

Annual Report
Division of Rheumatology
Department of Medicine - Jewish General Hospital
January 1 - December 31, 2013

SUMMARY

1. Research and publications:

Dr. Baron's primary research interest is scleroderma. Dr. Baron has established the Canadian Scleroderma Research Group (CSRG) and the McGill Early Arthritis Registry that has performed research on recent onset inflammatory arthritis. He has also created CANCoRC, the Canadian Consortium of Rheumatology Cohorts, in an attempt to strengthen Canadian rheumatology research by seeking common funding and identifying commonalities across rheumatic disease research teams.

Most recently he established the International Systemic Sclerosis Inception Cohort (INSYNC) to study specifically of recent onset cases of Scleroderma. This involves participation from many countries.

Dr. Baron's research has focused on ways of measuring disease activity and damage in scleroderma, as well as on aspects of nutritional deficiencies caused by the disease. In addition, he has brought in several labs to work with the biospecimens he has collected. They are working on multiple aspects of the disease, including the vascular abnormalities and control of fibroblast function.

He has also played an important role in Canada's rheumatic disease research community by creating the concept of the Systemic Autoimmune Rheumatic Diseases (SARDs) as a group that deserves attention as a whole rather than just individually.

Dr Hudson pursues research in systemic autoimmune rheumatic diseases. In particular, she is a principal investigator in the Canadian Scleroderma Research Group (CSRG), a pan-Canadian cohort of over 1400 systemic sclerosis patients followed annually since 2004. She has done primarily outcomes research on this national dataset. In addition, given the rarity of the disease at hand, she has also established several international collaborations with leading scleroderma experts worldwide (International Scleroderma Renal Crisis Survey, Tri-nation (Canada, Houston, Australia) Scleroderma Cohort (undertaken to study the clinical correlates of some of the less frequent autoantibodies found in this disease), and International Systemic Sclerosis Inception Cohort (INSYNC)).

Dr Hudson is also the Director of the Canadian Inflammatory Myopathy Study (CIMS). Funded by a CFI grant awarded in 2010, we developed a study protocol to prospectively follow an incident cohort of patients with inflammatory myopathies. The database has been created, we have begun to recruit at 2 sites (McGill University and Centre Hospitalier de l'Université Laval) and the meeting to launch the national cohort is set for

May 16, 2014. More than 50 participants from 12 sites across Canada will attend. We aim to recruit approximately 100 incident cases per year over the next 3 years, making this a unique resource worldwide.

Finally, after doing outcomes research for several years, Dr Hudson has now decided to also undertake translational research aimed at studying the etiopathogenesis of systemic autoimmune rheumatic diseases (SARDs). She has developed collaborations with a number of other scientists, including geneticists and environmental health experts, and has established the Canadian Network for SysTemic Autoimmune rheumatic diseases (CAN-STAR). The objective of this multi-disciplinary, cross-pillar, cross-disease network is to define the epigenetic signatures of SARDs, to investigate the contribution of air pollution to epigenetic abnormalities and to translate new findings into relevant disease biomarkers and targets for future intervention.

2. Teaching and learning (undergraduate and graduate):

The division continues to participate in undergraduate and post-graduate medical education. Dr Hudson is a tutor in the Basis of Medicine for medical students. She also supervises a number of undergraduate and medical students, as well as internal medicine residents, rheumatology fellows and post-graduate students.

Dr. Berskon has developed seminar teaching series for rheumatology fellows, GIM fellows, and endocrinology fellows in osteoporosis to be delivered in early 2013.

The members of the division spent a total of 8 weeks as attending on the medial wards.

3. Involvement in the community:

Dr Baron is on the JGH policy committee.

Dr. Hudson is on the LDI/JGH Clipp grant review committee.

4. Partnerships:

The rheumatology research group has instituted the development of a new international research organization called The International Systemic Sclerosis Inception Cohort (InSync) with the aim of closely following the first few years of illness in patients with scleroderma from many different countries to develop a large enough cohort for important research. InSync includes researchers from Canada, United States, Germany, Israel, Australia and Spain.

Dr. Baron has established the Canadian Consortium of Rheumatology Research Cohorts (CANCoRC) which is a group of about 20 cohorts that work on cross-group efficiencies and look at biospecimen SOPs, biospecimen tracking systems, ethics submissions and consent forms, cross disease data harmonization, and sharing web page resources.

As described above, Dr. Hudson participates in research on epigenetics of rheumatic diseases with a group at McGill University (CAN_STAR) and has established a new national cohort in inflammatory myopathies (CIMS).

