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Title: Advances in Cardiovascular Imaging to Inform Cancer Therapy Cardiotoxicity

Cardio-oncology is a field in rapid evolution and growth. Both cancer and cardiovascular disease are substantial contributors to morbidity and mortality globally. Highly effective cancer therapies can result in significant adverse cardiovascular effects including cardiomyopathy and heart failure. Despite this tremendous public health burden, there are fundamental gaps in our understanding of disease and in the application of evidence-based strategies for the clinical care of this growing population. A critical need for the field of cardio-oncology is to understand the changes in cardiac structure and function that occur to identify patients at increased risk for the development of cardiotoxicity. Our work has focused on understanding the changes in cardiac remodeling and function that occur with cancer therapies and how early changes predict risk of subsequent cardiotoxicity. Our ongoing research focuses on the use of 2D and 3D measures of cardiac mechanics such as strain and ventricular-arterial coupling and diastolic function measures to understand the effects of cancer therapies. Our ultimate goals are to establish a robust paradigm of risk-guided cardioprotection. This lecture also highlights ongoing advances in cardio-oncology across additional imaging modalities.