Financial Results & Operational Update for period ended June 30, 2026

August 2026 | ASX: MSB; Nasdaq: MESO

Cautionary Note Regarding Forward Looking Statements

This presentation includes forward-looking statements and forecasts 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. All statements other than statements of historical facts contained in this presentation are forward-looking statements. Words such as, but not limited to, “believe,” “expect,” “anticipate,” “estimate,” “intend,” “plan,” “targets,” “likely,” “will,” “would,” “could,” and similar expressions or phrases identify forward-looking statements. We have based these forward-looking statements largely on our current expectations and future events , recent changes in regulatory laws, and financial trends that we believe may affect our financial condition, results of operation, business strategy and financial needs. These statements may relate to, but are not limited to: expectations with respect to sales and revenue, expectations regarding the safety or efficacy of, or potential applications for, Mesoblast's adult stem cell technologies; expectations regarding the strength of Mesoblast's intellectual property, the timeline for Mesoblast's regulatory approval process, and the scalability and efficiency of manufacturing processes; expectations about Mesoblast's ability to grow its business and statements regarding its relationships with current and potential future business partners and future benefits of those relationships; statements concerning Mesoblast's share price or potential market capitalization; and statements concerning Mesoblast's capital requirements and ability to raise future capital, among others. 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. You should read this presentation together with our financial statements and the notes related thereto, as well as the 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, include, without limitation: risks inherent in the development and commercialization of potential products; uncertainty of clinical trial results or regulatory approvals or clearances; government regulation; the need for future capital; dependence upon collaborators; and protection of our intellectual property rights, among others. 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.

Mesoblast First-In-Class Leader in Allogeneic Cellular Therapies

Ryoncil® Only FDA Approved MSC, Successful First US Launch

Net revenue US$115M in FY2026 – first full year post launch

Highly profitable single product on stand-alone basis

Proceeds from revenue generated re-invested in Phase 3 programs and manufacturing for potential blockbuster opportunities

Mature Commercial Capability

Infrastructure to support product launches across multiple expansion indications

Built specialized sales team focused on hospitals, transplant centers, and specialists

Phase 3 Pipeline with Multiple Blockbuster Opportunities

Rexlemestrocel-L can transform the treatment of low back pain with degenerative disc disease, and inflammatory heart failure

Ryoncil® label expansion to adult aGvHD and pediatric rare diseases such as Duchenne Muscular Dystrophy

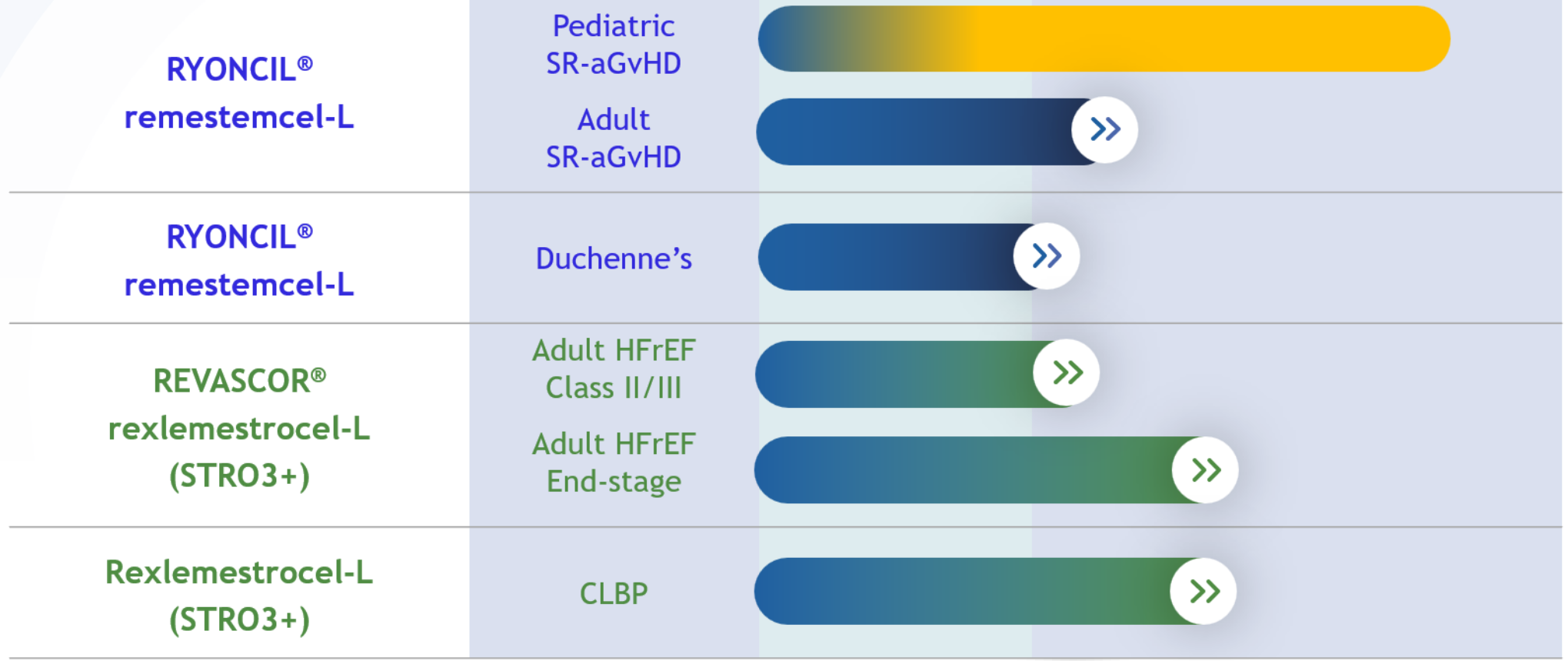
Our ‘MOAT’ – Our Market Leadership Position

- Global IP portfolio >1,100 patents and patent applications provide protection through >2044
- Dominant IP protects a cell type whose unique properties underpin a scalable commercial business model
- First mover advantage – RYONCIL is the first and only MSC approved by FDA
- Leverage FDA Guidance on approved products to obtain label extensions for RYONCIL
- Completed large, US-based, randomized clinical trials which provide evidence of efficacy
- Leader in complex manufacturing with IP protection, significant know-how advantage, demonstrated FDA alignment, scale-up capacity, and ability to leverage across many products
- Next gen technology leadership to enhance tissue-homing characteristics and achieve even greater efficacy for existing products in areas such as inflammatory diseases and other therapeutic indications