The division is in the process of leading a project of harmonizing research data across four rheumatology research cohorts at McGill which may lead to more cross disease research

The Division runs an osteoporosis clinic in partnership with endocrinology. It has a once/month clinic for rheumatic disease with lung disease and/or pulmonary hypertension. Scleroderma patients are seen once per week for collection of data for the Canadian Scleroderma Research group.

5. Milestones:

New hires, promotions, and retirements:

Dr. Murray Baron was promoted to Full Professor, Faculty of Medicine, McGill University.

6. Honours, awards, and prizes:

7. Fundraising:

The division has received \$130,000 in donation for research purposes.

SECTION I - DIVISION STATUS UPDATE

1. Mission and objectives of the Division

The Division strives to provide high level clinical care, education and research.

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

Murray Baron, MD: Professor of Medicine
Marie Hudson, MD: Assistant Professor
Genevieve Gyger, MD: Attending Physician
Laeora Berkson, MD: Associate Professor of Medicine
Sabrina Fallavollita, MD: Assistant Professor

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

1. Grants and awards received

Baron, Murray and Hudson Marie

- 2012-2017 Emerging Team: The Scleroderma Patient-centered Intervention Network (Emerging Team Grant: Rare Diseases - \$1,500,000; PI Thombs); Canadian Institutes of Health Research (CIHR)
- 2010-2014 McGill Systemic Autoimmune Rheumatic Diseases (SARD) Project, CFI, PI Baron, \$790,000
- 2007-2013 Strategic Training Initiative: Canadian Scleroderma Research Group, CIHR, PI Baron \$1.8 million

Hudson, Marie

- 2012-2016 Multidimensional Epigenomics Mapping Centre (EMC) at McGill, CIHR, Co-PI \$5,665,000
- 2013-2014 Canadian Inflammatory Myopathy Study Networking Meeting, the Arthritis Society, PI Hudson, \$10,000
- 2013-2014 CAN-STAR – Canadian Network for Systemic Autoimmune Rheumatic Diseases (LOI), CIHR , PI Hudson, \$18,975
- 2013-2014 ImmunoSeq: novel immunogenetic discovery tool and its translation to personalized medicine in Finnish and Canadian partnership (LOI), CIHR, Co-PI, \$20,000
- 2012-2013 Environment, Epigenetics, and Rheumatic Diseases (catalyst grant - \$100,000; PI Bernatsky, Hudson, Colmegna); Canadian Institutes of Health Research (CIHR)
- 2012-2013 Cardiovascular Risk Assessment in Rheumatoid Arthritis (unrestricted grant - \$15,000; PI Hudson), Roche Canada
- 2012-2014 Searching for identity in the dark: the experiences of women living with a rare and unpredictable disease (Insight Development Grants - \$75,000; PI Thombs); Sciences Research Council (SSRC)
- 2012-2013 Epigenetic signatures of systemic autoimmune rheumatic diseases - A Pilot Study (pilot funds - \$50,000; PI Hudson), Davis Institute for Medical Research, Jewish General Hospital, Montreal

Salary awards:

Hudson, Marie :

2012-2015: Bourse de Chercheur-clinicien Junior 2, FRSQ

2012-2017: The Arthritis Society Investigator Salary Award (declined)

