Primary Care Asthma Program

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A newsletter for all health-care professionals in primary care in Ontario
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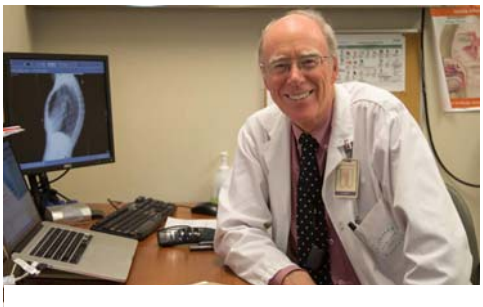
Spirometry interpretation: percent predicted or lower limit of normal?



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The Firestone Institute for Respiratory Health (FIRH)

Before performing spirometry in an individual patient we need a predicted normal value. These predicted values are derived from performing spirometry in a large population of healthy people and show that the values obtained are a function of an individual's age, height, gender, and ethnicity. To determine whether or not the findings in an individual patient are abnormal there have been two approaches used. Firstly, fixed thresholds or "rules of thumb" which consider the FEV1 or vital capacity to be abnormal if they are below 80% of the predicted value or airflow obstruction to be present if the FEV1/VC ratio is 0.7 or lower. The second approach is based on a statistically derived lower limit of normal (LLN). In recent years there has been a lot of controversy around the relative merits of interpreting spirometry using fixed thresholds versus statistically based lower limits. Published guidelines are inconsistent which has created a lot of confusion for healthcare providers who interpret spirometry. This article will review some of these issues, where the "rules of thumb" came from, and provide some guidance to health care practitioners who interpret spirometry in primary care.

Normal or Abnormal Spirometry?

In 1964 Bates and Christie [1], following the work of earlier French workers ([2], proposed a *"handy rule of thumb that a deviation of more than 20% from the predicted value could be used in assessing the probability of a particular figure representing a normal subject"*. In 1968 Andersen and colleagues [3] commented: *"despite the use of multiple regressions to predict normal values of vital capacity and FEV_1, the scatter is such that on average a 20% loss of function must occur before an individual result can be considered of pathological significance."* When reporting spirometry this handy "*rule of thumb"* that the lower limit of the normal range is approximated at

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80% of the predicted value has stood the test of time, it is easy to use in the clinical context, but it has long been recognized that it is not statistically correct. It will identify older subjects as normal when in fact they are outside the statistically normal range.

We are familiar with the concept of a normal range for many laboratory values. We use the 95% confidence interval in which 19 out of 20 observations in healthy people will be within the "normal range". For vital capacity and FEV_1 we are interested in the lower limit of the normal range which represents the value above which 19 out of 20 of healthy subjects will be identified.

Table: NHANES III predicted values for FEV_1 (170cm male)

Age	Predicted FEV_1	FEV_1 80% predicted	FEV_1 lower limit normal	FEV_1/VC ratio	FEV_1/VC lower limit
15	3.72	2.96	3.00	0.85	0.75
30	3.47	2.78	2.83	0.84	0.75
45	3.20	2.56	2.56	0.81	0.71
60	2.84	2.27	2.20	0.78	0.68
75	2.39	1.91	1.74	0.75	0.65

The table shows that for younger subjects the lower limit of normal for FEV_1 is close to 80% of the predicted FEV_1 but above age 60 an FEV_1 of 80% predicted will be significantly higher than the lower limit and fail to recognize subjects with a significantly impaired FEV_1. Thus the current recommendation for FEV_1 and VC measurements is to use lower limit of normal to determine whether or not a given value for FEV_1 or vital capacity falls within the "normal range" for a specified age, height, and gender. This is particularly important in the over 60 population.

While the lower limit of normal may be the most accurate way to determine whether or not a value is outside the normal range we also need to quantify the degree of abnormality in a given value. Intuitively quantifying the degree of abnormality as percent predicted is easy to grasp and in 1966 Snider [(4)] proposed for FEV_1 or vital capacity the following: normal >80% predicted, mild 65-80%, moderate 50-64%, severe 35-49%, very severe <35%. Grading abnormality in this way continues because of its convenience and ease of understanding. Similar grading schemes continue to be used in current guidelines from the Canadian Thoracic Society and GOLD.

Thus current recommendations are:

1. Use lower limit of normal to determine whether or not a given value for FEV_1 or vital capacity falls within the normal range for a specified age, height, and gender.
2. Express the severity of the deviation from normal using percent predicted.

Is Airflow Obstruction Present?

