

# Family Physician Airways Group of Canada

## Report from the Chair

We are living in difficult times, but we do try to do the best we can. This refrain is true in many walks of life, but I think especially in Family Medicine. This newsletter deals with respiratory issues and I will get more into that momentarily. A huge issue is the fact that our patients cannot get to see us! Stats Canada issued a report on June 15 based on a survey of 135,000 Canadians. More than 1.2 million Canadians could not find a Family Physician in 2003. 5% of Canadians were looking unsuccessfully, while another 9% did not have one and weren't even bothering to look. Overall ~86% of Canadians have a Family Physician with the extremes being 94.9% in Nova Scotia and 47.1% in N.W.T.

Thus it is difficult to debate some respiratory issues in Family Practice when a large number of patients cannot access us! I would, however, like to review a couple of articles which disparage the efforts of Family Physicians in respiratory medicine and show limitations in our system yet again.

The Canadian Respiratory Journal of April 2004 (Volume 11, number 3) had a pro-con discussion on "Exclusion spirometry". The issue at hand is whether or not Family Docs should do office spirometry at all, as poorly performed spirometry can have limitations. The protagonist recognized

the need for Family Physician expertise and felt that spirometry tends to undervalue lung function, so that if normal, it is a good test to rule out significant lung disease (except of course asthma which is variable in degree of obstruction over time). Unclear spirometry could be repeated at a pulmonary function laboratory to confirm if necessary. The antagonist felt that only quality spirometry should be done and anything else is a drain on the health system. This issue was studied in an article in the same journal by J. Amirall and P Begin<sup>1</sup> and was felt to be a way to increase primary care acceptance of the performance of lung function testing to improve the early detection of COPD as well as other respiratory disorders.

The view that we should not perform spirometry in our offices, never mind even as 'exclusion spirometry' is typical turf protection. I would hope that, in these times of insufficient physicians, we could work better together than this. I should add that the FPAGC has been hosting spirometry workshops over the last ten years to great response. Feel free to contact us if you would like one run in your area. I will be happy to attempt to arrange coming to your area to run one as needed.

In the previous edition of the CRJ there was an article that looked at the over diagnosis of asthma in the community<sup>2</sup>. About 100 patients who were diagnosed with Asthma by their primary care physician responded to an advertisement asking them to volunteer

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to be assessed for their asthma in Halifax. Subjects were excluded if they had other major illnesses, a recent lower respiratory tract infection, >10 pack years of smoking or could not do the study procedures.

Asthma was diagnosed if the patients had a suitable history **and** either documented airflow reversibility of FEV<sub>1</sub> increase of 12% (and >200 ml) or PFR diurnal variability of ≥20% OR airflow hyperresponsiveness with a methacholine challenge and PC 20 of ≤8.0 mg/ml.

The results showed that 41% of the study population had been diagnosed with asthma and their objective testing did not confirm it.

The authors felt that the previous attention to the underdiagnosis and undertreatment of Asthma led to an increased index of suspicion and thus diagnosis. The authors suggest that

primary care physicians diagnose asthma without confirmatory objective testing. I would agree that we do this! Again, I feel that we should be doing more spirometry, but what about when the spirometry is normal. How is your access to Methacholine testing?

I think that there is still a role for a trial of therapy. We do not always have to get it right the first time, we do need to follow-up and reassess. The problem is the patient who stays on the unnecessary long term steroids, etc.

The FPAGC continues to try to be a liaison between family Medicine and the rest of the Respiratory world. We will present on spirometry at the upcoming Canadian College of Family Physicians Annual National Conference in Toronto, November 2004. We are also involved in the planning of the Canadian COPD Alliance conference in November 2004, also with presentation on spirometry. We have been active in

spirometry education in the USA at the AAFP annual general meeting for the last few years as well as this years combined meeting with WONCA in the fall.

We were invited to be part of the Canadian guidelines for Asthma and COPD care which are currently being released. Dissemination strategies are being discussed, let me know if you have any thoughts on this! We represent Canada to the IPCRG (International Primary Care Respiratory Group) and I will review this in a later article. Finally, I have written an article on lung cancer screening which again looks at the role of the FP in making an earlier diagnosis there.

I want to invite the membership to our Annual General meeting which will occur in conjunction with the Canadian COPD Alliance in Montreal from November 26-28, 2004. I would encourage any of the membership to

write an article for the newsletter. If it passes editorial review, it will be published and a small token honorarium will be considered. Feel free to contribute with an article review, case study, or even a letter to the editorial if you feel a difference in opinion is relevant. I look forward to hearing from you directly to myself at FOR4KIDS@sympatico.ca or to our secretariat at admin@fpagc.com

Thanks for listening,

ALAN KAPLAN, CHAIR, FPAGC

#### References:

1. J Almirall, P Begin. Exclusion spirometry; An initiative to increase lung function assessment in primary care. *Can Resp J* 2004; 11(3):195-196
2. J Linden-Smith, D Morrison, C Deveau, P Hernandez. Overdiagnosis of asthma in the community. *Can Resp J* 2004;11(2):111-116

## FPAGC Annual Meeting 2004

The annual meeting of the FPAGC will be held in November in Montreal during the COPD Alliance meetings.

The meeting will take place on Friday November 26, 2004 from 2100 to 2230 hrs in Salon 222 at the Delta Centre-Ville Hotel.

Members of the FPAGC are invited to attend the meetings and to come out and meet your executive committee.

Robert Hauptman MD  
Secretary Treasurer FPAGC

## FPAGC Virtual Office

As the long suffering secretary treasurer of the FPAGC, I am pleased to announce our recent association with Britannia Association Management.

