had more respiratory symptoms than those without and also lower baseline FEV1 values. Subjects with a bronchodilator response did not differ from those without for all parameters. The authors concluded that bronchoconstrictor and bronchodilator responsiveness are two different phenotypic markers that are not interchangeable in epidemiological studies.

COPD, REHABILITATION AND QUALITY OF LIFE MEASURES

Comparison of outcome measures for patients with chronic obstructive pulmonary disease (COPD) in an outpatient setting. Harper et al. Thorax 1997; 52: 879-887.

Four questionnaires were compared in 156 patients entered into the study: the Chronic Respiratory Disease Questionnaire; St George's Respiratory Questionnaire; the short form-36 Health Survey, and Euroqol classification of Health. The authors suggest that the optimum strategy in outcome measurement is to use a condition specific questionnaire together with a generic instrument i.e. the CRDQ and the short form-36, and the rating scale of the Euroqol should be used in COPD.

Outpatient rehabilitation improves activities of daily living, quality of life and exercise tolerance in chronic obstructive pulmonary disease. Bendstrup KE et al. Eur Respir J 1997; 10: 2801-2806.

The authors measured a range of outcomes following a randomised controlled trial of comprehensive outpatient pulmonary rehabilitation in moderate to severe COPD. There were significant increases in 6 minute walk distance, activities of daily living score and CRDQ for the intervention group (n=16). The authors emphasise their 12 week outpatient programme was economical (required an input of 124 staff hours) and well-tolerated. A positive effect was apparent after 6 weeks. Their programme contained all the elements recommended by the European Respiratory Society Task Force Position Paper on pulmonary rehabilitation (Eur Respir J 1997; 10:744-757), and additionally occupational therapy sessions, which they suggest may have been an important factor in the activities of daily living scores.

Peak exercise response in relation to tissue depletion in patients with chronic obstructive pulmonary disease. Baarends EM et al. Eur Respir J 1997; 10: 2807-2813.

The hypothesis tested by this study was muscle mass, as the largest constituent of both fat-free mass (FFM) and body cell mass, related to exercise capacity. Body composition and peak exercise capacity were measured in 62 patients with stable COPD. There were 26 patients with a depletion in FFM and 36 patients with no depletion in FFM. There were significant differences in a number of peak exercise measurements from the two groups (VO2peak, VE, peakVt, peak oxygen pulse etc). The authors found depletion of muscle mass significantly effects peak oxygen consumption, ventilatory response, the oxygen pulse and anaerobic energy metabolism in patients with COPD.

Exercise training in COPD patients: the basic questions. Gosselink R, Troosters T, Decramer M. Eur Respir J 1997; 10: 2884-2891.

In this review article the authors address 6 basic questions concerning the use of exercise training within pulmonary rehabilitation for patients with COPD. The issues include the significance of exercise training, the optimal intensity and exercise modality, the effects of training in combination with medication, nutrition or oxygen, maintenance programmes and finally the question of where the rehabilitation programme should be performed. Each point is considered briefly and logically with reference to the most recent and important research. Finally, in the conclusions, the authors present unequivocal statements for each question based on current knowledge.

Domilciliary nasal intermittent positive pressure ventilation in severe COPD: effects on lung function and quality of life. Perrin C et al. Eur Respir J 1997; 10: 2835-2839.

14 patients using NIPPV and long term oxygen were studied over a period of 6 months. The combination treatment was found to improve blood gases in spontaneous ventilation, in addition to QOL.

Clinical exercise testing with reference to lung diseases: indications, standardization and interpretation strategies

ERS Task Force on standardization of clinical exercise testing. Co-chairmen: J Roca and BJ Whipp

Eur Respir J 1997; 10: 2662-2689

Appraisal by Sue Revill and Adrian Kendrick*,
Dept of Respiratory Medicine,
Glenfield Hospital, Leicester,
***Respiratory Function Department,**
Bristol Royal Infirmary.

