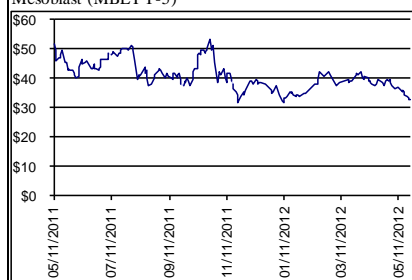


<b>Biotechnology</b>	
<b>5/30/2012</b>	
Closing Price 05/30/2012	\$6.53
12-Month Target Price:	\$12.00
52-Week Range:	\$6.26-\$10.63
Market Cap (M):	\$1,839
Shares O/S (MM):	282
Float (MM):	253
Avg. Vol. (000)	641
Debt (M)	\$133
Dividend/Yield:	\$0.00/0.00%
Risk Profile:	Speculative

FYE: December	EPS	P/E
2011A	(\$0.17)	nm
2012E	(\$0.19)	nm
2013E	(\$0.24)	nm

Mesoblast (MBLTY-5)



Source: Thomson Reuters as of 05/30/2012

Jason Kolbert (212) 895-3516  
[jkolbert@maximgrp.com](mailto:jkolbert@maximgrp.com)

## Initiation

**Buy**

### Mesoblast Limited

(MSB-AUX/OTC:MBLTY-5 ADR – AUX-A\$6.53)

#### *The Allogeneic Cell Leader – PIII*

- **We are initiating coverage of Mesoblast with a Buy rating and 12-month price target of \$12.** We believe that multiple positive catalysts can play out over the next year as investors move from disbelief to acceptance.
- Mesoblast is awaiting approval from the FDA to move forward in a large, 1700-person congestive heart failure (CHF) trial to be financed by Teva Pharmaceuticals (TEVA, \$39.25 NR). We expect the trial's endpoints to be cardiac mortality and HF hospitalization. If approved, we believe the announcement should assuage investors' fears regarding Teva's commitment to Mesoblast. This would be one of the largest commercial CHF trials and, as such, raises the bar for the competition.
- **Strongest pipeline in the industry.** Multiple clinical trials are underway in indications ranging from, CHF to acute myocardial infarction (AMI), chronic myocardial ischemia (CMI), degenerative disc disease (DDD), type II diabetes, macular degeneration, and BMT (cord expansion).
- **It's exciting – but how can investors rationalize the company's valuation versus its peers?** Mesoblast has \$241M (YE 2011) in cash and a solid partnership with Teva, which is paying the freight. While the market capitalization is out of context with its U.S. peers, the underlying analysis of the product's potential makes our valuation look conservative. We see what Teva sees.
- **Mesoblast selects its homogeneous cell population using monoclonal antibodies.** This allows the company to select early-stage mesenchymal precursor cells (MPC). These cells are unique in that they express STRO-1, a surface marker only present on the earliest precursor cells of the MSC lineage. These cells themselves secrete potent cytokines (potentially more potent than MSCs later down the lineage such as CD34+ cells). Also unique to these precursor cells is their lack of expression of certain factors, CD40, CD86 which makes them less immunogenic.
- **Congestive heart failure.** CHF is an unmet medical need. Mesoblast's Phase II trial showed zero mortality and zero HF hospitalization (the primary composite endpoints), vs. a 20% rate in the control arm.
- **Disc repair (my back hurts!).** The Mesoblast technology may be viable for those patients between back pain and spinal fusion – a large market segment. This one-time, painless, 10-minute injection may be able to heal minor disc injury. Phase II data should be available by year end. This could be a significant product, in our opinion – and there are fusion trials as well.
- **Valuation.** We model 2020 EPS of \$6.29 and discount back at 30% in our metrics (using free cash flow, discounted EPS, and sum of the parts analyses) to derive a \$12 target.

**CORPORATE PROFILE**

**Mesoblast Limited**

Level 39, 55 Collins Street,  
Melbourne 3000 Australia  
T: +61 3 9639 6036: www.mesoblast.com

**Senior Management**

**Silviu Itescu, MBBS (Hons), FRACP, FACP, FACR, Chief Executive Officer:** Professor Itescu is a medically trained physician, (transplant doctor) and scientist. He has established an outstanding international reputation in the fields of stem cell biology, autoimmune diseases, organ transplantation, and heart failure. He has been a faculty member of Columbia University in New York and of the University of Melbourne. His pioneering work in the use of adult stem cells for heart disease has laid the groundwork for a potential paradigm shift in the treatment of cardiovascular disorders. Professor Itescu has consulted for various international pharmaceutical companies, has been an adviser to biotechnology and health care investor groups, and has served on the Board of Directors of several publicly-listed life sciences companies. As the founder of the company Dr. Itescu is the largest shareholder at approximately 25%.