Britannia, in contract with the FPAGC, has agreed to take on much of

the administrative work of the FPAGC. These duties include, but are not exclusive to, keeping an updated membership list, organizing meetings and teleconferences, managing the FPAGC bank account and collecting and coordinating the FPAGC newsletter.

Britannia has provided the FPAGC with the following new contact information:

Telephone (toll free): 866-406-4345  
Email: admin@fpagc.com

Articles for our newsletter, membership inquiries, contacting the executive members and general inquiries about the FPAGC may now be directed to the above.

We look forward to working with Glyn and Christine at Britannia to provide our membership with easy access to all the services the FPAGC has to offer.

ROBERT HAUPTMAN MD  
SECRETARY TREASURER FPAGC

# CNAC Report

The twenty-first meeting of the Board of Directors was held Friday, May 14, 2004 at the Hilton Toronto Airport Hotel, Mississauga, ON.

The Executive Director, Mr. Les McDonald is retiring this year and a search committee has been struck to find a replacement.

## Patient Education Program Committee (PEPC)

The essential components of asthma education programs were reviewed. A literature review was undertaken to identify firstly what topics should be addressed in programs and secondly what components are needed to ensure that a program is successful.

**Topics to be covered by programs:** Clearly most of the asthma certification courses specify that educators should address the topics of disease process, trigger identification and avoidance, medications, use of inhaler devices, monitoring, treatment plans and follow-up. However the literature review failed to identify which of these topics is essential and this same finding was reported in the last Canadian Asthma Consensus Guidelines report. Further research will be required on this issue.

After reviewing the literature members took a practical approach and developed a checklist that can be used by new or existing programs to identify what areas should be addressed by their asthma education program. This tool will probably be most useful to educators given the task of starting a program, but may also help programs that are striving to improve their programs.

Certification Management Committee Chair presented focused on the several areas that include;

- a) Designation and Re-certification of the C.A.E.
- b) Marketing,
- c) Examination
- d) Development of a COPD Component of the CAE Examination

*a) Designation:* The C.A.E. examination sat in November 2003 had a total of 87 candidates, 81 first time and 6 repeat writers. Success rate was 79% for first time writers and 50% of the repeat writers who achieved the designation. The number of writers is comparable since 2000 sitting forward.

*b) Recertification:* A questionnaire circulated at ASED 6 was completed by 55 C.A.E.'s. Highlights of this were the

concern for re-certification related to the required number of practice hours, especially for those who practice in remote communities, financial cost, the timeline of when to re-certify (although the information is provided both at time when they are informed of success of receipt of designation and also is available on the web site). It was encouraging to learn that 46 or the 55 who responded do intend to re-certify.

*c) Marketing:* A subcommittee discussed the best approach to marketing the C.A.E. designation and our corporate partners recommended a survey. This was completed during an information session offered at ASED 6. C.A.E.'s overall reported they were supported by their employers for educational events; however they did not feel they had appropriate recognition for the designation, and that their Managers and Human Resource Personnel were not aware of the designation and what it meant. There have been advertisements in the past year for professionals to provide the services of the C.A.E. and the qualifications have been outlined in advertisements yet "C.A.E." did not appear in such ad's confirming what the C.A.E.'s have reported in the survey. The suggestion of engaging other health care professionals such as pharmacists in the process of obtaining C.A.E. designation is currently being explored as in many communities the pharmacist is the primary disease related health care educator.

*d) Examination:* The Study Guide Learning Objectives were reviewed for the first time since inception under the leadership of Sandra Small, past Chair of the examination committee, and two current members. The updated draft is completed and currently under review. The Quebec Asthma and COPD Network have indicated an interest in developing an Asthma/COPD program that will qualify for CNAC approval. Communication in this area is ongoing.

*e) Development of a COPD Component of the CAE Examination:* This is being explored and to date collaboration with the Canadian COPD Alliance (CCA) was commenced in August 2003 with the core competencies being determined, by CNAC and CCA representatives. The next step is to determine the process of development with the goal to offer in 2006. Considerable work is involved in the process and all steps should be taken to ensure success. Changing of the current examination blueprint to incorporate core competencies, disease specific components, item writing, examination setting, and financial resources are all determining factors, each being significant.

#### **ASED 7 November 17-19/2005 in Calgary, Alberta**

The Conference Committee has been formed with representation from nursing, respiratory therapy, physiotherapy, pharmacy and family medicine.

The COPD and Asthma Network of Alberta (CANA) has agreed to host ASED 7. Eileen Gresl, Coordinator for CANA, has agreed to serve on the Conference Committee. She has had considerable experience with the organization of respiratory conferences in Alberta. Two thousand and five is the centennial year of the Province of Alberta and it is hoped this will provide an opportunity for collaboration and support of ASED 7 by the Provincial Government. Social events are being planned in conjunction with ASED 7 in accordance with suggestions made in the evaluation forms from ASED 6. Committee members are presently giving thought to a theme for ASED 7 with a favourite being a topic based on an asthma education program incorporating structure, methods for achieving behavior change and evaluation.

The CNAC Board discussed the incorporation of some COPD topics including a session on differential diagnosis. It was also suggested that a satellite conference be considered and that Banff could be an attractive site for such an event.

