

**CHAIRMAN'S ADDRESS TO SHAREHOLDERS
2021 MESOBLAST ANNUAL GENERAL MEETING**

2021 has been a rollercoaster year for the world, and a challenging year of both meaningful progress as well as some setbacks for Mesoblast. We have gone from the elation of seeing a United States Food and Drug Administration (FDA)-compiled panel of experts vote in favour of our lead product, a potentially company-transforming partnership with global pharma, and some very impressive clinical results, to delays in our foundational submissions to the US regulatory authority.

But despite these challenges, our core therapies – remestemcel-L and rexlemestrocel-L – have continued to deliver results that demonstrate their lifesaving potential in addressing four complex medical disorders: graft versus host disease, acute respiratory distress syndrome, advanced heart failure, and chronic lower back pain.

Over the past 12 months, nothing has given me greater pride than seeing the progress of our remestemcel-L therapy in young children suffering from steroid-refractory acute graft versus host disease (GvHD). This is surely one of the cruellest diseases, striking – and often taking the lives of – innocent young children who have already undergone the ordeal of a bone marrow transplant.

Following a presentation of study results to the FDA's advisory panel last year, and the panel voting overwhelmingly in favour that the data supported the efficacy of our GvHD therapy, we were very disappointed that an approval did not materialise. However, we have regrouped and, after addressing the outstanding items that the FDA requested, we are confident that our collegial collaboration could lead to a resubmission of our current Biologic License Application.

The additional investments we have made with respect to remestemcel-L will also support commencement of a second Phase 3 trial for acute respiratory distress syndrome (ARDS) associated with COVID-19 – a deadly combination of inflammatory reactions that has claimed so many lives during this pandemic. Promising results from our first ARDS trial, together with a recent constructive meeting with the FDA, pave the way for a highly anticipated follow-up study and a pathway to potential emergency use authorisation for patients with the highest risk of mortality.

Our second cell therapy, rexlemestrocel-L, has also received a recent boost with its presentation at the American Heart Association's 2021 Scientific Sessions, where the latest results were outlined from a five-year Phase 3 trial involving 565 patients – the largest-ever trial of a cell therapy for heart disease. Mesoblast is excited by these results, which are due to be published by a major medical journal and will inform the progress of our other major submission before the FDA.

As a Board, we are focused on our governance responsibilities as well as our need to improve diversity on the Board in order to benefit from a wider perspective that having a diverse membership brings. We are committed to enhancing gender diversity in particular as we bring on new directors. Our Board membership has transitioned in recent years as Mesoblast heads towards the potential approval of its first product, with new appointments being Ms Shawn Tomasello, Mr Philip Facchina and myself. We have all brought diverse experiences to the Board - Shawn with more than 30 years' commercial and transactional experience in the pharmaceutical and biotech industries, Philip with more than 35 years' experience with corporate strategy, capital markets and business development, and myself with more than four decades of healthcare leadership experience as a payor and provider executive. In addition, I have served as Chairman of the Institute for Diversity for Healthcare Management and currently serve as an advisor to the National Association of Corporate Directors Center for Inclusive Governance.

With the new appointments well settled into the Board, we are committed to a program of Board renewal with two of our long-standing Australian directors standing down in the next six to 12 months, and a search having commenced for successor Australian directors.

The next 12 months will be a pivotal period in the evolution of our company, as a number of regulatory processes draw towards a close with the assiduous support of our clinical staff. I would like to take this opportunity to thank all the remarkable researchers and healthcare professionals who make this possible, as well as the diverse investment community who continue to show such faith in our work. I would particularly like to thank our Chief Executive, Dr Silviu Itescu, our management team, and our employees for their resilience, resourcefulness and incredible dedication over the past 12 months.

This has been a tough and unprecedented period, particularly for the world's clinical community – but at Mesoblast we continue to be awed by the deep commitment and compassion that our healthcare professionals and scientists have demonstrated throughout this pandemic. I am proud to have seen these same qualities reflected across all levels of the Mesoblast team, as we continue to navigate the hurdles to bring our lead therapies to the millions of people whose lives could be improved by them.

About Mesoblast

Mesoblast is a world leader in developing allogeneic (off-the-shelf) cellular medicines for the treatment of severe and life-threatening inflammatory conditions. The Company has leveraged its proprietary mesenchymal lineage cell therapy technology platform to establish a broad portfolio of late-stage product candidates which respond to severe inflammation by releasing anti-inflammatory factors that counter and modulate multiple effector arms of the immune system, resulting in significant reduction of the damaging inflammatory process.

Mesoblast has a strong and extensive global intellectual property portfolio with protection extending through to at least 2041 in all major markets. The Company's proprietary manufacturing processes yield industrial-scale, cryopreserved, off-the-shelf, cellular medicines. These cell therapies, with defined pharmaceutical release criteria, are planned to be readily available to patients worldwide.

Mesoblast is developing product candidates for distinct indications based on its remestemcel-L and rexlemestrocel-L stromal cell technology platforms. Remestemcel-L is being developed for inflammatory diseases in children and adults including steroid refractory acute graft versus host disease and moderate to severe acute respiratory distress syndrome. Rexlemestrocel-L is in development for advanced chronic heart failure and chronic low back pain. Two products have been commercialized in Japan and Europe by Mesoblast's licensees, and the Company has established commercial partnerships in Europe and China for certain Phase 3 assets.

Mesoblast has locations in Australia, the United States and Singapore and is listed on the Australian Securities Exchange (MSB) and on the Nasdaq (MESO). For more information, please see www.mesoblast.com, LinkedIn: Mesoblast Limited and Twitter: @Mesoblast

Forward-Looking Statements

This announcement includes forward-looking statements that relate to future events or our future financial performance and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. We make such forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. Forward-looking statements should not be read as a guarantee of future performance or results, and actual results may differ from the results anticipated in these forward-looking statements, and the differences may be material and adverse. Forward-looking statements include, but are not limited to, statements about the initiation, timing, progress and results of Mesoblast's preclinical and clinical studies, and Mesoblast's research and development programs; Mesoblast's ability to advance product candidates into, enroll and successfully complete, clinical studies, including multi-national clinical trials; Mesoblast's ability to advance its manufacturing capabilities; the timing or likelihood of regulatory filings and approvals, manufacturing activities and product marketing activities, if any; the commercialization of Mesoblast's product candidates, if approved; regulatory or public perceptions and market acceptance surrounding the use of stem-cell based therapies; the potential for Mesoblast's

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product candidates, if any are approved, to be withdrawn from the market due to patient adverse events or deaths; the potential benefits of strategic collaboration agreements and Mesoblast's ability to enter into and maintain established strategic collaborations; Mesoblast's ability to establish and maintain intellectual property on its product candidates and Mesoblast's ability to successfully defend these in cases of alleged infringement; the scope of protection Mesoblast is able to establish and maintain for intellectual property rights covering its product candidates and technology; estimates of Mesoblast's expenses, future revenues, capital requirements and its needs for additional financing; Mesoblast's financial performance; developments relating to Mesoblast's competitors and industry; and the pricing and reimbursement of Mesoblast's product candidates, if approved. You should read this press release together with our risk factors, in our most recently filed reports with the SEC or on our website. Uncertainties and risks that may cause Mesoblast's actual results, performance or achievements to be materially different from those which may be expressed or implied by such statements, and accordingly, you should not place undue reliance on these forward-looking statements. We do not undertake any obligations to publicly update or revise any forward-looking statements, whether as a result of new information, future developments or otherwise.

Release authorized by the Chief Executive.

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