Mesoblast Worldwide Leader Allogeneic Mesenchymal Stromal Cell Portfolio

Assets Wholly Owned and Unencumbered in U.S. Markets

Product	Indication	Phase 2	Phase 3	Approved	
RYONCIL® remestemcel-L	Pediatric SR-aGvHD				TAM ~US$1B
	Adult SR-aGvHD				
RYONCIL® remestemcel-L	Duchenne's				TAM >US$1B
REVASCOR® rexlemestrocel-L (STRO3+)	Adult HFrEF Class II/III				TAM >US$10B
	Adult HFrEF End-stage				
Rexlemestrocel-L (STRO3+)	CLBP				TAM >US$10B



This chart is figurative and does not purport to show individual trial progress within a clinical program

Notes:

- JCR Pharmaceuticals Co., Ltd. (JCR), has the right to develop mesenchymal stromal cells (MSCs) in certain fields for the Japanese market, including for the treatment of hematological malignancies, such as Graft vs Host Disease, and for hypoxic ischemic encephalopathy (HIE).
- Grünenthal has an exclusive license to develop and commercialize rexlemestrocel-L for chronic low back pain in Europe and Latin America/Caribbean.
- Tasly Pharmaceuticals has exclusive rights for rexlemestrocel-L for the treatment or prevention of chronic heart failure in China.

SR-aGvHD = Steroid-Refractory Acute Graft versus Host Disease;
HFrEF = Heart Failure with Reduced Ejection Fraction; CLBP = Chronic Low Back Pain

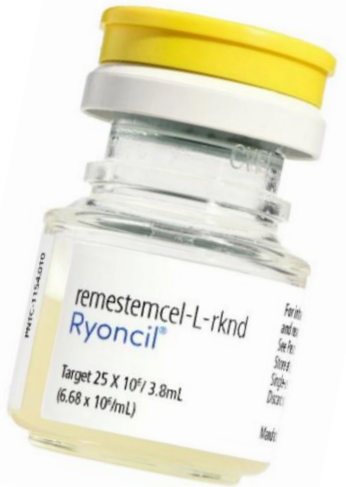
FY2026: Transition to Commercial Company and Delivery of Major Milestones

Successful first year for U.S. commercial launch of RYONCIL

- Q4 net revenue US$36M, FY2026 net revenue US$115M
- Gross profit on total sales, excluding amortization expense, was US$110M

Major milestones achieved

- Registration trial for label extension of RYONCIL into adults with SR-aGvHD has commenced and is currently enrolling patients, with up to 40 sites across the U.S.
- Pediatric Duchenne's Phase 3 IND cleared by FDA
- Completed 350 patients treated in the Phase 3 trial for the blockbuster chronic low back pain (CLBP) indication
- Total patient numbers treated increased from 300 to 350 after strong demand from trial investigators to have their patients enrolled in the innovative program



Ryoncil®
(remestemcel-L-rknd)

Financial Update

Year ending June 30, 2026 (FY2026)

RYONCIL Leads Substantial Growth in Total Revenue to US$120M and Gross Profit of US$104M for the Full Year

- RYONCIL revenue of US$115M
- During the period we invested an additional US$39.7M in R&D, after adjusting for the inventory benefit of $23M in the previous period. This investment in R&D comprised US$17.3M on product development for both remestemcel-L and rexlemestrocel-L platforms and US$21.2M on our phase 3 clinical trials and regulatory filing activities.
- SG&A up US$18M reflecting cost of commercial team and launch of RYONCIL

P&L for the year ended US$ 000'	June 2026	June 2025
Revenue:		
Product sales, net	115,153	11,263
Royalty revenue	5,097	5,935
Total revenues	**120,250**	**17,198**
Cost of revenues	(16,667)	(5,130)
Research & development	(97,509)	(34,807)
Selling, general and administration	(57,346)	(39,309)
Reval. of contingent consideration	12,057	(14,887)
Reval. of warrant liability	859	(4,962)
Other operating income and expenses	5,308	3,053
Finance costs	(23,839)	(22,968)
Loss before income tax	**(56,887)**	**(101,812)**
Income tax (expense)/benefit	(613)	(330)
Loss after income tax	**(57,500)**	**(102,142)**

Strong Financial Position

RYONCIL Franchise Profitability Re-Invested in Phase 3 Pipeline

Cash balance **US$103M** at June 30, 2026

- Net operating cash usage for FY26 was US$43.8M, with US$13.4M for the second six months; this compared with US$50.0M in FY25
- Working towards profitability through strong cash flow and judicious use of funds for operations
- Operating plan includes spend on Phase 3 programs, manufacturing for BLA filing and commercial inventory
- New credit-line totaling US$125M replaced existing higher-cost debt

BLA: Biologics License Application (FDA)

Ryoncil®
(remestemcel-L-rknd) Suspe
for IV i

Steroid-Refractory Acute Graft versus Host Disease

Key Accomplishments So Far

Ryoncil® (remestemcel-L-rknd) Suspension for IV infusion

- Initial real world experience

  84% survival outcomes all with Grade III/IV disease*
- Net revenue exceeded US$125M since launch last year
- >50 centers onboarded
- 30+ formulary approvals

  (13 accounts using specialty pharmacy)
- 98% US lives covered
- Medicaid in place

  J-Code received October 2025
- Expansion into adult market (phase 3 underway)

We have honed commercial, medical affairs, market access, patient services and distribution infrastructure to support long-term revenue growth

*Children with steroid refractory active graft versus host disease after completing 28 days of treatment