Airflow obstruction develops when there is reduced airway caliber due to bronchoconstriction, mucosal thickening (chronic bronchitis), or loss of elastic support (emphysema). The use of the FEV_1/VC ratio to identify airflow obstruction was first described by Tiffeneau and Pinelli in 1947

[5] and in Europe is frequently termed the Tiffeneau Index. Subsequently Brochard and Drutel [6] proposed a minimum normal value of 0.7 in adults. This proposal has become another useful "rule of thumb" that has also stood the test of time and continues to be endorsed by the GOLD project and other guideline producing organizations.

The lower limit of normal for the FEV_1/VC ratio (see table above) demonstrates that healthy individuals over 60 years of age may have a predicted FEV_1/VC ratio below 0.7 and thus be considered, erroneously, to have airflow limitation. There is now an extensive literature showing that it is common to misdiagnose the presence of airflow limitation in older patients by relying on an FEV_1/VC ratio of <0.7. However, as these "misdiagnosed" patients will at worst have very mild airflow limitation the clinical consequences of such a misdiagnosis are likely to be minor. Ideally the lower limit of normal for the FEV_1/VC ratio should be used to identify airflow limitation but in practice the fixed ratio of 0.7 is widely used and recommended by many current guidelines.

Does the patient have COPD?

COPD is a clinical diagnosis that cannot be made by spirometry alone. The clinical context is essential. A patient with very mild or borderline airflow limitation may be at risk of developing clinically significant COPD, merit appropriate follow up and risk factor modification (such as smoking cessation or work related exposures), but will not usually need maintenance medication. The 2017 GOLD guidelines [7] which are the most current guidelines available, capture the need to consider the clinical context and recommend *"the presence of a post-bronchodilator FEV_1/FVC < 0.70 confirms the presence of persistent airflow limitation and thus of COPD in patients with appropriate symptoms and significant exposures to noxious stimuli"*. However, if the LLN is available, FEV_1/VC ratio < LLN should be used in practice to identify airflow limitation, as stated above. If not, then using a fixed ratio of 0.7 can still be used and are recommended by current guidelines.

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A Group Smoking Cessation Program – An Integrated Pilot Program

Place: South Riverdale Community Health Program (SRCHC)

Background: SRCHC has been serving the Toronto southeast community celebrating its 40th anniversary this year; the Centre consists of 140 staff, serves 11,500 clients and presently offers over 60 different community-based programs. Its priority focus is given to people who face barriers to services such as low literacy or income; homelessness, substance use and/or mental health issues; gender and sexual orientation; language, race and culture. SRCHC is one of the original PCAP sites.

There are four main teams that govern the various programs at SRCHC: Chronic Disease Prevention and Management, Newcomers and Families, Urban Health Team and the Organizational Health Systems Team.

Compared to the City overall, there are disproportionately high numbers of people who inject drugs within our catchment area, as well as higher rates of emergency department visits due to opioid or cocaine use in Toronto and as such, SRCHC is planning to add a supervised injection service (SIS) to our existing health and harm reduction services.

As a vast majority of the clients visiting our CHC have several co-morbidities, those suffering from drug reliance, alcohol dependency and/or mental health issues seem to have smoking addictions as well. To that end, the Respiratory Educator at SRCHC has seen a steady climb in smoking cessation appointments over the past four quarters, surpassing visits for asthma and COPD. In order to alleviate the 4 week wait time for an individual appointment, the Respiratory Educator decided to introduce a structured group smoking reduction/cessation program.

Timeline: The initial contact made to all cross-organizational staff occurred late December 2016, requesting facilitator interest in program involvement. After fielding replies, by the third week of January, a meeting request was sent out. Eight multi-disciplinarian providers attended to discuss the proposed program structure in addition to indicating interest in topic presentation involvement. The goal was to commence the program before the end of Q4. It was an ambitious goal yet one that the RRT wanted to accomplish.

Logistics: Many factors had to be considered least of which was a daunting time constraint. Due to the numerous programs offered at SRCHC and the lack of space to run these programs, this was another challenge. Other challenges to consider were the following:

- After the decision to choose the TARP Program originating out of St. Joseph's Hospital, this 12 week program which, due to the clientele, was truncated to 10 weeks, meeting once a week for 1.5 hours.
- A commitment for a second facilitator for each of the 10 weeks was necessary. Obtaining and scheduling health care providers as guest speakers for related session topics was required: Dietician, Physiotherapist, Pharmacist (externally, and desiring free services), Social Workers, Nurse Practitioners, Nurses.
- Registration – details needed to be sorted out:
    - Who was going to oversee this?