**Company Background**

Mesoblast Limited is an Australia-based company that catapulted into an industry leadership position when Cephalon (which has since been acquired by Teva Pharmaceuticals) acquired a 19.99% stake in the company, paying \$130M upfront and a \$1.7b milestone deal in December 2010. The focus of the company is the development of allogeneic (other people’s) stem cells – or mesenchymal precursor cells (MPC). Mesoblast’s MPC technology allows these cells to be extracted from the bone marrow of donors (using monoclonal antibodies to select the cells), which are then expanded into therapeutic quantities (no more than 20 passages). The company operates in two segments: the orthopedic segment (operated in Australia) and the cardiovascular segment, through its acquisition of Angioblast Systems, Inc. (operated in the United States). The company specifically targets cardiovascular conditions, diabetes, inflammatory conditions of lungs and joints, eye diseases, bone marrow cancers, bone fractures, cartilage degeneration, and musculoskeletal conditions. Mesoblast is a public company, listed on the Australian Securities Exchange since 2004 and trading under ticker (ASX: MSB). It is also included in the S&P/ASX 200 Index. It trades in the United States as an ADR (MBTY-5) on the OCT exchange at a ratio of 5x the Australian shares.

**Fundamental Risks:**

- Partnership risk
- Clinical risk
- Competitive landscape
- Regulatory risk
- Timing risk
- IP risk
- Capital risk

**Investment Risks**

(PLEASE SEE PAGE 25 FOR A MORE DETAILED OUTLINE OF OUR “INVESTMENT RISKS”)

Institutional Ownership: ~80%  
Insider Ownership: ~30%  
Shares Short: NA

Balance Sheet Summary: \$MM  
(As of December 31, 2011)  
Cash & Restricted Cash: \$240M  
Long-Term Debt: \$0  
Annual Burn Rate \$55E

U.S. Analysts Following the Co.: 0  
Australian Analysts: 7  
(Excluding Maxim Group)

## INVESTMENT SUMMARY AND CONCLUSION

*We believe that multiple positive catalysts can play out as investors move from disbelief to acceptance.*

**We are initiating coverage of Mesoblast Limited with a Buy rating and a price target of \$12.** Mesoblast is one of the leaders in the cell therapy space. A significant 2010 partnership with Cephalon – a company that has since been acquired by Teva Pharmaceuticals – surprised the industry as one of the richest cell therapy deals. When we dig into the model and the science, we begin to see what Cephalon saw: opportunity.

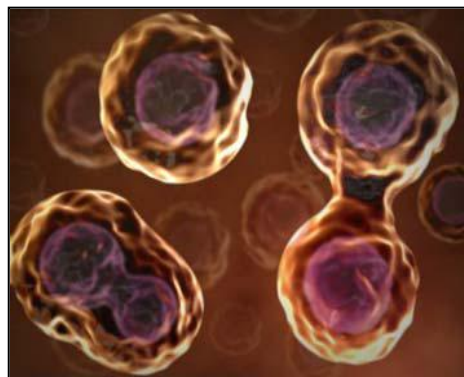
## RECENT PERFORMANCE/FINANCIAL HIGHLIGHTS

**Financials.** In December of 2010, Mesoblast announced a strategic partnership with Cephalon, an international biopharmaceutical company that has since been acquired by Teva Pharmaceuticals. The terms of the deal included a \$130 million upfront payment and up to \$1.7 billion in milestones tied to clinical development and commercialization. In addition, Cephalon purchased a 19.99% stake in Mesoblast at \$4.35 (Aussie). Cephalon acquired rights to programs in heart failure, heart attack, and bone marrow transplant applications, as well as co-development in CNS indications such as multiple sclerosis, Alzheimer’s disease, and Parkinson’s disease. Mesoblast intends to fund products through to Phase IIa and Teva from Phase IIb forward.

In terms of financials, Mesoblast – an Australian company – reports mid-year and year-end numbers. The financials are not GAAP-certified. Based on the most recent filings (December 2011), the company finished 2011 with \$241 million in cash. The company spent \$34 million in R&D and \$19 million in SG&A last year. Going forward, the burn rate should rise as the number of early clinical programs that are not partnered with Teva move forward. Management has stated that they currently have up to four years in “runway” with the current cash balance. We also believe that there are more programs to pursue and, with more capital, the company would likely take on more trials. As such, we expect the company to raise additional capital at an opportune time, and we factor dilution in our model.

### Exhibit 1. Human Stromal Cells

Mesenchymal – or human stromal – stem cells are non-hematopoietic progenitor cells that have the ability to transform into a variety of structural tissues in the laboratory. Although the precise signals necessary to direct cell differentiation to specialized cells are not known, placement of a precursor cell into the appropriate environment is believed to trigger the secretion of a number of cytokines (growth factors) that then exert an endogenous response, allowing the body to initiate the repair of itself. In our discussions with management, we have come to appreciate that these cells are in fact more potent than MSCs further downstream in the cell lineage. They are selected via unique expression of STRO-1, a surface marker only found in the earliest precursors of the mesenchymal lineage. These cells have multipotential capability. The resulting cell type is able to secrete potent cytokines that then allow an endogenous repair and regenerative response.



The MPCs act as micro-drug factories, providing the secretion of trophic factors that then exert multiple mechanisms of action including (but not limited to) anti-apoptosis (anti-death) of cells, anti-fibrotic, and anti-inflammatory immune modulatory, by shutting down specific T-cell subsets driving autoimmunity. As a result, the cells allow the regeneration of damaged tissue through the recruitment of the body's own tissue-specific precursor cells.

