Inspire

The Official Journal of The Association for Respiratory Technology and Physiology
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FIRST WORD

Moving with the times !

The ARTP is going on-line. Your Association is in the process of developing its very own web-site. All members will be able to access the site so long as they have their current membership number. Look out for job vacancies, INSPIRE, education and training updates etc. . . . We anticipate the launch of the site to be later this year.

Apologies to Sue Browning of the Dept of Clinical Measurements, Devon and Exeter Hospital. I failed to acknowledge Sue as the author of the article 'Competency in Drug administration' in the last edition of INSPIRE (see page 5 for post note to article).

The deadline for articles, letters and any other contributions for the next issue of INSPIRE is 20th July 2000. Please write to me:

Sue Revill
Department of Respiratory Medicine
Glenfield Hospital
Leicester LE3 9QP

DATES FOR YOUR DIARY

27 - 31 March
Advanced Respiratory Physiology
Coventry University

29 - 30 June
British Thoracic Society Meeting
(including the joint BTS/ARTP Symposium)
Harrogate

See page 2 for more details

ARTP/BTA NATIONAL ASSESSMENT 1999

Congratulations –

The following candidates have been awarded the ARTP/BTS National Assessment

Emma Barnett *Wythenshaw Hospital*	Merit and Sally Gough Prize
Melinda Bennett *Glenfield Hospital*	Merit
Beverley Brittain *Papworth Hospital*	Merit
Faye Colbert *Queens Medical Centre*	Merit
Matthew Cobbold *Addenbrookes Hospital*	Merit
Catherine Corble *Pontefract General Infirmary*	Merit
Alana Edwards *Northern General Hospital*	Merit
Lindsey Parkinson *Rotherham District General*	Merit
Zoe Prangnall *Royal Hallamshire Hospital*	Merit
Claire Thoel *Doncaster Royal Infirmary*	Merit
Bridget West *Derbyshire Royal Infirmary*	Merit
Suzanne Whiteford *Monklands Hospital*	Merit
Debbie Woodcock *Royal Devon & Exeter Hospital*	Merit
Cathie Gillooy *Gloucester Royal Hospital*	Pass
Lesley Mattock *Royal Hallamshire Hospital*	Pass

CONTENTS

A.R.T.P. SCOTTISH FORUM – A NEW INITIATIVE

Report by Gill Butcher, A.R.T.P. Regional Group Coordinator

Earlier this year the A.R.T.P. Executive was approached by Dr. Andrew Robson, Clinical Scientist at Western General Hospital, Edinburgh, about the possibility of a "local" Scottish group setting up to link in with the A.R.T.P.

The aims of the group were to be primarily educational and communication to enable more northerly A.R.T.P. members and non-members working in the field of respiratory medicine to have more accessible scientific meetings, particularly as many staff in Scotland work in towns which are fairly remote, making travel to meetings in England difficult.

To this effect the A.R.T.P. are giving support to the "A.R.T.P. Scottish Forum". The Forum has agreed to work within the Terms of Reference which have been drawn up to maintain the legal and financial obligations of the A.R.T.P. but which allow the Forum freedom to fund and organise its own scientific meetings under the A.R.T.P banner.

The role of A.R.T.P. Regional Group Coordinator has been established to provide a link person between this and any other regional groups which may develop in the future. The Coordinator will ensure that there is A.R.T.P. representation at regional meetings and that any views, concerns or ideas are fed back to the A.R.T.P. Committee.

The Scottish Forum have held two successful meetings so far in Falkirk and Edinburgh and are hoping to rotate venues of meetings to encourage an increasing number of technicians from the North of England and Scotland. It is hoped that the next meeting will be in Inverness, probably in April . . . when the snow has gone!

There are benefits both to the A.R.T.P itself, in the wider publicity of its aims, guidelines, training standards, assessments and training courses and hopefully increasing membership. Our Northern allies will benefit from accessible educational meetings, with more information and contact with the A.R.T.P. and more regular contact and discussion with colleagues.

In these days of devolution it is good to see MTOs and Clinical Scientists in Respiratory Medicine pulling together for areas of common interest and maybe it will be just the start to "spread the word" farther and wider . . .

