



RESEARCH2REALITY

Shining a light on research & innovation.

Why Does Sickness Come With Age?

| An interview with Professor Dawn Bowdish
| Pneumonia Researcher, McMaster University

How can we fight infection in seniors?

Right now we're doing some really exciting work. We're trying to understand the interplay between age-associated inflammation and pneumonia. As we get older, we all become more inflamed. We don't really understand why this is, but we do know that in our blood and in our tissues we have more of these molecules called proinflammatory cytokines. And these cytokines are very, very good and absolutely essential if you have an acute infection. But for reasons we don't really understand, they build up as we get older. And as they build up, those seem to ultimately impair the ability of our white blood cells to fight infection.

What new discoveries have you made?

Right now we are at a very important and very exciting juncture in our research because we've really hit a point where the cost of a lot of the technologies that we use has decreased to a level that we are able to include things like studies of the microbiome – how all the bacteria in and on us affect our susceptibility to infectious disease. We are able to incorporate genomics and transcriptomic studies into our study and we're also learning to question a lot of the assumptions we have of the aging immune system. So the biggest assumption we have that the reason that old people get sick is their immune systems don't work. And what we've actually found is that simply isn't true, they just work differently. So all our therapies have to be tailored to the age of the individual they're targeted towards. The future looks very promising indeed. I think older adults are concerned about having longer and healthier lives. And for us, our guiding philosophy in my lab is that keeping older adults infection-free for longer will provide more years of independence and healthy living.