    - How was it going to be coordinated?
    - Who would be allowed in the program – internal + external clients?
        - What would be the minimum number to run the program & maximum allowable cut-off number to participate?
    - Registration forms/medical release forms signed by participant's physician if external?
- Deciding on a time to offer program: is morning or afternoon preferable given the clientele?
- Booking a weekly meeting space to accommodate group numbers
- Marketing of the program as little time to do so:
    - Posters would be created to display though-out the centre and distributed to all health care practitioners/staff to promote to their clients.
    - All staff e-mail blast promoting the program
    - Flyer displayed on SRCHC's website
- Providing healthy snacks each week – coordinating this with the kitchen staff and completing request forms
- Materials required for program – binders, photocopied participant session notes, new client registration forms + socio-demographic information, forms (external clients), Smokerlyzer
- How to coordinate with the STOP Study?
    - Registration and document completion
    - When to dispense NRT?
- Provide TTC tokens to participants to encourage weekly attendance

Results to date: at time of writing 7 of the 10 sessions have been conducted. Original attendance started at 9 participants. There has been a gradual attrition rate over the weeks declining to 3-4 attendees although three other clients wanted to join well into the program. Reasons for decline in attendance have been varied: conflicting medical appointments, family illness and death, not feeling well, does not like a group setting, number not in service to contact. As mentioned, all of the clients have co-morbidities impacting on their ability to keep and attend appointments. The RRT cited a need for weekly reminder calls to improve attendance rate. Administrative assistance conducted the calls the day before although close to half of clients were unreachable either due to message machines, phone being out of service or ringing.

Due to the shorter session length, it was decided that NRT would be dispensed after the class ended to those who needed it – NRT was distributed for up to 3 weeks. If necessary, individual shorter appointments were scheduled to dispense NRT to accommodate all participants.

Each week, specialist content facilitators presented which provided variety, knowledge expertise and enhanced discussion. Relaxation exercises were performed in a few of the sessions; a basic yoga/meditation session will be included in the 9th session by a yoga instructor. The final session will entail a ceremony celebration of milestones achieved including participant certificates.

Next Steps: A debrief meeting will be arranged involving all presenters and organizers in order to review the program challenges, successes as well as suggestions for ways to improve the process/delivery for future program offerings. In addition, the weekly surveys will be tabulated to ascertain outcomes.

Cancer Care Ontario

Frequently Asked Questions (FAQs) for Healthcare Providers: Lung Cancer Screening in Ontario for People at High Risk

Cancer Care Ontario recommends using low-dose computed tomography (LDCT) to screen people at high risk of getting lung cancer through an organized screening program.[1]

Cancer Care Ontario based this recommendation on the evidence generated by the National Institute of Health's National Lung Screening Trial (NLST), a randomized controlled trial with over 50,000 participants. The trial demonstrated that people at high risk of lung cancer who got screened annually for three years with LDCT experienced a 20 percent relative reduction in lung cancer mortality over six years, compared to people who got screened annually for three years with chest X-ray.[2]

Although LDCT screening for people at high risk of developing lung cancer has the important benefit of reducing lung cancer mortality, screening also has potential harms.

Cancer Care Ontario is introducing a Lung Cancer Screening Pilot for People at High Risk in April 2017. Screening should only occur through this pilot because it provides the organized screening infrastructure needed to ensure greater protection against the potential harms of screening. Using LDCT to screen people on an opportunistic or ad hoc basis is not advised.[1]

For more information about the importance of organized lung cancer screening and the Cancer Care Ontario pilot, please see the FAQs below.

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1. How can people participate in the Lung Cancer Screening Pilot for People at High Risk?

People ages 55 to 74 who have smoked cigarettes daily for at least 20 years (current or former smokers) may be eligible to participate.

Physicians can refer their patients to a pilot site for a risk assessment that will determine if they are eligible for screening.

People can also self-present to a lung cancer screening pilot site. If a risk assessment determines that they are eligible to participate in lung cancer screening, the pilot site will contact a potential participant's primary care provider to get a referral. A physician's referral is necessary to authorize the use of low-dose computed tomography (LDCT) for screening and authorization of LDCT is not within the scope of practice for nurse practitioners or other non-physician clinicians who deliver primary care. However, all primary care providers can identify people who may be eligible for lung cancer screening and facilitate physician referrals for them.

As of April 2017, screening will be available at the following hospitals in Ontario: The Ottawa Hospital, Health Sciences North in Sudbury and Lakeridge Health in Oshawa.

2. What is a low-dose computed tomography (LDCT) scan and why is it used for lung cancer screening for people at high risk?

LDCT screening can detect lung cancers at an early stage, when treatment is more likely to be successful. LDCT is a CT scan that uses approximately one-quarter the amount of radiation used in a diagnostic CT and does not require contrast.[5] Therefore, it is safer in a screening environment, where participants are otherwise healthy. It is expected that people who are screened will have multiple scans over time, so minimizing their radiation dose is an important consideration. Although the lower dose of radiation in an LDCT scan produces lower quality images than a diagnostic CT, LDCT is good at detecting small lung nodules for preliminary assessment. However, a diagnostic quality CT and/or other tests are required to accurately diagnose and stage lung cancer.