#### **Guideline Update: Pediatric Guidelines**

CNAC has supported development of the Pediatric Asthma Guidelines in parallel with an update of the Canadian Asthma Guidelines (primarily focused on the adult population) orchestrated by the Asthma Committee of the Canadian Thoracic Society. Small Expert Resource Groups produced background documents which were discussed at a meeting in June 2003. This meeting was attended by members of the ERG's and by representatives of CNAC member societies and organizations. As a result of the consensus discussions based on the expert resource groups reports **recommendations** have been put forward for both adult and pediatric asthma. An Executive Summary detailing these recommendations with a brief summary of the pertinent background data has been submitted to the Canadian Medical Association Journal for publication. The background reports will be published in the Canadian Respiratory Journal (adult topics, spring 2004) and in Pediatrics and Child Health later this year. We propose that a modified Executive Summary be submitted by a member of each of the CNAC organizations/societies through their official publication. The major remaining issue which must be addressed is the implementation of these guidelines.

**Implementation:** CNAC has taken the lead role in implementation of the asthma guidelines. A preliminary business plan was presented to PAGIC reviewing structure and process. Since that time, meetings have been held between Allan Becker, as a representative of CNAC, the President of the Canadian Thoracic Society (Dennis Bowie) and the Chair of the Implementation Committee of the CTS (Louis-Philippe Boulet). Concerns have been raised by the CTS about parallel implementation of COPD guidelines. As a result of our discussions a series of proposals will be put forward at the upcoming meeting of the Asthma Committee of the CTS. They will propose:

- a) to structure a new guidelines implementation committee as recently discussed and suggested in the CNAC Asthma Guidelines Implementation Plan.
- b) to organize a first symposium on guidelines implementation for the fall of 2004.
- c) to proceed with Asthma Guidelines Implementation separate from COPD issues.

They further propose a meeting of the Co-chairs with regional input as outlined in the CNAC Business Plan proposal i.e. Regional/Provincial Chair "Asthma Expert" and a regional/provincial champion (primary care).

Seed funding is currently available from CNAC members AstraZeneca, GlaxoSmithKline, and Merck Frosst, and from ALTANA and 3M Pharma to support such a meeting. It is further proposed that Sonya Corkum, Vice President for Knowledge Translation, CIHR be invited to participate in the meeting. We propose to hold this meeting at the end of June 2004 to further develop the strategy for guidelines implementation.

**Executive Director:** It is proposed that an executive director be hired for this process with a three year mandate. Additional support personnel will be required as the program evolves into a functional national asthma campaign.

**Funding:** Seed money has been provided for this program from our industry partners. Continued substantive support will be required from our industry partners but additional sources must be sought including provincial and federal governments and non-pharmaceutical industries. A commitment of funding for each of the next three years for implementation from our pharmaceutical industry partners is essential to move this process forward.

# International Primary Care Respiratory Group Report

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**T**he International Primary Care Respiratory Group was founded in 2000 at a meeting of the GPIAG (GPs in Airways Group of Great Britain). Since this time we have grown to include the membership of primary care groups interested in respiratory disease from 14 different countries (Australia, Norway, Bangladesh, Saudi Arabia, Canada, Spain, Cyprus, Sweden, Denmark, The Netherlands, Ireland, Pakistan, United Kingdom, New Zealand) and with associate members from another nine countries (Finland, France, Poland, Germany, Portugal, Greece, Ukraine, United States of America, Italy) as well as many individual members from countries not yet having primary care groups. We have had recent correspondence with Romania and are awaiting final paperwork from them to become associate members and a further contact from the Wonca Europe conference from Kazakhstan has also been approached. We have also made contacts in Belgium and the Czech Republic.

This meeting follows a very successful meeting in Amsterdam two years ago. We had over four hundred delegates from around the world and included four members of the FPAGC from Canada including Shafiq Ramji, Jacques Bouchard (one of our new FPAGC executive), Jean Roy and myself.

The theme was "The Way Forward" and incorporated issues of Asthma, COPD, Rhinitis, Allergy, Lung cancer,

Tuberculosis, Respiratory infections, and primary care research. I will review a variety of the presentations and abstracts and specifically look at patterns of care that may be applicable here at home.

One interesting thing was the performance of a public spirometry screening that occurred in front of the conference hotel. We did spirometry on people who walked up and requested it, and as expected I found the range from normal to undiagnosed COPD in smokers to poorly-controlled asthma. Feedback was given to each participant and a copy of the spirometry was provided to take back to their physician. I hope that I was successful in helping at least a few Australians to quit smoking! I would like to thank MicroMedical for the supply of the machines and the members of the National Asthma Council of Australia, Victoria Branch for their assistance.

Dr. Christine Jenkins gave a nice overview of COPD in Australia and the issues were much the same as here at home, however, their smoking rates are much higher, around 30-35%! They are also finding that the diagnosis is made late in the disease (symptoms are often delayed until the FEV<sub>1</sub> falls to less than 50%) and implementation strategies for screening are being created.

Bronchodilators, the controversies of inhaled steroids, and exacerbation management were discussed. End of life care and living wills are an issue for the Family Physician. An interesting statistic was that the average life span for a person following a hospital admission for COPD was 3.1 years!

Multiple examples of innovations in primary care delivery were reviewed from multiple countries. I can report on this further in the future if this is of interest. A new innovation in technology with respect to testing with C Reactive Protein to assist in prediction of

likelihood of bacterial infections is one exciting new product that I hope to bring studies of to North America.

Dr. Onno van Schayck is the chairman of the new IPAG guidelines.

WAIT! Not another guideline? This group is part of the IPCRG and they have produced International Primary Airways Group guidelines **BY** primary care docs **FOR** primary care docs. They are based on GINA, GOLD and ARIA guidelines which are the internationally approved guidelines for asthma, COPD and allergic rhinitis (in asthma). Dr. Jacques Bouchard has been the Canadian representative to these guidelines.

