

World-first guidelines created to help prevent heart complications in children during cancer treatment

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Credit: Naval Surface Warriors

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The guidelines, published in *JACC:Advances*, cover cardiovascular disease assessment, screening and follow-up, for pediatric patients receiving [cancer treatment](#) with new molecular therapies, immunotherapy, chemotherapy and radiotherapy.

The expert consensus, led by researchers from the Murdoch Children's Research Institute, has defined the high-risk group of cancer patients who should undergo a heart check-up, standardized an approach to screening and surveillance during treatment and provided recommendations to protect vulnerable young hearts.

Murdoch Children's Associate Professor Rachel Conyers said while international guidelines to monitor poor heart side effects during therapy exist for [adult patients](#), none were specific to children.

Associate Professor Conyers said the success of new cancer drugs had increased the chances of cardiac side effects that occur early on during therapy, sometimes within days, which warranted closer heart health surveillance and earlier monitoring.

"Recent advances in treating childhood cancer have resulted in survival rates of more than 80 percent. However, improving serious health outcomes in survivors remains an important and essential focus and prevention is key," she said.

"Heart complications are a leading cause of death for childhood cancer survivors, second only to cancer relapse. Modern treatments including precision medicine have broadened the agents that can cause [heart problems](#)."

Childhood cancer survivors are 15 times more likely to have heart failure and eight times more likely to have heart disease than the general population.

Associate Professor Conyers said the guidelines would be an indispensable tool for clinicians to significantly reduce the harmful impact of cancer drugs on children's hearts.

"The guidelines are a major advance for the cardio-oncology field as before this there was no defined approach for surveillance or follow up of [pediatric patients](#) during treatment despite new therapeutics having early [heart complications](#) such as [high blood pressure](#), abnormal heart beats and [heart failure](#)," she said.

The Australian and New Zealand expert group consisted of pediatric and adult cardiologists and pediatric oncologists who undertook a Delphi consensus approach across 11 areas of cardio-oncology care. The Australian New Zealand Children's Oncology Group endorsed the study with the guidelines useful for any tertiary institutes treating pediatric oncology patients or initiating cardio-oncology clinics.

More information: Claudia Toro et al, Cardio-Oncology Recommendations for Pediatric Oncology Patients, *JACC: Advances* (2022). [DOI: 10.1016/j.jacadv.2022.100155](https://doi.org/10.1016/j.jacadv.2022.100155)

Provided by Murdoch Children's Research Institute

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