



### THE STATISTICS ARE STAGGERING, AND THEY'RE GETTING WORSE

One in five adult Canadians is currently living with arthritis, a painful, debilitating chronic health condition that affects the mobility of joints and bones. By 2040, that number is expected to rise by 50 per cent, affecting nearly a quarter of our population.

These shifting demographics currently leave our aging population with increasing levels of disability, which in turn limits earning potential in the most productive years, affects relationships with family and friends, and even impacts mental health. Arthritis hits us where it hurts the most.

This is a crisis, and we at the Krembil Research Institute are on the front line. It's time to invest in our future, by empowering scientific research, so that we can help more people, sooner.

University Health Network's (UHN) Arthritis Program, based at Toronto Western Hospital, incorporates rheumatology, orthopedics, hand and osteoporosis programs under one roof. The program has evolved with the changing needs of our society.

We have assembled a team of the world's most innovative arthritis clinicians and researchers. We have given them the tools, the resources and the support they need to push the boundaries of discovery and to translate those discoveries into advanced patient care.

New technologies – such as sophisticated imaging and biological profiling with immune and inflammatory markers, as well as predictive analytics and artificial intelligence – allow us to diagnose patients earlier, customize their treatment and track their progress in real time.

This interdisciplinary approach helps us to break down silos in order to speed up progress. Our quest for answers has led us to discover, innovate and improve patient care for those who need it most.

It's patients like Jill Miller, Susan Rivers and Everton Williams, all featured in this magazine, who inspire and energize us. We are driven by a passion to make a difference in their lives – to diagnose them earlier and provide them with effective treatments, to help them better manage their symptoms and improve their mobility. Ultimately, we want to help them achieve productive and fulfilled lives, free of pain and disability.

Today, there is no cure for arthritis, but we're envisioning one for tomorrow.

Let's all work together to make this dream a reality.

**Dr. Robert Inman**  
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## Krembil Research Institute

# By the numbers

Incidences of arthritis have ballooned, and it's only going to affect more people in the future. Here are some numbers – about arthritis and University Health Network's Arthritis Program – to put things into perspective.

350 million



People living with arthritis around the world – it's a leading cause of disability  
(Global RA Network)

\$35 billion +



Cost of arthritis, injuries and musculoskeletal-related diseases to the Canadian health care system  
(Canadian Institutes of Health Research)

50%

Canadians living with arthritis who are under 65.  
(Arthritis Society)

20 years



until the number of Canadians living with arthritis increases by 50%  
(Arthritis Society)

6 million

Canadians currently living with arthritis  
(Arthritis Society)

## UHN'S ARTHRITIS PROGRAM

80,000+

Patients treated annually

1,200+

JOINT REPLACEMENT procedures performed every year



150,000+

TISSUE SAMPLES

from ankylosing spondylitis, lupus, osteoarthritis and psoriatic arthritis – in Krembil's arthritis biobank, one of the largest of its kind in North America



Researchers at the Krembil Research Institute were the **FIRST TO DISCOVER microRNA TISSUE BIOMARKERS** associated with spine osteoarthritis

**LARGEST MULTIDISCIPLINARY ARTHRITIS RESEARCH PROGRAM IN CANADA**, integrating medical, surgical and basic science aspects of arthritis

5

Number of international research networks studying arthritis that are headquartered at Krembil

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Education and exercise can help prevent and improve OA symptoms, says Dr. Aileen Davis.

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Dr. Heather Baltzer conducts more hand surgeries than most other doctors in Canada. We take you inside the operating room to show you how it's done.

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