3. What are the potential benefits and harms of screening with low-dose computed tomography (LDCT) for people at high risk of lung cancer?

The benefit of screening with LDCT is the reduction in lung cancer mortality resulting from finding lung cancer at an early stage when treatment is more likely to be successful.

FAQs for Healthcare Providers: Lung Cancer Screening in Ontario for People at High Risk

The potential harms of screening with LDCT include radiation exposure, false-positive results (including unnecessary diagnostic assessments with the risk of complications) and over-diagnosis (i.e., identifying and treating a cancer that would not have come to attention had the person not been screened).

4. Why should lung cancer screening for people at high risk occur through an organized program?

Cancer Care Ontario recommends using low-dose computed tomography (LDCT) to screen people at high risk of getting lung cancer through an organized screening program. Organized screening provides important benefits, such as ensuring that appropriate populations are screened at the recommended interval, conducting appropriate and timely follow-up of abnormal findings, and implementing ongoing quality monitoring, reporting and performance management.

Implementing organized lung cancer screening will ensure greater protection against the potential harms of screening. Organized lung cancer screening includes mechanisms to ensure screening CTs use the appropriate low-dose of radiation and are done without contrast, ensures that scans are interpreted by radiologists who have received training to read screening LDCTs, and uses an algorithm for the management of people with screen-detected lung nodules to minimize the risks of unnecessary follow-up scans or invasive diagnostic testing.

5. What are the risks involved in opportunistic (ad hoc) screening?

Cancer Care Ontario advises against using low-dose computed tomography (LDCT) to screen people on an opportunistic or ad hoc basis. There are additional risks for people who are screened outside of an organized program in this manner.[1]

To ensure the benefits of organized screening, it is important that people are screened at participating pilot sites. People referred for lung cancer screening outside of an organized program may receive a diagnostic CT, which exposes them to four times the amount of radiation in an LDCT or 60 times the radiation in a chest X-ray.[5,6]

Additionally, people with incidentally detected pulmonary nodules may undergo too many follow-up or surveillance CT scans,

which results in unnecessary radiation exposure.

Finally, organized screening provides important benefits, such as ensuring that appropriate populations are screened at the recommended interval, conducting appropriate and timely follow-up of abnormal findings, and implementing ongoing quality monitoring and management.

6. What action is Cancer Care Ontario taking to make organized lung cancer screening available for people at high risk?

Cancer Care Ontario has selected specific sites to participate in a pilot to help determine how to best implement organized lung cancer screening for people at high risk in Ontario. Pilot sites are aiming to begin screening in April 2017.

7. Why is Cancer Care Ontario doing a pilot instead of implementing organized lung cancer screening for people at high risk province-wide?

The primary purpose of the pilot is to determine how to best implement organized lung cancer screening in Ontario.

The pilot will be evaluated to assess key components of the screening pathway, including recruitment, navigation, retention, follow-up, cancer stage at diagnosis and treatment. The evaluation will also assess the outcomes of embedding smoking cessation services into the screening pathway. Results of the pilot evaluation will inform the design and implementation of a provincial lung cancer screening program.

8. Where are the pilot sites and how were they selected?

The pilots are based out of the following hospitals in Ontario: The Ottawa Hospital, Health Sciences North in Sudbury and Lakeridge Health in Oshawa.

A Request for Proposals from level 1 thoracic surgery centre hospitals with on-site Lung Diagnostic Assessment Programs interested in piloting lung cancer screening for people at high risk was issued on March 31, 2016.

An evaluation committee consisting of Cancer Care Ontario senior leaders and clinical experts from across Canada appraised and ranked the proposals based on pilot selection criteria that included the following:

- leadership, a multidisciplinary team and decision-making capacity;
- service capacity;
- demonstrated ability to serve the target population; and
- the ability to adhere to pilot minimum requirements.

Cancer Care Ontario selected pilot sites from the highest ranked proposals to ensure diversity based on geography and hospital type (academic versus community).

9. What are the key elements of Cancer Care Ontario's Lung Cancer Screening Pilot for People at High Risk?

The pilot will provide navigation support to participants throughout their screening journey. The pathway for lung cancer screening for people at high risk will include:

- risk assessments to determine eligibility for screening;
- informed decision-making about participating in lung cancer screening;
- smoking cessation support to all current smokers;
- low-dose computed tomography scans in accordance with radiology quality assurance;
- communication with referring providers and primary care physicians (if different) of screening results and next steps;

- facilitated participant recall and follow-up that is similar to the Ontario Breast Screening Program; and
- seamless transition to a Lung Diagnostic Assessment Program for assessment and/or surveillance of scans with suspicious findings.

