



Family Physician Airways Group of Canada

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Spirometry In Primary Care – CD-Rom

Dr. Alan Kaplan, MD CCFP(EM)

I wanted to review a new tool that is available for you. I have had the pleasure of teaching Spirometry over the years, and to many of you! The Ontario Lung Association approached me to create a CD based on one of the workshops that the FPAGC has given on this topic. I would particularly like to recognize the work of the executives who have fed back to me on this consistently over the years. Mostly, I want to thank Dr. Josiah Lowry of Orillia, who was really my mentor in Spirometry and who originally developed the workshop with me many years ago.

It seems that only in respiratory medicine, is treatment given without objective lung function measurement. It is unlikely that you would diagnose hypertension without a blood pressure cuff, or evaluate someone's blood glucose level without a glucometre? Likewise, one should not arbitrarily treat respiratory disease without an objective measure of lung function such as spirometry. In the future, we may well have measures of inflammation at our disposal — for now, we have Spirometry.

Chronic Obstructive Pulmonary Disease (COPD) is under-diagnosed primarily due to the fact that most of these individuals remain undiagnosed until they experience their first severe exacerbation, often requiring hospitalization. At this advanced stage, more than half of lung function has been lost. However, with early diagnosis, health care providers are able to help patients implement strategies to delay the progression of COPD. Those with asthma may delay seeking medical attention or over-rely on

bronchodilator therapy resulting in suboptimal outcomes. Better outcomes can be achieved through education and a comprehensive care plan.

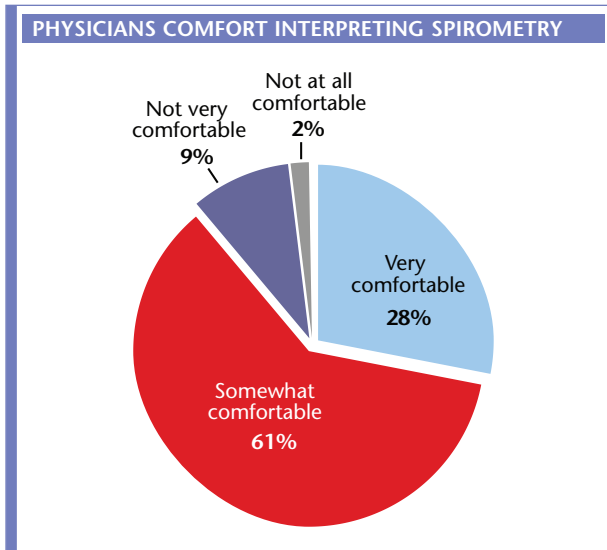
Therefore, health care providers have a primary role to play in the early diagnosis and management of diseases such as COPD and Asthma.

The Canadian Asthma Consensus Guidelines state that objective measurements such as spirometry are needed to confirm the diagnosis of asthma and assess asthma control and the efficacy of therapy.⁽¹⁾ The Canadian Thoracic Society COPD guidelines state that airflow obstruction confirmed by spirometry is essential for the diagnosis of COPD. The guidelines define the diagnosis of COPD by spirometry. A post bronchodilator forced expiratory volume in 1 second (FEV₁) of less than 80% of the predicted normal value and a ratio of FEV₁ to forced vital capacity (FVC) of less than 0.70, are both required for the diagnosis of COPD.⁽²⁾

Using spirometry as an objective measure is not without its challenges. Some of the concerns identified by health care providers related to the use of spirometry include the following:

- Accessibility to testing
- Physician comfort interpreting spirometry
- Time constraints

| Continued on following page



Source: Leger Consumer Survey, Sept. 2006

The Ontario Thoracic Society (OTS) Provider Education Program developed an educational CD on spirometry in an attempt to address these concerns and facilitate the use of spirometry, in practice. The CD format is easy to navigate and includes: spirometry interpretation, example cases, peak flow, related links, and resources.

The objectives of the CD are as follows:

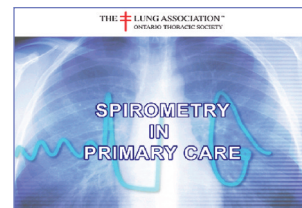
- To describe the role of spirometry in primary care
- To list the indications and contraindications for doing spirometry
- To outline the steps involved in performing spirometry
- To understand spirogram acceptability criteria
- To distinguish between restrictive and obstructive ventilatory defects

At the Ontario Lung Association’s Better Breathing conference in February 2007, a multidisciplinary group of health care providers including Respiriologists, Pulmonary Function Technologists, Respiratory Therapists, Nurses and Pharmacists were asked to evaluate a preliminary version of the CD and provide feedback.

Preliminary results for this pilot indicated the following:

- Information was clear and comprehensive
- Information resulted in increase knowledge of spirometry
- The CD is an effective learning format
- Participants were able to navigate through the CD with ease
- Participants would recommend the CD to a colleague

The “Spirometry in Primary Care” CD is now available and has been endorsed by the Ontario Thoracic Society, the Ontario Respiratory Care Society, and the Family Physicians Airway Group of Canada.



Copies are available to health care professionals at no charge and can be ordered by calling The Lung Association (Ontario) 1-800-972-2636.

I hope that you get a chance to use this and find it a great resource.

Funding for the development of the CD provided by the Ministry of Health and Long-Term Care.

References

1. Lemièrè C, Bai T, Balter M, et al. Adult asthma consensus guidelines update 2003. *Can Respir J* 2004;11(Suppl A):9A-33A.
2. O’Donnell DE, Aaron S, Bourbeau J, et al. State of the art compendium: Canadian Thoracic Society recommendations for the management of chronic obstructive pulmonary disease. *Can Respir J* 2004;11(Suppl B):7B-44B.

ALAN KAPLAN, MD CCFP(EM), CHAIR, FPAGC

IPCRG Report

September 2007

The IPCRG has created a number of formal relationships that have strengthened the value of primary care doctors in respiratory medicine. IPCRG is now a collaborating working group with Wonca and has been invited to do respiratory meetings at their upcoming meetings in Paris, Istanbul and Singapore. There was a primary care day run by the IPCRG at the ERS meeting. We have representation at GARD (Global Alliance of Respiratory Disease). We have a relationship with EFA (a European patient advocacy group).

New governance organizational structure was discussed and approved for terms of office to allow consistency of message and action.

There are new members which include Sri Lanka and Bangladesh, with more coming. The IPCRG has created grants to support people to come to the IPCRG meetings from developing countries.

We reviewed the meeting agenda for Seville in 2008. We had 430 attendees from 30 countries in Oslo (June 06). There was much discussion and enthusiasm for the meeting in Canada in 2010! Plan to come!!

Many tools have been prepared, including spirometry and smoking cessation sheets. IPAG guidelines continue to be highly reviewed.

The next meeting will be in Seville in May 2008.