Four Strategic Commercial Priorities for Continued Growth

Ryoncil® (remestemcel-L-rknd) Suspension for IV infusion

Proactively identify and prioritize appropriate patients

Reinforce superior patient outcomes in first-line

Enhance access and reimbursement pull-through

Empower caregivers to demand Ryoncil® for their children

Adult SR-aGvHD is a Huge Opportunity for RYONCIL Growth

Ryoncil® (remestemcel-L-rknd) Suspension for IV infusion

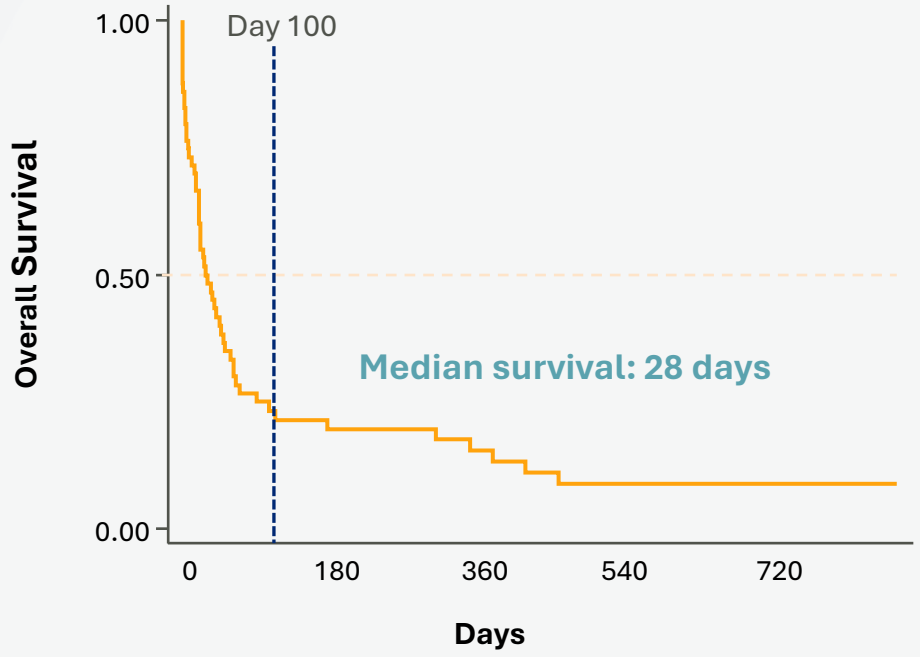
- >2,000 adults annually in U.S. with SR-aGvHD of which ~50% have Grade III/IV disease
- Ruxolitinib only drug approved in U.S. as second-line for adults with aGvHD
- Only ~42% of Grade III/IV GVHD patients achieve Day 28 response
- Survival in these adult patients remains as low as 20-30% by 100 days
- High unmet need in adults with SR-aGvHD who fail ruxolitinib

Survival was 76% at Day 100 after RYONCIL was used under EIND in adolescents and adults who failed to respond to at least one additional agent, such as ruxolitinib

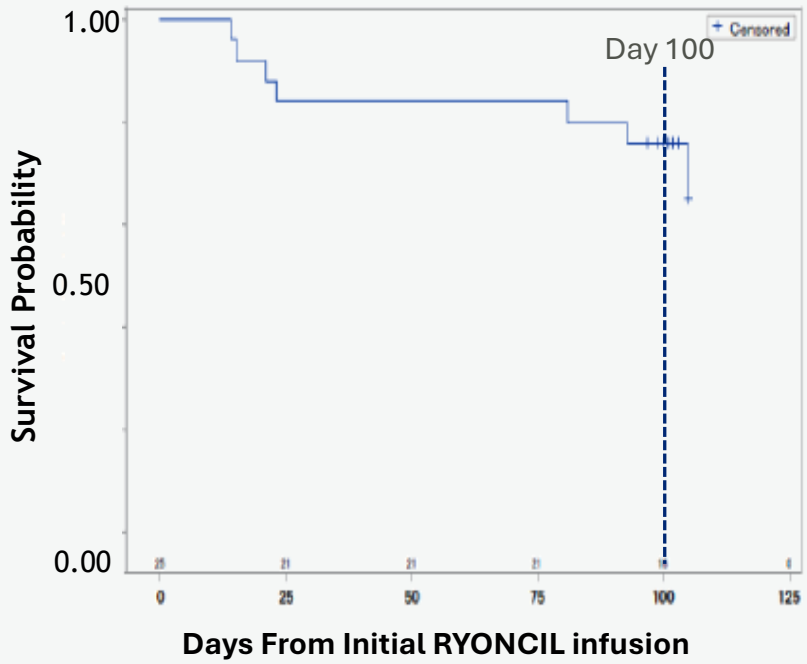
Jagasia M et al. Ruxolitinib for the treatment of steroid-refractory acute GVHD (REACH1): a multicenter, open-label phase 2 trial. Blood. 2020 May 14; 135(20): 1739–1749
Abedin S, et al. Ruxolitinib resistance or intolerance in steroid-refractory acute graft versus-host disease — a real-world outcomes analysis. British Journal of Haematology, 2021;195:429–43
Kurtzberg J, et al. Remestemcel-L-rknd (Ryoncil) Improves Survival After Failure of Second-Line Treatment for SR-aGVHD [Poster presentation]. 2026 Transplantation & Cellular Therapy Tandem Meetings

Potential Market for RYONCIL Label Extension as Third-line in Adults with aGvHD Who Have Failed Ruxolitinib or Other Second-line Agents

Survival is a dismal ~25% at Day 100 for adults with SR-aGvHD who have failed ruxolitinib and are treated with other agents



Survival with RYONCIL is 76% at Day 100 when used after ruxolitinib or other second-line failure in Adults with SR-aGvHD

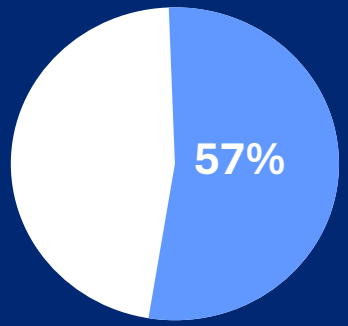


RYONCIL may be effective in the adult market of >600 patients annually with Grade III/IV SR-aGvHD refractory to ruxolitinib or other second-line agents

Abedin S, et al. Ruxolitinib resistance or intolerance in steroid-refractory acute graft versus-host disease — a real-world outcomes analysis. British Journal of Haematology, 2021;195:429–43.

Potential Market for RYONCIL Label Extension as Part of Second-line Regimen Combined with Ruxolitinib in Adults with Grade III/IV aGvHD

- >2,000 adults annually in U.S. with SR-aGvHD of which ~50% have Grade III/IV disease
- Second-line adult aGvHD market Grade III/IV disease ~3x larger than pediatric
- Registration trial: 180 Grade III/IV SR-aGvHD adults randomized 1:1 to ruxolitinib vs ruxolitinib + RYONCIL
- Primary endpoint Day 28 overall response; secondary endpoint Day 180 overall survival
- ~40 U.S. centers (representing ≈5,000 annual allo transplants), site activation initiated
- Expected duration 18 months, with interim analysis expected Q4 CY2027 for potential early success



Interim analysis planned for early success when first 102 patients (57% enrolled) have reached Day 28 (primary endpoint)

Analysis expected Q4 CY2027

Rexlemestrocel-L for Chronic Lower Back Pain

Rexlemestrocel-L for CLBP: Commercial Blockbuster Opportunity

Substantial Unmet Need

~35M patients in US suffer from CLBP of which ~60% is due to degenerative disc disease (DDD)

~7M US patients have moderate / severe DDD within 5 years of diagnosis that is refractory to medical therapies including opioids