2. Scholarly works published in the 2013 calendar year:

Baron, Murray

Published Reffered Papers From January 1, 2013 – December 31, 2013

1. Bacher A, Mittoo S, Hudson M, Tatibouet S, **Baron M**. Systemic sclerosis in canada's north american native population: Assessment of clinical and serological manifestations. *J Rheumatol*; 40(7): 1121-6, 2013.
2. **Baron M**, Chung L, Gyger G, Hummers L, Khanna D, Mayes MD, et al. Consensus opinion of a North American Working Group regarding the classification of digital ulcers in systemic sclerosis. *Clin Rheumatol*. 2013 [Epub ahead of print].
3. Coulter C, **Baron M**, Pope JE. A delphi exercise and cluster analysis to aid in the development of potential classification criteria for systemic sclerosis using ssc experts and databases. *Clin Exp Rheumatol*; 31(2 Suppl 76): 24-30, 2013.
4. Davignon JL, Hayder M, **Baron M**, Boyer JF, Constantin A, Apparailly F, Poupot R, Cantagrel A. Targeting monocytes/macrophages in the treatment of rheumatoid arthritis. *Rheumatology (Oxford)*; 52(4): 590-8, 2013.
5. Delisle VC, Hudson M, **Baron M**, Thombs BD, And The Canadian Scleroderma Research Group A. Sex and time to diagnosis in systemic sclerosis: an updated analysis of 1,129 patients from the Canadian Scleroderma Research Group Registry. *Clin Exp Rheumatol*. 2013 [Epub ahead of print].
6. Fox BD, Shimony A, Langleben D, Hirsch A, Rudski L, Schlesinger R, Eisenberg MJ, Joyal D, Hudson M, Boutet K, Serban A, Masetto A, **Baron M**. High prevalence of occult left heart disease in scleroderma-pulmonary hypertension. *The European respiratory journal*; 42(4):1083-91, 2013.
7. Frech TM, **Baron M**. Understanding itch in systemic sclerosis in order to improve patient quality of life. *Clin Exp Rheumatol*; 31(2 Suppl 76): 81-8, 2013.
8. Gyger G, Hudson M, Lo E, Steele R, **Baron M**. Does cigarette smoking mitigate the severity of skin disease in systemic sclerosis? *Rheumatol Int*; 33(4): 943-8, 2013.
9. Hudson M, Assayag D, Caron M, Fox BD, Hirsch A, Steele R, Gaudreau-Taillefer R, Tatibouet S, Rudski L, **Baron M**. Comparison of different measures of diffusing capacity for carbon monoxide (dlco) in systemic sclerosis. *Clin Rheumatol*; 32(10): 1467-1474, 2013.
10. Hudson M, **Baron M**, Tatibouet S, Furst DE, Khanna D. Exposure to ACE inhibitors prior to the onset of scleroderma renal crisis-Results from the International Scleroderma Renal Crisis Survey. *Semin Arthritis Rheum*. 2013 [Epub ahead of print].
11. Hudson M, Satoh M, Chan JY, Tatibouet S, Mehra S, **Baron M**, et al. Prevalence and clinical profiles of 'autoantibody-negative' systemic sclerosis subjects. *Clin Exp*

- Rheumatol. 2013 [Epub ahead of print].
12. Jewett LR, Razykov I, Hudson M, **Baron M**, Thombs BD. Prevalence of current, 12-month and lifetime major depressive disorder among patients with systemic sclerosis. *Rheumatology (Oxford)*; 52(4): 669-75, 2013.
 13. Kwakkenbos L, Arthurs E, van den Hoogen FH, Hudson M, van Lankveld WG, **Baron M**, van den Ende CH, Thombs BD. Cross-language measurement equivalence of the center for epidemiologic studies depression (ces-d) scale in systemic sclerosis: A comparison of canadian and dutch patients. *PLoS ONE*; 8(1): e53923, 2013.
 14. Kwakkenbos L, Jewett LR, **Baron M**, Bartlett SJ, Furst D, Gottesman K, Khanna D, Malcarne VL, Mayes MD, Mouthon L, Poiraudou S, Sauve M, Nielson WR, Poole JL, Assassi S, Boutron I, Ells C, van den Ende CH, Hudson M, Impens A, Korner A, Leite C, Costa Maia A, Mendelson C, Pope J, Steele RJ, Suarez-Almazor ME, Ahmed S, Coronado-Montoya S, Delisle VC, Gholizadeh S, Jang Y, Levis B, Milette K, Mills SD, Razykov I, Fox RS, Thombs BD. The scleroderma patient-centered intervention network (spin) cohort: Protocol for a cohort multiple randomised controlled trial (cmrct) design to support trials of psychosocial and rehabilitation interventions in a rare disease context. *BMJ open*; 3(8): 1-11, 2013.
 15. Mansour S, Bonner A, Muangchan C, Hudson M, **Baron M**, Pope JE. Low socioeconomic status (measured by education) and outcomes in systemic sclerosis: Data from the canadian scleroderma research group. *J Rheumatol*; 40(4): 447-54, 2013.
 16. Mehra S, Hudson M, Mahler M, **Baron M**, Fritzler M. Is there an association between ro52/trim21 antibodies and rheumatoid factor in systemic sclerosis? *Rheumatol Int* 2013 [Epub ahead of print].
 17. Michou L, Cornelis F, **Baron M**, Bombardieri S, Balsa A, Westhovens R, Barrera P, Alves H, Radstake TR, Migliorini P, Bardin T, Petit-Teixeira E, Boilard E. Association study of the platelet collagen receptor glycoprotein vi gene with rheumatoid arthritis. *Clin Exp Rheumatol*; 31(5): 770-2, 2013.
 18. Milette K, Hudson M, Korner A, **Baron M**, Thombs BD. Sleep disturbances in systemic sclerosis: Evidence for the role of gastrointestinal symptoms, pain and pruritus. *Rheumatology (Oxford)*; 52(9): 1715-20, 2013.
 19. Muangchan C, **Baron M**, Pope J. The 15% rule in scleroderma: The frequency of severe organ complications in systemic sclerosis. A systematic review. *J Rheumatol*; 40(9): 1545-56, 2013.
 20. Purden M, Mustafa SS, Looper KJ, Zelkowitz P, **Baron M**. Caregiving appraisal and disease activity in early inflammatory arthritis. *Scand J Caring Sci*; 27(1): 156-64, 2013.
 21. Razykov I, Hudson M, **Baron M**, Thombs BD. Utility of the patient health questionnaire-9 to assess suicide risk in patients with systemic sclerosis. *Arthritis Care Res (Hoboken)*; 65(5): 753-8, 2013.
 22. Razykov I, Levis B, Hudson M, **Baron M**, Thombs BD. Prevalence and clinical correlates of pruritus in patients with systemic sclerosis: An updated analysis of 959 patients. *Rheumatology (Oxford)*; 52(11): 2056-61, 2013.
 23. Tangri V, Hewson C, **Baron M**, Bonner A, Fritzler M, Pope JE. Associations with organ involvement and autoantibodies in systemic sclerosis: Results from the Canadian Scleroderma Research Group (CSRG). *Open J Rheumatol Autoimmune Dis*; 3: 113-8, 2013.