ALAN KAPLAN, MD CCFP(EM), CHAIR, FPAGC

Asthma & Competitive Sport

Do you know what asthma medications are allowed for your elite athletes? Your 'special' patients will expect you to guide them, treat them, and not put their athletic career at risk! All elite athletes with asthma should have an asthma management plan, including an Asthma Action Plan for exacerbations. They must also be made aware of which drugs are prohibited or subject to notification in their sport(s). Hopefully good control will prevent most of the exercise induced asthma. Drugs that are taken to prevent and/or treat asthma and EIA may be either:

1. permitted
2. permitted, subject to prior notification
3. prohibited in sport.

1. Drugs **permitted** in elite sports include:

- sodium cromoglycate,
- nedocromil sodium
- inhaled (and nasal) glucocorticosteroids
- leukotriene receptor antagonists
- ipratropium bromide
- theophylline
- antihistamines (all).

2. Drugs **permitted**, subject to notification in elite sports are:

- permitted β_2 -agonists by inhalation.

These are salbutamol, salmeterol, terbutaline and eformoterol. Notification of the intended use of these four permitted β_2 -agonists by inhalation is necessary prior to competition, but requirements vary from sport to sport. Athletes should be

advised to check the rules of their sport regarding notification and the status of each medication. At the Winter Olympic Games in 2002, athletes were required to provide laboratory evidence that they have asthma and/or exercise-induced asthma. In the absence of this proof, athletes may be required to undertake a laboratory test to confirm their need to inhale a β_2 -agonist. Beta₂-agonists by inhalation are classified as stimulants, and it is for this reason that they are subject to notification.

3. Drugs **prohibited** in elite sports are:

- oral and injected glucocorticosteroids
- oral and injected β_2 -agonists.

There is even a cutoff level for salbutamol in urine has been established to distinguish inhaled (permitted with notification) and oral (prohibited) administration. Severe penalties may follow if an elite athlete takes an oral β_2 -agonist.

Special points:

- Most contain sympathomimetic amines of which ephedrine, pseudoephedrine and phenylpropanolamine are examples – these are all banned substances. The unwitting use of 'over the counter' flu and hay fever medications has not infrequently resulted in Olympic disqualification
- Some sports now require evidence of asthma/EIA to support the notification of the use of medication from their elite athletes.
- Remember that combination medications, such as fluticasone plus salmeterol, contain a notifiable component

Reference: Australian Handbook on Asthma

Alan Kaplan, MD CCFP(EM), Chair, FPAGC

Advances In Holding Chamber (Spacer) Technology

Introduction

Valved Holding Chambers (VHCs), also commonly referred to as “spacers,” are designed to optimize medication delivery, reduce oropharyngeal deposition of medication and help patients to overcome difficulties in the co-ordination between actuation of a pMDI and inhalation.

Although VHCs are sometimes called spacers, it is important to distinguish between these two types of accessory devices, as their functions are fundamentally different. Spacers or open tube extensions of the pMDI actuator mouthpiece merely increase the distance between the inhaler and patient, thereby allowing more room for the aerosol plume to expand, reducing oropharyngeal deposition of medication due to inertial impaction. If the patient exhales rather than inhales, the aerosol contained in the spacer will be blown away and therefore the medication will not be available for delivery at the next inhalation. A one-way inhalation valve separating the chamber from the patient airway in a VHC enables the aerosol to be preserved for a varying period of time that could be as long as 30 s (based on laboratory studies), if the user cannot coordinate actuation of the inhaler with inhalation.

Key Characteristics of a Well-Designed VHC

The table to the right outlines the 14 characteristics that are associated with a VHC that will perform well.

Out of the Key Characteristics identified above there have been two significant technological advancements introduced. The inhalation valve indicator allows both the patient and their health care provider the reassurance that inhalation has been performed correctly, while advancements introduced to address the presence of significant electrostatic charge associated with many of the HFA-based formulations, holding chambers are now available in light weight on non-static see through materials have been introduced.

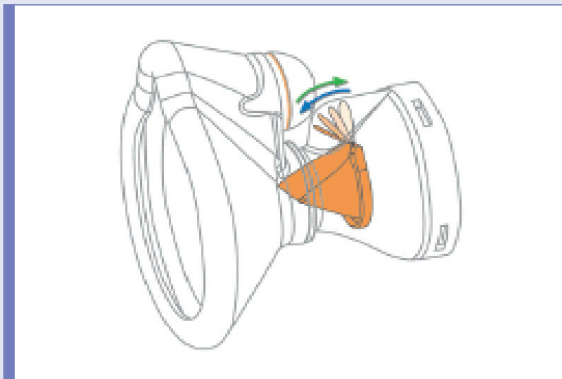
Table 1: Key Characteristics of a Well-Designed VHC

1. Universal pMDI adapter that is easily removed to facilitate cleaning of the VHC
2. Responsive inhalation (and exhalation) valves
3. Capability to observe valve movement, especially for VHCs with facemask
4. Ability to ensure a good facemask seal to face
5. Offer a mechanism for breath counting and timing of actuation with inhalation
6. Constructed from shatter-resistant materials and designed to prevent dislodgement of small components when subjected to mechanical shock (dropping from the mouth to the floor – CSA for Medical Device)
7. Compact size (improved portability)
8. Use of transparent non electrostatic (anti-static) materials
(NB: transparent, charge dissipative materials enable aerosol formation to be observed)
9. Capability to observe aerosol formation following inhaler actuation
10. Designs that are specific for infant, child or adult use
11. Facemask with minimal dead volume and comfortable fit with the minimum of applied force to achieve a seal to the face (the facemask should be made from latex-free materials)
12. Exhalation valve in facemask that offers low resistance to exhaled flow
13. Coaching aid to encourage slow inhalation (particularly for VHC/mouthpiece interface, used by older children and adults)
14. Instructions for use permanently printed on the VHC body

1. Inhalation Valve Indicator

The inhalation valve has both to seal effectively to prevent loss of medication when the patient is not inhaling, but must also be responsive so that it does not stay closed when inhalation takes place. This is particularly important for VHCs that are intended for use by infants, where tidal flow is low and therefore there is little suction force to open the valve. A means to allow the health care giver to visualize valve movement when administering medication is important to provide feedback when the patient has inhaled (Figure 1). In the context of treating asthma, Crompton et al. have observed that devices which provides reassurance to patients and their health care providers that inhalation is performed correctly, and should help improve patient compliance and control.

Figure 1: An example of an inhalation valve indicator in which the flap moves back as the patient inhales, opening the inhalation valve, then returns as the valve closes at the onset of exhalation



The more advance VHCs devices provide added reassurance and have introduced a valved membrane that moves on inhalation to show that the medication is being inhaled.

2. Electrostatic Charge

It is well known that surface electrostatic charge acquired by VHCs manufactured from non-conducting materials during manufacture or subsequent handling can greatly reduce aerosol delivery, and the problem is exacerbated by the presence of significant charge associated with many of the HFA-based formulations. The use of electrically conducting materials, such as steel or aluminum, can be effective at minimizing the impact of electrostatic charge upon VHC performance. However, the recent introduction of transparent, but charge dissipative

materials is also effective, and has the advantage for the health care giver that the aerosol can be observed to form following pMDI actuation, providing reassurance of medication delivery.

