



EXCELLENCE IN
CHILD HEALTH
2016/17

YOU'VE HELPED KIDS SHINE

At BC Children's Hospital, we rely on donors like you to help meet the hospital's most critical needs. Each year, your donations are directed toward areas that will make the biggest impact in kids' lives.

Your contribution to Excellence in Child Health supports research, critically-needed equipment, vital programs and Sunny Hill Health Centre for Children.

In this report, we want to tell you how your donations have made a difference. None of this could be possible without your support.





We can't make children healthy without first understanding why they get sick. At the BC Children's Hospital Research Institute, more than 300 world-class investigators are working tirelessly to pursue scientific advances aimed at transforming the lives of children and families.

What does that look like? It's discovering that debilitating Crohn's disease could possibly be treated with drugs already being used for unrelated conditions. And it's learning that the common advice to parents to avoid giving babies peanuts might actually be causing peanut allergies.

To make sure our research makes a difference, we are focusing on four themes:

Brain, Behaviour & Development

Our researchers in areas including autism, clinical neurosciences and mental health aim to find new ways for kids to reach their intellectual and emotional potential. For example, half of all cases of mental illness begin by age 14. We're studying changes in the brain to find better treatments — and start them earlier. One project underway is an app that monitors data on a teen's smartphone after a mental health crisis and warns parents if another is on the way.

Healthy Starts

Here, we focus on ways to keep kids healthy and out of the hospital by preventing them from getting sick or injured in the first place. For example, researchers are trying to understand why some kids get asthma and others don't. We'll be exploring the role played by environmental factors, including air pollution, breastfeeding and certain kinds of gut bacteria.

Childhood Diseases

By understanding the immune system and causes of deadly diseases like cancer and diabetes, we can provide better diagnoses, treatments and, ultimately, cures. Recently, we've developed a gene therapy that programs a type of immune cell to keep a patient's immune system from attacking transplanted tissues and organs. Scientists hope that, one day, this could mean transplant recipients won't have to stay on drugs that suppress their immune systems and put them at greater risk for cancer and other diseases.

Evidence to Innovation

Our researchers in this theme provide scientific evidence to help policymakers, pediatricians and families make informed decisions. For example, we helped develop the first research-based diagnosis and treatment guidelines for hip dysplasia, a congenital condition that can lead to painful surgery if not caught and treated within a child's first few months.

Sunny Hill Health Centre assesses and treats kids with developmental conditions and disabilities, including brain injury, hearing loss, autism, cerebral palsy, and fetal alcohol syndrome.

Colton's Story

When 10-year-old Colton Hasebe was wheezing and couldn't get relief from his asthma inhaler, his dad Kevin brought him to emergency. When they got to the counter, Colton collapsed.

"A whole bunch of people showed up and started CPR on him right away," Kevin said. "I know what that means — there's no pulse and he's not breathing."

Colton's heart stopped for 15 minutes. The lack of oxygen caused permanent brain damage. When he first woke up, he was slurring his words and had no mobility on his left side.

"After a couple of days, he lost everything: he had a feeding tube, he couldn't speak — it seemed like he was nearly blind," Kevin said.

Ten days later, Colton was moved to Sunny Hill for treatment in the acute rehabilitation program. His medical team included occupational therapists and physiotherapists to help him move again.

"He couldn't walk or anything — we worked with him to strengthen his sitting skills and then he started walking," said physiotherapist Britta Jongkind. "First, he walked with two people helping him, then one person — and then I went away for the weekend and when I came back, he was able to walk without help."

Because of his brain injury, Colton also worked with a speech and language therapist and teachers from Sunny Hill's school program.

"WE DON'T HAVE A COOKIE-CUTTER APPROACH—EVERY CHILD IS DIFFERENT AND SO ARE THEIR NEEDS." — BRITTA JONGKIND, PHYSIOTHERAPIST

Colton also had aquatic therapy to improve his strength and balance and worked with a recreational therapist to focus on his favourite hobbies, like playing with Lego.

"WE DO PLAY-BASED THERAPY— WITH KIDS, THE THERAPY HAS TO BE FUN OR THEY WON'T DO IT."

— BRITTA JONGKIND, PHYSIOTHERAPIST

Because Colton loves karate, he practiced punches and kicks with Jongkind to work on his balance and coordination. "He was really proud of his punches, so he was the teacher and taught me how to do it," Jongkind said.

When Colton was admitted to Sunny Hill, doctors didn't know how long he would need to stay. After a month, he went home. If you see him now, you wouldn't think anything was wrong with him, his parents said.

"We thought it could be three months, six months, a year," Kevin said. "He was very motivated — I've never been so impressed by somebody in my entire life."



Colton Hasebe

EQUIPMENT

At BC Children's Hospital, we're fortunate to have some of the best and brightest medical experts working to help kids get healthier. Having the latest technology and state-of-the-art equipment helps them provide the best care possible. Your generous contributions equip us with critical tools that are used every day in every department. Here are a few examples:

Fibreoptic Endoscopic Evaluation of Swallowing (FEES)

Left untreated, swallowing disorders can be uncomfortable and result in potentially dangerous consequences. A FEES endoscope is a flexible camera used at Sunny Hill to assess kids with these conditions.

It looks at how the throat functions when a patient eats and drinks so doctors can develop a safer way for them to do so. The device is compact and portable — which offers immediate treatment at a patient's own bedside.

Spirometer

Asthma is growing at an alarming rate in BC. Without a spirometer, we can't reliably test for the respiratory disease. This machine is used daily in the Colonel Harland Sanders Allergy Clinic to diagnose and monitor asthma by looking at how much and how fast air moves through the lungs. The results are immediate and allow doctors to prescribe medications that help kids breathe better.

Hockey Stick Ultrasound Probe

It may be small in size, but this probe makes a big impact in the hospital. Doctors count on ultrasound probes to diagnose medical conditions for many reasons: they offer better image resolution than x-rays, faster results, and don't expose kids to radiation. The "hockey stick" ultrasound probe, nicknamed for its distinct shape, is ideal for examining small internal body parts and blood flow within veins.

THANK YOU FOR HELPING KIDS SHINE

Your annual support ensures we can help meet the most critical needs of children from across the province through groundbreaking research, life-saving equipment and essential programs. Thank you for your generosity.