These guidelines are different and hopefully we can review them in the next year for you. They look at symptom based approaches, which is how we work, and not after the diagnosis is made. They echo the WHO (World Health Organization) parameters of the minimum level for diagnosis treatment, the optimal (standard) level and the ideal (unlimited resources). This mimics the reality of our world that encompasses developed and developing countries.

Diagnostic questionnaires with flow charts can allow symptom based diagnoses. No this does not mean that I have stopped pushing spirometry, but the reality is that it is still not being done. Good COPD questionnaires have been created and evaluated by experts like Thys van der Molen and David Price and are evidence based.

These new guidelines will also attempt to deal with the difficult primary care issue of management of asthma in children under 6 years of age. We have some waiting before these will be released as we are hoping that WONCA will accept these and be a partner in these worldwide. Presentations on these will occur at the

WONCA meeting which will be held in Orlando along with the American Academy of Family Physician meeting in October 2004.

I was involved personally in reviewing abstracts on primary care initiatives. I also continued my involvement in the previous meetings with respect to teaching spirometry. I can now say that I have taught spirometry across the world, in Canada, USA, Great Britain, the Netherlands, and Australia, to primary care physicians from around the world!

**Chairman's Note:**

As an inaugural board member of the International Primary Care

Respiratory Group, I attended meetings related to membership of this group as well as future research.

I have arranged for all members of the FPAGC to be members of the IPCRG and thus will get the newsletter (now created with Elsevier) for the next year at least. Please go to their website which can be found linked to our site at [www.fpagc.com](http://www.fpagc.com)

Future research in the primary care setting is an exciting benefit of membership in the FPAGC and the IPCRG and we will be contacting you about this in the next year. I hope to do at least a couple of survey-based studies in the next year.

Mark your calendars!! The third international primary Care Respiratory group meeting will be in Oslo June 8-10, 2006. The host country for the 2008 conference will be Spain. I want to continue what the FPAGC started in September this year with a family practice symposium of our own in association with the CSAI. Eventually with your support and attendance, it would be great to have Canada host an IPCRG meeting; how do you feel about that!! Feel free to contact me at [www.fpagc.com](http://www.fpagc.com) and let me know how the FPAGC can help you.

## *Pediatric Asthma Consensus Guidelines*

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**Coming soon to a Canadian journal near you—the new consensus guidelines on pediatric asthma management!!**

**I**t is with eager anticipation that most of us are looking forward to the publication of the completed pediatric asthma guidelines. There are a number of issues regarding the management of pediatric asthma that were not adequately covered in the adult asthma guidelines. These include the role of prevention in pediatric asthma—including breast feeding and pets, the exact role of inhaled corticosteroids and dosages in children with asthma and the diagnosis of asthma in infancy.

For many of us in primary practice the answers to these any many other questions regarding pediatric asthma management would be a welcome addition to our clinical resources.

Expect the new guidelines to be published in the near future in a supplement to the CMAJ journal.

I also expect commentaries on the pediatric guidelines to appear in future issues on this newsletter.

ROBERT HAUPTMAN MD  
SECRETARY TREASURER FPAGC

# ER Rounds

## – Croup

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This is mostly a childhood disease and I will deal with croup in childhood. That being said, I do see adults with croup, cough bark and stridor and their treatment is very similar.

Here is the scenario. A young preschool child with acute onset of horrific sounding barking cough and what sounds like terrible respiratory distress when the child breathes in. They rush the child into the ER, wherein the child is often fine and we wonder what the fuss is all about!

Croup is a disease occurring mostly between six months and three years (although still not uncommon from three months to fifteen years) that occurs mostly in the late fall to early winter months. Boys seem to be more frequently affected than girls. It presents as mentioned above, with an antecedent non specific URI with cough, rhinorrhea and fever, sudden onset of barking cough, respiratory distress and stridor. It is usually a parainfluenzal virus infection and can also present with fever.

The symptoms usually become worse at night, but most obstructive symptoms usually resolve in about 48 hours; some can remain symptomatic for up to six days. The presentation, as mentioned, is often acute, but respiratory failure often takes several hours to occur giving you time to attempt some treatments.

### Differential diagnosis

It usually is croup!

Much less common you must consider bacterial tracheitis which is

probably just croup that has been superinfected with a bacteria. The difference is that these kids are more toxic and febrile with a less significant response to epinephrine. These children need IV antibiotics, admission and frequently respiratory support. Epiglottitis in children is another differential, but really looks quite different. They do not cough, but sit quite still, with head forward and drool. They are febrile and toxic. These kids need experienced physicians in airway management and most hospitals have protocols for this very serious acute emergency. If you see this child in the office, call the ambulance and have the child transported in the arms of mom (to decrease anxiety) and with you along for the ride!

Fortunately, with the advent of HiB immunization, we do not see this very often anymore. Other things to think of are abscesses in the back of the throat (retropharyngeal or peritonsillar) or foreign bodies (usually in the upper esophagus).

### Treatment

This depends on severity and this can be decided based on the degree of cough, stridor, respiratory rate, heart rate, chest wall retraction, and level of consciousness. Many croup scales exist and treatment can be related to the scale of illness. An order for a mist tent may reveal your age; this is rarely used and usually just adds to the child's discomfort by being locked away. Steam and "blow-by" oxygen (if hypoxic) can be helpful. Heliox<sup>1</sup> is theoretically of value as the smaller particles could bypass the obstruction and may be useful to try if debating intubation. Antibiotics in viral croup are useless, even as prophylaxis.

Mild croup may need nothing more than advice on steam, cold air, aceta-

minophen and reassurance. Nebulized budesonide will decrease the likelihood of the child needing to return and may be used.