## **COMPANY BACKGROUND**

Mesoblast is developing a series of high margin, off-the-shelf adult stem cell products that are obtained from a single donor, commercially expanded (20 passage or less), tightly monitored and controlled, and frozen. Subsequently, they can potentially be used in thousands of unrelated, or allogeneic, recipients at the time and place of need.

The company reached a peak market capitalization of just under \$3 billion dollars (Aussie) last fall driven by a deeper understanding of the implications of the strategic alliance with Cephalon (which has now been acquired by Teva Pharmaceuticals) was formed. The partnership is chartered to develop and commercialize the company's adult stem cell therapeutics for multiple therapeutic areas, including cardiovascular disease and central nervous systems. Specifically, the focus is initially on localized applications of these cells in congestive heart failure (CHF), acute myocardial infarction (AMI), chronic myocardial ischemia (CMI), cord blood expansion for bone marrow transplants, disc degenerative disease (DDD), and macular degeneration. Beyond these indications with safety established, the company will likely start to pursue more systemic diseases such as diabetes, multiple sclerosis, and other autoimmune conditions.

Teva is funding all late-stage clinical development costs (Phase IIb and beyond) worldwide for the cardio and neural (and hematological) products. Teva intends to cover all sales and marketing costs. Mesoblast retains all manufacturing rights and will sell finished products to Teva on a transfer price basis, through operations in Singapore (which optimize its tax consequences). In our discussions with management, we have come to understand that the strategy here was to negotiate a deal with a large transfer price (essentially better than profit split) on all net sales. In addition, Mesoblast stands to receive up to \$1.7 billion in milestone payments at regulatory de-risking events. In our modeling, we assume a straight royalty, net manufacturing, of gross revenues. This could approach 40%, but for conservatism, we assume 30%.

After the U.S. acquisition of Angioblast, Mesoblast became a global company. Even the orthopedic segment, which originated in Australia, is now U.S. centric, as that is where the greatest market potential exists. In December 2010, Mesoblast completed an acquisition of Angioblast Systems Inc. This strategic acquisition enabled the company to broaden its product pipeline across a wider range of clinical indications, including cardiovascular, oncology, eye diseases, and diabetes, in addition to its core roots in orthopedics. Mesoblast retains full rights to many of these indications such as diabetes, autoimmune and inflammatory diseases, ophthalmic indications, and orthopedic cartilage and bone applications. We find the degenerative disc disease (DDD) indication exciting and full of potential as the Phase II trial is rapidly enrolling. Year-end results could be major catalyst for the stock, in our opinion.

**Manufacturing: Lonza is gearing up.** Mesoblast has formed a strategic alliance with leading biologics manufacturer, Lonza, for clinical and long-term commercial production of its MPCs. The agreement assures the company will have “certainty of capacity” to meet long-term global supply of its proprietary MPC products, in a tax-advantaged position in Singapore. In fact, Lonza has committed to building “a purpose-built manufacturing facility” exclusively for Mesoblast and providing exclusive access to Lonza’s cell therapy facilities in Singapore. Mesoblast retains the right to acquire the facility back from Lonza. We see the Lonza partnership as a significant de-risking event that is underappreciated by investors.

**The bull case.** The Mesoblast back pain trial has been enrolling patients rapidly, surprising investors with its speed. The product is administered in a 10-minute injection, and pain and measurement of disc structure via MRI or X-ray will be the trial’s endpoints. This product is unpartnered and represents a significant opportunity, as 30 million U.S. patients suffer from back pain. This product may have the potential to alter the current treatment paradigm for back pain, disc herniation, and degenerative disc disease, as well as augment severe cases where fusion is the only option. Cephalon had a vision – and now Teva sees it too. In 2010, Cephalon acquired a 19.99% stake in Mesoblast, paying \$130M upfront and offering \$1.7b milestones. The company also pays the freight on all clinical trials in partnered indications (Phase IIb and beyond). As a result, this positions Mesoblast with four years of operating capital (at the current \$50M annual burn rate) and multiple products in development. Something is likely to work amongst the various data packages of cord blood expansion (bone marrow transplant), congestive heart failure (CHF), degenerative disc disease, diabetes, macular degeneration, and more.

The company is the industry leader. At the core of Mesoblast’s success is the company’s MaB-based selection process that allows the isolation and pure population of early mesenchymal cells via the unique expression of STRO-1, only present on the earliest MSCs. These cells appear more potent than their mixed population counterparts and are less immunogenic. These cells are multipotent. This differentiates the platform from its allogeneic peers Athersys (ATHX- \$1.43 -Buy), Osiris (OSIR- \$7.11 -NR), and PluriStem (PSTI- \$2.43 -NR).