Total addressable market >US$10B

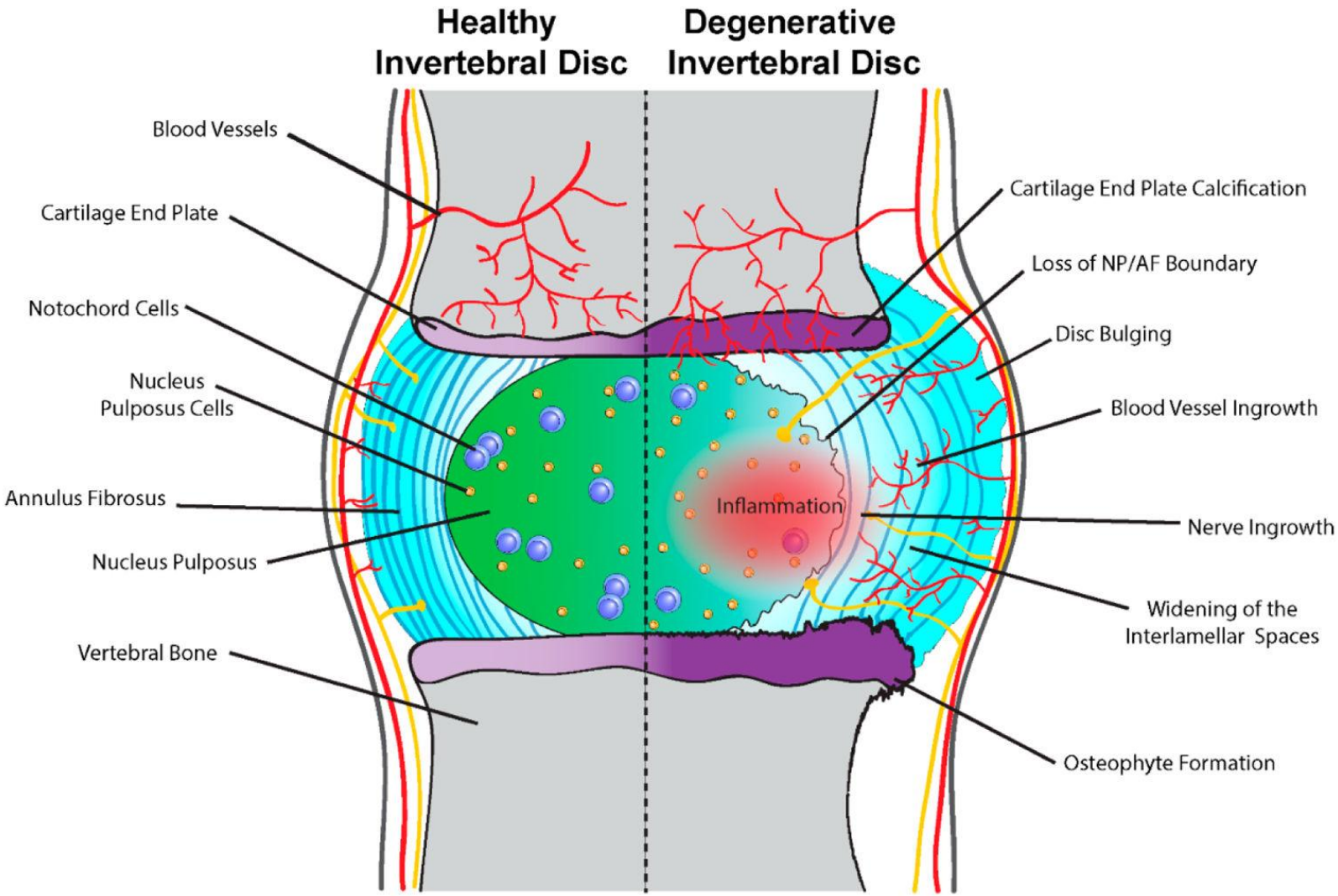
Major Milestones to Commercial Launch

P3 trial results to confirm 12 month pain reduction

Trial readout H2 CY2027, followed by BLA filing

Potential approval CY2028

Inflammation is at the Core of Pain in Degenerative Disc Disease



McCann MR and Seguin CA. Notochord Cells in Intervertebral Disc Development and Degeneration. J. Dev. Biol. **2016**, 4(1), 3

The Patient Treatment Journey

Rexlemestrocel-L has Potential to be First-Line Choice for Treatment of CLBP with DDD Refractory to Conservative Treatment

Rexlemestrocel-L targeting moderate-to-severe CLBP

Conservative Treatments

- NSAIDs
- Physical therapy
- Chiropractic treatments
- Acupuncture
- Anticonvulsants (e.g., gabapentin)

Opioid Analgesics

- Weak opioid analgesics (e.g., tramadol)
- Strong opioid analgesics (e.g., oxycodone)

Interventional Therapies

- Epidural steroid injections (off-label)
- Radio frequency ablation
- Spinal cord stimulation
- Intrathecal pumps

