



# TOGETHER WE CAN OVERCOME

Dear MMRI Supporters:

This is indeed an unprecedented time in our history, and certainly one that none of us have ever faced before in our lifetimes. On behalf of the Masonic Medical Research Institute (MMRI), the President of the Board, R.:W.: Alvaro Quiroga, and the Chairman of the Board, R.:W.: David Schneeweiss, we hope that you are keeping safe and staying healthy. I want to personally convey my gratitude for your continuous support of the MMRI. I also want to take this time to say thank you to so many of you for your expressed interest and questions about how the MMRI is helping in the fight against COVID-19. Therefore, we want to share with you MMRI's current role in helping humanity combat this pandemic.

First, MMRI has reached out to local and state officials to help support the efforts to "flatten the curve" and reduce the number of infected individuals in our region. Overall, it is a team fight against the COVID-19 infection and the MMRI staff is doing their level best to

positively contribute. We are eager, willing and will do what is necessary to assist with whatever is asked of us in this regard. In this regard, we have been asked to stand ready to assess the validity of locally procured COVID-19 test kits using our on-hand equipment. In addition, we may also be able to assist by becoming a state testing lab for COVID-19 antibodies. By providing scientific data on novel strategies and therapies to lessen the burden of infection, we hope our informed suggestions will help local officials and physicians better manage their patients, reduce the deleterious effects of COVID-19, and help us all get our lives back to normal sooner.

Second, our staff has been busy sewing masks and hair bonnets for medical and emergency

personnel; I'd like to give special thanks to Ryan Pfeiffer, Mayurika Desai, and Dr. Saravanakumar Chennappan for leading these efforts. We have also amassed PPE to distribute to the Masonic Care Community to help their efforts in keeping our residents safe from this outbreak; a special thank you to R.W. David Schneeweiss for providing N95 masks in this harrowing time.

Third, and most importantly, the MMRI is actively pursuing COVID-19 related research. While we are not equipped to work directly on "live" infectious viruses (as we are not a biosafety level 3 laboratory and because we reside on a care community campus), the institute has been actively focused on combating this disease more indirectly using a multi-pronged research approach. MMRI is working tirelessly to understand the mechanisms by which COVID-19 worsens both cardiac and pulmonary functions, seeks to identify potential novel therapeutic targets for use in treating patients with the disease, and importantly, is aiming to understand the potential long-term consequences on lung and heart in patients who are recovering from this disease.

Dr. Nate Tucker is focused on addressing the critical knowledge gap between the relationship of COVID-19 and the development of myocarditis, a rapidly progressing inflammation of the heart. The risk appears to be particularly high in those with pre-existing heart conditions. Indeed, some of Dr. Tucker's findings on this front have already resulted in a manuscript that he has submitted for publication in a top-tier journal just this week.

We also know that the virus has a direct impact on lung and heart functions, and likely causes significant scarring of these tissues,

termed fibrosis, in recovering patients. Drs. Jason McCarthy and Chase Kessinger are investigating ways in which they can lessen this damage to the lungs, and together with my lab, the three of us will be directly evaluating the molecular signaling pathways that underlie the development of fibrosis in both the lung and heart of patients infected with COVID-19.

Finally, we are interested in understanding the cellular and inflammatory signaling responses associated with this disease; Drs. Zhiqiang Lin and Sathya Unudurthi will be heading these investigations.

This pandemic is fast moving, and we are attempting to move this research forward as rapidly as possible. We want to say thank you to all of you, our donors, supporters, and community, for the continued support of the MMRI and our COVID-19 research efforts. We could not do what we do without you. Together, we can make all the difference and we will beat this invisible enemy. Should you have any questions or if you would like to reach out to MMRI directly for more information or for much needed pledges or donations, please do not hesitate to contact us.

Best wishes,

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