**The bear case.** How can investors justify the value of Mesoblast (\$1.8b) compared to that of Athersys (\$0.04b) or Pluristem (\$0.1b)? Mesoblast hit gold when Cephalon licensed rights to Revascor in cardiac, oncology, and neural diseases. The deal was rich at \$130 million upfront for early-stage cell therapy assets, not unlike the early deal that Genzyme (now part of Sanofi SNY- \$33.85 -NR) struck with Osiris. Many people believed that Genzyme’s efforts validated the Osiris platform, only to be disappointed several years later when Prochymal failed in multiple trials. We note that prochymal was recently approved for a sub-orphan pediatric population of GvHD patients in Canada (a niche market). Bulls who claim “validation” through Cephalon’s diligence (and now Teva’s) may have not learned the lessons from the past. Mesoblast’s technology may be viable, but is it far superior – 10-20x – to its peers (Pluristem, Athersys, and Osiris) on the allogeneic side? Bears expect the company to keep spending and opportunistically raise more capital, converting some of the rich market capitalization into cash. Mesoblast claims that its early-stage mesenchymal cells that are selected via antibodies are partially immune-privileged and multipotent (able to form other cell types). These claims are not clinically validated and, if true, likely mean that the rest of the industry is working with cells that are much less potent. Given the risk reward, why invest in Mesoblast at a market capitalization so much greater than its peers, such as Athersys at \$40 million?

**Our take.** At \$1.8b, the stock is down from its peak market capitalization of \$3b, which the bears claim as being too much and too early. What we see is not only a well-financed company (four years of operating capital at the current burn rate) with multiple late-stage clinical trials in very large indications, but also solid science. Mesoblast may have found the most potent stem cell of them all and subsequently has developed a unique isolation and expansion system that creates a truly homogenous cell population. This, combined with cost advantages of an allogeneic product, delivers the “cells in a bottle” business model that big pharmaceutical companies seek. That is, a product that can be mass produced, with a low cost of good, that is readily available.

Congestive heart failure represents both an unmet medical need and one of the largest patient populations of all disease indications. While the Mesoblast’s Phase II data in CHF has a small n-value (N=60), the results are striking. When evaluated in the context of all the pre-clinical trials and data sets of other indications, this data suggests these cells are truly potent, in our opinion.

We weight all of this in conjunction with the company’s decision (backed and actually driven by Teva), with the support of the FDA and EU regulators (approval pending), to go to a large single pivotal trial of 1,700 CHF patients, with a composite endpoint of cardiac mortality and HF hospitalizations. This trial should not only answer the question of “does it work?” – but should also effectively lock out all competitors who are unwilling to do such a large trial. In the near term, we see the FDA’s pending approval to move forward as a positive catalyst, assuaging investors’ concerns regarding Teva’s commitment to Mesoblast.

Beyond CHF, other data sets such as degenerative disc disease (back pain) and spinal fusion trials should both be beginning to report data by year end and through next year. As a result of these catalysts – as well as our belief that the cell therapy paradigm shift is real – we have faith in the company’s valuation and advise investors to follow our analysis and model (which leads us to see what Cephalon saw, and what TEVA now sees: a well capitalized stem cell leader that can potentially drive the paradigm shift in the industry).

**COMPANY OVERVIEW**

**Exhibit 2. Upcoming Catalysts for Mesoblast**

We believe the next most important near-term catalyst is the FDA decision to allow the company to begin the Phase III CHF trial, backed by Teva. We anticipate that this could happen at any time in the near future. This is a critical element as we believe the decision will demonstrate Teva’s ongoing commitment to the program. We expect this to be a 1,700-person trial and take two years to enroll. We believe the endpoints will be both mortality and HF hospitalizations.

Product	Indication	Event	Timeline	Impact
Revascor™	CHF	FDA Approval to move into a pivotal Phase III Trial	Q3-2012	++
Revascor™	AMI	Decision to go to Phase IIb	2H-2012	+
Revascor™	Type II Diabetes	Enroll First Patient (Singapore)	2H-2012	+
Revascor™	Type II Diabetes	Final Phase II Data Set(s)	1Q-2013	++
Revascor™	Spinal Fusion	Complete Phase II Trial(s)	2H-2012	+
Revascor™	Degenerative Disc Disease	Complete Phase II Trial	2H-2012	++
Revascor™	Orthopedic	Trial Update(s)	2H-2012	++
Revascor™	Orthopedic	Partner Decision	1H-2013	++
Revascor™	Diabetes	Partner Decision	1H-2013	++
Revascor™	AMD	Enroll First Patient (Singapore)	2H-2013	+
Revascor™	AMD	Trial Update(s) - Singapore Phase II	1H-2013	++

Stock Significance Scale: + of moderate importance; ++ higher level; +++ highly

Source: Maxim Forecasts and Company reports.