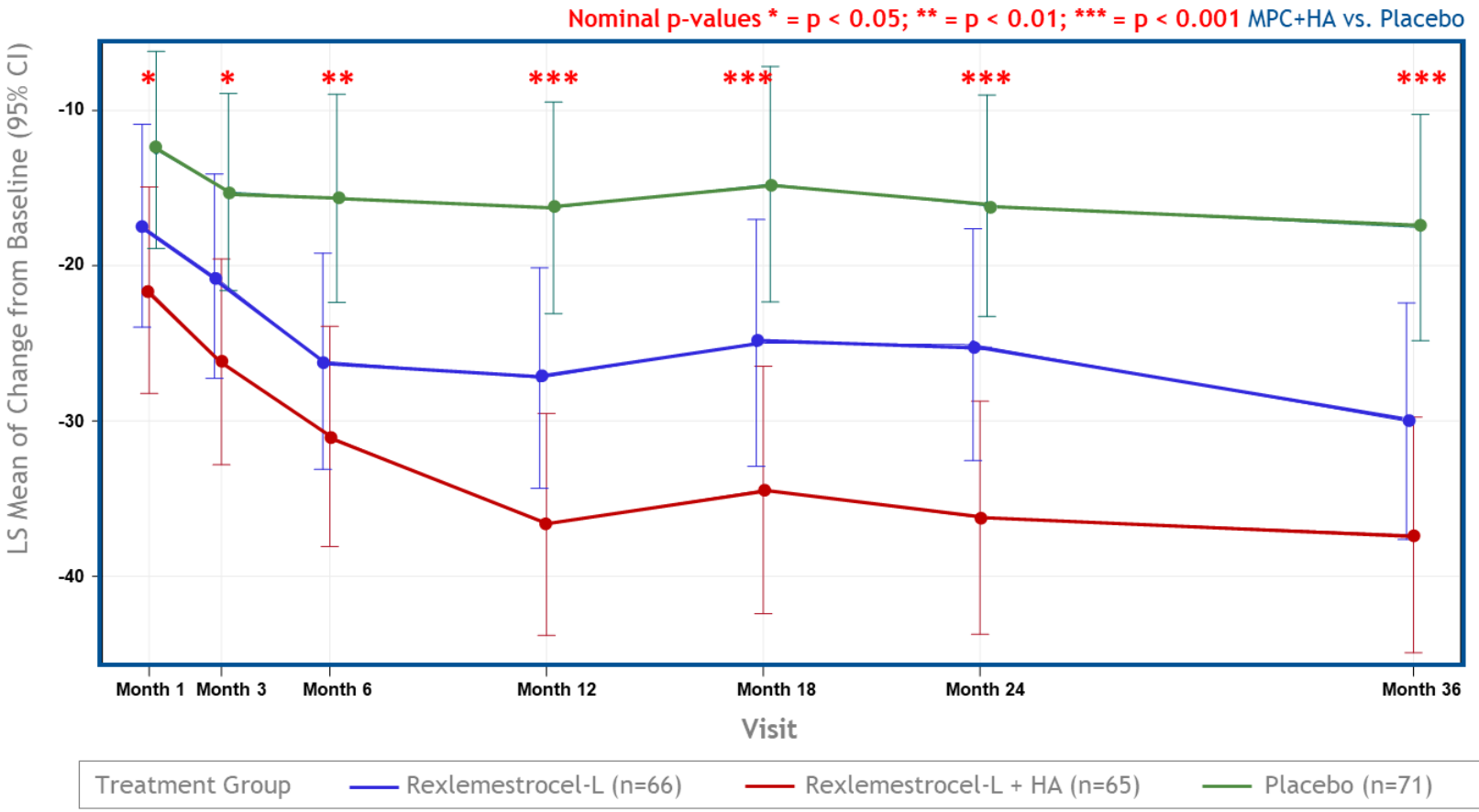
Surgery

- Spinal fusion
- Disc replacement

Phase 3 Trial Key Outcome Pain Reduction

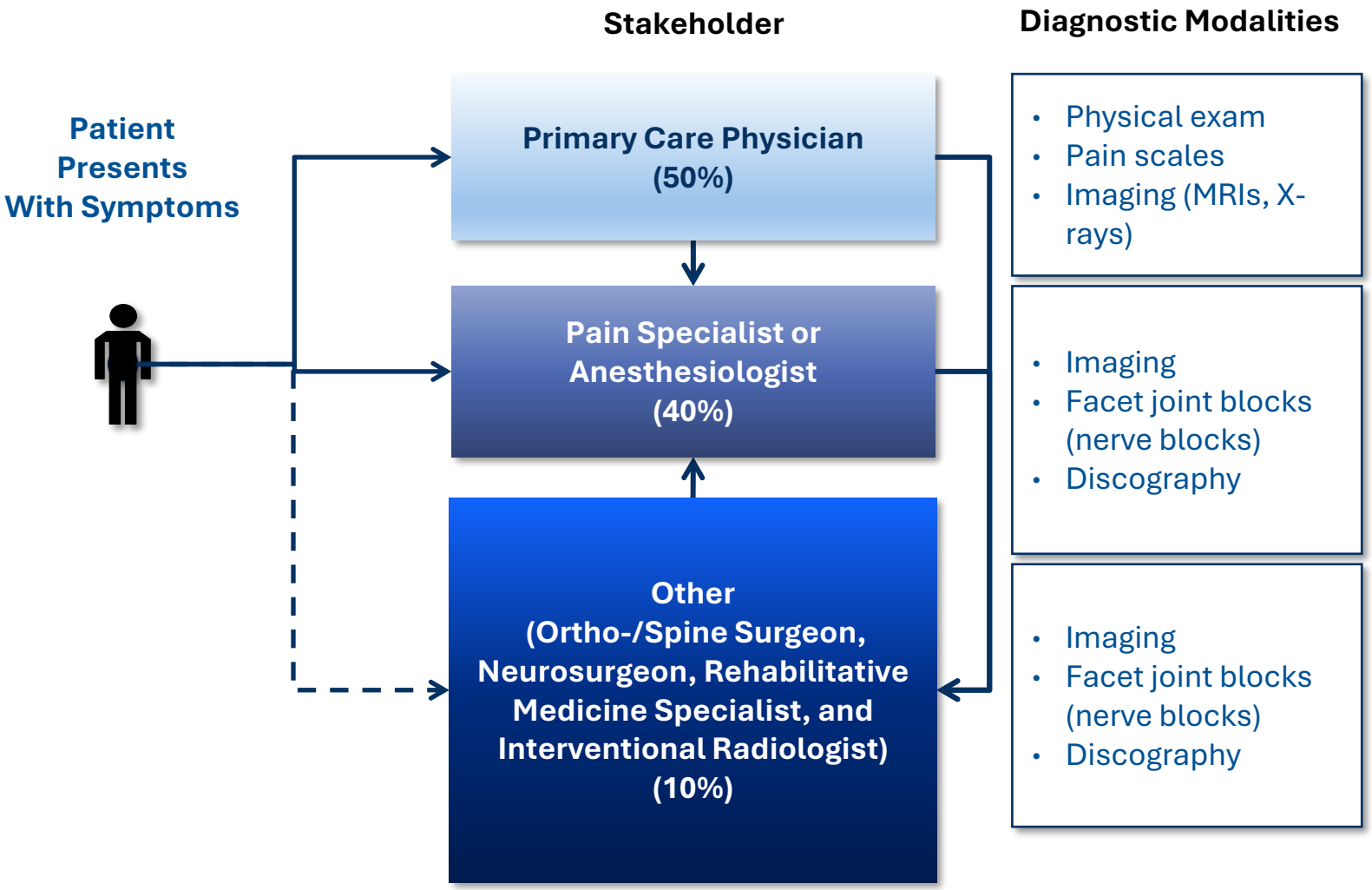
Rexlemestrocel-L+HA Demonstrated Significant Pain Reduction Through 36 Months

LS Mean VAS Change From Baseline, CLBP < 68 Months (n=202)