If you are interested in future activities up North contacts are: Dr. Andy Robson - Coordinator and Jill Fallen - Secretary both at the Respiratory Function Lab, Western General Hospital, Edinburgh.
Tel: 0131 537 1984
Fax: 0131 537 2351

CALENDAR OF FORTHCOMING EVENTS

27th March - 31st March
Advanced Respiratory Physiology
Coventry University
Topics:- Exercise Testing, sleep studies and nasal ventilation, inhalation therapy.
Course FEE - **£200** for week (or £**40/day**)
10% reduction for ARTP members
Quote ARTP membership number on application form.
Contact Anna Kovalchuk (Biology Office) for application form on 01203 631313

May 5 - 10
American Thoracic Society Conference
Toronto, Canada
See American Journal of Respiratory and Critical Care Medicine
BLF / Allen & Hanburys Travel Fellowships are available for this event. Tel 020 7831 5831 for more details (closing date 17th Feb 2000).

29 - 30 June
British Thoracic Society Meeting
Harrogate International Conference Centre
For more information contact The BTS H/Q
Tel No: 0171 831 8778

August 30 - Sept 3
European Respiratory Society Congress
Florence
Contact the ERS
Address: ERS Headquarters,
1 Boulevard de Grancy,
CH-1006 Lausanne, Switzerland
Fax 41 21 617 28 65

PULMOLINK "PRIORITY FAX-BACK" INFO REQUEST FORM

If you would like to receive illustrated colour specification sheets and detailed price lists for any of the Pulmonary Function Systems featured overleaf please tick next to the corresponding description below. Then complete your own details in the space provided and fax this leaflet to the Pulmolink Sales Department on ***01233 713859.*** *Alternatively, post your enquiry to:*

Pulmolink, Redwood House, Canterbury Road, Charing, Ashford, Kent. TN27 0EU

If you have any questions or would like to arrange a demonstration, please feel free to telephone direct on ***01233 713070*** *or send e-mail to* ***sales@pulmolink.co.uk***

❑ ***ERGOCARD*** Breath-by-breath cardiopulmonary exercise test system for the study of ventilation and gas exchange at rest and during exercise, allowing manual and automatic computation of Anaerobic Threshold by V slope, 3 lines & RQ-HR methods. Can be tailored to provide: integrated 12-lead ECG for stress testing; dynamic spirometry; DLCO with methane uptake; & cardiac output using the acetylene method.

❑ ***HYP'AIR*** Flexible, compact and user-friendly pulmonary function system offering static and dynamic spirometry including pharmacodynamics as well as optional FRC (by Helium dilution), DLCO (CO transfer factor in apnea), airways resistance (using the interruption method) and maximal inspired/expired pressures. Can be either trolley or desk mounted.

❑ ***BODYBOX*** Transparent plethysmographic cabin with easy access. Measures: ITGV and lung subdivisions; airways resistance; airways conductance; static spirometry; dynamic spirometry with flow/volume loops. Options include CO transfer factor in apnea & MIP-MEP.

★★★★★★★

All 3 systems run using Medisoft's highly flexible "EXP'AIR" software, currently running under Microsoft Windows 98™ operating system, which allows networking to a central server. Information & Patient Data can also be exported to a hospital database and previous patient history can be imported using "DATABASE" software. Printed reports can be easily customised and saved, providing numerous individualised print protocols for instant selection. Operator and service support can be provided via a modem link with a direct telephone line, allowing remote autodiagnosis of all functions with direct control from Ashford, Kent, U.K. or Dinant, Belgium.

TITLE & NAME .....

POSITION .....

DEPARTMENT .....

HOSPITAL/ORGANISATION .....

ADDRESS .....

.....

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.....

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TELEPHONE NUMBER .....

FAX NUMBER .....

FAX-BACK ⇨ 01233 71 38 59

"ON THE BLOWER" – Manufacturers News

1. Another Year

At the time of writing the Millennium stuff hasn't happened. It probably won't happen. And if it does, we all expected it anyway! There'll be an enquiry into how well we all handled what we knew would happen, and many of us will look back and say "Well we lived through the Millennium, we lived through the War, we lived through many episodes of East Enders and we will probably live through the next Big Thing too". The Millennium is over, long live another year!

Also, by the time you read this article you may well be at the Winter meeting in Daventry. Daventry, as you will be aware, is famous for being near the M1. In many respects it is like Leicester, Rugby and the Moon. It has no atmosphere! However, Daventry (and those other towns) with ARTP is full of life, excitement, hangovers and much blowing of air! The Moon, alas, even with the ARTP would not be very much more exciting. So we can conclude that the Moon is just like Manchester.

2. Trade Stand

Pharmaceuticals
I feel tempted not to mention drugs in On the Blower anymore, because drug companies foolishly do not see ARTP's *Inspire* as important enough to send information on new products despite my asking on numerous occasions! Hello, drug companies, we have access to over 200 lung function departments where lung function staff can influence the choice of inhaler, the mode of delivery and the patient's preferences for treatment, thus affecting compliance.