10. Who is eligible to participate in Cancer Care Ontario's Lung Cancer Screening Pilot for People at High Risk?

People who are referred by a doctor or self-present for screening to a pilot site will undergo a risk assessment to determine whether they qualify for the pilot. People assessed as having a two percent or greater risk of developing lung cancer over the next six years will be considered eligible to participate in the Lung Cancer Screening Pilot for People at High Risk. The risk assessment takes into consideration age, smoking history and other risk factors, such as body mass index, personal history of cancer and family history of lung cancer.

People ages 55 to 74 who have smoked cigarettes daily for at least 20 years (not necessarily consecutive) may be referred to the Lung Cancer Screening Pilot for People at High Risk. Then, a risk assessment will be conducted to determine eligibility.

People should not be referred to the Lung Cancer Screening Pilot for People at High Risk if they:

- have previously been diagnosed with lung cancer;
- are under surveillance for lung nodules;
- have experienced hemoptysis of unknown etiology in the past year; or
- have experienced unexplained weight loss of more than five kilograms in the past year.

11. Why does the eligibility for Cancer Care Ontario's Lung Cancer Screening Pilot for People at High Risk differ from the National Lung Screening Trial (NLST)?

The risk assessment to determine eligibility for Cancer Care Ontario's Lung Cancer Screening Pilot for People at High Risk will be conducted using a risk prediction model, which predicts the probability of developing lung cancer over the next six years.[7]

The risk prediction model has been demonstrated to be more sensitive and more specific than the criteria used to determine eligibility in the NLST (which was based on age, pack-years and a maximum time since smoking cessation). By using this risk prediction model to select participants, the pilot will identify people who are most likely to develop lung cancer and who are therefore most likely to benefit from lung cancer screening.

12. Why is lung cancer screening for people at high risk needed in Ontario?

Lung cancer is the leading cause of cancer death for women and men in Ontario. In 2016, an estimated 7,100 people died of lung cancer, which is more than the number of people who died of breast, colorectal and prostate cancer combined.[3]

The five-year relative survival ratio for people diagnosed with lung cancer in Ontario from 2008 to 2012 was 18 percent, showing little improvement over the past decade and has been much lower than breast (87.2 percent), colorectal (63.2 percent) and prostate (95.2 percent) cancer.[4] Survival has been poor because people are usually diagnosed with lung cancer when the disease is at an advanced stage.

13. What should physicians do if they have patients who might be at high risk of developing lung cancer and

may be eligible for screening, but they are not located near a pilot site?

Cancer Care Ontario does not advise physicians to encourage patients to travel outside of their region to participate in the pilot for the following reasons:

- The full benefits of organized lung cancer screening are realized through end-to-end continuity of care, from confirmation of eligibility and completion of the baseline low-dose computed tomography through to any required follow-up of suspicious nodules, diagnostic testing and/or recall. This experience may require significant travel and participants who are not able to commit to the entire screening process will not receive the full benefits of this comprehensive care.
- Cancer Care Ontario has selected specific pilot sites. The demand for lung cancer screening within the pilot regions is unknown and it is possible that local demand will exceed available capacity. To ensure that the pilot can properly assess the effectiveness of recruitment and follow through of screening, it is critical that local, harder to reach populations are able to access the pilot sites.

All physicians are encouraged to take the opportunity to discuss smoking cessation with their patients. People who stop smoking greatly reduce their risk of disease and early death. Smoking cessation services can help reduce the burden of lung cancer and other chronic diseases associated with smoking, such as stroke or coronary heart disease.

14. What smoking cessation resources are available to healthcare providers and the public?

For information on Smokers' Helpline, a free, confidential service operated by the Canadian Cancer Society that offers support and information about quitting smoking and tobacco use, please visit www.SmokersHelpline.ca

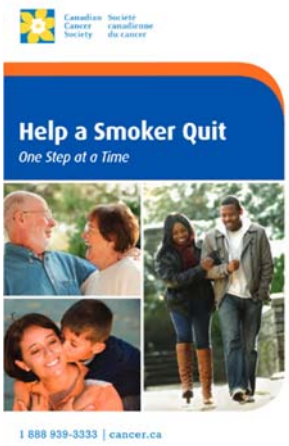
For additional healthcare provider resources, please visit:
Brief Counselling for Tobacco Use Cessation:

For additional patient resources, please visit:

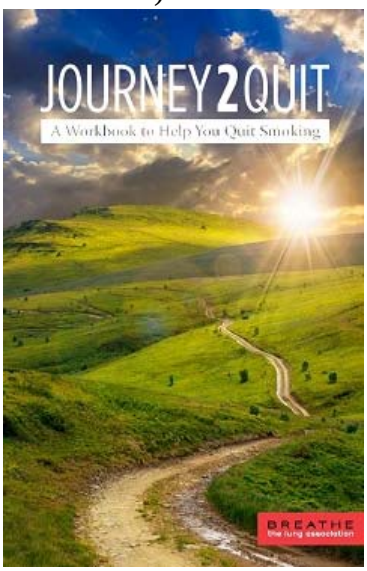
- One Step at a Time (Canadian Cancer Society)
  - For Smokers Who Want to Quit:

  - For Smokers Who Don't Want to Quit:

- Help a Smoker Quit:



- Journey 2 Quit (The Lung Association):



- On the Road to Quitting (Health Canada):

15. Should physicians refer patients for lung cancer screening at a hospital outside of Cancer Care Ontario's pilot?

Cancer Care Ontario's position is that lung cancer screening for people at high risk using low-dose computed tomography should be conducted as part of an organized screening program1. Screening performed outside of an organized program may not be able to ensure appropriate populations are screened at the recommended interval, appropriate and timely follow-up of abnormal findings and that there is ongoing quality monitoring and management.

Cancer Care Ontario can only ensure that organized lung cancer screening for people at high risk is available at the pilot sites.

16. What should radiologists from non-pilot hospitals do if they receive a requisition for a computed tomography (CT) scan for lung cancer screening?

Cancer Care Ontario advises against lung cancer screening of asymptomatic people on an opportunistic or ad hoc basis due to the additional risks posed to patients outside of an organized program. If radiologists receive a requisition for lung cancer screening, they may respond to the referring physician with the following message:

Your requisition for lung cancer screening has not been processed.

- Cancer Care Ontario recommends using low-dose computed tomography to screen people at high risk of getting lung cancer through an organized screening program.
- A Lung Cancer Screening Pilot for People at High Risk will be launched by Cancer Care Ontario, but organized screening is not currently available in Ontario or elsewhere in Canada.

- Organized cancer screening programs provide important benefits, such as ensuring that appropriate populations are screened with the right test, ensuring appropriate and timely follow-up of abnormal findings, and ongoing quality monitoring and management.
- Organized screening is expected to begin at pilot sites in April 2017; more information will be made available to the public in early 2017.
- Screening is not appropriate for people with suspected lung cancer. If a patient is demonstrating symptoms of lung cancer, follow the Program in Evidence-Based Care's guidelines for referral of suspected lung cancer and Cancer Care Ontario's lung cancer diagnosis pathway.[8]
- If you have any questions regarding lung cancer screening for people at high risk, please contact screenforlife@cancercare.on.ca

17. What should providers do if their patient has symptoms of lung cancer?

Screening is not appropriate for people with suspected lung cancer. If a patient is demonstrating symptoms of lung cancer, providers are advised to follow the Program in Evidence-Based Care's (PEBC's) guidelines for referral of suspected lung cancer and Cancer Care Ontario's lung cancer diagnosis pathway map. For more information on the recommended next steps, refer to the lung diagnosis pathway.[8]

18. Where should I direct questions regarding lung cancer screening for people at high risk?

Please direct questions to screenforlife@cancercare.on.ca

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This is Not a Goodbye, but a Thank You

Meridene Haynes was among the first invited to be a part of an exciting initiative in Ontario addressing asthma care in the primary care setting more than 15 years ago. The Primary Care Asthma Program (PCAP) was born out of a vision to improve asthma care in the community by increasing patient quality of life and decreasing life threatening events due to asthma. Meridene was there from the beginning during the program's pilot including the development of program standards and tools.

Meridene is a Registered Cardiopulmonary Technologist (RCPT) who obtained her certification as a respiratory educator (CRE) and helped educate and manage numerous patients with asthma as the PCAP coordinator at the North Hamilton Community Health Centre (CHC) in Hamilton, Ontario. In her role as the PCAP coordinator in Hamilton, she served as the Chair of the Spirometry Working group being a key member in developing the current PCAP spirometry manual for primary care. More recently, she has served on numerous working groups including standards/best practice, publication and served as the editor of this newsletter publication. She has also served on a number of working groups for The Lung Association Provider Education Program (PEP) and has delivered numerous workshops for PEP across Ontario. She was also involved as a mentor for the PCAP/PEP collaborative care pilot project, which looked at a mentor/mentee model for the knowledge translation of spirometry testing and interpretation. Meridene has also obtained her training as a smoking cessation counsellor and has been involved as the tobacco program coordinator at St. Joseph's Healthcare in Hamilton. In this role, she has been involved in helping many people quit smoking and maintain their achievements. She was also involved in the development of the Hamilton Tobacco Care Pathway.