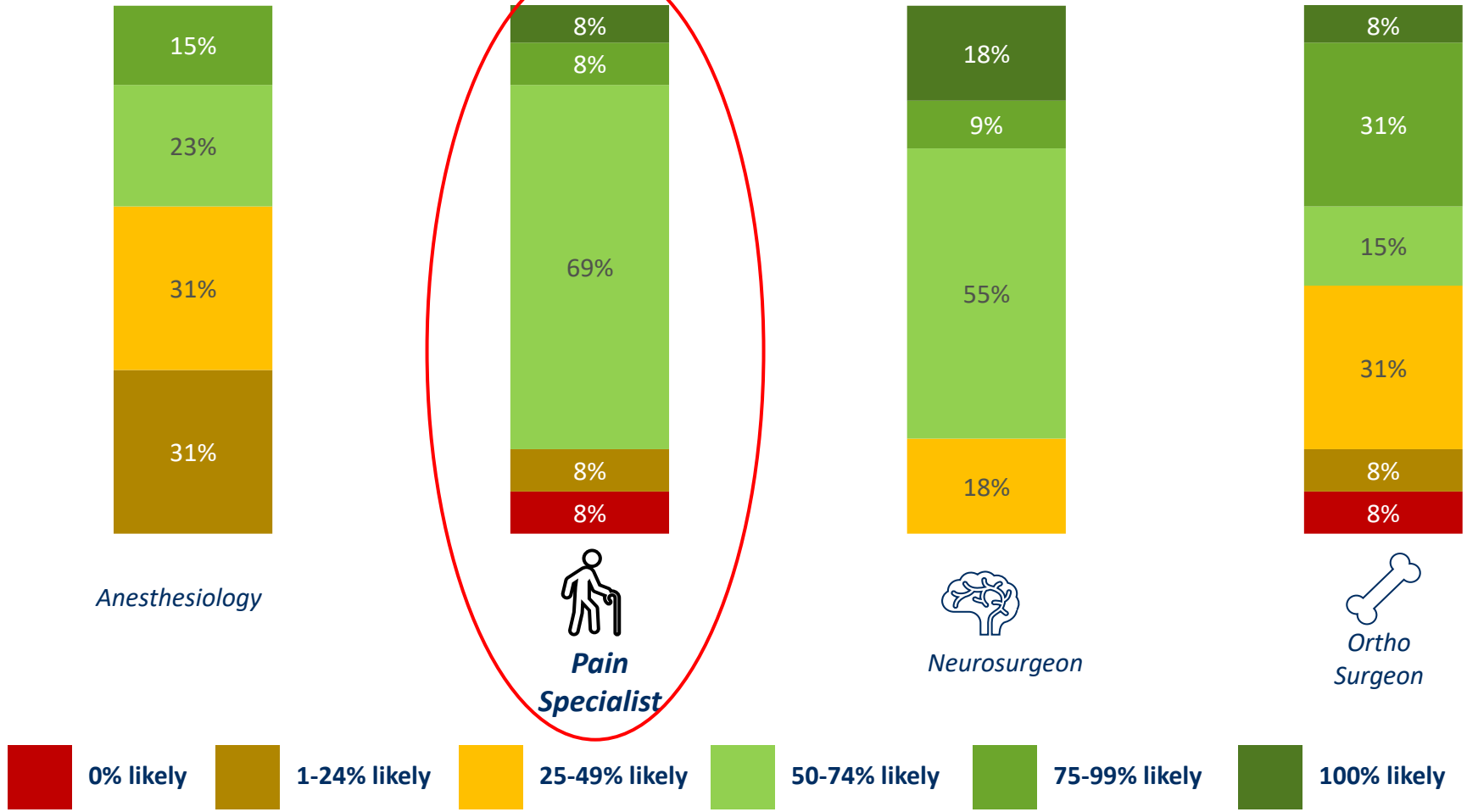
Duration < Median
Rexlemestrocel-L +HA
Demonstrated significant reductions in pain over 36-months

Pain Specialists are the Dominant Caregivers Seen by Patients with CLBP



85% of Pain Specialists are More Likely to Recommend Rexlemestrocel-L for CLBP Based on Observed Clinical Outcomes

Likelihood of Recommendation Irrespective of Price: Pain and Function Data at 12 Months



