

Annual Report
Division of Pulmonary Diseases
Department of Medicine - Jewish General Hospital
January 1 - December 31, 2017

SUMMARY

The Division of Pulmonary continues to pursue its goals of excellence in clinical care, research and teaching.

Clinical Activities:

The division consists of 10 full time GFT pulmonologists all of whom perform clinical activities in general pulmonary medicine on an outpatient basis. In addition, there are super-specialized, multi-disciplinary clinics in:

- 1) Severe asthma
- 2) COPD
- 3) Interstitial Lung Disease
- 4) Pulmonary Vascular Disease
- 5) Thrombosis
- 6) Tuberculosis
- 7) Pulmonary Oncology
- 8) Cancer Nutrition and Rehabilitation
- 9) Pulmonary Rehabilitation/ Tele-Rehabilitation
- 10) Sleep Medicine

These clinical activities take place in the out-patient pulmonary division, The Peter Brojde Lung Cancer Centre, and Mount Sinai Hospital.

In-patient activities center on our extremely busy in-patient consultation service. In addition, a full service respiratory physiology lab continues to provide a full range of pulmonary physiology testing, and the pulmonary procedure lab continues to provide invasive airway and pleural procedures. Dr. Nathalie Saad is a member of our internal medicine policy committee and chief administrator at Mount Sinai with respect to outpatient clinics, and the inpatient pulmonary rehabilitation floor.

1. Research and publications:

The division of Pulmonary Medicine continues to be active in research divided into sub-specialty sections including 1) Airway Center: Encompassing COPD and Asthma. 2) Pulmonary Oncology 3) Interstitial Lung Disease 4) Pulmonary Vascular Disease and 5) Epidemiology

We currently have an active research program in severe asthma. The division is participating in multiple multi-centre clinical trials and in one clinical trial of a biologic agent for the treatment of severe asthma we were the largest recruiting center in Canada. In COPD we continue our exciting investigator-conceived research program looking at individualization of therapy based on inflammatory phenotypes. Some of the top COPD researchers in the country joined the project during the course of the year. In addition, the division has expanded its involvement in multi-

centre clinical trials to include trials focused on the treatment of patients with COPD.

In Pulmonary Oncology we continue to offer a wide variety of clinical protocols to all stages of our lung cancer population. We are concentrating on cutting edge targeted and immunologic therapies in this extremely vulnerable patient group.

Our interstitial Lung Disease clinic is looking at anti-fibrotic agents in the treatment of scleroderma ILD.

In pulmonary vascular disease we continue to be involved in clinical trials for pulmonary hypertension patients and have published results for the multi-center ELOPE study looking at long term outcomes post pulmonary embolism.

Dr. Ernst continues to be very productive in pharmaco-epidemiologic studies in a wide variety of diseases.

Select publications include:

-- Abdallah SJ, Wilkinson-Maitland C, **Saad N**, Li PZ, Smith BM, Bourbeau J, Jensen D. Effect of morphine on breathlessness and exercise endurance in advanced COPD: a randomized crossover trial. *Eur Respir J*. 2017 Oct 19;50(4). pii: 1701235. doi: 10.1183/13993003.01235-2017. Print 2017 Oct.

--Kasymjanova G, **Small D**, Cohen V, Jagoe RT, Batist G, Sateren W, Ernst P, Pepe C, Sakr L, Agulnik J. Lung cancer care trajectory at a Canadian centre: an evaluation of how wait times affect clinical outcomes, *Clin Oncol* 34(5), pp 302-309, 2017.

--Monica P Parmar, Brandy L Vanderbyl, Mary Kanbalian, Tamara Y Windholz, Anh-Thi Tran, **R Thomas Jagoe**. A multidisciplinary rehabilitation programme for cancer cachexia improves quality of life. *BMJ Supportive Palliat Care* 7(4) pp 441-449, 2017

-- Wang P, Jones KD, Urisman A, Elicker BM, Urbania T, Johannson KA, Assayag D, Lee J, Wolters PJ, Collard HR, Koth LL. Pathologic Findings and Prognosis in a Large Prospective Cohort of Chronic Hypersensitivity Pneumonitis. *Chest*. 2017 Sep;152(3):502-509. doi: 10.1016/j.chest.2017.02.011. Epub 2017 Feb 20. PubMed PMID: 28223152.