Lung function equipment
Ferraris Group PLC has announced that its respiratory diagnostic group **Morgan-Collins** (not another new name!!) has been awarded a substantial contract to supply the Benchmark system to up to 25 Healthcall Group Centres for the DTI medical Assessment Process to measure COPD in British coal miners. This contract has been fought over doggedly in the last six months and I suppose we should be pleased it has gone to a British company. I'm sure the usual standards of care and quality will be afforded Healthcall as the rest of Morgan's customers. If not, I have let the Managing Director of Healthcall know that *On the Blower* exists!

MicroMedical have written to me regarding their MicroLoop, which was shown to under-read FVC and VC compared to 2-3 other devices in two studies presented recently at the BTS meeting in London *(Thorax* 1999; 54(Supp 3), A78). Interestingly, all the equipment used, passed the ATS criteria (based on their test rig in Salt Lake City) but the MicroLoop did not read the same as the others. This creates the dilemma that although the ATS test criteria are a standard, they clearly mean that clinically they may not be an acceptable standard. ARTP is working with MicroMedical, and both the BTS and ATS to find a solution to this problem.

Jaeger UK, have just moved to their newly purpose-built offfice/service/training centre in Coventry. Director, Selwyn Sher informs me that the move has gone well, and will lead to big changes in the delivery and perception of services from Jaeger UK.

Sleep study and associated equipment
I came across what must be a barmy invention solely for the US market. The AirSep OxiScan is a home oximetry and recording system. The hand held oximeter (c. £800) records the overnight saturation, and then the handheld graphic computer (c. £800) sends the data via modem to the oximtery reporting service. When asked why the oximeter didn't just download onto PC software, the representative claimed that the physician could then by-pass the reporting service ($$$$$$) and make the diagnosis themselves. Thank goodness we are free of such money-grabbing nonsense in the NHS ! !

Miscellaneous
Clement Clarke have sent me information on their new AC3000 nebuliser system which works together with their Controlled Medication System and looks like it will be a replacement system for their AC2000. They suggest some special launch prices if you buy more than ten. If only Sainsbury's did offers like that! They have also launched their new spacer to fit any inhaler, the AbleSpacer. This is available on FP10 for £4.20. Free samples are available from Karen McDermott on Fax 01279 456304. I wonder if there are any clinical trials data to show its performance clinically against the competition? (I feel a mail-bag about to arrive!)

Nasal assisted ventilation (CPAP, NIPPV, BiLevel, etc)
Fisher and Paykel continue to provide a range (i.e. 3) heated and non-heated humidifier systems for CPAP. **Breas, DeVilbiss, Medic-Aid** and **ResMed** also offer humidifers at very competitive rates and what's more they will be exhibiting at the ARTP Winter meeting in Daventry, so you will be able to see their products for yourselves. Isn't it marvellous being a company that supports ARTP each year!!

Medic Aid are showing off the new **Respironics** Harmony S/T Ventilator - "which is nice!" It allegedly is a quiet machine with a lot of buttons settings and things, and appears to be a replacement for the ageing ST30. List price is £4800. I look forward to trialling it when we have some time in the Spring.

Nasal masks are the limit of our technology in terms of non-invasive ventilatory support. Some newer products include the **Respironics** Profile Mask with its mouldable inner layer (list price £82.50). Basically, you pop your mask in the pan of boiling water with your boiled egg in the morning, cool it for 10 seconds in cold water (the mask, not the egg!) and press it against your patients face. If it's not ready the yolk runs everywhere . . . no, sorry! . . . the mask should fit to the patient's facial contours quite nicely!

Respironics also sell a re-usable small child's nasal mask (list price £57.50). Why you should want a re-usable small child, I will never know! Contact Medic-Aid on 01243 840888.

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Breas used the ERS meeting in Madrid to launch their LTV 1000 advanced multi-use ventilator. This sexy looking little number is a fairly sophisticated piece of kit probably aimed more at ICU/ HDU user market and costs around £7-IOK. I suspect it is aimed at competing with the Respironics BiPAP Vision System. Good luck to them, we can't afford them for our acute NIV service!

ResMed have launched their AutoSet Portable II Plus system which is a sleep study diagnostic and treatment system. It costs around £3,250 plus £800 for chest bands (excl VAT). That's cheap compared to kitting out a sleep lab by running a domicillary diagnostic and autotitration service. They also sell a portable diagnostic sytem (AutoSet PDS) for £1900 (excl VAT) and the Autoset T titration machine for £800. All in all, it's getting a lot cheaper to diagnose and treat OSA.