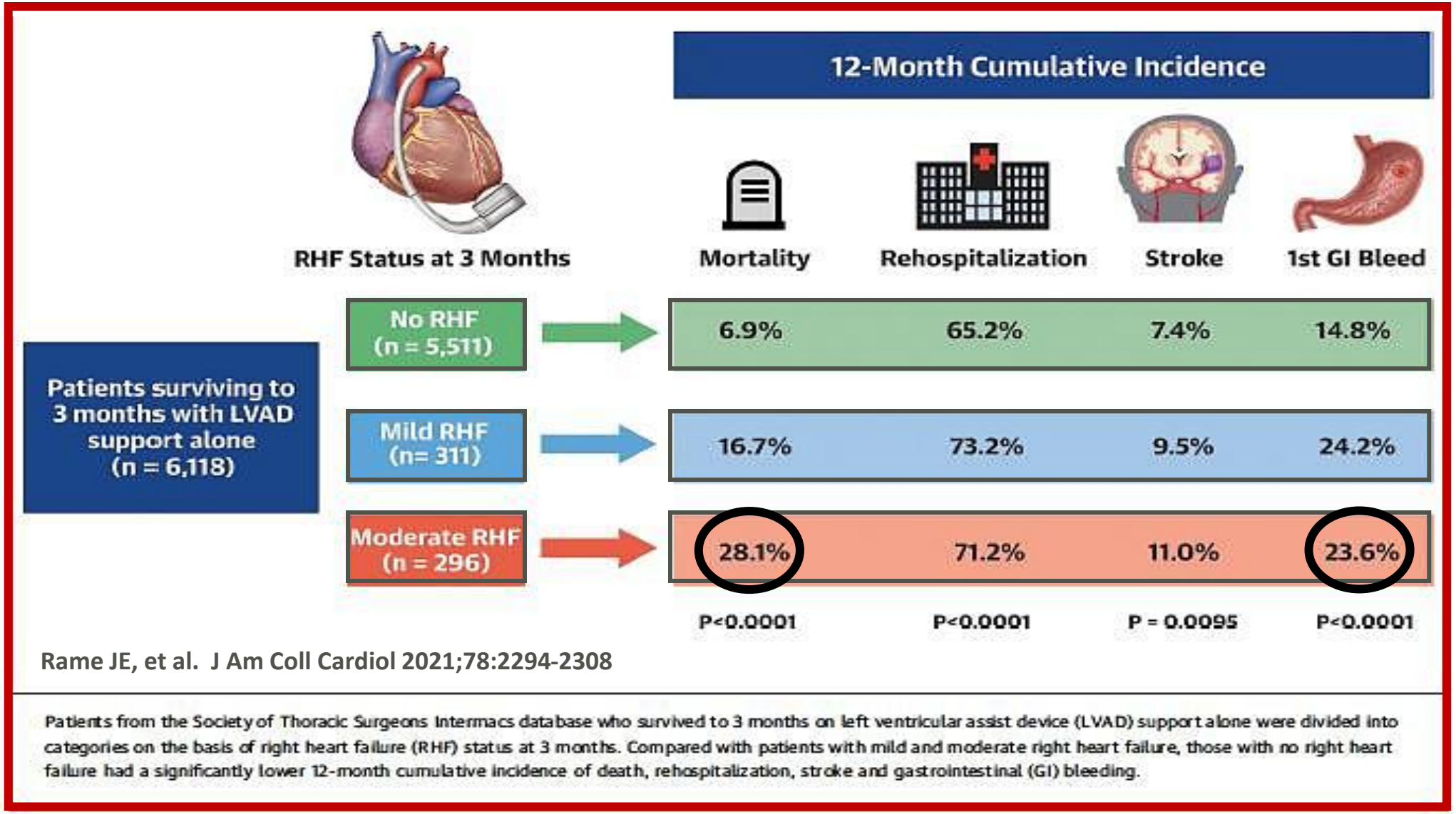
Guidehouse 2021 Study

REVASCOR (rexlemestrocel-L) for Chronic Heart Failure/LVAD

End-stage Chronic HFrEF with LVAD

- Despite an LVAD in the left ventricle, progressive right heart failure (RHF) continues due to ongoing inflammation of the right ventricle
- Progressive RHF occurs in 15-30% of patients and is the primary cause of multi-organ failure and death
- A further complication of RHF is potentially life-threatening major mucosal bleeding events (MMBE), seen in ~30% of patients and the main cause of recurrent hospitalizations

12-Month 28% Mortality in Patients with Moderate Right Heart Failure (National INTERMACS LVAD Registry Data)

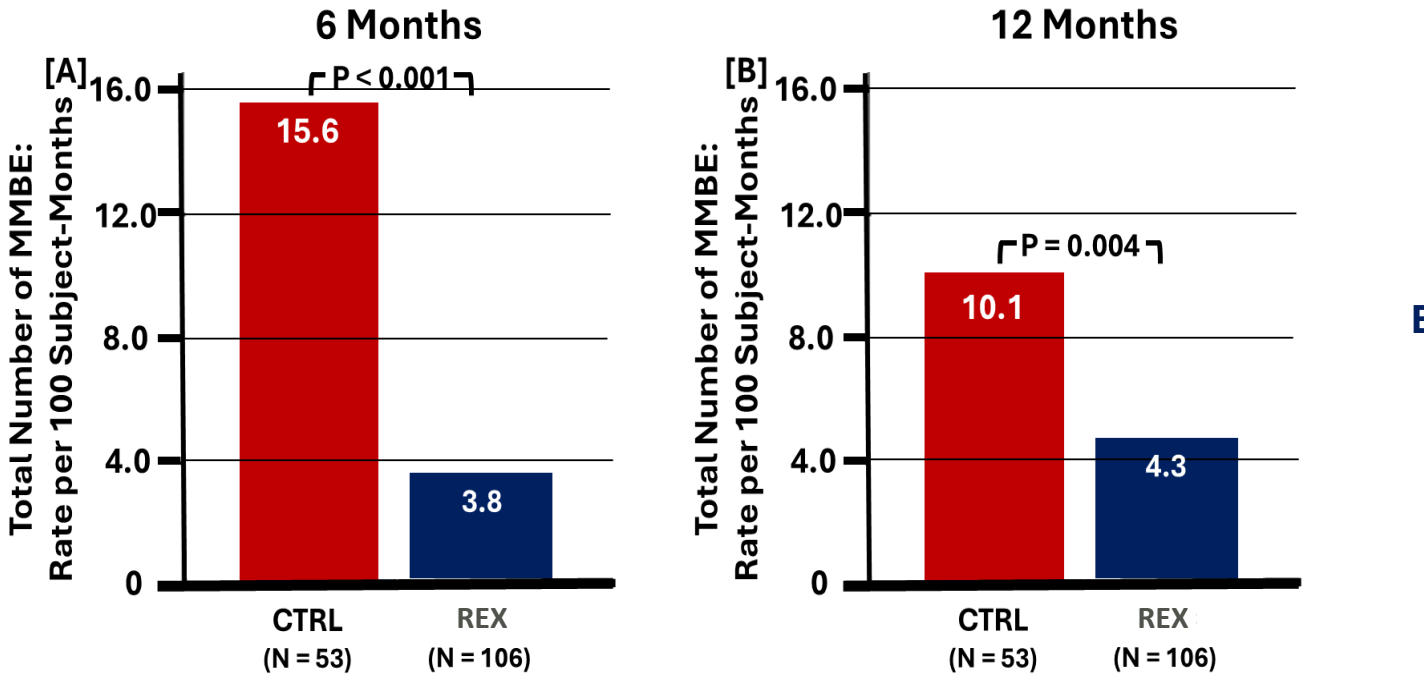


Rame JE, et al. J Am Coll Cardiol 2021;78:2294-2308

Patients from the Society of Thoracic Surgeons Intermacs database who survived to 3 months on left ventricular assist device (LVAD) support alone were divided into categories on the basis of right heart failure (RHF) status at 3 months. Compared with patients with mild and moderate right heart failure, those with no right heart failure had a significantly lower 12-month cumulative incidence of death, rehospitalization, stroke and gastrointestinal (GI) bleeding.

