

Hospitals are easing the cancer battles of young patients

February 12 2013, by Alan Bavley, The Kansas City Star

It's been a weekly routine for years at the Jolley household in Independence, Mo. - crushing chemotherapy pills and mixing them with fruit juice so that 6-year-old Trevor, who is under treatment for leukemia, can gulp them down.

"I think almost all of us who have children with [cancer](#) have to deal with crushing pills," said Trevor's mother, Amy Jolley. "Parents are crushing chemo pills on the kitchen counter."

The reason: Many cancer drugs were developed with adult patients in mind, and a lot are in pills that young children find hard to swallow.

That situation may be about to change.

Researchers at Children's Mercy Hospital and the University of Kansas Medical Center are reformulating drugs into liquids that are easy to swallow - and not bad-tasting, either.

"It's sweet, nondescript, not quite cherry-flavor," Kathleen Neville, a cancer [drug](#) researcher at Children's Mercy, said of a liquid version of a mainstay cancer drug that may soon be tried on patients.

Neville, along with Amy and Trevor Jolley, were part of a presentation last week at Children's Mercy to showcase cancer research collaborations between the hospital and other research centers.

Cancer research in Kansas City has been in expansion mode, largely the result of the university's efforts to gain designation as a National Cancer Institute cancer center; it received the designation last summer and already is preparing to apply in 2016 for the [National Cancer Institute's](#) higher designation as a comprehensive cancer center. That will demand an even more extensive research portfolio.

Among the cancer research projects Children's Mercy has under way:

- Modifying the immune system of patients to focus on neuroblastoma, an often deadly cancer of [nerve tissue](#), and melanoma, a dangerous form of [skin cancer](#).

- Processing the blood of [cancer patients](#) with a chemical treatment and exposure to ultraviolet light to prevent complications from stem-cell transplants the patients received.

- Studying the biology of leukemia cells containing a genetic mutation that makes the disease very difficult to cure even with the most aggressive treatment.

And Neville is working with researchers at the University of Kansas Cancer Center's drug discovery program to develop a liquid version of 6-mercaptopurine, 6-MP, a drug essential for fighting childhood leukemia and other conditions.

"It's the very backbone of treatment," Neville said.

The drug has been around for about 50 years, but only as a tablet. Pharmacists can crush and mix 6-MP into a liquid for large medical centers such as Children's Mercy that have access to a compounding pharmacy to customize drugs. But this service isn't available at every hospital, and mixing 6-MP this way "is not an exact science," Neville

said.

Neville said the market for a standardized liquid version of 6-MP is too small to interest drug companies in investing in its development.

"There is no incentive for big pharma to take this one, so it's up to the academic community," she said.

Children won't be the only patients to benefit, Neville said. A liquid 6-MP also may be prescribed to the elderly and others who have difficulty swallowing.

On Tuesday, Neville took her preliminary research data to the Food and Drug Administration.

"There's still some fine-tuning of the formulation," she said.

Neville expects a definitive clinical trial of the final version of the drug in the near future. FDA approval may be about five years off.

"In the drug development world that's a blink of an eye," Neville said.

Neville already is planning to work with the school's researchers on "pediatric-friendly" reformulations of other [cancer drugs](#).

"There's a list that long," she said, stretching her hands far apart. "So stay tuned."

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