



Oscar Cingolani, M.D.

Titles & Department

Associate Professor of Medicine in the Division of Cardiology; Director, Hypertension Program

Specialization Area

Role of matricellular proteins in protecting against hypertensive heart disease transition to heart failure.

Unmet Need

Mechanical and functional understanding of cardiac adaptation to loading conditions that may lead to heart failure.

Summary of Research & Work

Dr. Cingolani's focuses on translational cardiovascular research and mechanical sensing pathways that mediate cardiac health. In conjunction with the focus on treating resistant hypertension and understanding its transition to heart failure, Dr. Cingolani has investigated the role of thrombospondin-4 in cardiac mechanotransduction using a variety of in vivo and in vitro methods to link this protein as a critical stress biosensor of pressure through stretch-mediated calcium activation. Thrombospondin-4 and its activity may be a key protective mediator and prevent heart failure, even under high pressure/hypertensive conditions. In addition to this work, Dr. Cingolani has recently contributed significantly to understanding of cardiac health during and following COVID-19 and its impact on cardiac tissue.

Value Proposition

- Therapeutic intervention of specific target (TSP4).
- Specific stretch-mediated focus in regulation of heart failure.
- Applicable to pre-emergent hypertension regulation.

Recent Publications

- Gudenkauf B, Goetsch MR, Vakil RM, Cingolani O, Adamo L. Case Report: Steroid-Responsive Takotsubo Cardiomyopathy Associated with Cytokine Storm and Obstructive Shock. *Frontiers in Cardiovascular Medicine*, July 2022.
- MacFarlane ZT, Isakadze N, Molello N, Spaulding E, Gao Y, Young L, Khoury S, Michos E, Cingolani OH, Street A, Mathews L, Marvel FA, Commodore-Mensah Y, Martin SS. Using Human-Centered Design Methodology To Identify Challenges In Cardiac Recovery And Cardiac Rehabilitation From Diverse Patient, Patient Health Partner, and Clinician. *Circulation*, March 2022.
- Goerlich E, Gilotra NA, Minhas AS, Bavaro N, Hays AG, Cingolani OH. Prominent longitudinal strain reduction of basal left ventricular segments in patients with coronavirus disease-19. *Journal of Cardiac Failure*, January 2021.

- Goerlich E, Metkus TS, Gilotra NA, Wu KC, Cingolani OH, Hays AG. Prevalence and clinical correlates of echo-estimated right and left heart filling pressures in hospitalized patients with coronavirus disease 2019. *Critical Care Explorations*, October 2020.
- AlGhatrif M, Cingolani O, Lakatta EG. The dilemma of coronavirus disease 2019, aging, and cardiovascular disease: insights from cardiovascular aging science. *JAMA Cardiology*, July 2020.
- Kass DA, Duggal P, Cingolani O. Obesity could shift severe COVID-19 disease to younger ages. *Lancet*, May 2020.

Awards & Honors

- 2013 The Magic that Matters Fund Award, Johns Hopkins University
- 2012 The Michel Mirowski Discovery Fund Award, Johns Hopkins University
- 2011 PJ Schafer Memorial Heart Research Award, Johns Hopkins University
- 2003 Council for High Blood Pressure Research Award, American Heart Association