**Exhibit 3. Mesoblast Development Pipeline**

Product & Indication	Development Stage				TEVA PAYS PIIB +	US Market PEAK SALES (MM)
	Precinical	Phase I	Phase II	Phase III		
Bone Marrow Transplantation- Cord Blood Expansion					✓	\$250
Congestive Heart Failure N=1700 ?					✓	\$5,000
Acute Myocardial Infraction			2B EU		✓	\$1,000
Chronic Refractory Angina					✓	\$1,000
Spinal Fusion - two trials						\$2,000
Intervertebral disc repair						\$2,000
Knee Osteoarthritis						\$500
Fracture repair / OA						\$250
Type II Diabetes		P2			✓	\$5,000
Neurological disease (Alzheimers, MS)					Pays 1/2	\$5,000
Lung & Joint Disease (Asthma)					✓	\$5,000
Eye Disease (Age Related Macular Degeneration)		singapore			✓	\$2,500
CLI					✓	\$2,500
PAD					✓	\$2,500

Source: Mesoblast and Maxim Estimates

**Intellectual property.** Mesoblast’s adult stem cell technology platform is built upon the discovery of adult-derived mesenchymal precursor cells (MPCs) and the development of methods to isolate and accurately identify these cells. These methods are complex, using monoclonal antibodies to select and create a virtually homogeneous therapy product. Mesoblast has a worldwide license to MPC-related technology from the Institute of Medical and Veterinary Science (IMVS) and the Hanson Institute in Adelaide, South Australia. The patented technology enables:

- Precise identification and isolation of MPCs
- Expansion and scale-up of the isolated adult stem cell population
- Generation of cells with universal compatibility due to lack of immune rejection
- Clinical applications of MPCs

Mesoblast has multiple patents protecting its technology, including a U.S. composition of matter, U.S. manufacturing process, and multiple global filings. In essence, Mesoblast believes that it owns the MSC space and that these are likely the most potent angiogenic cells.

## MANUFACTURING

How does Mesoblast’s allogeneic approach differ from that of other allogeneic companies? Mesoblast extracts its stem cells using antibodies specific to STRO-1, only present on the earliest MSCs. In this way, the company believes it can select cells that are less immunogenic (i.e. cells that are in effect immune-privileged) and multipotent compared to what Athersys or Osiris select later in the cell lineage lines. For example, Osiris’s method of obtaining its mesenchymal stem cell products uses a density-gradient centrifugation followed by culture expansion based on plastic adherence. Athersys’ product Multistem consists of a special class of human stem cells – multipotent adult progenitor cells (MAPCs) – that are derived from donor bone marrow and expanded. Like Athersys, Osiris, and Mesoblast, the companies Pluristem and Celgene (CELG-\$69.12 -NR) also use allogeneic cells, which are expanded in culture and used off-the-shelf without tissue matching or immunosuppression, as these two companies derive their cells from the placenta and claim that they too are immune-privileged given the unique nature of the placenta (which mixes baby and mother cells to trigger an immune response). What is not well understood by investors is the pro-angiogenic capabilities of earlier lineage MSCs (selected via STRO-1). In terms of the expansion process, Mesoblast is able to keep the of cell doublings at 20, keeping the cells “young.” Lastly, we view the Lonza commitment more as a partnership – and one that is risk-mitigating.

## THE PRODUCT OPPORTUNITY

**Heart disease.** The American Heart Association (AHA) estimates that 80 million American adults (approximately one in three) have one or more forms of cardiovascular diseases. These diseases cost the United States alone approximately \$500 billion a year, with the burden growing as the population ages.

The principal aim of cardiovascular therapies is to reduce morbidity and mortality from congestive heart failure, heart attacks, strokes, and other blood vessel related diseases. The consequences of heart attacks and the progression of congestive heart failure are currently poorly serviced. The delivery of stem cells to a patient for therapeutic purposes is a new approach to therapeutic intervention, and, to date, there are no products approved; however, multiple trials are underway. These include an academic trial in Europe, known as “BAMI,” to evaluate the use of autologous MSC (bone marrow derived mesenchymal cells) for myocardial infarction (MI).

Baxter (BAX – \$51.48 – NR) is pursuing its first Phase III trial (n=464), in angina (heart pain) and it our understanding that a second EU trial is being planned. By comparison to our expectation for Mesoblast, the Baxter trial is small. We expect Mesoblast’s Phase III trial to enroll 1,700 patients over a two-year period. Should the Mesoblast product work, based on a COGS argument alone, we believe Baxter’s product would be obsolete as autologous COGS cannot likely compete with the cost-effective allogeneic counterpart. The differences in COGS may be north of \$10,000; in addition, the apheresis process that Baxter uses will likely never be permitted in congestive heart failure patient versus more stable CMI patients, as the apheresis process may not be safe for severely ill CHF patients. We have similar concerns for bone marrow harvests that end up much north of 50cc. Dr. Andreas Zeiher, a world renown opinion leader and lead investigator in the BAMI trial, supports this view.



However, the argument of “allo” versus “auto” is much more complex. In the case of cardiac disease, the autologous bulls argue that the regenerative properties of the therapy must persist. We know that allogeneic cells do not. As such, if autologous shows a long-term mortality benefit (versus allogeneic, because your own cells integrate back into the damaged tissue and continue to promote the process of blood vessel formation) versus a short-term paracrine effect of allogeneic, an autologous product might have an efficacy advantage in those indications.

In the publication cited below, the experiment attempts to show that the persistence of autologous cells creates a long-term sustainable benefit. We call this the “The Suicide Gene Experiment.”