Mallinkrodt have launched a multi-channel monitor (SpO2, ECG, Temp, Resp rate) for use with sick patients on NIPPV. I don't have costs, but it may be worth considering for your respiratory high dependency beds. (Tel: 01869 322700). Have you ever wondered why most hospitals have a Coronary Care Unit but not a Respiratory Care Unit, given that respiratory illnesses are the most common reason for hospital admission. Aren't we part of a Cinderella service!!

A newsletter from **AGA,** the Swedish medical gas company has reminded me about new legislation that comes into effect and will affect lung function departments. Medicinal gases are medicinal products and in some cases medical device gases (e.g. used in lung function tests) will need marketing authorizations within the EC according to EEC l65l65 directive. (Don't you just love European bureaucracy!!) This will involve much more Good Manufacturing Practice in QC, quality assurance, distribution and sales. Why do I have the feeling this is all going to cost more for the customer??? AGA are planning to get into the CO diffusion market, so the competition will hot up a bit more. I would have had a review of special gases in the UK in this issue but Air Products/ CryoServices have failed to send me any details about their costs, quality standards and delivery time. The article will appear in the next issue of Inspire whether they are ready or not! Thanks to **BOC (who regularly sponsor the ARTP winter meeting and are a super company!)** and **Linde** and other gas providers who have sent me their information.

Moan of the month:
BTPS factors again! Will we ever see the end of this argument? I have been sent some technical information from a Vitalograph customer which lists 24 BTPS correction factors for their spirometers, depending upon which software version is used. The ARTP/BTS Liaison Committee recently visited this issue and came out with the following recommendations:

Recommended ATPS to BTPS Conversion Factors (Ambient temp 24°C)

Condition	Conversion factor
Ideal room air (24°C)	1.080
Rolling seal spirometer (26°C)	1.070
Wedge bellows (28°C)	1.050
Pneumotachograph (Exp) (34°C)	1.020
Pneumotachograph (Insp) (29°C)	1.050

Surely a fixed standard like these has to be better than the erroneous values that have been used in the past and, the variety of values used in the present. (I feel another mail bag coming on!)

3. Complaints Database and WatchDog

Steve Scholey from Pontefract has written to the Watchdog suprised at how expensive the Y2K upgrade for the **EME SensorMedics 2200** system was (well, he's from Yorkshire!) No, but seriously, the quote was £4500 for the software and **£1700(!!!)** for the PC. Come on guys . . . have you been to PC World recently? I would be interested to hear how much Morgan and Jaeger were charging for upgrades.

John Shurvington in Dorchester (West Dorset DGH) has written to me to say he is finally happy with his **Jaeger** Masterscreen software after a summer of troubleshooting (in which Nottingham City Hospital was also involved!) As you may remember from the last edition of Inspire, The system now closely agrees spirometry, lung volumes (He dilution) and gas transfer with **Collins-Morgan and EME-SensorMedics** systems in normal subjects. We are happy with the results in normal subjects and are currently checking through patients to see if there are any problems before finally accepting the system. I'll keep you posted.

In response to my requests for complaints, I have letters from Keith Butterfield at Wordsley Hospital in Stourbridge complaining about **Collins-Morgan** slow service response (4-6 weeks to sort a faulty oxygen analyser) and S Male in Tunbridge Wells (Kent & Sussex Hospital) who is also unhappy with Collin-Morgan about the time taken to sort out a computer software fault (4 weeks). This fault/bug on the latest software upgrade is the "overloaded file" problem reported in the last Inspire and mentioned also in Keith Butterfield's letter! The letter from Kent asks whether other ARTP members have "experienced the same non-communicative unhelpful behaviour"? Well, yes, before our meetings with Morgan 2 years ago this was rife, but John Bowden and Kevin Hogben assured us that such problems would be a thing of the past. I have received complaints about the speed and quality of Morgan service from Julie Lloyd at Good Hope Hospital, and Gill Butcher at Burton upon Trent Hospital also. I spoke with Kevin Hogben who said that they were carrying out 37 Y2K upgrades this month, and that delays were inevitable.

I'm sorry, but if customers are paying for the top level of service contract they expect an excellent service. Come on Collins-Morgan, things are starting to slip again! I will report back in the next Inspire on progress. I think its about time we looked at the costs of service agreements properly. If companies produce unreliable equipment and software - why should the customer have to pay for the privilage of getting it repaired? ARTP will be investigating this for the next copy of *Inspire.* It is not a problem isolated to one company!