More severe croup needs to have the obstruction acutely shrunk down by nebulized Epinephrine. We used to use Racemic Epinephrine, but availability issues are such that you can just put a half to full ampoule of 1:1,000 epi in 5 ml Normal Saline via a nebulizer and it works just as well. This will usually work within 10 minutes (often faster!) but will wear off in two hours, so do not discharge these kids too quickly after the Epi! If a child is in severe respiratory distress, it is reasonable to give a second nebulization back to back.

Corticosteroids are the mainstay of treatment. They have been shown to decrease return visits to health care workers, decrease symptoms, improve sleep, decrease parental stress and actually cost less in the long run to the health care system<sup>2</sup>. Dexamethasone is given po/IM/IV in a dose of 0.6 mg/kg as a single dose and may be repeated 6-24 hours later (personally I give a second dose 8-12 hours later). Oral is as good as IM<sup>3</sup>, unless there is vomiting. A recent study shows that the use of oral dexamethasone is advantageous even in mild croup<sup>5</sup>. Budesonide in a dose of 2 mg in a 2 ml nebulizer is useful also, equipotent to the oral steroids<sup>4</sup>, but much more expensive. I find it useful as a treatment in the milder children or in the more severe children I mix it with the first Epinephrine dose to hopefully get synergy. Its effect is likely about as good as the oral dexamethasone for mild to moderate croup. I believe that systemic steroids are necessary for more severe croup. Nebulized Budesonide may also be useful for those kids who keep vomiting up the oral dexamethasone and you don't

really want to stick with an IM treatment. Nobody ever talks about Prednisone or PediaPred; I see no reason why it should not work also in a dose of 2 mg/kg. There has not been much work on this dosing schedule, however.

Croup is a common condition that you will see this fall. Stratify the severity, ensure the correct diagnosis and use steroids to lessen the burden of illness. If you suspect pediatric epiglottitis, WORRY! and get the child to the ER stat and you go with them!

**Doses:**

*Epinephrine:*

Racemic

0.5 ml of 2.25% sol'n diluted in 3 ml of NS via nebulizer

Adrenaline

0.5 ml of 1:1,000 solution in 5 ml of NS via nebulizer

*Steroids:*

Dexamethasone

0.6 mg/kg po/IM/IV as single dose (may repeat x1)

Budesonide

2mg ampoule via nebulizer

**References:**

1. Weber JE et al: A randomized comparison of helium-oxygen mixture (Heliox) and racemic epinephrine for the treatment of moderate to severe croup. *Pediatrics* 2001; 1:209-12
2. Bjornson C et al: The use of dexamethasone in mild croup: A multi-center randomized controlled

trial. *Can J Clin Pharmacology* 2003; 10:130A

3. Donaldson D: Intramuscular versus oral dexamethasone for the treatment of moderate to severe croup: a randomized double-blind trial. *Acad Emerg Med* 2003; 10(1):16-21
4. Klassen TP et al: Nebulized budesonide and oral dexamethasone for treatment of croup: a randomized controlled trial. *JAMA* 1998; 279: 1629-32
5. Bjornson C, Klassen T, Williamson J. Et al, A randomized trial of a single dose of oral dexamethasone for mild croup, *NEJM* 2004;351:1306-11

## It's a Boy!

I have written in previous newsletters about the course of asthma in Pregnancy; one third stay the same, one third get

worse, and one third get better. Dr. Peter Gibson of John Hunter Hospital in Newcastle Australia studied 118 pregnant asthmatics. In the first trimester about 60% were free of wheezing and dyspnea. However, by 30 weeks only 28% of

moms carrying GIRLS were symptom-free. There was no change in symptoms among those women carrying boys. Thus it appears that those carrying boys may fare better in their pregnancy. Don't call me a chauvinist!!

## ASA and NSAIDs in Asthma

Are all asthmatic patients who are sensitized to ASA also at risk for problems with NSAIDs? A recent review in the BMJ (BMJ 2004 328:434-7.) suggests yes!

Christine Jenkins, head of the asthma group at Woodcock Institute of Medical Research, Royal Prince Albert

Hospital, New South Wales, Australia, and her colleagues looked at 21 studies involving asthmatics exposed to ASA and NSAIDs, 15 in adults and 6 in children. What they found was that the pooled incidence of aspirin induced asthma was 21% in adults and 5% in children.

Of the three studies reporting cross reactivity with NSAIDs, 98% of participants were sensitive to 400 mg or less of ibuprofen, 93% were sensitive to 40 mg or less of diclofenic acid, and 100% were sensitive to 100 mg or less

of naproxen. The COX2 specific NSAIDs were not mentioned in the studies but one would expect a similar cross sensitivity.

The clear implication for family physicians is that we need to remind our patients with ASA induced asthma to also be wary of NSAIDs. The better analgesic and antipyretic choice for asthmatics is clearly acetaminophen.

ROBERT HAUPTMAN  
SECRETARY TREASURER FPAGC

## A New Tool! CRP Measurement to Assess Bacterial Infection Risk

Bacterial infections are known to cause raised CRP and this fact has led to a tool for bedside measurement of CRP to predict bacterial vs. viral infections. A study from Norway authored by H Melbye looked at CRP in various viral infections. Viral studies and CRP levels were done. Influenza A had the highest levels of CRP peaking at up to 60, but this fell rapidly to below 10 mg/L at day 7-10 after the start of the illness. Thus, they surmised that a moderately elevated CRP can support a diagnosis of a bacterial infection (eg. Secondary group A streptococcal infection) when the illness has lasted more than one week.

This tool has been created and is produced by a Finnish company called Orion Diagnostica. It is a bedside machine that gives results in minutes.