***Mechanism of Improved Cardiac Function After Bone Marrow Mononuclear Cell Therapy: Role of Cardiovascular Lineage Commitment.***

*Our allogeneic thought leaders respond with the following: 1. Allogeneic cells are off the shelf, ready to go. 2. In the case of an acute heart attack, right at the time of stent placement, the cells can be delivered via intra coronary artery and begin to work immediately. 3. The cells can both down regulate the inflammatory cascade, mitigating the immediate secondary damage to muscle and 4. go to work responding to the hypoxic environment, which has developed, creating neo arterial flow, secondary branches, and micro-vascularity, allowing the muscle to stabilize and heal.*

*The key question then is: clinically, will it matter? If Revascor shows a benefit (all signs say yes), given its COGS and an ideal easy fit into the treatment paradigm, it becomes the “category killer”.*

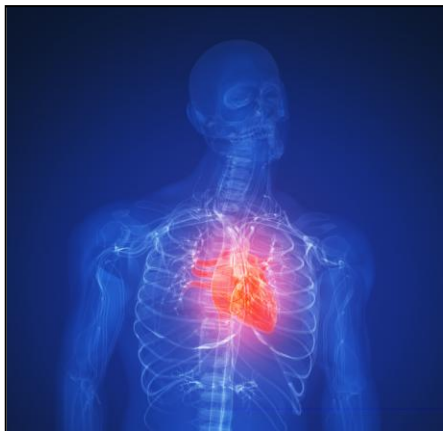
***We believe Revascor has the potential to obsolete the autologous approaches to heart failure and cardiac related conditions, with a few exceptions (one of which may be Aastrom’s expanded and optimized marrow derived product, now in a Phase III trial for CLI).***

Mesoblast’s cardiovascular product development programs are aimed at several conditions, including congestive heart failure (CHF), acute myocardial infarct (AMI-stabilizing hearts post heart attack), and chronic myocardial ischemia (CMI, also known as or angina or heart pain), with potential applications in critical limb ischemia (CLI), pulmonary arterial disease (PAD), and a host of related indications. Unlike small or even large molecule therapies, cells may be able to address a wide range of conditions, restoring balance to our body in a way that a small molecule that is isolated to a single target can never achieve.

**Congestive heart failure.** The most recent statistics from AHA suggest that up to 6.6 million people in the United States suffer from heart failure, with an additional 670,000 new cases diagnosed each year. This is the No. 1 cause of mortality and hospitalization in the Western world.

#### Exhibit 4. An Enlarged Heart

CHF is a chronic condition characterized by an enlarged heart and insufficient blood flow to the extremities of the body. The condition develops over time and can be caused by many factors that put an excess demand on the heart muscle, including high blood pressure, incompetent valves, infections of the heart muscle or valves, or congenital heart problems. The heart itself becomes enlarged and the muscle walls thin.



Although patients are initially treated with drug therapy, the only current method of treating end-stage disease is a heart transplant or mechanical assist device. Only around 3,000 heart transplants are performed annually in the United States, leaving a large unmet medical need.

Mesoblast's target market is CHF patients in NYHA class II to IV with an ejection fraction of less than 35%. According to the company, the estimated market size in the United States alone is currently 2.5 million patients (41% of 6.2 million pre-existing sufferers), with 201,000 newly diagnosed (30% of 670,000) each year. Our estimates are slightly more conservative.

Source: <http://www.cochrane.org/features/stem-cell-treatment-acute-myocardial-infarction>

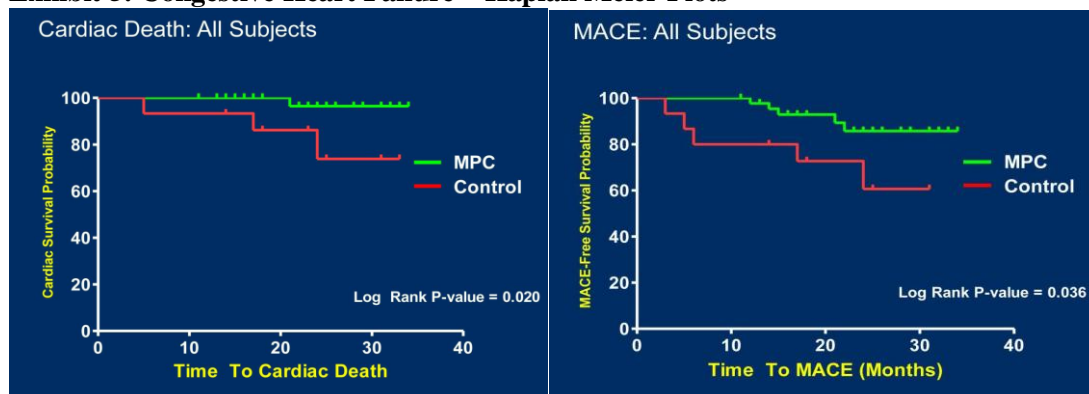
Mesoblast's therapy Revascor will be evaluated in a Phase III trial to treat moderate to severe congestive heart failure patients. We anticipate the trial to be highly powered (N=1,700) and to take up to two years to enroll. Our assumption is 90% for a 10% difference in all-cause mortality. We believe the trial strategy here is twofold: 1. Run one global trial that is well designed and well powered, with accepted endpoints (mortality); and 2. leverage the data base from that trial to leap-frog the product to other indications with smaller, faster follow-on trials. It is our understanding that Teva has asked for the larger trial, and that the FDA is likely to say yes.