Meridene leaves a legacy of being someone who has passion for her work and shares this with those around her. As she moves onto a new and exciting role as the Hamilton Niagara Haldimand Brant Local Health Integration Network (LHIN) Caring for my COPD Program coordinator at North Hamilton CHC, we are sure she will continue to make a positive impact on her colleagues as well as her patients. She will stay on as a member of our PCAP advisory as a cardiopulmonary technologist representative. We wish Meridene well in her new role and thank her for the contributions she has made to our program and the broader respiratory community. We hope that our paths will cross again.

Provider Education Program (PEP) Update

The Provider Education Program (PEP) develops, implements and evaluates accredited continuing medical education programs and materials in accordance with the Canadian Thoracic Society respiratory guidelines.

I would like to take this opportunity to introduce myself as the new Curriculum Developer on the PEP team. My name is Lana Biro and I've been a part of The Lung Association's "family" for over ten years as a Respiratory Therapist and Certified Respiratory Educator on the provincial

Lung Health Information Line. I am also a RespTrec® (asthma, COPD and education courses) and SpiroTREC® trainer and CAMH/TEACH-trained Motivational Interviewing workshop facilitator.

I would also like to congratulate Jennifer MacKinnon who has recently been promoted to the position of the PEP Manager. Jennifer started with The Lung Association as the Curriculum Developer for PEP in 2016. Jennifer is a Respiratory Therapist and Certified Respiratory Educator with a background that includes twenty years working in respiratory home care. She has a strong interest in promoting respiratory health and together, we are looking forward to working with all of you as we continue to meet the educational needs of health care providers across Ontario.

Another welcomed addition to our team is Esi Wilmot, the new Provincial Coordinator for the Work-related Asthma Program as well as the Emergency Department Asthma Care Pathway Program. Esi took the place of Liz McGroarty who recently retired. Esi is a Registered Nurse. She completed her Masters in Occupational and Environmental Hygiene. Esi's past work experience includes working as a Public Health Nurse with the City of Toronto and case manager with a health insurance company. Esi can be reached at 416-864-9911 ext. 288, email: ewilmot@lungontario.ca

Workshops

Our free, accredited, in-person workshops include COPD, Adult Asthma, Adult and Pediatric Asthma, COPD vs. Asthma, Preschool Asthma, and Spirometry Interpretation. Participant evaluations are completed at each event and your feedback is reviewed as part of our commitment to continuous quality improvement. Participants continue to rate our workshops highly indicating that the material presented is relevant to their practice and that they would recommend it to a colleague. Check our website www.olapep.ca regularly for updates on events in your area.

OTN news

Our OTN sessions are easily accessible for anyone in the province. Their ongoing success and popularity inspired us to create new and exciting topics, such as COPD and Co-morbidities, New Respiratory Medications, Asthma in Pregnancy, Acute Exacerbations of COPD, and Asthma in First Nations. The focus of these sessions continues to be the latest in management of lung disease and are facilitated by experts in the field. OTNs are archived on our website for you to view anytime, anywhere. They are free and easy to access at www.olapep.ca.

Accredited E-Module News

The Adult and Pediatric Emergency Department Asthma Care Pathways continue to be supported by evidence based management tools including the PRAM (Pediatric Respiratory Assessment Measure) and the Pediatric Asthma Quality-Based Procedures. The free e-learning modules are offered on our website. We also offer support for implementation of the care pathways in hospitals across Ontario. Contact us at edacp@on.lung.ca for more information.

Look out for our new Spirometry Interpretation e-learning module. The new module follows our Spirometry: A Clinical Primer, with an in depth review of spirometry interpretation, reports, and testing criteria.

What's New?