24. van den Hoogen F, Khanna D, Fransen J, Johnson SR, **Baron M**, Tyndall A, et al. 2013 classification criteria for systemic sclerosis: an American College of Rheumatology/European League against Rheumatism collaborative initiative. *Arthritis Rheum*; 65(11):2737-47, 2013.
25. Zelkowitz P, Looper KJ, Mustafa SS, Purden M, **Baron M**. Parenting disability, parenting stress and child behaviour in early inflammatory arthritis. *Chronic Dis Inj Can*; 33(2): 81-7, 2013.
26. Zhang XJ, Bonner A, Hudson M, **Baron M**, Pope J. Association of gastroesophageal factors and worsening of forced vital capacity in systemic sclerosis. *J Rheumatol*; 40(6): 850-8, 2013.

BOOK CHAPTERS

1. Gyger G, **Baron M**. Gastrointestinal tract involvement and management (book chapter). In: Cutolo M, Smith V, eds. *Novel insights into systemic sclerosis management*. London: Future Medicine; 2013.

Hudson, Marie

1. Bacher A, Mittoo S, **Hudson M**, Tatibouet S, Baron M. Systemic sclerosis in Canada's North American Native population: Assessment of clinical and serological manifestations. *The Journal of rheumatology* 2013; 40(7): 1121-6. [IF 3.7]
2. Bernatsky S, Lix L, O'Donnell S, Lacaille D. Consensus statements for the use of administrative health data in rheumatic disease research and surveillance. *The Journal of rheumatology* 2013; 40(1): 66-73. [IF 3.7]
3. Bourre-Tessier J, Peschken CA, Bernatsky S, Joseph L, Clarke AE, Fortin PR, Hitchon C, Mittoo S, Smith CD, Zummer M, Pope J, Tucker L, **Hudson M**, Arbillaga H, Esdaile J, Silverman E, Chedeville G, Huber AM, Belisle P, Pineau CA. Association of smoking with cutaneous manifestations in systemic lupus erythematosus. *Arthritis care & research* 2013; 65(8): 1275-80. [IF 3.7]
4. Delisle VC, **Hudson M**, Baron M, Thombs BD, Canadian Scleroderma Research Group. Sex and time to diagnosis in systemic sclerosis: An updated analysis of 1,129 patients from the canadian scleroderma research group registry. *Clinical and experimental rheumatology* 2013; [Epub ahead of print]. [IF 2.7]
5. Fox BD, Shimony A, Langleben D, Hirsch A, Rudski L, Schlesinger R, Eisenberg MJ, Joyal D, **Hudson M**, Boutet K, Serban A, Masetto A, Baron M. High prevalence of occult left heart disease in scleroderma-pulmonary hypertension. *The European respiratory journal* 2013; 42(4): 1083-91. [IF 6.4]
6. Gyger G, **Hudson M**, Lo E, Steele R, Baron M. Does cigarette smoking mitigate the severity of skin disease in systemic sclerosis? *Rheumatology international* 2013; 33(4): 943-8. [IF 2.2]
7. **Hudson M**, Assayag D, Caron M, Fox BD, Hirsch A, Steele R, Gaudreau-Taillefer R, Tatibouet S, Rudski L, Baron M. Comparison of different measures of diffusing capacity