**How was the Phase II data?** The data was very strong for a small study, with significant p-values (which it was not powered to show) and, more importantly, with "no deaths" in the treated group out to two years, versus the control group (at 20%, inline with historical expectations for these patients).

The Phase II trial (n=60) was randomized, multi-center, and placebo-controlled. The goal was to compare the safety and efficacy of three doses of Revascor on top of maximal approved therapies versus maximal therapies alone. Patients had to be classified as "moderate-to-severe" according to the New York Heart Association (NYHA) class II or III status, with ejection fractions below 40%. The trial enrolled both ischemic and non-ischemic heart failure patients.

All patients were randomized 3:1; controls to MPCs at 25M, 75M, or 150M cell doses. Cells were locally injected using the NOGA Myostar™ catheter system in a single injection. The primary stated endpoint of the trial was safety and feasibility, which was met (meaning that there were no adverse events associated with MPCs at any dose and no clinically relevant immune responses to donor cells as reported by the company).

**Exhibit 5. Congestive Heart Failure – Kaplan Meier Plots**



Source: Mesoblast

**The Data:**

- MACE was significantly reduced in MPC-treated patients over a mean 22-month follow-up (p=0.036).
- MACE risk over time was reduced by 78% in MPC-treated patients vs. controls (p=0.011), with 60-90% risk reduction at every MPC dose.
- Cardiac mortality was significantly reduced in MPC-treated patients compared with controls over a mean 22-month follow-up (2% vs. 20%, p=0.02).
- The company reports that the highest dose of Revascor completely prevented any deaths or episodes of heart failure hospitalization over 18 months of follow-up.
- Highest dose showed evidence of remodeling (reduction in heart volumes- End Systolic volume-ESV) and improvement in functional capacity (increased walking distance), which are key parameters in congestive heart failure.

**In Mesoblast's completed Phase II trial, the composite endpoints of cardiac mortality and heart failure hospitalization were reduced from 20% in controls to 0% over 18 months of follow-up by a single intracardiac injection of the highest 150 million cell dose of Revascor.**

Patients who received this dose also showed concordant improvement in end-systolic volumes and in total distance walked over six minutes – key parameters reflecting reversal of adverse left ventricular remodeling and increased functional capacity.

The company also reports that over a mean follow-up period of 18 months, 0/15 patients who received the highest dose of MPC (150M) had been hospitalized for heart failure or had died. It is our informal understanding that this is still true at two years. In contrast, 3/15 (20%) of the controls and 6/30 (20%) patients who received low (25M) or mid (75M) doses of MPC had either been hospitalized with heart failure or had died. This clinical improvement associated with the 150M dose was accompanied by evidence of cardiac remodeling (reduction in left ventricular end systolic volumes compared with controls at 6 months, p=0.015) and improved functional capacity (gain of 52.6 meters over a six-minute walk compared with controls at 12 months, p=0.06).

**Next steps.** The company expects Revascor to progress to a Phase III trial in the second half of 2012. We assume an enrollment of 1,700, 90% powered for a 10% difference.

As others have noted, it is our expectation that the FDA may request the pivotal study to contain an interim safety assessment point where a small number of patients (n=100) will be initially assessed for safety and tolerability of the procedure itself (sham and treatment arms) after a lead-in period (30 days).

**Heart attacks – AMI.** At the other end of the disease spectrum, Mesoblast is evaluating the MPC technology for the treatment of acute coronary artery disease and heart attacks.

An allogeneic product means that every emergency room in the country can have ready access to Revascor and that it can be used in conjunction with all the standard life-saving procedures, such as clot-busting and stent technologies, at the earliest and most effective time. As such, the treatment paradigm allows the interventional cardiologist to inject a small volume of liquid cells (a few ccs) that contains the active dose right at the time of stent placement.

**The key question is: Does that make sense?** As previously discussed, the autologous companies will argue that one should wait some period of time for the hypoxic signals to peak so that cells can appropriately home. Delivering cells too early minimizes their effect as they become destroyed in the ensuing cytokine – inflammatory chaos of the initial ischemic event. Where we find this argument flawed is how it relates to the secondary damage that occurs post the initial ischemic event.

The allogeneic companies make two claims: 1. The inflammatory cascade creates secondary damage, that if turned off, the consequential damage is in effect limited. That’s exactly what these cells do but that’s only their first mission. 2. These cells persist for weeks. They do home along the same SDF-1 (stromal derived factor) gradient and will follow as the hypoxic signal (hypoxic induced factor or HIF) builds. The cells are in effect “on-board” and ready to respond as needed.

It is absolutely unknown if most of the damage occurs initially or over time, and the reality is probably that it is a deadly combination of both, the immediate inflammatory cascade and the secondary ischemic stress. If an allogeneic cell can remediate the initial damage and revascularize the heart in response to HIF, it represents a more economically viable approach that in effect obsoletes the autologous approach.