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 correspondence at this stage.*

Dr Brendan Cooper
(ARTP Manufacturer's Liaison Officer)
Lung Function Department, Nottingham City Hospital
Nottingham NG5 IPB.
DDI/FAX (24 hours): 0115 840 2615.

Executive Update – THE NEWS FROM JULIE LLOYD

Things have been pretty busy since the last Executive Update despite the Millennium Madness as the world prepares to grind to a halt.

Many of you will have attended the Heads of Department meetings that have been held nationally over recent weeks. These have provided a forum for lively discussions about State Registration issues and hopefully answered a lot of the questions raised by such a major change to the respiratory measurement profession. If there are any burning issues, which remain unresolved, please contact Dr. Sue Hill at Queen Elizabeth Hospital, Birmingham for clarification.

The finances continue to look very healthy and you should have received your copy of the yearly accounts - these are excellent reading for the insomniacs amongst us. Establishing a VAT registered trading account for meetings plus a further account for Education and Training has ensured that there will be ARTP bursaries offered for all the major national meetings (yes, it's true, we pay you to go to meetings!), so send your applications off to Gill Butcher at Burton Hospital ASAP.

Continuing the meeting theme, have you booked your place at the ARTP 2000 meeting at Daventry? The provisional programme and registration forms were circulated in November and most of the major manufacturers will be there, including some who have not exhibited at ARTP meetings before. This meeting also has CME accreditation, which can't do any harm if you are starting to put your professional portfolio together.

The famous (or is that infamous?) practical handbook finally became a reality in September and everybody who has ordered a copy should be eagerly thumbing through it (and letting us know if there are any mistakes!).
In a similar vein, the ARTP/BTS National Assessment in Spirometry training packs should be distributed to the approved training centres in the very near future - watch this space!

There have been one or two changes to the Executive Committee since the last update. Evelyn Smith has retired from her role as Education Chair and was thanked for all her hard work on Education. Following a unanimous vote, Claire Thomas from Walsall Manor Hospital was elected to the post of Education Chair. Good luck Claire!

Melanie Marshall of Castle Hill Hospital has filled the vacant role of Education Secretary, and I hear there are going to be record numbers of candidates for the National Assessment to keep her on her toes.

It has also been decided that, due to the volume of work being undertaken by the Executive Committee, there is a need for a number of sub-committees to undertake various projects. If you think you have got what it takes (and you are a glutton for punishment!) please get in touch with any member of the Executive, all contributions will be gratefully received.

The ARTP is continuing to strengthen its links with the BTS and following recent meetings, the ARTP/BTS Liaison Committee will now feed in directly to the BTS Executive Committee. Dr. Sue Hill, who is the ARTP/BTS Liaison Chair, stated that this was a major breakthrough, confirming that the ARTP should be taken as the experts in measurement of lung function (are we being taken seriously at last?).

The ARTP is also pleased to announce the establishment of an ARTP Scottish Forum. This sub group of the ARTP should provide the opportunity for our Scottish members to meet regularly for the purposes of education and training and should also act as a focus group to discuss professional issues. There have already been two very successful meetings with plans for further meetings in the New Year. Anybody who is interested can contact Jill Fallen at Western General, Edinburgh.

Nominations are now being taken for the Award for Services to Respiratory Physiology. Please send all nominations to Dr Brendan Cooper at Nottingham City Hospital for consideration by the Executive Committee. The awards will be presented at the Winter Meeting during the Gala Dinner so you will have to wait to see whose name appears from the golden envelope this time!

COMPETENCY IN DRUG ADMINISTRATION

The article about Competency in Drug Administration has generated a large amount of interest and suggestions for a study day. If there are enough people wanting to participate in such an event, we could provide it at the Royal Devon and Exeter Hospital.

If you are interested please contact us at :

Department of Clinical Measurements
Royal Devon and Exeter Hospital (Wonford)
Barrack Rd, Exeter, Devon EX2 5DW
Tel: 01392 402140

Further details and costs will be available should there be a significant response.

Sue Browning, Senior MTO

BURSARY NEWS

All applications for bursaries to attend the ARTP summer meeting or other meetings should be addressed to:-

Gill Butcher (Bursary Secretary)
Cardio-Respiratory Unit,
Queens Hospital
Belvedere Road
Burton-on-Trent DE13 ORB

SPIROMETRY TRAINING ISSUES

Rita Harkawat, Senior Technician

Lung Function Laboratory, Royal Victoria Infirmary, Newcastle upon Tyne.