--Kahn SR, **Hirsch AM**, Akaberi A, Hernandez P, Anderson DR, Wells PS, Rodger MA, Solymoss S, Kovacs MJ, Rudski L, Shimony A, Dennie C, Rush C, Geerts WH, Aaron SD, Granton JT. Functional and Exercise Limitations After a First Episode of Pulmonary Embolism: Results of the ELOPE Prospective Cohort Study. *Chest*. 2017 May; 151(5): 1058-1068.

--Suissa S, **Ernst P**. Precision Medicine Urgency: the Case of Inhaled Corticosteroids in COPD. *Chest*. 2017 Aug; 152(2): 227-231. PMID: 28797382

Drs. Sakr, Jagoe, Saad and Agulnik were all awarded the Department of Medicine Clinical Research Award in 2017.

2. Teaching and learning (undergraduate and graduate):

We continue to be very active in clinical teaching with a comprehensive pulmonary elective service for fellows, residents and students. Dr. **Nathalie Saad** continues to be Head of

Undergraduate Medical Education for the Department of Medicine.

Drs. Hirsch, Agulnik, Pepe, Sakr, Saad, Jagoe, Assayag all continue to teach on the Internal Medicine CTUs with excellent reviews from the residents and students.

Drs. Agulnik, Pepe, Sakr and Jagoe continue to teach the TCP undergraduate course.

Dr. Ernst teaches epidemiology 1st year medical students lectures and small groups as well as the advanced Pharmaco-epidemiology course.

Dr. Hirsch teaches the 1st year thrombo-embolism lecture.

Drs. Jagoe and Sakr participate in the first year small group respiratory physiology sessions

Dr. Jagoe teaches a lecture in the Experimental Medicine Graduate course.

Drs. Ernst and Jagoe supervise MSc and PhD students.

Dr. Pepe teaches TCP core lectures, the internal medicine core lecture (academic half-day), and is the respirology elective JGH site supervisor

3. Involvement in the community:

We continue to be very involved in the community. Under the direction of **Dr. Nathalie Saad**, our pulmonary rehabilitation program run out of Mount Sinai Hospital, (which has now joined our CIUSS) remains extremely active in the community, and continues to include a specialized group of patients with interstitial lung diseases. The teleconferencing program for pulmonary rehabilitation was launched on January 16, 2017. Mount Sinai now offers a decentralized eight-week program to regional hospitals anywhere in Quebec, via the secure and free telemedicine system. Its format is the same as that of the outpatient program. The educational component and the muscle-strengthening component (half of the 60 minutes of exercise) are offered by our team through the telemedicine system. The cardio-vascular component, whether on stationary bicycle, treadmill or supervised walk, is supervised by the local team. These patients benefit from the same follow-up after pulmonary rehabilitation as the patients who come to Mount Sinai Hospital, and are seen after one, three, six and twelve months via the Telemedicine system. Via the same system, we offer tele-consultation across the province, thus offering support to primary care physicians and specialists in managing their more complicated COPD patients.

All physicians continue to support the community with educational talks to family doctors in multiple topics within respirology. In Pulmonary Oncology we have our annual Zavalkoff lecture, which this year was given by Dr. Bernard Lapointe & Dr. Michael Dworkind.

4. Partnerships:

Our Pulmonary Oncology team continues to partner with the Rossy Cancer Network and Dr. Agulnik is a co-leader for the Disease Site Group for lung cancer. The partnership includes research initiatives across McGill hospitals which include our Pulmonary Oncology team. Dr. Assayag continues to expand a cohort of patients that may be potentially suitable for novel therapies and works closely with colleagues in Respirology, Rheumatology, Radiology, Thoracic Surgery, and Pathology to provide comprehensive, multi-disciplinary care. Dr. Assayag collaborates closely with colleagues across Canada and internationally run clinical research

programs.

Both Dr. Assayag and Dr. Saad work in partnership with at the MUHC where they conduct out-patient clinics. The thrombosis clinic continues to be a model of inter-disciplinary cooperation with Internal, Medicine, Hematology, Respiriology, nursing and research partners across Canada.