LVAD Study: Rexlemestrocel-L in End-Stage HFrEF Patients with LVAD

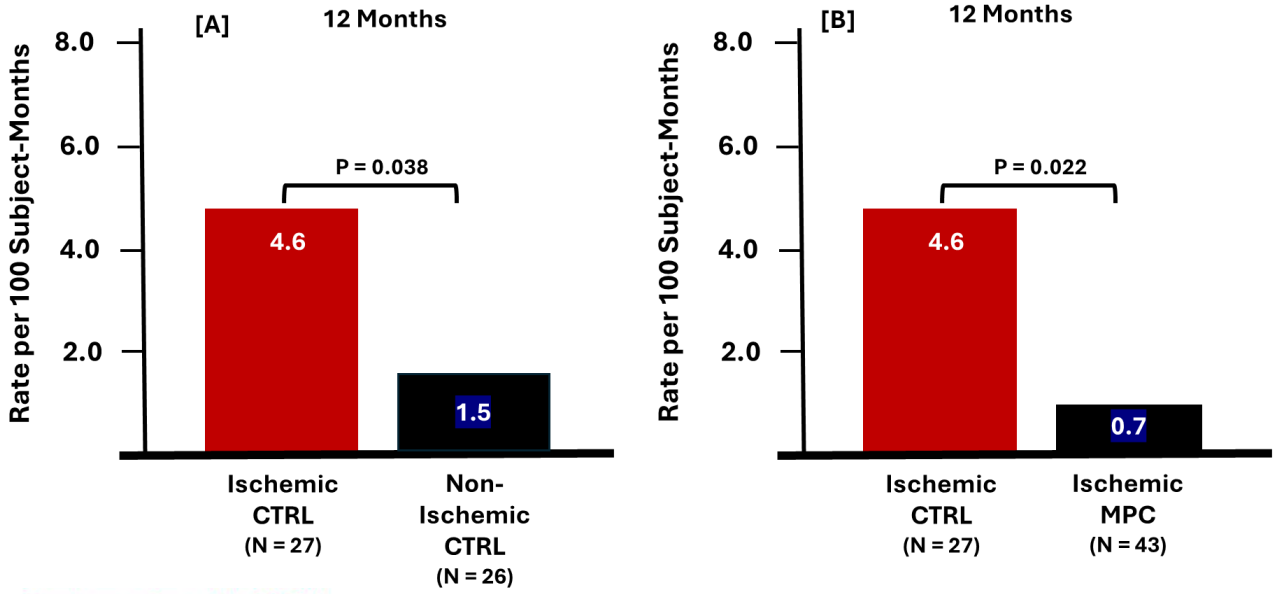
- Improved right ventricular function
- Reduced right heart failure hospitalizations and mortality
- Reduced circulating inflammatory cytokines
- Reduced major GI bleeding events caused by hepatic venous congestion – FDA approvable endpoint



Reduced Major Mucosal Bleeding Events in End-stage HFrEF Patients with LVAD Over 12 Months

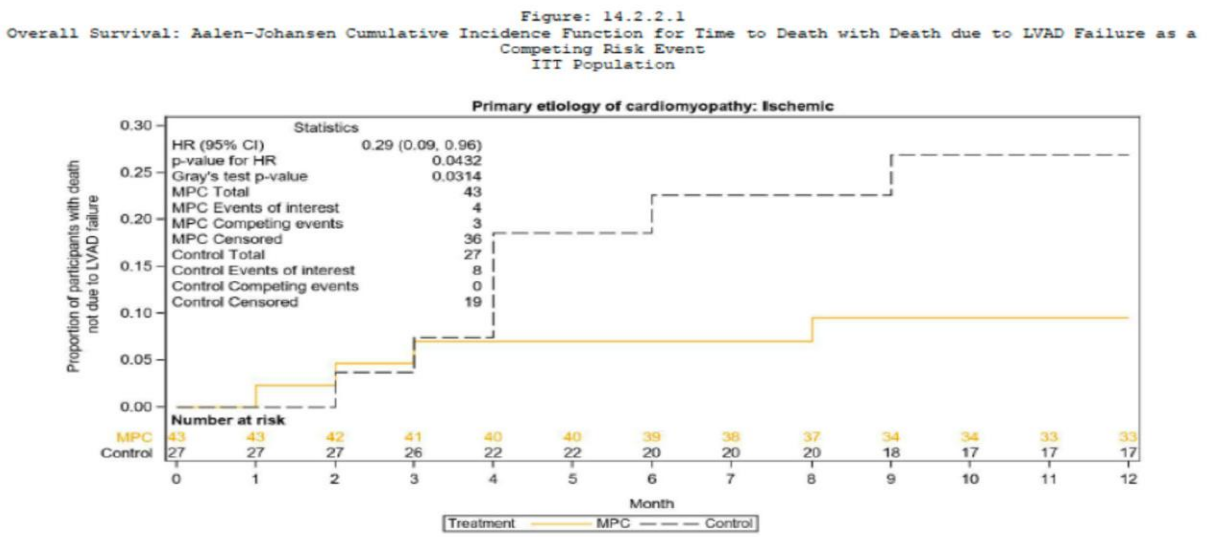
REVASCOR Reduces RHF Hospitalizations and Mortality in Ischemic LVAD Patients

- LVAD II: Ischemic controls have higher hospitalization rates from RHF than non-ischemic controls over 12 months
- REVASCOR (MPC) reduces these rates to levels in non-ischemics



- Ischemic controls have higher mortality rates than non-ischemic controls over 12 months
- REVASCOR reduces mortality in ischemic patients from 30% to 9% (p=0.03)

Rexlemestrocel-L (MPC) Reduced All-Cause Mortality Over 12 Months In Ischemic LVAD Recipients



End-stage CHF Strategy

- File with FDA for full approval for REVASCOR in patients with LVADs
- Filing is based on reduction in GI Bleeding in two randomized controlled trials
- REVASCOR reduced bleeding-related mortality
- Major GI Bleeding is an FDA-acknowledged indication with REVASCOR having received Orphan Drug designation
- FDA approval of REVASCOR in patients with LVADs will facilitate subsequent approval of Mesoblast's pre-LVAD (NYHA Class II/IIIA) chronic HFrEF patients via label extension

GI = gastrointestinal | CMC = chemistry, manufacturing & controls | HFrEF = heart failure reduced ejection fraction

In Summary

Summary of Major Milestones

RYONCIL (remestemcel-L-rknd)

Commercial & label extension

- Strongly grow revenue base
- Increase penetration of pediatric SR-aGvHD market, maximize early use
- Position as both third-line treatment in adults with SR-aGvHD who have failed ruxolitinib or other second-line agents and as part of second-line treatment regimen together with ruxolitinib in adults with Grade III/IV SR-aGvHD
- Adult market is three times larger than the pediatric market
- Focus on additional pediatric inflammatory rare disease indications e.g. Duchenne
- Pursue strategic partnering for inflammatory conditions in children and adults

Rexlemestrocel-L Blockbuster Programs

Chronic low back pain (CLBP)

- Patient treatment completed in pivotal Phase 3 trial in August, continue follow-up through 12 months
- Completion of trial mid-CY2027
- BLA filing for FDA approval

Chronic heart failure (CHF)

- Complete BLA filing for end-stage heart failure patients on LVADs
- Will facilitate label-extension in NYHA II/III HFrEF with opportunity for strategic partnership

SR-aGvHD: steroid-refractory acute graft versus host disease | BMT-CTN: Blood and Marrow Transplant Clinical Trials Network | IND: Investigational New Drug | BLA: Biologics License Application (FDA)| LVAD: left ventricular assist device | HFrEF: heart failure reduced ejection fraction | NYHA: New York Heart Association

Thank You

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