- for carbon monoxide (DLCO) in systemic sclerosis. *Clinical rheumatology* 2013; 32(10): 1467-74. [IF 2.0]
8. **Hudson M**, Avina-Zubieta A, Lacaille D, Bernatsky S, Lix L, Jean S. The validity of administrative data to identify hip fractures is high--a systematic review. *Journal of clinical epidemiology* 2013; 66(3): 278-85. [IF 5.1]
 9. **Hudson M**, Baron M, Tatibouet S, Furst DE, Khanna D. Exposure to ACE inhibitors prior to the onset of scleroderma renal crisis--results from the International Scleroderma Renal Crisis Survey. *Seminars in arthritis and rheumatism* 2013; [Epub ahead of print]. [IF 4.1]
 10. **Hudson M**, Satoh M, Chan JY, Tatibouet S, Mehra S, Baron M, Fritzler MJ, Canadian Scleroderma Research Group. Prevalence and clinical profiles of 'autoantibody-negative' systemic sclerosis subjects. *Clinical and experimental rheumatology* 2013; [Epub ahead of print]. [IF 2.7]
 11. Jewett LR, Razykov I, **Hudson M**, Baron M, Thombs BD. Prevalence of current, 12-month and lifetime major depressive disorder among patients with systemic sclerosis. *Rheumatology (Oxford, England)* 2013; 52(4): 669-75. [IF 4.2]
 12. Kwakkenbos L, Arthurs E, van den Hoogen FH, **Hudson M**, van Lankveld WG, Baron M, van den Ende CH, Thombs BD. Cross-language measurement equivalence of the center for epidemiologic studies depression (CES-D) scale in systemic sclerosis: A comparison of Canadian and Dutch patients. *PloS one* 2013; 8(1): e53923. [IF 3.7]
 13. Kwakkenbos L, Jewett LR, Baron M, Bartlett SJ, Furst D, Gottesman K, Khanna D, Malcarne VL, Mayes MD, Mouthon L, Poiraudeau S, Sauve M, Nielson WR, Poole JL, Assassi S, Boutron I, Ells C, van den Ende CH, **Hudson M**, Impens A, Korner A, Leite C, Costa Maia A, Mendelson C, Pope J, Steele RJ, Suarez-Almazor ME, Ahmed S, Coronado-Montoya S, Delisle VC, Gholizadeh S, Jang Y, Levis B, Milette K, Mills SD, Razykov I, Fox RS, Thombs BD. The scleroderma patient-centered intervention network (SPIN) cohort: Protocol for a cohort multiple randomised controlled trial (CmRCT) design to support trials of psychosocial and rehabilitation interventions in a rare disease context. *BMJ open* 2013; 3(8). [IF 1.6]
 14. Mansour S, Bonner A, Muangchan C, **Hudson M**, Baron M, Pope JE. Low socioeconomic status (measured by education) and outcomes in systemic sclerosis: Data from the Canadian Scleroderma Research Group. *The Journal of rheumatology* 2013; 40(4): 447-54. [IF 3.7]
 15. Milette K, **Hudson M**, Korner A, Baron M, Thombs BD. Sleep disturbances in systemic sclerosis: Evidence for the role of gastrointestinal symptoms, pain and pruritus. *Rheumatology (Oxford, England)* 2013; 52(9): 1715-20. [IF 4.2]
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18. Zhang XJ, Bonner A, **Hudson M**, Baron M, Pope J. Association of gastroesophageal factors and worsening of forced vital capacity in systemic sclerosis. The Journal of rheumatology 2013; 40(6): 850-8. [IF 3.7]

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

Dr. M. Hudson is a spokesperson for The Arthritis Society and serves as a medical advisor to the Arthritis West Island Self-Help Association (AWISH). Dr. L. Berskon serves as consultant rheumatologist for McGill RUIS, Abitibi, QC

SECTION III - CONFIDENTIAL INFORMATION

1. Consulting activities: None

Submitted by:

Murray Baron, MD
Chief, Division of Rheumatology