It gives a quantitative result of CRP between 8-160.

CRP is a cyclic pentameric serum protein which is produced by the liver and epithelial cells after stimulation by inflammatory cytokines. Thus, it is part of a non-specific immune defense mechanism which is able to bind pneumococcal capsular C polysaccharide. It also activates the complement pathway and increases the production of tissue factor by macrophages. It is also a marker of cardiovascular disease and has been found in atherosclerotic plaque.

Erythrocyte Sedimentation Rate (ESR) is a better known marker of inflammation. It is measured by the ability to cause clumping of red blood cells. It is slower to rise and dependent on many factors such as red cell viscosity, morphology, density and on the hemoglobin level and thus is more difficult to standardize.

I will discuss the utility of this test only within the setting of respiratory infection. This data comes from the product monograph and other than the study above, this is all the data that I currently have on it.

### Pneumonia

CRP levels can reach 60 and indicate bacterial pneumonia.

### Sinusitis

CRP levels of about 20 may indicate bacterial illness.

### Bronchitis

CRP levels in viral illness after the 7-10 days as in the study above should be below 10, if not suspect bacterial infection. If they are low, THEY DO NOT NEED ANTIBIOTICS!

### Bacterial pharyngitis

CRP level of 35 can be used as a cut-off to decided bacterial vs. viral.

It appears that we may have a tool to allow us to discern between viral and bacterial illnesses in the primary care setting as a point of care test. There are definitely limitations in terms of timing of the testing. This will require finger prick testing and the cost of the test to be borne by someone. I will look into this more and if this is effective, it can certainly be an effective ally in our attempts to decrease inappropriate antibiotic usage to allow us to conquer the war on increasing antibiotic resistance.

# The Many Faces of Tuberculosis

As you have read in the section on the IPCRG meeting in Melbourne, you know that I have spent some time with physicians from overseas. I spent some time with Dr. Habib of Bangladesh and had my eyes opened to the fact that asthma is not the big respiratory problem in his country, TB is endemic there. We do not see as much TB, but with the world being one global village and diseases of decreased immunity, it is becoming more common yet again here.

I will deal with presentation and diagnosis in this article rather than treatment. I thought that I would illustrate three cases from my own practice to highlight the many faces of TB.

- Mr. K was a 70 year old male who presented with hemoptysis and RUL infiltrate. He came to Canada from the Ukraine 35 years ago. Sputum AFB grew TB and he received triple therapy until cultures came back.
- Mr. S was a 52 year old man who presented for a General Assessment. He had pyuria with no complaints. His urine culture was negative. He had a cystoscopy for this in the past before coming to see me and had been treated for six weeks with a quinolone for presumed prostatitis. He developed a bit of night sweats and a first morning urine for AFB was positive for TB. He was started on quadruple therapy and his course

was complicated by resistant organisms.

- Dr. X is a 50 year old physician who was exposed to TB in the ER. His TB test turned positive from negative and he was started on Isoniazid. He unfortunately developed INH Hepatitis, but has now recovered.

Risk factors for TB include:

- 1) Exposure to active Tuberculosis
- 2) Aboriginal Canadian
- 3) Foreign born (not North America or Western Europe)
- 4) Elderly (over 70)
- 5) Immunocompromised (HIV< Renal failure, diabetes, chemotherapy)
- 6) Untreated post-primary tuberculosis (lung apical scars with no history of treatment of TB)
- 7) Silicosis (eg work in mines or quarries)

Tuberculosis can affect any part of the body with the lungs being the most common and the most infectious. Pulmonary (54%), Peripheral (eg. Nodes 23%), Disseminated or miliary (5%), bony (5%), Pleural (4%), Intracranial (4%), Genitourinary (4%) are recent Alberta statistics collated by Dr. Bob Cowie<sup>1</sup>. I think it is worth saying, if you feel that you have a patient with pulmonary TB, put on a mask and put a mask on the patient to prevent spread. Routine cultures will not diagnose TB, special media and stains are needed, so ask for it specifically with first morning specimens.

What about TB skin tests (Mantoux)? These are important but do need to be done correctly and interpreted correctly. At 48 hours a 10 mm

indurated erythematous patch in immunocompetent patient, and likely only 5 mm in an immunosuppressed patient indicates positivity. The indication for this test is for:

- a) baseline eg. Teachers and health care workers
- b) TB exposure to assess need of treatment for latent TB infection (LTBI)

It is not a test for acute infection.

What about LTBI<sup>2</sup> like in case 3. The risks of therapy must be weighed against the risk of disease. Mostly it is used for seroconverters with exposure to TB, those who are immunocompromised, and those with evidence of untreated and inactive post-primary TB.

This is a place for us to think of the diagnosis and to make it. Unless you do a lot of this, get help with treatment<sup>3,4</sup> as the incidence of resistant organisms are increasing and the regimens are changing frequently.

## References:

1. Cowie RL, Share JW. Extrapulmonary tuberculosis. *Int J Tuberc Lung Dis* 1997;1:159-162
2. American Thoracic Society. Targeted tuberculin testing and treatment of latent tuberculosis infection. *Am J Respir Crit Care Med* 2000;161:5221-5247
3. Canadian Tuberculosis Standards 2000, Canadian Lung Association/Health Canada, Ottawa <http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ctsncla00/pdf/cts00.pdf>
4. Canadian Communicable disease reports <http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/>

# Buteyko Breathing

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Many asthmatics ask about what they can do for their asthma other than taking medications. My first answer is to control the environment. There have been many proposed alternative therapies; most do not impress me as effective. The Buteyko breathing technique is one that I think you will hear more about.