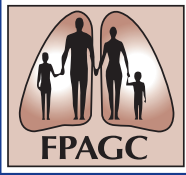
Conclusion

VHCs have made significant advancements to address both patient and care giver needs. The inhalation valve indicator allows both the patient and their health care provider the reassurance that inhalation has been performed correctly, while advancements introduced to address the presence of significant electrostatic charge associated with many of the HFA-based formulations, now allow for greater availability of medication. In addition to address these needs physicians should also be aware that many of these devices are covered under public and private health insurance plans thereby allowing patients opportunity to gain access to these devices and improved disease management.

It is important to note that most federal, provincial and private insurance plans fully cover the cost of a VHC on an annual basis.

If you would like to obtain a FREE patient counseling package (it includes both VHC demonstrator product and patient counseling tools), please fill out the following fax back request to Trudell Medical International at 1-519-455-7858.

Trudell Medical International



Family Physician Airways Group of Canada

Please Fax Request to:



Trudell Medical International™

1-519-455-7858

Please fill out the following information. Thank you.

NAME

MAILING ADDRESS

E-MAIL ADDRESS

YES, I WOULD LIKE TO RECEIVE A PATIENT COUNSELING ESSENTIAL KIT FOR MY OFFICE.

COPD: A National Report Card

This program was created by the CTS and CLA after a telephone study of 2600 patients, 252 physicians (29 were respirologists), and 130 COPD patients in September 2005 for five weeks. It is available at www.lung.ca

It is estimated that there are about 714,000 patients in Canada with COPD, although likely this is only 50% of the total, due to under-diagnosis. A recent study of 2,568 randomly-pollled Canadians were asked if they had been diagnosed with COPD, and 8% answered that they had — again, supporting the issue of under-diagnosis.

Fewer than 45% of Canadians had heard of Chronic Obstructive Disease and only 17% have heard of COPD. There were 252 print article media mentions of COPD between January and September 2005. In that same period, there were 13,000 mentions of HIV, 7,000 for Breast Cancer, and almost 3,000 for Alzheimers.

Fifty seven percent of Canadians are smokers or former smokers. Current smoking rates by province, range from 15% in BC to 33% in the Northwest Territories. 96% of Canadians

asked, felt that patients with COPD should have access to appropriate medications to alleviate their symptoms. COPD hospitalizations per 100,000 in adults over 50, range annually in 2001 from 555 in BC to 1,589 in New Brunswick (to 2625 in the Northwest Territories). It is expected that the hospitalization rates in women, will climb significantly, over the next 15 years.

How did the doctors do? 26% of them felt that they were familiar with COPD guidelines, with only 7% saying that they follow them all the time. Twenty one percent do not even know what treatments are recommended by the guidelines! Seventy four percent of doctors have access to spirometry, but 35% actually use it as a diagnostic tool and only 19% feel comfortable interpreting spirometric results.

Treatment issues are important. Only 1.2% of COPD patients have access to formal pulmonary rehab (an increase from 0.5% in 1996). There are NO programs in PEI, Newfoundland, and Labrador or in the Northwest Territories. Various COPD therapies are not covered in different provinces. This limits both medications and rehab for these patients.

The report actually breaks these down further by province — have a look at it and see how you are doing in your province!!

Alan Kaplan, MD CCFP(EM), Chair, FPAGC

Should I give my COPD patient Oxygen?

Goldstein R et al.

AmerJRCC 2007; August 15

Roger Goldstein looked into the actual value of Oxygen to patients with COPD. People with the standardized indications for oxygen use were studied. Each patient had three pairs of two week trials. Each pair had one two week period involving oxygen and the other two week period with placebo (patients were blinded). At baseline patients did a complete exercise test, a chronic respiratory questionnaire (CRQ, which measures dyspnea, fatigue, mastery and emotional function) and the SGRQ (activity, social function and psychology). After each treatment patients did a five minute home walk test wherein they were to walk at a comfortable pace and breathe naturally.

Oxygen significantly improved the patients endurance during the walk test and improved dyspnea. There were, however, NO difference in either CRQ or SGRQ. This suggests that oxygen did not translate into improvement in quality of life.

This conflicts with the basic treatment premised, that oxygen therapy decreases mortality. But, it must be remembered that the best data corresponds to the longest daily usage¹; not just used when needed.

Editors note:

There is no question that oxygen therapy for 15 hours per day in those with resting hypoxemia is lifesaving and essential. Many patients use it only occasionally during exertion for instance, a practice that is not supported by evidence. Thus not everyone who has a lowering of Oxygen levels during exercise will find it valuable to have Oxygen!

Reference

1. Flenley DC. *Chest*. 1985;87:99-103.

ALAN KAPLAN, MD CCFP(EM), CHAIR, FPAGC

Statins Reduce Loss of Function, Keeping Old Lungs Young — Even in Smokers

Stacey E. Alexeeff, Augusto A. Litonjua, David Sparrow, Pantel S. Vokonas, and Joel Schwartz

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Use Reduces Decline in Lung Function: VA Normative Aging Study *Am. J. Respir. Crit. Care Med.* 2007; 176: 742-747.
<http://ajrccm.atsjournals.org/content/vol176/issue8/>

Framingham data showed that having COPD was one of the highest predictors of Coronary Artery disease. TORCH¹ showed that CV disease was a common cause of mortality in patients with COPD. Inflammation seems to be the mediator in COPD that is involved in CAD, osteoporosis and muscle weakness that we see in COPD. Statins are known to be good for lowering cholesterol, decreasing CV disease and maybe even fighting dementia, and now they have another reported benefit: they appear to slow decline in lung function in the elderly — even in those who smoke.

The researchers analyzed 803 subjects who had had their lung function measured at least twice between January 1995 and June 2005 in the longitudinal VA normative aging study, which began in 1963. Both forced expiratory volume in one second (FEV₁) and forced vital capacity (FVC) were measured. The study subjects also completed questionnaires on pulmonary disorders, smoking and medication usage.

The investigators found that subjects taking statins experienced a markedly slower annual decline in lung function. Statin users lost 10.9 ml of FEV₁ on average, whereas nonusers lost an average of 23.9 ml each year — more than twice that of the statin group. Similarly, statin users lost an average of 14 ml a year in FVC, whereas nonusers lost an average of 36.2 ml.

To determine whether smoking status modified that effect, the researchers also divided their subjects into four smoking groups: never-smokers, long-ago quitters, recent quitters and current smokers. Within each smoking group, those not taking statins were estimated to experience faster declines in FEV₁ and FVC than those taking statins.

The researchers suggest that the observed effect may be attributable to statins' ability to reduce inflammation and smoking-induced injury in the lung, as well as their capacity to reduce serum levels of C-reactive protein, which relates to systemic inflammation, and to protect against oxidative damage.

