**Multiple versions below….**

**Kids**

Dr. Dawn Bowdish wants to know why we get sick and how we get better. She and her team of scientists study how immune cells called macrophages decide which germs are good for us and which ones are bad for us and need to be destroyed.

**En français:**

La recherche de Dawn Bowdish porte sur les changements subits par le système immunitaire au cours du processus de vieillissement, et les impacts que ces changements ont sur la santé d’une personne vieillissante et leur risque d’infection. Avec l’aide de son équipe, Dawn vise à découvrir l’interaction entre le système immunitaire vieillissant et les microorganismes qui vivent à l’intérieur ainsi qu’à l’extérieur de nos corps afin de prévenir les infections et de permettre la population plus âgée de vivre plus longtemps de façon indépendante. Elle est la Chaire de recherche du Canada sur le vieillissement et l’immunité.

**<50 words**

Dr. Dawn Bowdish is a Professor (Master University) and the Canada Research Chair in Aging & Immunity. Her lab studies how the microbiota and the innate immune system change with age and how these changes impact healthy/unhealthy aging and increase susceptibility to pneumonia and COVID-19.

**<70 words**:

Dawn Bowdish studies how the immune system changes with age and how these changes impact healthy/unhealthy aging and susceptibility to infections. She and her team work to uncover how the aging immune system and the microbes that live in and on us (“the microbiota”) interact in order to prevent infections and give older adults more years of healthy, independent living. She is the Canada Research Chair in Aging and Immunity.

**Succinct**

**Dr Dawn Bowdish** is a Professor at McMaster University, the Canada Research Chair in Aging & Immunity and the Executive Director of the Firestone Institute of Respiratory Health. Her lab studies how age-associated inflammation alters monocyte and macrophage development and function and how this ultimately increases susceptibility to respiratory infections while decreasing the effectiveness to vaccines for pneumonia and COVID-19. Her team also studies how the aging immune system and the microbiome interact and how this can contribute to healthy or unhealthy aging. She runs the Preclinical Studies in Aging Laboratory ([www.psal.ca](http://www.psal.ca)), and is on the Board of Directors of the Lung Health Foundation where she advocates to increase research funding for lung health and to increase lung health in older adults.

**Lay Public**

Dr. Dawn Bowdish is a Professor at McMaster University and a Canada Research Chair in Aging & Immunity. Dr. Bowdish investigates the changes in the aging immune system that make older adults vulnerable to pneumonia and how the microbes that naturally live on us keep dangerous pathogens at bay. Her research team aims to discover novel treatments to protect older adults from infection by improving their immune systems and harnessing the power of the microbes that live on and in us (“the microbiome”) and to understand why the aging immune system does not respond as well to vaccinations for pneumonia and COVID-19. She also sits on the Board of Directors of the Lung Health Foundation and advocates to increase research funding for lung health.

**Braggy**

**Dawn Bowdish, PhD: Professor, Medicine; McMaster Immunology Research Centre; Tier 2 CRC in Aging and Immunity, University Scholar, Member of the Royal Society College of New Scholars.** Dr. Bowdish’s laboratory has two major focuses -1) how age and inflammation alter innate immune function and increase susceptibility to infection and 2) uncovering how the microbiome changes with age and contributes to healthy/unhealthy aging and the development of chronic inflammatory conditions. She runs the PreClinical Studies in Aging Lab ([www.psal.ca](http://www.psal.ca)), Canada’s only aging mouse facility dedicated to uncovering non-genetic factors associated with healthy/unhealthy aging. Dr. Bowdish has over 100 peer reviewed publications, invited reviews and editorials, 4 white papers and 11 book chapters. She has an h-index of 47 with more than 9000 citations (>5000 since 2015). Her discovery that the microbiome contributes to unhealthy aging has resulted in invitations to give >100 scientific talks in Europe, Asia, North America and Australia and > 50 talks to lay/broad audiences, knowledge users, policy makers and media in the last 5 years. She has received over 3 million dollars in research funding from the CIHR, NSERC, NIH the Lung Health Foundation, and the Weston and Boris family foundations. She sits on the Board of Directors of the Lung Health Foundation Ontario where she advocates to improve lung health and to increase funding for research. She has received recognition for her community outreach in the form of a McMaster Student’s Union Community Engagement Award, for her research in the form of a Breathe New Life Award for the top rated grant from the Ontario Thoracic Society/Ontario Lung Association’s Grant in Aid program and for her graduate student supervision in the form of a Best Teacher Award from the Department of Pathology & Molecular Medicine. Her trainees have gone on to positions in industry, academia and law. Dr. Bowdish will be primarily involved in pre-clinical work in theme 2. She collaborates frequently with Drs. Verdú, Schertzer, Sloboda and Surette.