Konstantin Buteyko is a Russian physician who developed this technique as a breathing exercise for asthmatics in the 1950s. His belief was that symptom relief could be created by reducing hyperventilation. This technique involves a series of breath-holding exercises which are to reduce the frequency and depth of breathing.

Studies have shown a reduction in inhaled bronchodilators, inhaled steroids and improvement in quality of life. No study has shown an improvement in lung function, one study showed that deep diaphragm breathing

showed an improvement in bronchial hyperresponsivity.

This method of breathing has been used commonly in Russia and in the southern hemisphere like Australia and New Zealand.

The pathophysiology of this has been studied and I recently read an abstract<sup>1</sup> on this that is worth sharing. These researchers felt that the Buteyko method of breath holding was designed to raise the pCO<sub>2</sub> which would result in bronchodilation and relief of asthma. Their study showed that CO<sub>2</sub> is a bronchial smooth muscle relaxant with a mechanism involving Calcium channels. It concluded that hypocapnia (low CO<sub>2</sub>) may increase respiratory smooth muscle tension and that CO<sub>2</sub> would relax the constricted airways in the allergic model of asthma

#### Ed. Note

I wonder how many of these were true asthmatics in the 'studies' and how many of the participants had chronic hyperventilation. However, despite this, it seems reasonable for us to not discourage this as a breathing exercise to decrease symptomatology. It should not replace medication as it has never

been shown to improve lung function. So, all of you, take a deep breath using your diaphragm, hold it.....

#### References:

1. McHugh, P et al Buteyko Breathing Technique for asthma; an effective intervention. The New Zealand Journal of Medicine 2003;116:U781
2. Bowler, S. et al, Buteyko Breathing Technique in asthma; a blinded randomized control trial. Medical Journal of Australia 1998;169:575
3. Opat, A et al., A clinical trial of the Buteyko breathing technique in asthma as taught by a video. Journal of Asthma 2000;37:500
4. Evaluation of the scientific basis for the buteyko breathing technique for the treatment of asthma. T El Mays, R Wilson, M Poulin, W Whitlaw, M Hollenberg, F Green, Dep't of Pathology and Laboratory Medicine, University of Calgary, Calgary, Alberta (Abstract #19 from National Research Forum for Young Investigators in Circulatory and Respiratory Health, May 2004)
5. Wellness Options, Lung Health No. 17 July 2004 p. 35

# Screening for lung cancer

Mr. Smith is a sixty four year old long time smoker who comes in for his annual physical and you have done spirometry and discovered that he does not have COPD (screening test one), you have done an ECG which is normal (screening test two) and you order an ultrasound of the abdomen to rule out AAA<sup>1</sup> (screening test three). All of these are examples of screening an asymptomatic population, some with better evidence than others, but all quite acceptable and often routine. Then he asks you if he should have a CXR or that new test, a helical CT scan of his chest to screen for lung cancer as he is a smoker. What do you tell him??

This question is common and not yet clearly answered. It is not the same as screening for breast cancer with mammography, as we do not know the natural history of those lung tumors we will find. It is not the same as FOBT for colon cancer screening as the prognosis is not vastly improved by early detection. Lung cancer survival has not changed a lot over the last number of years with a five year survival on average of only 15%<sup>2</sup>.

Many studies have looked at the use of CXR for screening for lung cancer. The largest is probably the Mayo Lung project which randomized 100,000 smokers into intensive quarterly screening with CXR and sputum cytology or to routine care. This lasted about ten years. At the conclusion, the studied group had a higher incidence of lung cancer and an improved survival rate compared to control, BUT

there was no difference in cancer-specific mortality. Many theories abound<sup>3</sup> as to why this is including the fact that in the control arm, nearly 50% had annual interval CXR studies. Most were actively smoking men who thus had squamous cell carcinoma; while now we are looking at mostly former smoking females who mostly get adenocarcinoma. Furthermore, it is now felt that CXR is the wrong test as it is too insensitive. In this project, less than half the patients had surgically respectable tumors and 30% were pathologic stage 1. Thus we should consider the use of helical low dose CT scanning instead.

A study on the use of LDCT (low dose CT) screening was published in 1999 by the New York Early Lung Cancer Project<sup>4</sup>. 1000 asymptomatic smokers or past smokers of at least 10 pack years (nearly 1/2 were women) had CXR and LDCT performed at baseline. Overall the cancer prevalence was 2.7%. 20 of the 27 cancers were not visualized by CXR. As this cohort continued to have annual screening<sup>5</sup>, nodules were detected in only 2.5% with one quarter having malignancy, which is in contrast to the 1 of 10 nodules found to be malignant in the baseline assessment.

Even if we diagnose these patients earlier, can we treat them better? That is the axiom of screening, in that the condition we diagnose can be treated effectively! The natural history of most lung cancers is fatal, so we do not have to worry about over diagnosis. It is unclear as to whether there is a survival benefit<sup>6</sup> to earlier diagnosis of smaller, less than 3 cm tumors T1N0. If you believe there is, then screening is a reasonable thought. This needs to be studied, so I am afraid that right now this is still unanswerable.

So for Mr. Smith, there is no value

for a screening CXR. Screening LDCT might have benefit and might not<sup>7</sup>, but is not yet routine even to our neighbours to the south with all of their resources. I don't know about you, but my wait time for CT for stuff like tumors that I have already found is too long. If we add screening chest CTs, it will make this list even longer, and with no data that it will help anyhow.