5. Milestones: New hires, promotions, and retirements

A nurse specialist in interstitial lung disease was hired in order to enhance the care and experience of patients suffering from this disease.

6. Honours, awards, and prizes: None to report.

7. Fundraising:

The third LUNGeivity Masarade Night benefiting Pulmonary Oncology Research was held in September 2017.

SECTION I - DIVISION STATUS UPDATE

1. Mission and objectives of the Division

The Division of Pulmonary Diseases continues to provide excellence in patient care and teaching. The mission of the Division of Pulmonary Diseases is to increase accessibility to respiratory services and to provide optimal care to patient suffering from respiratory diseases.

2. A nominative list of academic staff, their academic rank

Full-time (GFT) members:

Dr. Andrew Hirsch, Chief of the Division of Pulmonary Diseases, Associate Professor, McGill University

Dr. David Small, Associate Professor, McGill University

Dr. Mark Palayew, Assistant Professor, McGill University

Dr. Pierre Ernst, Professor, McGill University

Dr. Jason Agulnik, Assistant Professor, McGill University

Dr. Carmela Pepe, Assistant Professor, McGill University

Dr. Thomas Jagoe, Associate Professor, McGill University

Dr. Lama Sakr, Assistant Professor, McGill University

Dr. Nathalie Saad, Assistant Professor, McGill University

Dr. Deborah Assayag, Assistant Professor, McGill University

SECTION II - GRANTS, PUBLICATIONS, AND SERVICE OUTSIDE OF MCGILL

1. Grants and awards received

Dr. Andrew Hirsch

Investigator Initiated:

CanVECTOR (Canadian Venous Thromboembolism Clinical Trials and Outcomes Research) Network

Agency: Canadian Institutes of Health Research (CIHR)

Role: Co-investigator

D-dimer testing, tailored to clinical pretest probability, to reduce use of CT pulmonary angiography in suspected pulmonary embolism: A management study. (PE Graduated D-dimer [PEGeD] Study)

Agency: Canadian Institutes of Health Research (CIHR)

Role: Co-investigator

Apixaban for the Prevention of Venous Thromboembolism in Cancer Patients (AVERT)

Agency: Ottawa Hospital Research Institute and Canadian Institutes of Health Research (CIHR)

Role: Co-investigator

Prevalence of Post-Thrombotic Syndrome in Deep-Vein Thrombosis (DVT) Patients Treated With Dabigatran (DABI-PTS)

Agency: Oslo University Hospital

Role: Co-investigator

Active Industry sponsored:

DABI-PTS: 2016-present

SAVER Pilot Study: 2016-present

STEP-CAT: 2016-present

HOKUSAI CANCER-VTE: 2016-present

ANDEXANET ANTIDOTE: 2015-present

MARINER: 2015-present

PREDICTORS: 2015-present

RASET: 2015-present

AVERT: 2014-present

RAPS: 2014-present

EINSTEIN CHOICE: 2014-present

EPCAT 2: 2013-present

CATHETER-2: 2013-present

CACTUS-PTS Study: 2012-present

REVERSE Long-term Follow-up: 2003-present

LIBERTY: 2016-present

TRITON: 2015-present

PULMOBIND-02: 2014-present

ARROW: 2014-present

RESPITE: 2013-present

GRIPHON: 2010-present

PATENT-1 and 2 Study: 2009-present
LUSTER II: 2015 – present
OSMO: 2016- present
ARIETTA: 2016-present

Dr. Pierre Ernst

Canadian Network for Observational Drug Effect Studies (cNODES)
Agency: CIHR

Statistical Methods in Pharmacoepidemiology and Perinatal Epidemiology
Agency: CIHR (Foundation Scheme)

Dr. Nathalie Saad

Development of a predictive model of sputum eosinophil in COPD patients
Agencies: Genome Canada, Genome Quebec
Role: Site PI

Clinical Implementation and Outcomes Evaluation of Blood-Based Biomarkers for COPD Management
Agencies: Genome Canada, Genome Quebec
Role: Co-Investigator

Dr. Deborah Assayag

High Oxygen Delivery to Preserve Exercise Capacity in Idiopathic Pulmonary Fibrosis Patients Treated With Nintedanib (HOPE-IPF)
Source of Funding: University of British Columbia
Role: Site PI