Comment:

There seemed to be some overlap between groups and the lack of randomization and controls in this study. As such, further data is needed before any definitive conclusions are drawn. Their findings do, however, support the hypothesis that statins reduce the annual loss of lung function that occurs with age.

Despite this, recognize the common comorbidity of vascular disease and COPD; if you were borderline about using a statin, now you needn't be!!

Reference

1. Calverley PM, Anderson JA, Celli B, et al, for the TORCH investigators. Salmeterol and fluticasone propionate and survival in chronic obstructive pulmonary disease. *N Engl J Med.* 2007;356:775-789

ALAN KAPLAN, MD CCFP(EM), CHAIR, FPAGC

Chronic Respiratory Disease Surveillance Advisory Committee

Toronto March 6-7, 2007

I went to this meeting as an invited 'expert' to look at the ability to do surveillance of respiratory diseases across Canada. I represented the FPAGC and CNAC.

The purpose of the Chronic Respiratory Disease Surveillance Advisory Committee is to advise the Public Health Agency of Canada of planned or current activities in Canada on the development, use, and evaluation of high quality, timely surveillance information, that could be used by the Agency to guide and evaluate decisions about chronic respiratory disease policies, programs, services, education and research.

The immediate outcomes of the Advisory Committee work will be recommendations re:

- Increasing knowledge, skills and resources to do surveillance.
- Increasing knowledge of chronic disease health status, risk factors, health outcomes and impact, use of interventions and services.
- Increasing collaboration among database managers and data users.
- Increasing quality and comparability of data.

The Committee will have 10 to 15 members with expertise in the subject area and an interest in surveillance from data users and database managers including: academia, health professional organizations, NGO, provincial/territorial governments, local/regional public health, Statistics Canada, and CIHI.

The meeting utilized the experience of surveillance measures across multiple disease states both within and outside the Public Health forum. Paula Stewart of Health Canada was the chair of this meeting.

Presentations of ideas included web-based information hubs with multiple links to information bases and related projects. An example is www.cvdinfobase.ca/surveillance, which is a mapping tool to assist you in displaying health data that is interactive. You can look up by disease state, by location, by year, by gender, and even by multiples of such.

The Respiratory advisory committee met together and reviewed what was done in Canada. Pilot projects in Ontario, Alberta, BC, Saskatchewan and Nova Scotia on the administrative data for Asthma and COPD were reviewed. Quebec has done work in this area, but did not present. Louise McCrae is going to put this information together across Canada. There are very REAL issues in data collection, however. A classic example are people as young as

5 years old being labeled COPD as their diagnostic code was 'bronchitis' and this was interpreted as 'chronic bronchitis'. Clearly more specific indicators must be measured, perhaps age cut-offs for COPD would be one example.

Data cubes are another way to both look at, and interact with the data. Changes over time can be easily worked with, to show trends and use easily. The website is www.aihw.gov.au

Overall, the concept is to make data available all in one place. There will be interaction between CIHI, CIHR, Statistics Canada, and Health Canada to allow easily available data.

The Public Health Agency of Canada has a task force that the various advisory boards report to. It is looking at working across the provinces and Northwest Territories. The goals are to create chronic disease indicators, be a knowledge broker with key partnerships, be a surveillance resource, improve local, regional, and aboriginal data, and to eventually incorporate electronic medical record data.

Data needs to be collected in an efficient consistent manner. It was decided that as a supplement to the Canadian Health Study, for those with self-reported respiratory disease, we would use the St. George Respiratory Health Questionnaire. A screening five minute questionnaire will be followed by targeted thirty minute questionnaires, which will include the SGRHQ.

Data is collected a number of ways. Surveillance measurement through Sentinel Center surveillance as networks, survey data, hospital oriented data, ER data, billing codes, and drug prescription data are among current surveillance systems.

How can we measure the patients with Asthma or COPD when the case definition of these disorders are still unclear? What makes an asthmatic? A physician diagnosis, an asthma drug prescription (was it filled and thus measurable?) a hospital discharge diagnosis, a comorbidity such as rhinitis, a pharmacy claim or a patient self report? Similarly, we know that COPD is under-reported, under-recognized and under-appreciated as a cause of mortality (for example a patient with severe COPD will commonly die of Coronary Artery Disease!).

There is a report called Respiratory Disease in Canada which will be updated.

Conclusion:

Overall, this is very exciting. Health Canada is trying hard to get a handle on this complicated issue, of doing ongoing surveillance for chronic diseases. As you see from measures above, there are great limits. Most of our current data comes from hospitalized data, ICD 9 codes, drug-based data, diagnostic codes, or those with self-reported disease. Errors abound throughout, from improper diagnostic codes to medication used off label. All of these issues are being reviewed and a central collection agency with ability to interact with the data is the end goal.

Alan Kaplan, MD CCFP(EM), Chair, FPAGC

National Framework for Lung Health Meeting

April 2007

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This meeting was the culmination of a year of work and organized by the Canadian Lung Association on a mandate from, and with funding from, the Canadian government including Health Canada and the Public Health Agency of Canada. It brought over 185 stakeholders together from research, health, environment, patient groups, industry, business and clinicians. Nora Sobolov, the chair of the CLA was the meeting chair. Four themes were identified and had working groups, including tobacco, environment, chronic illness, and infectious disease. Overall, the purpose was to review the work of these working groups and review the goals, strategies and priorities.

We were introduced to the process by an inspiring presentation by the Minister of Health, Tony Clement. He reviewed the importance of respiratory health in Canada as recognized by the impairment in quality of life that occurs in those with respiratory disease. Respiratory disease cost 15 Billion dollars in lost productivity. There are 2.7 million Canadians with asthma (15.6% of kids and 8.3% of adults). Air pollution is worsening, last year was our worst smog year. Costs are significant, with 135,000 respiratory care admissions last year. 35% of all children admitted in Toronto last year were for Asthma.

He reviewed the ecohealth initiatives to improve air quality and decrease gas emissions. One target is to reduce greenhouse gas emissions by 20% by 2020. Smoking rates are the lowest in years, indicating a successful initiative. Rates in those over 15 are currently 18% (down from 49% in 1965). Smoking in the Inuit population is at 72% indicating significant population individual issues. The TB rate in Inuit is 30X that of the rest of the population. The government gave 350,000 to the CLA and the Public Health agency has given and will give for another two years 400,000 to the framework process.

The Lung Health Framework hopes for various effects on different groups. For health care professionals, a review of treatments, efficacy, health promotions and strategies, access to best practices, research and care co-ordination, early detection, and the needs of special populations such as First Nations, Inuit, Metis, and children. For non-government organizations we hope for better informatics, co-ordination, research access,

and even policy influence. People of the first nation will hopefully have an improved approach to their care, their air quality and perhaps even pointed research with their special concerns (high smoking rates and youth health issues).