Primary health care teams have often been criticised for their incorrect diagnosis, inappropriate treatment and management of COPD. A recent GP audit found that 1/3rd of the patients treated for asthma had COPD (Booker, 1997). The aim of the BTS guidelines for COPD, published in 1997, was to standardise and improve care for patients with COPD. The guidelines recommended that the diagnosis of COPD should incorporate an objective demonstration of airflow obstruction by spirometric testing and that all suspected patients should be offered the test (BTS, 1997).

Spirometry has been in common use in hospital respiratory departments for many years (Gibson, 1997), but largely absent from the primary care setting. Thus, the guidelines recommended that each practice should have a spirometer and appropriately *trained staff,* able to perform the test to *published standards* (BTS, 1997; Seljeflot, 1998). This recommendation has led to some debate in primary care and has highlighted issues that will need to be addressed if this proposal is to be put into action.

Technical Issues

Health Professionals new to spirometry, without formal training would probably adopt the view that spirometry testing is a relatively straightforward procedure. This view could be further supported by the very simple instructions that are given for the test procedure (BTS/ARTP, 1994). However, in practice, and as we are all aware, measuring spirometry is more difficult than it appears. Adopting the guidelines should help to reduce the discrepancies that occur in results between primary and secondary care.

A further problem posed by the guidelines is how should GPs provide spirometry for their patients? The guidelines have suggested a few possibilities one of which is for the practice surgery to purchase a spirometer.

This suggestion presents a dilemma in primary care with regard to cost implications and training issues.

TRAINING ISSUES AND COST IMPLICATIONS

Recent articles have suggested that a spirometer is of limited value unless the staff operating the machine have received appropriate training (BTS/ARTP, 1994; BTS, 1997). The statement "fully and appropriately" trained staff appears in most articles regarding spirometry in COPD and is one that ARTP members would entirely agree with. However, although the COPD guidelines make it clear that spirometry is the way forward, what remains unclear is, who actually trains the operator and what constitutes appropriate training?

The BTS (1997) recommends that both GPs and Practice Nurses are trained in spirometry, but it appears that most of the spirometry testing has been left up to the Practice Nurses (Seljeflot, 1998).

Lung Function Technicians have, over the last few years, organised numerous spirometry teaching sessions and workshops for Practice Nurses. What has become evident during this time is the lack of training/knowledge that some Practice Nurses have in spirometry. A survey of 2548 GPs found that 87% of the GPs thought Practice Nurses should perform spirometry and 90% claimed that they would send their nurses on training courses (Seljeflot, 1998).

Practices, who have brought spirometers, may not use them due to lack of training. A survey of 95 GP surgeries in North Staffordshire found that 18 practices possessed a spirometer, although 8 did not use it (Dowson, Yeung and Allen, 1998). Interestingly, Dowson reported that out of the 95 GP surgeries, 44 would prefer to carry out their own spirometry, provided that adequate training had taken place, 29 favoured open access and 11 thought referral to respiratory specialist would be the best option.

These problems highlight the gap that exists in spirometry training and clearly indicates that there is a need for some Health Service planning to ensure that this gap does not increase.

The launch of the recently established ARTP/BTS National Certificate in Spirometry is the first real step towards resolving the issues of training, competence and knowledge.

This course will have the following advantages:

- The stringent criteria set by the ARTP/BTS liaison committee will ensure that those Health Professionals who are qualified to teach spirometry will administer the course, thus ensuring unqualified personnel do not attempt to train others.
- Training will be delivered according to the ARTP/BTS guidelines for Respiratory Function Testing. This guarantees that everyone will be trained to the same quality standards.
- Competence and knowledge will be formally assessed via practical, written and oral assessments.

With the above training issues in mind, we carried out a survey to investigate spirometry training in a Primary care population.

METHOD

A list of Practice Nurses working in Newcastle was obtained from Newcastle Health Authority. Questionnaires were circulated to 79 Practice Nurses working in Newcastle upon Tyne. The questionnaire was spilt in two parts: those who had access to a spirometer and those who did not.Those who had access to a spirometer were asked about the type of training they had received and if they felt confident about making measurements. Those who did not have access to a spirometer were asked about the type of training they would receive should their practice purchase a spirometer in the future.

RESULTS

45 (57%) replies were received.

19 (42%) Practice Nurses stated that they did have access to a spirometer.

26 (58%) Practice Nurses stated that they did not have access to a spirometer.

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HAVE ACCESS TO A SPIROMETER

1. **Type of spirometry training**
   3 had attended manufacturers training course prior to using their spirometer.
   5 had not received any training prior to using their spirometer.
   3 stated that although they have a spirometer, it is not used. No reasons given.