**Long & numbery**

**Dr. Dawn Bowdish** is the Canada Research Chair (Tier 2) in Aging & Immunity and the Executive Director of the Firestone Institute of Respiratory Health. She started her laboratory at McMaster in 2009. Her team of post-doctoral fellows, undergraduate and graduate students study how macrophages recognize and destroy *Streptococcus pneumoniae,* the major cause of pneumonia in the elderly. Using a combination of animal models and human samples her lab has is uncovering how ageing, and age-associated inflammation affects the development of myeloid cells, which ultimately impairs monocyte and macrophage function and how the microbiota of the upper respiratory tract becomes permissive to *Streptococcus pneumoniae* colonization with age. She has published over 100 manuscripts, review articles and book chapters. She has won a number of early career awards including the Pfizer-ASPIRE award and the G. Jeannette Thorbecke Award from the Society of Leukocyte Biology. She has received recognition for her teaching and mentorship in the form of the Department of Pathology’s “Best Teacher Award” and by a nomination from her trainees for the President’s Award for Excellence in Graduate Student Supervision. She has received funding from the CIHR, NSERC, ORF, NIH, the Labarge Optimal Aging Initiative and the Lung Association to understand why the elderly are susceptible to pneumonia and to develop novel preventative therapies. She sits on the Board of Directors of the Lung Health Foundation and advocates to increase research funding for lung health.

**Long & Scientific:**

Dr. Dawn Bowdish is a Professor at McMaster University and a Canada Research Chair in Aging & Immunity. Dr Bowdish did her PhD at the University of British Columbia with Prof. Bob Hancock where she studied the anti-infective properties of antimicrobial peptides. This work led to a patent and the formation of a small biotech company. She did her post-doctoral work with Prof. Siamon Gordon at the University of Oxford and studied how macrophages recognize the *Mycobacterium tuberculosis*. She started her lab at McMaster University (Hamilton, ON) in 2009 where her team of post-doctoral fellows, undergraduate and graduate students study how macrophages recognize and destroy *Streptococcus pneumoniae,* the major cause of pneumonia in the elderly. Using a combination of animal models and human samples her lab has is uncovering how ageing, and age-associated inflammation affects the development of myeloid cells, which ultimately impairs monocyte and macrophage function and how the microbiota of the upper respiratory tract becomes permissive to *Streptococcus pneumoniae* colonization with age. She has published over 100 manuscripts, review articles and book chapters. She has won a number of early career awards including the Pfizer-ASPIRE award and the G. Jeannette Thorbecke Award from the Society of Leukocyte Biology. She has received funding from the CIHR, NSERC, ORF, NIH, the Labarge Optimal Aging Initiative and the Lung Association to understand why the elderly are susceptible to pneumonia and to develop novel preventative therapies. She sits on the Board of Directors of the Ontario Lung Association and advocates to increase research funding for lung health. When she’s not pushing back the boundaries of science she’s pushing back the boundaries of patience raising two strong-willed children.

**Short:**

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**Shorter:**

Dr. Dawn Bowdish is a Professor at McMaster University and a Canada Research Chair in Aging & Immunity. Dr Bowdish did her PhD at the University of British Columbia with Prof. Bob Hancock where she studied the anti-infective properties of antimicrobial peptides. She did her post-doctoral work with Prof. Siamon Gordon at the University of Oxford and studied how white blood cells called macrophages recognize the bacteria that cause tuberculosis. She started her lab at McMaster in 2009 where her team of post-doctoral fellows, undergraduate and graduate students study the process of macrophage phagocytosis, how macrophages influence the composition of the microbiome of the upper respiratory tract and how they recognize and destroy *Streptococcus pneumoniae,* the major cause of pneumonia in the elderly. She has won a number of early career awards including the Pfizer-ASPIRE award and the G. Jeannette Thorbecke Award from the Society of Leukocyte Biology. Her lab is funded by the CIHR, NSERC, the Labarge Optimal Aging Initiative and the Lung Association. When she’s not pushing back the boundaries of science she’s pushing back the boundaries of patience raising two strong-willed children.

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