ALAN KAPLAN, CHAIR, FPAGC

## References:

1. Lederle FA. Ultrasonographic screening for abdominal aortic aneurysms. *Ann Intern Med* September 16, 2003; 139:516-23
2. Breathnach OS, Freidlin B, Conley B, et al. Twenty two years of phase 3 trials for patients with advanced non-small-cell lung cancer: Sobering results. *J Clin Oncol* 2001;19:1734-42
3. Bach PB, Kelley MJ, Tate RC, McCrory MC. Screening for lung cancer: A review of the current literature. *Chest* 2003;123(Suppl 1): 72S-82S
4. Henschke CI, McCauley DI, Yankelevitz DF, et al. Early Lung Cancer Action Project: Overall design and findings from baseline screening. *Lancet* 1999; 34:99-105
5. Henschke CI, Naidich DP, Yankelevitz DF, et al. Early lung cancer action project: Initial findings on repeat screenings. *Cancer* 2001;92:153-9
6. Okada M, Sakamoto T, Nishio W, Uchino K, Tsubota N. Characteristics and prognosis of patients after resection of nonsmall cell lung carcinoma measuring 2 cm or less in greater dimension. *Cancer* 2003; 98:535-41
7. Patel M, Davidson W. Opinion on role of CT in screening for lung cancer, pro and con, *Can Resp J* 2004; 11(3):214-218

## Stop Smoking – Another Reason

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Cigarette smoking during pregnancy is known to be bad for the baby for a number of reasons. This study looks at another risk; that of the risk of the offspring becoming

nicotine dependent!

The offspring of 1248 women (data collected from 1959-1966) were interviewed about their smoking history and evaluated for nicotine dependence. Those whose mothers smoked  $\geq 1$  pack per day during pregnancy had a higher rate of nicotine dependence.

I agree that postnatal exposure to smoking would also influence outcomes of this study, but I will add it

to my arsenal in my attempts to counsel pregnant moms not to smoke.

ALAN KAPLAN, CHAIR, FPAGC

### Reference:

Buka SL et al. elevated risk of tobacco dependence among offspring of mothers who smoked during pregnancy: A 30-year prospective study. *Am J Psychiatry* 2003 Nov; 160:1978-84

## COPD screening in primary care with Spirometry

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Many of you have heard Dr. Lowry or myself lecture on

spirometry over the years. A common question is the value of spirometry in the screening of smokers for COPD. Does this work? Does it change behaviors of the patient?

A Spanish study published in *Acute Bronconeumol* 2004; 404:155-159 looked at 164 high risk smokers with no previous diagnosis between 40 and 76 years. Spirometry diagnosed 22% with spirometry in 1999 and three

years later another 16% were diagnosed. Many smokers were able to quit smoking once told of their diagnosis.

This study reaffirms what we have been saying. It is effective and advantageous to screen for COPD with office spirometry in the early phase of COPD.

ALAN KAPLAN, CHAIR, FPAGC

# Inflammation in COPD

Asthma has long been understood as a disease of airway inflammation. Not too surprisingly treatments over the last ten years for asthma have focused on treatment of this inflammation even in the earliest stages of the disease. Now new research has shown that inflammation plays a significant role in COPD even in its late stages.

Published in the June 24th 2004 edition of the New England Journal of Medicine, Dr. James Hogg from St. Paul's Hospital in Vancouver conducted an extensive pathological study on the surgically resected airways of 159 patients with various stages of

COPD. What Dr. Hogg found was that the airway obstruction that develops as a result of chronic inhalation of cigarette smoke and other air pollutants is a result of the accumulation of inflammatory exudates in the wall and in the lumen of the small conducting airways. These changes begin very early in the disease and are associated with airway remodeling that eventually thickens the walls and narrows the lumen contributing to the fixed airway obstruction seen in these patients.

What is even more interesting is that Dr. Hogg found that the inflammatory response appears to increase with the severity of the disease.

Of course, unlike asthma, the inflammation in COPD is not primarily eosinophilic inflammation but rather neutrophilic inflammation.

Furthermore there are a number of

inflammatory mediators involved in COPD that we are just beginning to understand.

Taken as a whole, Dr. Hogg's research has given us more insight into the pathophysiological changes in COPD. The therapeutic implication is that if we can find ways to better treat the inflammatory changes seen in COPD, we might be able to alter the natural course of the disease or at least improve prognosis for those unfortunate people with severe COPD.

Of course the best solution still is in prevention and smoking cessation programs. However, success in these areas remain elusive and an ongoing challenge for all health care professionals alike.

ROBERT HAUPTMAN MD  
SECRETARY TREASURER FPAGC

## COPD and CABG

An Israeli study released in Chest 204; 125:56-62 looked at the outcomes of patients with COPD who underwent CABG.

There is certainly a higher mortality

rate in patients with COPD than those without, both immediately post-op and over the ensuing 8.6 years of the study. The survival rate of patients with COPD over the 8.6 years was 65% vs. 92% in the control group.

Early on the patients with COPD who survived were actually not even feeling

that their quality of life had improved. By the end of the study, however, "the patients with COPD who survived felt a significantly improved quality of life compared to preoperative status".

Thus CABG is not contraindicated in those with COPD, although the post-operative mortality is higher.

# The Committee

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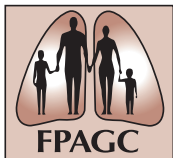
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## MISSION STATEMENT



*The Family Physicians Airways Group of Canada is committed to helping those with airway diseases lead a full life. The group is dedicated to helping all family physicians maintain and increase their skill in assisting those with asthma and COPD. The strategy of the Group is to maintain a speaker bank, a data base, and practical tools to help physicians attain in these skills.*

The opinions expressed in this newsletter are those of the authors, and not necessarily those of the Family Physicians Airway Group of Canada.