   The remaining 8 responded with a variety of comments:
   Spirometry lecture.
   Demonstration by colleagues.
   Shown by a GP, Respiratory Nurse Specialist.
   Have attended the COPD or Asthma course.

2. **The 16 Practice Nurses who were using their spirometer:**
   10 (63%) did not feel confident regarding their knowledge of spirometry, carrying out the test and obtaining accurate results.
   6 (38%) did feel confident regarding their knowledge of spirometry, carrying out the test and obtaining accurate results.

3. **Of the 19 who did have access to a spirometer:**
   7 were not aware of any relevant spirometry training courses.
   1 had no interest in attending a course.
   2 had no time to attend a course.
   1 would not be able to find any funding.

HAVE NO ACCESS TO A SPIROMETER

1. **Of the 26 who did not have access to a spirometer:**
   21 (81%) responded that they would receive some training should they purchase a spirometer.
   4 (15%) stated that they thought it would be unlikely (no funding/ study time, reluctance from GPs, will never purchase a spirometer).
   1 no answer.

2. **Of the 21 who responded they would receive some training:**
   8 were unsure as to the type of training available.

   The remaining thought their training would come from a combination of the following:
   Respiratory Nurse Specialist. (1)
   Lectures/workshop/study day/course. (7)
   In-house. (2)
   Manufacturer. (2)
   Lung Function Technician. (6)
   Medical Representative (1)

SUMMARY/DISCUSSION

The results show that the majority of the Practice Nurses were poorly trained or felt they had been poorly trained. As expected most of the Practice Nurses indicated that training had or would in the future, come from various sources/other Health Professionals. This is an area of concern as the potential for error is great. None of the Nurses knew about the ARTP/BTS certificate in Spirometry. In spite of their training over half of the Practice Nurses involved in spirometry were not confident that they were carrying out the test correctly.

Health professionals responsible for spirometry training should be familiar with all the technical aspects of spirometry and be involved in spirometry measurements themselves.

Unfortunately a one off lecture, visit to a laboratory or a training course does not immediately make an expert in spirometry. Advanced technology has made spirometers very easy to use, but noticing patient errors, rectifying them and obtaining technically acceptable results comes with experience. Poor and inaccurate training leads to a poor expert.

CONCLUSION

The ARTP/BTS National Certificate in Spirometry is an excellent move forward. Other courses do not test competence to National Standards. The Certificate course is the type of training that Practice Nurses are looking for, particularly if spirometry is to be promoted as a screening tool in Primary Care. However it will be up to the ARTP members to help publicise this course. Additional audits of primary care practitioners would identify the efficacy of the course.

REFERENCES

1. **Booker, R. (1997).** Chronic Obstructive Pulmonary Disease. A practical guide for the practice nurse. *Practice Nurse.* Suppl. October; 1-15.
2. **British Thoracic Society. (1997).** Guidelines for the management of Chronic Obstructive Pulmonary Disease. *Thorax* (Supplement 5). 51: S1-S32.
3. **BTS/ARTP (1994).** Guidelines for the Measurement of Respiratory Function. Recommendations of the British Thoracic Society and The Association of Respiratory Technicians and Physiologists. *Respiratory Medicine.* 88: 165-194.
4. **Dowson,L.J., Yeung, A. and Allen, M.B. (1998).** Most practices would use open access spirometry in hospitals. *British Medical Journal.* 317: July, 209.
5. **Gibson, G.J. (1997).** Role of spirometry in general practice. *Asthma Journal.* June; 61-64.
6. **Seljeflot, S. (1998).** Spirometry is the key to the management of COPD. *Community Nurse.* Jan; 3(19):14

CHARITY NEWS

National Asthma Campaign

London H/Q tel no for enquiries or leaflets 020 7226 2260.

For fund raising activities and national events contact Beck Bayram 020 7226 2260 ext 342, e-mail bbayram@asthma.org.uk

Ad-hoc fund raising packs are available for one-off events such as a child's sponsored silence for the weekend, sitting in a tub of baked beans, or any other wacky past-time you can imagine!

The Asthma Agenda can be found on the charity's web site at **http//www.asthma.org.uk.** The web site carries all the latest up to date news, statistics and research concerning asthma.

British Lung Foundation

For tickets and information contact The BLF London office on 020 7831 5831.

RECENT ARTICLES

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

EXERCISE

Biological quality control of exercise testing

SM Revill & MDL Morgan. Thorax 2000; 55: 63-66

This paper reports a practical and simple routine of QC for a computerised, single breath exercise system. The paper illustrates a statistical method for evaluating data and highlights the usefulness of a systematic approach in documenting equipment performance and detecting faults.