Predicting disease progression and mortality in myositis associated interstitial lung disease
Source of Funding: Programme de développement de jeunes chercheurs en mentorat, le Réseau en santé respiratoire du FRQS (RSR-FRQS)

Thomas Jagoe

Does the gut microbiome determine response to dietary intervention in cancer cachexia?
Source of Funding: LDI CliPP competition
Role: PI

Using multimodal rehabilitation to improve outcomes for frail patients undergoing resection of colorectal cancer
Source of Funding: Rossy Cancer Network Grant
Role: Co-Investigator

Multimodal exercise, nutrition and anti-inflammatory treatment for palliation of cancer cachexia: The MENAC study
Source of Funding: CIHR
Role: Co-PI

Dr. Carmela Pepe

LUSTER II: 2016 – present

OSMO: 2016- 2017

ARIETTA: 2016-2017

SPIRIT: 201- present

Dr. Mark Palayew

NTHi-MCAT002: 2017 – present

200879: 2017-present

Dr. Jason Agulnik

BO25460

MK3475-3396-809

TSF-CDRB436E2460

D5165C00001

CDRB436E2406

2. Research Trainees

Dr. Pierre Ernst

Tanja Tran	Co-supervisor, PhD in Epidemiology and Biostatistics	2014-
Christina Qian	Supervisor, MSc Epidemiology and Biostatistics	2014-2017

Dr. Thomas Jagoe

Tom Zakharov	Supervisor, MSc in Experimental Medicine
Noor Mady	Supervisor, MSc in Experimental Medicine
Rima Nasrah	Supervisor, PhD in Experimental Medicine
Monica Parmar	Thesis committee member, PhD in Nursing

3. Scholarly works published in the 2017 calendar year:

--**Assayag D**, Fischer A. Interstitial lung disease associated with connective tissue disorders. Clinical Handbook of Interstitial Lung Disease. 2017.

--Johannson KA, Kolb M, Fell CD, **Assayag D**, Fisher J, Churg A, et al. Evaluation of patients with fibrotic interstitial lung disease: A Canadian Thoracic Society position statement. Canadian Journal of Respiratory, Critical Care, and Sleep Medicine. 2017;1(3):133-41.

--Storme M, Semionov A, **Assayag D**, Lefson M, Kitty D, Dannenbaum D, et al. Estimating the incidence of interstitial lung diseases in the Cree of Eeyou Istchee, northern Québec. PloS one. 2017;12(9):e0184548.

-- Wang P, Jones KD, Urisman A, Elicker BM, Urbania T, Johannson KA, **Assayag D**, Lee J, Wolters PJ, Collard HR, Koth LL. Pathologic Findings and Prognosis in a Large Prospective Cohort of Chronic Hypersensitivity Pneumonitis. Chest. 2017 Sep;152(3):502-509. doi: 10.1016/j.chest.2017.02.011. Epub 2017 Feb 20. PubMed PMID: 28223152.

Assayag D, Hirsch A, Baron M, Vinet E, Albert A, Fortin P, et al. Extensive interstitial lung disease in inflammatory myopathy is a strong predictor of mortality. *European Respiratory Journal*. 2017;50(suppl 61).

--Deane KD, Walts AD, Fingerlin TE, Fischer A, Ryu J, Matteson EL, Niewold TB, **Assayag D**, Lee JS, Wolters HR, Schwarz MI, Holers VM, Schwartz DA. The Muc5b Promoter Variant Is Associated With Rheumatoid Arthritis Associated Interstitial Lung. *Am J Respir Crit Care Med*. 2017 ; 195, A2456

--Naderi N, Joubert A, Mostafavi-Pour-Manshadi S-M-Y, Ouellet I, Drouin I, Li PZ, **Assayag D**, Bourbeau J. Long-Term Azithromycin Therapy To Reduce Acute Exacerbations In Patients With Severe Chronic Obstructive Pulmonary Disease. *Am J Respir Crit Care Med*. 2017; 195.