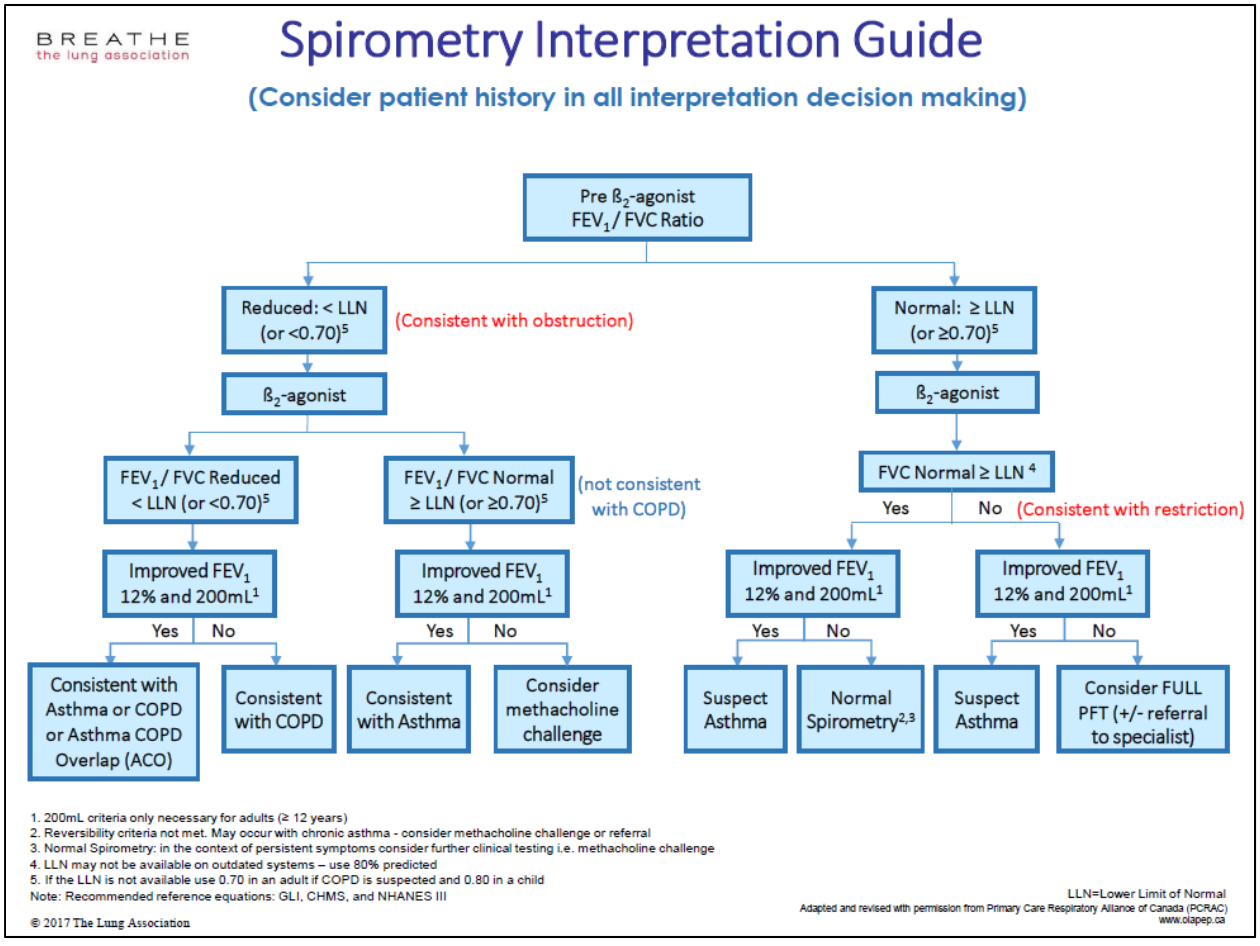
Two Provider Education Program posters were accepted for presentation at the recent Canadian Network for Respiratory Care conference held in Calgary, Alberta. One of these was selected for

a two minutes, two slides presentation during the plenary session and highlighted the "Web-based Educational Series on COPD for Healthcare Providers in Ontario". An overview of this project was given with recognition to our partners, the Ontario Association of Community Care Access Centers and the Ontario Telemedicine Network. Program development and implementation included: learning needs assessment, identification of core topics, content development, and pre and post learning assessments. Using the OTN format increased the program's reach and accessibility. The second poster, "A Review of the Provider Education Program Development and Activities" along with the first mentioned was displayed and received attention from conference participants who were interested to hear about the activities of The Lung Association – Ontario and specifically the activities of the Provider Education Program.

The New Spirometry Interpretation Guide

To ensure an evidence-based approach to spirometry interpretation, the Provider Education Program (PEP) is happy to introduce a new Spirometry Interpretation Guide.

The Spirometry Interpretation Algorithm previously used by Primary Care Asthma Program (PCAP) was based on the Obstruction/Restriction Algorithm developed by Dr. Josiah Lowry in 1998. It was designed to help primary care providers treating asthma and COPD, however, it no longer reflects the latest research and most updated Canadian Thoracic respiratory guidelines.



In order to enhance usability and design, the PEP Steering Committee invited leading researchers, respirologists and primary care providers to revise and adapt the Primary Care Respiratory Alliance of Canada's Spirometry Interpretation Algorithm.

The Spirometry Interpretation Guide is a great new tool aimed to assist with accurate interpretation of spirometry in primary care. The guide has now been endorsed by Ontario Thoracic Society for use by primary health-care providers across Ontario.

To register for any of our programs and news on upcoming events or conferences, please visit our website or follow PEP on twitter at #ONLung_pep. If you are looking for more information contact me directly at 416-864-9911 extension 296 or by email at lbiro@lungontario.ca

Lana Biro, RRT, CRE

Program/Curriculum Developer, Provider Education Program

WWW.OLAPEP.CA

Upcoming Events

11th annual Canadian Respiratory Conference

AOHC annual Conference June 13-14, 2018 Sheraton Parkway Hotel

Primed Canada Conference May 9-12, 2018