Similarly government, both federally and provincially can expect changes. We are in a federal government with funding provincially. The federal government wants better access and reduced wait times, lower costs, national consensus, and patient managed care. Provincially we would hope for alignment of treatments across the provinces, cost reduction, resource use improvement, and improved co-ordination of access and health promotion. Researchers can hope for sharing and access improvement with co-ordination and improved implementation. Canadians with lung disease can benefit by improved (earlier) diagnostics and management (especially self-management), better access to care, knowledge enhancement, and preventative strategies. Even Canadians without lung disease may benefit by prevention, improved detection, options to help friends and family and improved access to care.

I was impressed by the strict timelines this project is working under. A full written report was done in June 2007. A web based searchable asset map has been designed to list respiratory resources has been created and will be generally available over the next short while. I will review next the initial workings of the four working groups.

Chronic Disease Working Group

Chronic respiratory disease is the third leading cause of mortality and the fourth leading cause of years of healthy life lost to premature death. Aboriginal communities are disproportionately affected. It causes a large burden of illness and a decreased quality of life. There are gender issues (increase risk in COPD) and impact of environmental exposures where people live, learn, play and work.

We have clinical practice guidelines for asthma, COPD, and sleep apnea that are up to date. They need implementation and there are many local and provincial initiatives going on. Overall, chronic disease management models are changing with concepts like multidisciplinary models may allow us new opportunities to make great future strides. We need to empower individuals to take responsibility for their own health. We would like to ensure that we have the mechanism to share best practices across Canada; hopefully we do/will have with this Framework. Hopefully we can link chronic respiratory disease with environmental issues and integrate initiatives along the entire continuum of care.

Infectious Disease Working Group

The First Nation/Metis/Inuit/recent immigrants are all people who are vulnerable and disproportionately affected with infection from TB to RSV. Partnership with public health agencies and co-ordination with other disease strategies would be helpful. Surveillance systems are needed for these hard to reach and underserved populations.

We must also be concerned about pandemic issues, both real and perceived. We need to build the infrastructure to handle surge capacity. International investment could lead to improvements in TB in Canada.

Tobacco Working Group

Smoking continues to be a burden on the health care system due to the illness it provokes. Demographics are changing, such as the concern of increased COPD rates in women, the high rates of smoking in the first nation and immigrant populations and an overall aging population. While multiple smoking cessation strategies exist, and medication such as Nicotine replacement, Bupropion and Varenicline are helpful, there are potential limits to their use. We need legislative based behavior change (such as the ban of smoking in public places, ban of selling cigarettes in pharmacies, and taxation changes to make the cigarette industry less profitable) and community-based behavior change. To do this public and political support must be obtained. There is a great potential to connect with other efforts to improve lung health, as well as other disease processes that would be interested in smoking cessation.

Environmental Working Group

“Health is the driver” for environmental change; to hopefully prevent illness. Reduction of both indoor and outdoor air pollutants, both acutely and chronically is the goal, especially for the vulnerable populations. Multiple government agencies including health, environment, natural resources, transportation must be involved, and across multiple jurisdictions. Action points include issues of emissions, ambient levels, and personal exposure. Climate change, air pollution and respiratory health are all linked. Air knows no borders, so international solutions are needed. It has been calculated, for instance, that most of the air quality issues in New Brunswick comes from south of the border.

Each of the four groups met separately to prioritize ideas on four themes; prevention and awareness, infrastructure, research and disease detection and management. We then brought all groups together to ensure that our overall message of the Framework covered all respiratory issues. This was a great process which made some very specific

recommendations and incorporated many different opinions to a reasonable consensus.

Summary

It is very exciting that we finally have a National Framework for Respiratory Health that involves all the stakeholders. We have support from the federal government to build processes to co-ordinate a strategy that will bring the country together. We can hopefully prevent duplication and provide strategies from the provinces that have (Ontario, BC, and Alberta) to those that require.

We can expect to improve smoking cessation rates, infections and chronic diseases. This will have significant implications for primary care physicians and those providing emergency care. With environmental change we can hope to prevent illness as well. Talk about a win-win proposition!

It is also important for different groups (be it CFPC, CAEP or FPAGC) to identify champions for initiatives such as this. These individuals need to be supported and have the authority to be able to invoke decisions that can allow progression of an important process.

Editors Note:

Is it just me, or could there be a co-incidence that on the same day as the meeting, Minister of the Environment John Baird announced a dramatic plan to rapidly attempt to reach targets for reduction of greenhouse gas emissions. The Conservative gov't plans include a short term reduction target of 18% per unit of production for existing industry by 2010, a 26% reduction target rate for industry by 2015, total emissions reduced by 20% by 2020, price changes on appropriate things like cars, appliances, electricity and fuel, national emission caps by 2012 for many air pollutants, and a mandatory fuel efficiency standard for the auto industry. All of this is predicted to save \$6.4 billion in annual health benefits by 2015. It will, however, cost as much as 8 billion dollars estimated in the 'worst' year of the plan. I know this is all a bit controversial, but it seems to me that it is not common that a government will take health planning seriously with implications far beyond their term of office. And lo and behold, the closing speaker of the conference was... the Honorable John Baird. He spoke brilliantly with ideas to make Canada a world leader in reduction of greenhouse gas emissions and improve air quality. While it will cost us, their approach is that the polluter should pay. Investment in new technologies may allow new options other than fossil fuel. Alternate renewable energy sources such as windpower and tidepower have been introduced. He closed by saying, and I quote, “the time for debate is over (ie. Kyoto) the time for Action is now”. So, maybe they were listening...

ALAN KAPLAN, MD CCFP(EM), CHAIR, FPAGC

Report From CNAC Board Meeting and ASED 8

November 2007

Certification Exam:

The HRSG company reviewed the steps for developing and administering the certification exam, especially as we grow to a Certified Respiratory Educator exam. This requires items for COPD in addition to the bank of Asthma questions that have been created over many years. At least three separate examinations are needed to ensure validity and reproducibility of the process. The reviewers have reviewed all of the exams and the newer COPD material. The pass mark is established based on a minimum level of competence. Questions that do not perform well may be removed from final scores, and are removed or revised and revalidated for future exams. There are currently over 600 CAEs in Canada.

2007 Certification Exam Administration:

- largest group since 1999.
- 234 registrations;
- 70 CAE candidates
- 54 CRE candidates
- 110 COPD candidates (would already have the CAE)
- 15 writing centers

Recertification:

Fifty CAEs were due to recertify. The certification is good for five years. They have to be doing 500 hours of asthma education or CME in the five years to be eligible. They can recertify by redoing the exam or by showing sufficient educational initiative or work in the respiratory field. Distance learning is a key issue for people in remote areas. The certification committee is responsible for reviewing these applications, and there is an associated fee.

Advocacy efforts:

CNAC is continuing its work to encourage pharmacy reimbursement for Asthma by the government, to particularly utilize Certified Asthma Educators to do the job, hopefully better. Education is more than just inhaler technique, and a CAE would ensure that this occurs properly.

