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VERTICAL CITY

Sick Kids tower to make research more visible

Modern 21-storey structure, featuring glass atria connecting multiple floors, breaks ground today

BY ANNA MEHLER PAPERNY

The newest face in Toronto's Discovery District – and, if its architects have their way, the future of medical research in Canada – is tall. And curvy. It's punctuated by bulbous glass protrusions and stairways that snake their way around the outside of one of the country's tallest medical research facilities.

Forget light-deprived scientists holed up in laboratory cubicles. The 21-storey Hospital for Sick Children's research tower, which breaks ground today and is slated for completion in 2013, is planned around the idea of high-rise neighbourhoods – glass atria connecting multiple floors and inviting the curious to take a peek. A mass of glass (thermally sound, designers hasten to add) will put the thousands of researchers working in the building on display; open-concept designs for labs and meeting rooms aim to demystify the work going on inside.

A drawing of a new tower for the Hospital for Sick Children.
DIAMOND + SCHMITT ARCHITECTS

Vertically oriented medical research facilities are rare in Canada, although they're becoming increasingly common, especially in the United States, as institutions try to make the most of limited space. But sky-high laboratories don't always come with a good reputation: They're notorious for isolating researchers within their floors and discouraging interaction.

The challenge of squeezing Sick Kids' 2,000 researchers and clinicians onto a single city block "was daunting," says architect Don Schmitt of Diamond + Schmitt, "but ... within three or four days of first working on the project, the idea jelled around these vertical neighbourhoods."

The idea is simple: Coax people out of research shells by creating common spaces linking different floors and research areas – "hanging gardens of interconnection between floors," Mr. Schmitt calls them.

The bubble-like atria will push out from the building's wall, turning the building into a visually accessible research aquarium and giving passers-by a glimpse into what's going on.

This plays into Sick Kids' push to underscore the vitally important medical research going on behind the scenes, said president and CEO Mary Jo Haddad.

"One of the biggest challenges is that people don't often understand the underpinning of excellence and care. ...This'll put a public face to research."

Jean Mah, a hospital design expert with firm Perkins + Will, says vertically oriented research facilities are becoming more common: Space is at a premium, facilities get older and organizations expand. But even in the U.S., research skyscrapers average 10 to 20 storeys; only in hyper-dense New York do they get much taller.

The challenge, she said, is to bring the outdoors into a glass research lab in the sky.

These buildings are also notorious energy hogs: Whereas the average office tower will operate for about 10 hours a day, five days a week, many of these labs are in use far longer and are more demanding when it comes to air circulation, temperature and lighting.

But Mr. Schmitt's team designed the tower with that in mind, he says, trying to make the building as energy-efficient as possible. In an attempt to achieve a LEED gold certification, they added material to the glass to help deflect unwanted solar rays and installed a system to harness the heat created by a building full of people and machines.

"If this is a success, it really is a kind of model for how you can make a great intellectual environment," he says.