

Let's Talk Lymphedema:

*Making A Difference in The
Lymphedema Community*

Catharine Bowman

British Columbia Lymphedema Conference

Background

- Grade Twelve Student of St. Mary Secondary School, Hamilton ON
 - Musician, Active Community Volunteer, Scientist
- Youngest of Four
 - Love for family, friends, and community-building
- Passionate about Lymphedema
 - Developed interest at young age



In the Beginning

- In 2007, my mother was diagnosed with Stage-Three Metastatic Melanoma of the leg
- Following two major surgeries, she developed secondary lymphedema
- Became Witness to Struggle and Burdens Associated with Lymphedema



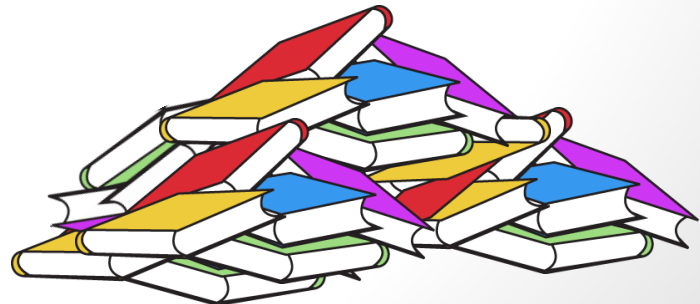
In the Beginning: Living at Home

- Became Witness to Struggle and Burdens Associated with Lymphedema
 - *Lymphedema Requires Mental and Physical Rest*
 - *The Challenge to Stay Positive*
- Desire to Make a Change
 - *Passion for Science in the Family*
 - *Science Fair as a Gateway of Opportunity*



A Step Toward Change

- Age 14, began to seriously recall the promise I made to my mother
- Researched and considered a variety of ideas
 - Read an article, which outlined an anti-inflammatory group of compounds that have been recently explored for health benefits
 - Connected with contributor, Dr. Jason McCallum
- Researched compounds further and determined final choices



A Step Toward Change: Proposals

- Created a Proposal Outlining my Project Idea
 - Required alterations due to material requirements
- Began testing anti-inflammatory effects of particular compounds at McMaster University
- Two months later, presented my Phase 1 Study



A Step Toward Change

- Judges, peers, and general public were tremendously receptive
 - Able to reach over 250 people stopped to view my work at the fair and additional viewings had occurred online
 - Awarded Best-in-Fair out of 450 students and the opportunity to represent Canada at the Intel International Science and Engineering Fair in Los Angeles
 - Local media coverage

One of Canada's oldest science fairs showcases Hamilton work

Hamilton Spectator
By Jon Wells

Catherine Bowman cleans up at the 2014 Bay Area Science and Engineering Fair!

Posted on **April 6, 2014**

'Big ideas' turn into big wins for HWCDSB students

Big wins at this year's BASEF



A Step Toward Change

- Intel International Science and Engineering Fair 2014, Los Angeles California
 - Representative of Canada
 - Met hundreds of youth and adult researchers
 - Able to spread the word of lymphedema on a global scale
- Upon return, presented at local research institutions along side Graduate Students and PhD Candidates
 - Juravinski Cancer Centre Oncology Research Day, BASEF Annual General Meeting, Arcelor Mittal Youth Research Day



A Step Toward Change

- Original research proposal travelled to University of Toronto retired lymphatic researcher
- Proposal was then sent to University of Calgary
- Received an email from Dr. Pierre Yves von der Weid of the University of Calgary regarding my research proposal
 - Laboratory specializes in lymphatic physiology
 - Invited to complete a two-month internship for the summer of 2014
 - Opportunity to focus and expand my current research