National lung health framework steering committee continues to evolve and works for respiratory initiatives in Canada.

Family health team initiatives in Ontario, BC, and Alberta looking at improving attitude towards Asthma in the chronic disease model.

Patient education:

The website has a list of current Canadian programs. This is linked to the Asthma Society of Canada and is being reworked based on reports and surveys that occur such as at ASED 8. Asset map benefits from the national respiratory framework may well be the best way to keep up the information. A single lung access point is being coordinated by Nora Sobalov of the Lung Association, but not yet a reality.

ASED 8:

This was a very successful meeting, with nine corporate sponsors and another seven exhibitors. There were 220 delegates, which is a good number for Halifax. It is clearly valued by the participants, as most are paying for it personally, rather than it being paid for by hospitals and institutions as in the past.

Other:

Asthma Society of Canada has had some changes, with the resignation of Frank Viti, who will be leaving to run a personal consulting firm. This society has multiple web based resources for our patients. Christine Hampson is his replacement, and she has worked in government and not for profit organizations. She was the past lead fundraiser of the Liberal Party of Ontario.

A potential new organization to CNAC is the Canadian Home Respiratory Services Association. This group advocates for home oxygen, sleep and other therapies; with patient advocates to properly paint the picture of what patients need.

Comment:

CNAC continues to advocate for multiple stakeholders as a group to improve respiratory health in Canada, branching out from Asthma into other issues such as COPD. We need to recognize the inherent value of certification of our educators across the country, ensuring that all Canadians get the same guideline based advice. The establishment of the CRE (certified respiratory educator) will enhance education of COPD also.

Alan Kaplan, MD CCFP(EM), Chair, FPAGC

The RUSIC Trial

Gordon Dyck, MD

The RUSIC trial was designed to review treatment of COPD in terms of exacerbation treatment. A follow-up poster to the trial by J.M. FitzGerald estimated the economic burden. The estimated costs based on provincial, hospital published sources, was \$158.91 for a moderate exacerbation ME, and \$8,683.32 for a severe exacerbation SE of COPD. Given the 639 ME and 151 SE in the 524 participants, gives totals of \$101,543.49 and \$1,311,181.32 for an exacerbation cost of \$1,412,724.81 in one year of follow-up. The costs of those patients who died subsequent to their exacerbation were not included in the analysis, because only those who completed the one year period of observation were included in the RUSIC data base. Thirty three patients did not complete the RUSIC study due to death, many of whom presumably could have died secondary to a COPD exacerbation, adding to the economic burden of COPD considerably.

The RUSIC trial had investigators from 50 sites across Canada to enlist 609 patients with moderate to severe COPD, male or female, >40, FEV₁ < 65%, FEV₁/FVC ratio <70, with a history of at least 10 pack years of smoking, and no conflicting diagnoses. The primary endpoint was to define the number of exacerbations, and hospitalizations based on clinical symptoms. The number completing the study was 524 (86%), the drop-out due to death, non-compliance with protocol, withdrawal of consent, and loss to follow-up was consistent with the type of trial. Participants were contacted by telephone every 5-6 weeks to review their exacerbation experience, and seen every 17 weeks to review management.

Patient demographics showed a mean age of 68 years, 47 pack year smoking history, BMI of 26.6, FEV₁ of 43.9% of predicted, FVC 64.6% of predicted, and a ratio of 47.4 for FEV₁/FVC. Males were 59%, females 41%. Comorbidities were common. Respiratory therapy had 54.4% of COPD patients on ICS, 46.9% on Salbutamol, 42.4% on Ipratropium, 37.8% on Combivent, 29% on LABAs, 15.1% on combination ICS and LABA, 12.6% on theophylline, 8.6% on prednisone, and 8.6% on oxygen.

Most of the patients were on non-respiratory therapy as well, ranging from 26.1% on ACE inhibitors to 9.2% on H2 blockers.

In the year of observation 46.9% had no exacerbations, 53.1% had one or more exacerbations. Of those having exacerbations $n=278$, 42.8% had one, 25.2% had two, 13.7% had three, 6.5% had four, and 11.9% had five or more exacerbations in 12 months. Almost all, 91.7% contacted a health care professional for their exacerbation. Emergency department visits by 39.9% and hospitalization for 27.0% were the resources used. Of those entering hospital 18% had one admission, 6.8% had two admissions, 2.2% had three or more admissions, 1.4% went to rehab. No oral corticosteroids were given to 7.9% of COPD patients admitted to hospital with a COPD exacerbation.

One of the characteristics predicting an exacerbator was if they had three or more morbidities. Up to two did not show a difference in the RUSIC study. The treatment for exacerbations is shown on Table 1.

Table 1. Treatment for Exacerbations

Type of respiratory treatment	Health Professional (n=255)		Emergency Department (n=111)		Hospital (n=75)	
	n*	%†	n	%†	n	%†
Any respiratory treatment	235	92.2	89	80.2	68	90.7
β ₂ -agonist (SABA & LABA)	44	17.3	62	55.9	51	68.0
Anticholinergic (SAAC only)	16	6.3	52	46.8	50	66.7
Theophylline	8	3.1	3	2.7	6	8.0
Corticosteroids	110	43.1	51	45.9	53	70.7
Leukotriene-receptor antagonist	5	2.0	1	0.9	1	1.3
Antibiotics	204	80.0	53	47.7	60	80.0
Oxygen	12	4.7	64	57.7	57	76.0
Other	43	16.9	28	25.2	22	29.3

*Number of patients with at least one treatment. †Percentages based on total number of patients with at least one exacerbation of the same type. SABA = short acting β₂-agonist. LABA = long acting β₂-agonist. SAAC = short acting anticholinergic

Conclusions of the RUSIC investigators was that substantial morbidity exists in the COPD population, and the treatment of these people is a challenge. Patients with COPD exacerbations were considered to be significantly under-treated by the investigators. The care gaps they identified were the use of ICS despite some emerging evidence of a potential adverse effect, and a low use of OCS at the time of exacerbations in emergency and hospitalization, despite proven RCT evidence, as well as low use of pulmonary rehab and community services post-hospitalization.

RUSIC is a real life study, looking at the challenges facing COPD sufferers, reminding us to follow the evidence and be aggressive with exacerbations, including follow-up rehab. The economic burden, as well as the social burden of COPD and exacerbations, is incentive enough for family physicians, who were seen for 85.9% of moderate exacerbations, to take note and respond appropriately.

CTS Dissemination and Implementation meeting

April 2007

The Canadian Thoracic Society is interested in creating, disseminating, but most importantly, assisting in implementation of respiratory guidelines. Multiple guidelines have been produced, including Asthma, COPD, Sleep, Pulmonary Hypertension, TB and coming in 2008, home mechanical ventilation.