Prediction of metabolic and cardiopulmonary responses to maximum cycle ergometry: a randomised study.

JA Neder et al. Eur Respir J 1999; 14: 1304-1313.

In this comprehensive study of 120 sedentary individuals, randomly selected, a range of exercise related indices were measured. These included gas exchange, ventilation and cardiovascular responses to maximum ramp-incremented cycle ergometry. Habitual activity was ascertained by questionnaire, body composition was measured from anthropometry and x-ray absorption and knee strength by dynamometry. Prediction equations for the exercise variables were derived. Comparisons with previously reported equations found a significant overestimation of peak oxygen uptake compared to the new equation. The authors conclude that their equations provide a more appropriate frame of reference for clinical interpretation and that the 95% confidence limits of the prediction should be used as the reference interval instead of a single value.

Physical performance of patients with numerous psychosomatic complaints suggestive of hyperventilation

T Troosters et al. Eur Respir J 1999; 14: 1314-1319.

The aim of this study was to describe a number of exercise and muscle related indices in patients with probable hyperventilation syndrome. Twenty-four patients were compared to an age matched control group. They performed a maximum, incremental cycle ergometer test, and peripheral and respiratory muscle strength were measured. Patients tended to have a decreased exercise capacity and moderately reduced muscle strength. There was a significant relationship between end-tidal CO2 and respiratory frequency during the exercise recovery period suggesting a reduced sensitivity of the ventilatory response to exercise. The authors conclude that a psychological conditioning response, linked to exercise, might be the origin of many of the symptoms associated with HVS. The authors speculate that the symptom and exercise association leads to exercise avoidance and therefore muscle deconditioning.

MEASUREMENT OF AIRWAY FUNCTION

Use of peak flow variability and methacholine responsiveness in predicting changes from pre-test diagnosis of asthma

K Parameswaran et al Eur Respir J 1999; 14: 1358-1362.

This study investigated how metacholine challenge and PEF monitoring influenced change from a pre-test clinical diagnosis. The records of 132 patients were examined in a retrospective study. The predictive values of the metacholine challenge results and the PEF monitoring were compared with the clinical diagnosis. Both tests were found to influence diagnostic decision making in patients with a high pre-test probability of asthma.

ASTHMA

The distal airways: are they important in asthma ?

M Kraft Eur Respir J 1999; 14:1403-1417.

This review article presents the evidence for the participation of the distal airways in the pathogenesis of asthma. It examines seminal work from the 1960's and more recent reports from bronchoscopy and autopsy studies. It contains a wealth of important references. The author concludes with the challenge of this compartment as a therapeutic target.

SLEEP

Effect of mouth leak on effectiveness of nasal bilevel ventilatory assistance and sleep architecture

H. Teschler et al. Eur Respir J 1999; 14: 1251-1257.

The acute effect of sealing the mouth on sleep architecture and transcutaneous carbon dioxide was tested in 9 patients on long-term nasal bilevel ventilation with symptomatic mouth leak. For one night patients were monitored with bilevel ventilation whilst the mouth was taped. This was compared to one night without the taping. With taping the leak, tcCO2 and arousal index all fell significantly. Additionally REM sleep increased, latency and efficiency were unchanged. The authors conclude that mouth leak reduces the effectiveness of nasal bilevel support.

Nocturnal blood pressure during apnoeic and ventilatory periods in patients with obstructive sleep apnoea.

Ye. Tun, S et al. Eur Respir J 1999; 14: 1271-1277.

The aim of this study was to investigate asleep blood pressure during apnoeic and ventilatory periods and to assess the factors associated with the changes. Blood pressure was monitored during standard nocturnal polysomnography in 32 patients with moderate to severe OSA. The mean BP was higher during ventilatory REM sleep and apnoeic REM sleep c.f. non-REM. The average BP during non-REM was higher than awake BP. The changes in the nocturnal BP from apnoea to ventilatory periods were inversely correlated with age and nocturnal nadir saturation.

Long term non-invasive ventilation in the community for patients with musculoskeletal disorders: 45 year experience and review.

A Baydur et al. Thorax 2000; 55: 4 - 11.

This is a retrospective study which examined vital capacity and carbon dioxide tension before and after non-invasive ventilation, and also documented the type and duration of ventilation, morbidity, mortality and the need for tracheostomy in 79 patients with musculoskeletal problems. Thirty-one patients received body ventilation. Comparisons were made between body ventilation and mouth/NIPPV for discomfort, tolerance and QOL. The number of years over which the investigators were able to find meaningful information was impressive and will help to inform clinicians and technicians of the long term outcomes they should expect with their patients.