UNIVERSITY OF
CALGARY

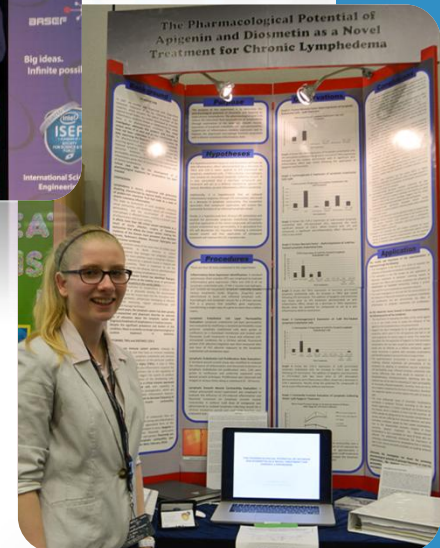
A Step Toward Change

- Completed in-depth testing at the University of Calgary over the course of two-months, returning in the winter of 2015.
- Results show promise in the effectiveness of these compounds in treating lymphedema, but there is still a long road of research to follow!
- Formed collaboration with Dr. Richard Austin of McMaster University to bring lymphedema research in Hamilton, ON



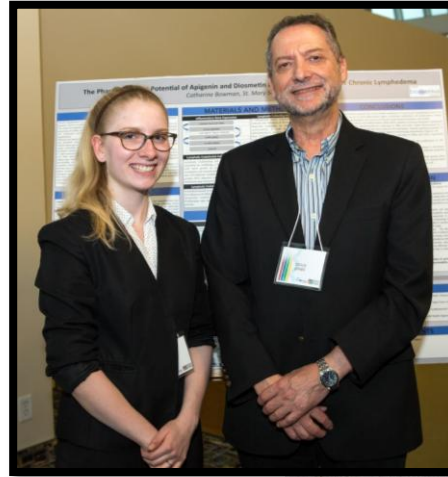
A Step Toward Change: Bringing Light to Lymphedema

- First major presentation at the 2015 Bay Area Science and Engineering Fair consisting of over 530 students
- Thousands of visitors throughout public viewing sessions
 - Doctors, Physicians, Parents, Students, Educators
- Profound interactions with particular physicians and parents
- Awarded Best-In-Fair and opportunity to present research at Intel International Science and Engineering Fair in Pittsburgh, PN



A Step Toward Change: Bringing Light to Lymphedema

- Presented at International Event consisting of over 1600 youth researchers from 65 countries
 - Awarded Fourth Place Grand Award in Biomedical and Health Sciences
- Presented at the Sanofi BioGenius
 - SW Ontario and National Events in Waterloo and Ottawa
 - Awarded First in SW Ontario and Third Nationally

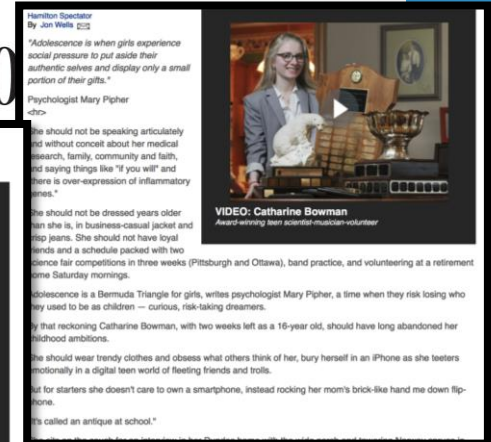


A Step Toward Change: Bringing Light to Lymphedema

- Local and Greater Area Media
 - Touched Thousands with Journey
 - Received Feedback from Readers/Listeners
- Connected with Canadian Lymphedema Framework and Local Lymphedema Clinic
 - Team Effort will Make the Difference **We** Need



THE
HAMILTON SPECTATOR



IN-DEPTH
RADIO

NEWSTALK

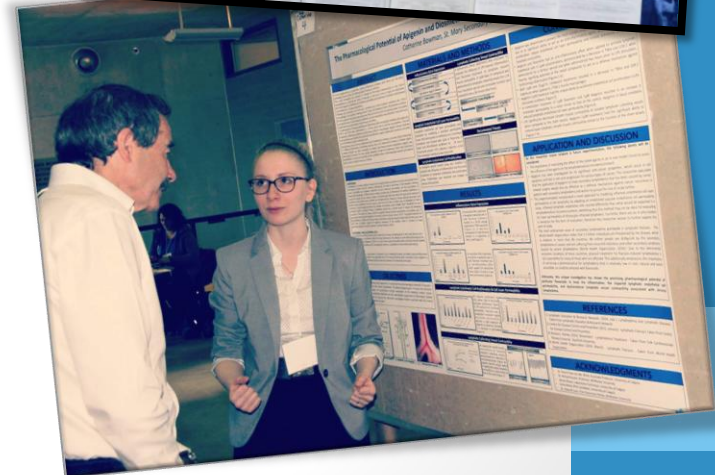
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Hamilton
Community