--Brassard P, Wu JW, **Ernst P**, Dell'Aniello S, Smiechowski B, Suissa S. The effect of statins on influenza-like illness morbidity and mortality. *Pharmacoepidemiol Drug Saf*. 2017 Jan;26(1):63-70. PMID: 27686457

--Suissa S, Dellaniello S, **Ernst P**. Long-acting bronchodilator initiation in COPD and the risk of adverse cardio-pulmonary events: A population-based comparative safety study. *Chest*. 2017 Jan;151(1):60-67. PMID: 27554300

--Djandji F, Lamontagne AJ, Blais L, Bacon SL, **Ernst P**, Grad R, Lavoie KL, McKinney ML, Desplats E, Ducharme FM. Enablers and determinants of the provision of written action plans to patients with asthma: a stratified survey of Canadian physicians. *NPJ Prim Care Respir Med*. 2017 Mar 31;27(1):21. PMID: 28364118

--**Ernst P**, Coulombe J, Brassard P, Suissa S. The Risk of Sepsis with Inhaled and Oral Corticosteroids in Patients with COPD. *COPD*. 2017 Apr;14(2):137-142. PMID: 28010132

--Suissa S, Dell'Aniello S, **Ernst P**. Concurrent use of long-acting bronchodilators in COPD and the risk of adverse cardiovascular events. *Eur Respir J*. 2017 May 23;49(5). PMID: 28536251

--Shin JY, Eberg M, **Ernst P**, Filion KB. Statin Potency and the Risk of Hospitalization for Community-Acquired Pneumonia. *Br J Clin Pharmacol*. 2017 Jun;83(6):1319-1327. PMID:27943383

--Hicks BM, Yin H, Bladou F, **Ernst P**, Azoulay L. Androgen deprivation therapy for prostate cancer and the risk of hospitalisation for community-acquired pneumonia. *Thorax*. 2017 Jul;72(7):596-597. PMID: 27986803

--Gonzalez A, Coulombe J, **Ernst P**, Suissa S. Long-term use of inhaled corticosteroids in COPD and the risk of fracture. *Chest*. 2017 Jul 14. doi: 10.1016/j.chest.2017.07.002. [Epub ahead of print] PMID: 28716642

--Suissa S, **Ernst P**. Precision Medicine Urgency: the Case of Inhaled Corticosteroids in COPD. *Chest*. 2017 Aug; 152(2): 227-231. PMID: 28797382

--**Ernst P**, Ernst G. Neuro-psychiatric adverse effects of montelukast in children. *Eur Respir J*. 2017 Aug 17;50(2). PMID: 28818877

--Qian CJ, Coulombe J, Suissa S, **Ernst P**. Pneumonia Risk in Asthma Patients using Inhaled Corticosteroids: A Quasi-Cohort Study. *Br J Clin Pharmacol*. 2017 Sep;83(9):2077-2086.. PMID: 28425216