Presentations included Dr. Louis Phillippe Boulet (chair) on the overview of the situation. Dr. Michel Rouleau reviewed the CTS approach to an overview of how the CTS will look at the process. The concept of a National Respiratory Campaign to facilitate this process across the multiple domains has been conjectured. This is being done in Britain and Australia.

Dr. Diane Lougheed presented the successes of the Ontario Plan of Action which included a primary care provider project which involved education and tools. When studied, this education showed improvement in ER visits, hospitalizations, night awakenings, use of spirometry, and overall comfort in care. The ER standardized pathway incorporated an asthma chart with care reminders, discharge instructions, and tools have been studied and shown, that despite uptake issues, an improvement in management outcomes has occurred. The other sixteen initiatives have also been positive and should well be a framework for national initiatives.

Dr. David Gutterman came from Wisconsin to review the ACCP guideline process with its issues including conflicts of interest, grades of evidence, and utilizations of tools.

Dr. Peter Liu represented CIHR to share his initiatives in the Heart Failure guidelines and CIHRs interest in knowledge translation. Clearly, early intervention is cheaper and more efficacious than expensive acute management of complications!

A workshop was done on what we want and need to create in guidelines. The CTS plans to lead the way in prioritizing and developing guidelines in partnership with key stakeholders, using multimedia tools to create a living document reflective of current knowledge, with ongoing modification.

The guidelines should/could be disseminated along multiple levels, from the patient directly to schools, health care providers (including students, both physician and allied health), health regions, policy makers, public and private funding bodies, and community organizations. One of the overwhelming issues is the concept that we are dealing with chronic diseases and the concept of patient -centred care is key. Multi media tools can include web-based, pDA, EMR tools, IPOD (actually available in Europe!), and CME of multiple types.

Key messaging is important, rather than long lengthy documents of all the data! As an example, there are some asthma cases written by FPs and specialists to highlight key points.

This meeting was fascinating, and I was especially gratified to see that the respiratory community invited and welcomed the input from both Family docs (myself and Denis Drouin) and certified asthma educators (Shawna McGhan). I look forward to meeting with you regarding dissemination of the newest guidelines and assisting in working with you to allow implementation of the newest optimal treatment programs. Remember, asthma and COPD are chronic diseases and need management of acute illness AND follow-up for review and prevention to optimize the patients' health for the future.

Alan Kaplan, MD CCFP(EM), Chair, FPAGC

Are you sure that you need those antibiotics? Are dogs good or bad for asthma?

Kozyrskyj AL, Ernst P, Becker AB.

Increased risk of childhood asthma from antibiotic use in early life. *Chest*. 2007 Jun;131(6):1753-9.

Some more work out of Allan Becker's lab in Winnipeg to look at what seems to cause asthma! Research published in *Chest* this month indicates that children who receive antibiotics before their first birthday are significantly more likely to develop asthma by the age of 7 years.¹ This recent study reports that children receiving antibiotics in the first year of life were at greater risk for developing asthma by the age of 7 years than those not receiving antibiotics. The risk for asthma doubled in children receiving antibiotics for non-respiratory infections, as well as in children who received multiple antibiotic courses and who did not live with a dog during the first year.

Dr. Kozyrskyj and colleagues from the University of Manitoba and McGill University in Montreal were able to monitor the antibiotic use of 13,116 children from birth to age 7 years with the review of a prescription database. Antibiotic use during the first year of life was correlated to the presence of asthma at 7 years. The reason for antibiotic use was categorised by lower respiratory tract infection (bronchitis, pneumonia), upper respiratory tract infection (otitis media, sinusitis), and non-respiratory tract infection (urinary infections, impetigo).

Risk and protective factors also were noted, including gender, urban or rural location, neighbourhood income, number of siblings at age 7 years, maternal history of asthma, and pets reported living in the home. Within the study group, six percent of children had current asthma at age 7 years, while 65 percent of children had received at least one antibiotic prescription during the first year of life. Of the prescriptions,

- 40 percent of children received antibiotics for otitis media,
- 28 percent for other upper respiratory tract infections,

- 19 percent for lower respiratory tract infections, and
- 7 percent for non-respiratory tract infections.

Results showed that antibiotic use in the first year was significantly associated with greater odds of asthma at age 7 years. This likelihood increased with the number of antibiotic courses, with children receiving more than four courses of antibiotics having 1.5 times the risk of asthma compared with children not receiving antibiotics. When researchers compared the reason for antibiotic use, their analysis indicated that asthma at age 7 years was almost twice as likely in children receiving an antibiotic for non-respiratory tract infections compared with children who did not receive antibiotics.

Maternal asthma and presence of a dog during the first year of life were both associated with asthma risk. Children who received multiple antibiotic courses and who were born to women without a history of asthma were twice as likely to develop asthma than those not receiving antibiotics. Furthermore, absence of a dog during the birth-year doubled asthma risk among children taking multiple courses of antibiotics.

Comment:

This is not the first time that antibiotic use has been correlated with increased asthma frequency. Antibiotics are prescribed mostly for respiratory tract infections, yet respiratory symptoms can be a sign of future asthma. This may make it difficult to attribute antibiotic use to asthma development, as they may already have it! This study reported on antibiotic use in children being treated for non-respiratory tract infections. This may separate out that effect.

Either way, antibiotic usage continues to be too high, although we have done a great job of reducing use. This may be another reason to consider follow-up instead of the quick fix of an antibiotic.

Having a dog from birth seems to be protective; perhaps by increasing dirt exposure to turn on the Th1 system (Hygiene hypothesis)^{1,2,3}.

References

1. Becker AB. *Can J All Clin Immunol* 6:4,2001
2. Ownby DR et al. Exposure to dogs and cats in the first year of life and risk of allergic sensitization at 6 to 7 years of age *JAMA* 2002 Aug 28; 288:963-72
3. Lemanske R, COAST study

ALAN KAPLAN, MD CCFP(EM), CHAIR, FPAGC

Should you use antibiotics in Sinusitis?

We are asked for antibiotics in our practice daily. Also, we are hearing more and more that we use too much antibiotics; that overuse is driving resistance. The theory that decreasing antibiotics leads to decreasing population resistance has been borne out in a study in Iceland. Bronchitis is felt to be viral in the absence of lung disease. Otitis media can often be treated with watchful waiting. These two studies suggest that antibiotics for rhinosinusitis are probably unnecessary, even in those patients whom we think have the correct signs and symptoms to make our diagnosis firm of bacterial illness. My work with the upcoming sinusitis guidelines in Canada has taught me that the drug of choice, if we are going to use anything is Amoxil; which was used in the first study.

De Sutter A, et al. Predicting prognosis and effect of antibiotic treatment in rhinosinusitis. *Ann Fam Med* November/December 2006;4:486-93.