This is the position document of the European Respiratory Society on clinical exercise testing. The task force of 17 members was endorsed by the Clinical Physiology Assembly and the Clinical Assembly of the ERS. The document has seven sections including a detailed appendix which covers units (SI), definitions and calculations.

The first section - Responses to exercise in lung disease - is a concise overview of the changes in a number of exercise indices associated with a range of lung diseases. Since the purpose of the document is to present a consensus view on the concept and practical application of exercise testing the reader should not be too disappointed with the lack of diagrams and explanation in this section. There are a number of well established textbooks which deal with the pathophysiology in greater depth. The second section - Indications - highlights the scope of laboratory-based respiratory exercise testing.

In the third section protocols for diagnostic incremental cycle and treadmill tests are stated, and a detailed resume for the assessment of exercise-induced asthma is given (including the method of reporting, and safety issues). The protocol recommended for the EIA test relies on the measurement of VE to control the intensity of the exercise challenge. Although this represents ideal, best practice, no guidelines are offered for an alternative test where the measurement of VE is unavailable. The interpretation of the EIA test in patients using inhaled steroids is not indicated. The incremental protocols are suitable for a sedentary and unfit population. A suitable test for fitter individuals, and athletes (often referred with unexplained dyspnoea or loss of form), is not considered. Although constant workrate, submaximal tests are discussed in this section, no protocol or details of testing are given. They are considered only in terms of evaluating the time course of the cardiorespiratory adjustment to exercise, use in the prescription of exercise and oxygen supplementation, with no recommendations. There is no mention of the use of constant, submaximal tests for the evaluation of endurance capacity.

Section 4 - Equipment and quality control programme. This is the longest section of the paper, and presents the minimum equipment requirements for full respiratory exercise testing. It describes and identifies advantages and disadvantages of different types of measuring systems. There is no mention here of transcutaneous blood gas monitoring, which can provide a non-invasive guide to change, provided the exercise protocol is appropriate to the response time of the system. It advises on an acceptable, though costly, quality control programme, requiring a number of different gas calibration cylinders. It states that QC using a biological control is advisable. There is no mention of infection control procedures.

Section 5 - Personnel and testing procedures - describes patient preparation and safety considerations. The guidelines come down firmly on the side of the physician supervising the tests and interpreting results, something which may be questioned in the light of the changing role and qualifications required of the clinical scientific officer, and clinical scientist. Contra-indications and reasons for stopping the test prematurely are standard and similar to the Guidelines for Cardiac testing (American Heart Association, *Circulation* 1995).

Section 6 - Interpretative strategies. The paper describes a 'logical strategy' to approach the problem of interpretation and recommends 8 basic data plots. It also provides a useful table listing the patterns of abnormal response in a range of common conditions. There is valuable information on the reliability of some commonly used reference values, an issue which causes a great deal of uncertainty and may lead to misinterpretation. The paper recognises the need for an appropriate set of reference values and announces that the Task Force consider the establishment of a multicentre trial an important goal.

Section 7 - Appendix. This section provides a table for the comparison of traditional and SI units, and a list of definitions and abbreviations with appropriate equations. Finally the paper includes a comprehensive reference section.

In the introduction the authors stated one of their goals was to produce a relatively reader friendly document. They have achieved this in some sections, but not consistently throughout the document. The obvious omissions from the paper are the use of field tests, and their role in the assessment of the respiratory patient. Field tests are increasingly used, and may become more pertinent with the availability of improved ambulatory, telemetry exercise systems. This document provides a useful scientific foundation for the standardization of clinical, laboratory-based exercise tests and recognises the increasing interest and importance of the test within pulmonary medicine. There is still room for an additional set of guidelines which follow a more practical line, include alternative recommendations for service laboratories which have limited resources (i.e. without equipment for VO2 and VE), consider protocols for a wider group of individuals, and finally are more user friendly than the current document.