- Jun M, Lix LM, Durand M, Dahl M, Paterson JM, Dormuth CR, **Ernst P**, Yao S, Renoux C, Tamim H, Wu C, Mahmud SM, Hemmelgarn BR, For the Canadian Network for Observational Drug Effect Studies (CNODES) Investigators. Comparative safety of direct oral anticoagulants and warfarin in patients with venous thromboembolism: a multicenter observational study of administrative databases. *BMJ*. 2017 Oct 17;359:j4323. PMID:29042362
- Kahn SR, **Hirsch AM**, Akaberi A, Hernandez P, Anderson DR, Wells PS, Rodger MA, Solymoss S, Kovacs MJ, Rudski L, Shimony A, Dennie C, Rush C, Geerts WH, Aaron SD, Granton JT. Functional and Exercise Limitations After a First Episode of Pulmonary Embolism: Results of the ELOPE Prospective Cohort Study. *Chest*. 2017 May; 151(5): 1058-1068.
- Ma K, Kahn SR, **Hirsch AM**, Akaberi A, Anderson DR, Wells PS, Rodger M, Solymoss S, Kovacs MJ, Rudski L, Shimony A, Dennie C, Rush C, Hernandez P, Aaron SD, Granton JT. N-terminal of prohormone brain natriuretic peptide predicts functional limitation one year following pulmonary embolism: Results from the ELOPE study. *Thrombosis Research*, 2017 May; 153, 47-49.
- Kahn SR, Akaberi A, Granton JT, Anderson DR, Wells PS, Rodger MA, Solymoss S, Kovacs MJ, Rudski L, Shimony A, Dennie C, Rush C, Hernandez P, Aaron SD, **Hirsch AM**. Quality of Life, Dyspnea and Functional Exercise Capacity Following a First Episode of Pulmonary Embolism: Results of the ELOPE Cohort Study. *The American Journal of Medicine* 2017 Aug; 130(8): 99.e9-990.e21.
- Zhan Y, Burstein B, Abualsaud AO, Nosair M, **Hirsch AM**, Lesenko L, Langleben D. (2017). Right ventricular ST-elevation myocardial infarction as a cause of death in idiopathic pulmonary arterial hypertension. *Pulm Circ*. 2017 Apr-Jun;7(2):555-558. doi: 10.1177/2045893217704435. Epub 2017 May 12. PMID: 28597772
- Monica P Parmar, Brandy L Vanderbyl, Mary Kanbalian, Tamara Y Windholz, Anh-Thi Tran, **R Thomas Jagoe**. A multidisciplinary rehabilitation programme for cancer cachexia improves quality of life. *BMJ Supportive Palliat Care* 7(4) pp 441-449, 2017
- MacMillan NJ, Kapchinsky S, Konokhova Y, Gouspillou G, de Sousa Sena R, **Jagoe RT**, Baril J, Carver TE, Andersen RE, Ruddy R, Perrault H, Bourbeau J, Hepple RT, Taivassalo T. Eccentric ergometer training promotes locomotor muscle strength but not mitochondrial adaptation in patients with severe Chronic Obstructive Pulmonary Disease. *Frontiers Physiol*. 8(114), 1-14, 2017.
- Vanderbyl BL, Mayer MJ, Nash C, Tran AT, Windholz T, Swanson T, Kasymjanova G, **Jagoe RT**. A comparison of the effects of medical Qigong and standard exercise therapy on symptoms and quality of life in patients with advanced cancer. *Support Care Cancer* 50(1), pp 1749-1758, 2017.
- Abdallah SJ, Wilkinson-Maitland C, **Saad N**, Li PZ, Smith BM, Bourbeau J, Jensen D. Effect of morphine on breathlessness and exercise endurance in advanced COPD: a randomized crossover trial. *Eur Respir J*. 2017 Oct 19;50(4). pii: 1701235. doi: 10.1183/13993003.01235-2017.
- Kasymjanova G, **Small D**, Cohen V, Jagoe RT, Batist G, Sateren W, Ernest P, Pepe C, Sakr L, Agulnik J. Lung cancer care trajectory at a Canadian centre: an evaluation of how wait times affect clinical outcomes, *Clin Oncol* 34(5), pp 302-309, 2017.

4. Academic and community engagement service outside of McGill by individual members of the unit

Dr. Andrew Hirsch

-PHA Canada medical advisory board

Dr. Pierre Ernst

- Member, CIHR College of reviewers
- Reviewer, CIHR Project Grant: Spring 2017 competition
- President, comité d'excellence clinique en usage optimal du médicament, INESSS
- Member, Board of Directors, Transplant Quebec
- Reviewer, Editorial or manuscript reviews for multiple scholarly journals including Chest, Thorax and ERJ.
- Medical expert, Régie de l'assurance automobile du Québec.

Dr. Carmela Pepe

-Royal College examiner

Nathalie Saad:

- Chair, CIUSSS Centre-Ouest-de-l'Ile-de-Montréal; CIUSSS Committee for assessment of medical acts (CAMA) (nominated) Chair, CIUSS
- Member of the Board (nominated), College des Médecins du Québec
- Member, Agence de Santé et des services sociaux de Montréal; Implementation Committee, screening and chronic management of COPD in primary care program: integrated care model
- Medecin Expert, Ministère de la Santé et des services sociaux bureau de Montréal; Implementation Committee, screening and chronic management of COPD in primary care program: integrated care model
- Treasurer-secretary (elected), Association des pneumologues de la province de Québec
- McGill representative for the Association des pneumologues de la province de Québec

Submitted by:

Andrew Hirsch MD
Chief Division of Pulmonary
Department of Medicine
Jewish General Hospital