This study from Belgium did a secondary analysis of a study of Amoxil vs placebo in sinusitis and studied the clinical signs and symptoms of rhinosinusitis, the usefulness of sinus radiography to predict the duration of illness, and the effect of amoxicillin treatment. Three hundred patients, 12 years and older, presented with a respiratory tract infection, self-reported purulent rhinorrhea, and at least one sign or symptom suggestive of acute rhinosinusitis (biphasic illness history, upper teeth pain, or unilateral facial pain). Patients with illness longer than thirty days, penicillin allergy, immune deficiency or signs of complicated sinusitis

were not included. Patients were to rate their symptoms until resolution. Radiographs were done on most.

There was no clinical sign, symptom, or radiographic finding that had any relationship to the patient's duration of illness or to any benefit from amoxicillin.

Consequently, the authors recommend providing symptomatic treatment rather than antibiotics to patients with uncomplicated rhinosinusitis. Nothing was identified to use as a guide for the selection of patients who would benefit from antibiotic treatment.

Merenstein D, Whittaker C, Chadwell T, Wegner B, D'Amico F. Are antibiotics beneficial for patients with sinusitis complaints? A randomized double-blind clinical trial. *J Fam Pract* 2005;54:144-51.

This study reviews the concern that antibiotics may shorten the time to symptom resolution in sinusitis; but tries to identify which patients would benefit. They also could not find any characteristic to help predict who would benefit. These authors also recommend no treatment as no predictive model seems to be of use.

Comment:

Biphasic illness, unilateral facial pain and upper teeth pain are the classic ones that would make us comfortable to prescribe antibiotics for a presumed bacterial sinusitis. I would accept the authors of both studies findings that antibiotic usage for acute sinusitis is unnecessary, but would add the caveat; Follow up!! Give your patients the option to come back and be reassessed. Ensure that your office structure allows this to occur! Intelligent antibiotic prescription should be our goal, but not at the cost of complicated illness. If the patient looks ill enough, and I smell trouble, I will still use antibiotics, and likely Amoxil. What about you??

ALAN KAPLAN, MD CCFP(EM), CHAIR, FPAGC

FPAGC Annual General Meeting

You are invited to attend the FPAGC Annual General Meeting which will be held during the Canadian Thoracic Societies annual meeting to be held at the Hilton Bonaventure Hotel, Montreal.

The AGM will be held on Thursday, June 19 from 7:30 pm to 11:00 pm. Dinner will be served. There is no charge for the meeting but you must register with the FPAGC office at 1-866-406-4345 or by email at admin@fpagc.com no later than Monday June 9th.

Hotel and conference information can be found at www.lung.ca/crc

New Drug:

Factive (Gemifloxin) a new respiratory quinolone (Abbott)

This is a synthetic broad-spectrum quinolone. Quinolones inhibit bacterial topoisomerase enzymes which are essential for bacterial growth. It is well absorbed from the GI tract with an absolute bioavailability of 71%. Peak concentrations are reached up to 2 hours after administration. Plasma half life is about eight hours. It is eliminated mostly unchanged in feces and urine.

Indication:

- Treatment of AECB due to susceptible strains of *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Haemophilus parainfluenzae*, *Moraxella catarrhalis* or *Staphylococcus aureus*

Dosing:

Supplied as 320 mg tabs. Five day course, with or without food.

- Available in 5-day blister packs. \$35.00/blister – should be swallowed whole and taken with an ample supply of fluid.
- The following products should not be taken within three hours before or two hours after Gemifloxin or absorption interactions will occur: Antacids, Iron, Multivitamins containing Zinc or other cations, Sulcrate.
- Dose should be decreased to 160 mg daily for those with severe renal insufficiency (CrCl<40 ml/min) or patients on hemodialysis.

Adverse events:

- The commonest are rash (maculopapular commonest) at 2.8%, diarrhea, nausea and headache. **The drug should be discontinued at the first sign of a skin rash!** Dosing regimens longer than five days seem to increase the risk of developing rash.
- Prolongation of the QT interval may occur with some patients and as such it should not be used in patients with a history of QT interval prolongation, uncorrected electrolyte disorders (hypokalemia, hypomagnesemia) or class III antiarrhythmics.
- All quinolones have the potential to cause seizures, tendonitis, tendon rupture, or hypersensitivity reactions.
- Gemifloxin is NOT significantly metabolized by Cytochrome P450.

Potential Advantages:

- **FACTIVE** has shown to be the most potent quinolone against *S. pneumoniae*, as measured by the minimum inhibitory concentration (MIC). The clinical significance of this has not been established, however. (Lowest MIC range shown with FACTIVE 0.007-2 mcg/mL vs. ciprofloxacin 0.12-64; levofloxacin 0.12-32; moxifloxacin 0.03-8)
- It is hoped that some bacteria that are resistant to other quinolones, may be susceptible to gemifloxin. It is also available in a five day blister pack to promote compliance.

Summary:

Gemifloxin is the newest quinolone available to treat susceptible AECB. It comes as a convenient five day blister pack for treatment. Recognize that almost 3 percent of patients get rash from this, and the drug should be stopped at the first sign of rash. It may be of value in treating some infections resistant to other quinolones.

ALAN KAPLAN, MD CCFP(EM), CHAIR, FPAGC

Montelukast decreased exhaled nitric oxide in children with perennial allergic rhinitis

Hung CH, Hua YM, Hsu WT, Lai YS, Yang KD, Jong YJ, Chu YT

Pediatr Int. 2007 Jun;49(3):322-7.

The aim of this study was to investigate whether oral loratadine, montelukast, nasal budesonide or nasal sodium cromoglycate could reduce airway inflammation as indicated by decrease of eNO in children with perennial allergic rhinitis, but not necessarily asthma.

Methods:

A randomized and investigator-blinded study was conducted in a hospital-based outpatient clinic. Children with perennial allergic rhinitis were divided into four groups and treated by loratadine, loratadine with nasal sodium cromoglycate, loratadine with oral montelukast, and loratadine with nasal budesonide, respectively. Allergic rhinitis scores, eNO and peak expiratory flow were measured before and 2, 4, 6 and 8 weeks after treatment.

Results:

Results showed that eNO in children with perennial allergic rhinitis was reduced by nasal budesonide and oral montelukast within 2 weeks, but not in the loratadine and cromoglycate groups; although all of them decreased symptoms scores.

Conclusions:

It was concluded that four common treatment modalities could effectively release symptom scores, but decrease of airway inflammation as determined by decrease of eNO might be only achieved by nasal budesonide and montelukast.

Comment:

It is quite clear that treating allergic rhinitis is necessary to ensuring adequate asthma control. Options for treating the rhinitis all seem to work for the symptoms, but do not necessarily affect the underlying inflammation. This study shows us that nasal steroids and montelukast both decrease underlying airway inflammation as measured by eNO. This infers that both treatments should work for both the rhinitis and associated underlying asthma.

Alan Kaplan, MD CCFP(EM), Chair, FPAGC

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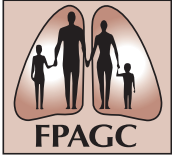


The FPAGC also wishes to thank the following companies for their continued support of our programs:

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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.

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