Current Times: Continuing on This Journey

- Continuing studies at McMaster University and University of Calgary
 - Exciting new approaches to further understand compounds
- Planning to continue this line of research for as long as possible
 - Hope to one day develop an effective pharmaceutical treatment for lymphedema
- Recent partnership developed with Hamilton lymphedema clinic, forming research team with two lymphedema clinicians
- Presentations surrounding lymphedema and lymphatic research at various Hamilton locations over the next months



A Look Into The Future: Making Noise for Lymphedema

- Beginning the “Make Noise for Lymphedema” campaign
 - A series of awareness and fundraising events for lymphedema and lymphatic disease
 - Spring-Time Walk for Lymphedema Awareness
 - #MakeNoiseForLymphedema
- Partnership formed between University of Calgary, McMaster University, and Juravinski Cancer – Hope to nurture and expand these relationships
 - Co-Authored Recent Grant Proposal Aimed at Improving Quality of Life for Lymphedema Patients
- My personal hope is to expand the diversity of those whom I speak to
 - Provide hope and comfort to those affected by lymphedema
 - Change the face of lymphedema, so that it is recognized on a daily basis

A Look Into The Future: **Thank you for the Support**

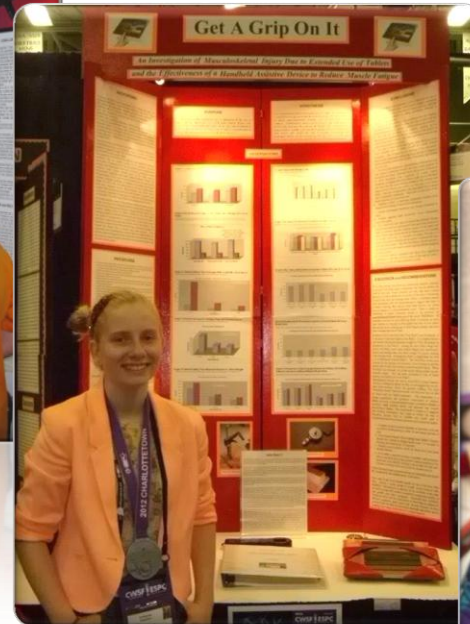
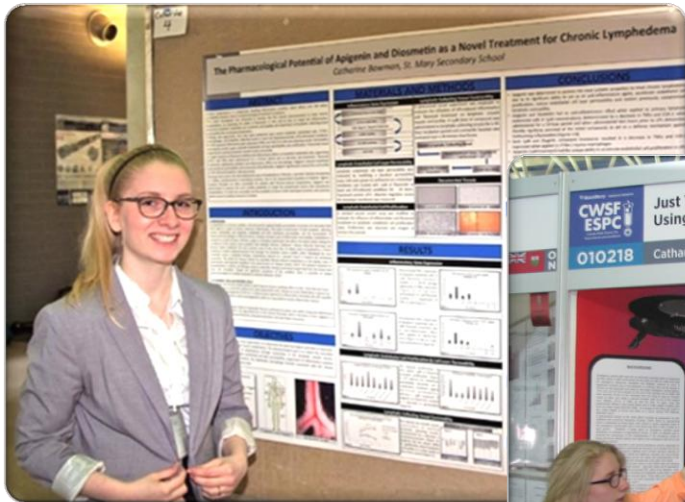
- Many thanks to the British Columbia Lymphedema Association for the opportunity to be a part of this event



BC LYMPHEDEMA
A S S O C I A T I O N
promoting healthy & hopeful living with lymphedema

A Look Into The Future: Thank you for the Support

- To my mentors and fellow lab colleagues for constant support and educating me throughout my time in the lab



A Look Into The Future: Thank you for the Support

- My parents and family for supporting and encouraging me to grow and be open to new opportunities that have arisen as a result of my involvement in the lymphedema community



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