**Orthopedics.** According to Mesoblast, the global orthopedics market generated revenues of 19.2 billion in 2008. Spinal and knee implants accounted for 61% of revenues, with North America the main geographic contributor. Common types of orthopedic problems are degenerative intervertebral disc disease, spinal fusion, chronic cartilage degeneration, and segmental bone defects – all potential markets for Mesoblast.

**Intervertebral disc repair product.** Frost & Sullivan (industry report) states that approximately 30 million people in the United States suffer from back pain. While physical therapy and medication (NSAIDs, painkillers, and local steroid injections) provide some relief in many cases. However, there is a large subset of patients (we assume 15%, or about 4.5 million people) who still experience chronic back pain after treatment. The next level of treatment for these patients is spinal surgery, a discectomy (a slice is removed from the disc adjacent to the herniation), or, in the most severe cases, a total disc replacement or spinal fusion.

#### **Exhibit 6. DDD is the Principal Cause of Low Back Pain**



*Source: Mesoblast*

The intervertebral disc is a cartilage that cushions the stress forces on the spine and enables the normal rotation of the spine. With advancing age, there is progressive loss of the proteoglycan material that gives the disc its properties and a consequent increased risk of damage to the spine. This process, termed degenerative disc disease (DDD), affects between 15% and 45% of the population.

**Preclinical trials showed that a single, low dose of Mesoblast’s allogeneic adult stem cells into severely damaged intervertebral discs resulted in dramatic reversal of the degenerative process, regrowth of disc cartilage and sustained normalization of disc pathology, anatomy and function.**

Since spinal surgery is advocated only in severe cases of DDD, only 500,000 out of the 4.5 million treatment-resistant patients would be considered candidates for surgery. This creates a gap of about 4 million people who are currently left untreated. These patients experience mild to moderate DDD and are normally treated with conservative procedures that have significant associated morbidity and result in reduced productivity, until the condition worsens to a degree that warrants spinal surgery.

Since MPCs produce the proteoglycan materials found in discs, Mesoblast believes that the injection of MPCs into a degenerated intervertebral disc will lead to replacement of the proteoglycan of cartilage. This approach, with its anticipated ease of application, lack of side effects, and relatively non-invasiveness, could be a cost-effective therapy for patients with moderate to severe degenerative disc disease. As such, we believe this technology will be rapidly adopted by both the medical community, particularly the pain-based neurology centers, which now inject steroids. The market penetration could be very significant in back pain alone. In our model (below), we modestly project 15% market share by 2017. If we were to model 50% share, our gross revenue would jump from \$1.7 billion to \$5.8 billion – and this is only after the number is cut by 50% (risk adjustment for probability of success). Recall that this product is 100% owned by Mesoblast.

**Exhibit 7. DDD model.**

Based on known statistics from multiple sources including Mesoblast, we assume that there are 30 million people with back pain in the United States, 15% of which have severe enough pain to seek help. Of that population, we assume half are candidates for therapy. We further assume a highly cost competitive price point, \$10,000. We then risk adjust our numbers by 50% given that the product is in a Phase II trial now and commercialization probably does not happen before 2015. These estimates could prove conservative. This model is DDD only and excludes use with spinal fusion.

<b>Back Pain &amp; Related Disc Repair</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Back Pain Prevalance	30,090,120	30,331,564	30,574,946	30,820,280	31,067,583	31,316,870
Market Size Growth (Annual)		0.8%	0.8%	0.8%	0.8%	0.8%
15% Patients Considered Candidates for Therapy		15.0%	15.0%	15.0%	15.0%	15.0%
Viable (Insurance, et al)		50.0%	50.0%	50.0%	50.0%	50.0%
Target Market		2,274,867	2,293,121	2,311,521	2,330,069	2,348,765
Market Share Penetration	0.0%	0.0%	0.0%	3.3%	7.8%	15.0%
Number of Patients Procedures		0	0	75,199	180,656	352,432
Cost of Therapy	\$ 10,000	10,000	\$ 10,000	10,000	\$ 10,000	\$ 10,000
Price Growth			0%	0%	0%	0%
Risk Adjusted Probability of Success				50%	50%	50%
U.S. Annual Sales ('000)	\$ -	\$ -	\$ -	\$ 376	\$ 903	\$ 1,762

Source: Maxim estimates

**The clinical trial.** Mesoblast’s double-blind, placebo-controlled Phase II clinical trial in back pain is being conducted at 15 sites across the United States. The trial will randomize a total of 100 patients with intervertebral disc disease to receive a non-surgical, percutaneous injection into the intervertebral disc of either low or high dose MPCs with hyaluronic acid carrier, hyaluronic acid carrier alone, or saline alone. The trial aims to extend Mesoblast’s preclinical results and show that a single MPC injection can reduce low back pain and improve function over six months, improve disc anatomy, and eliminate the need for a surgical procedure.

In April, Mesoblast announced that the trial had reached its 50% enrollment mark. The company said that “the rapid rate of enrolment attests to the major unmet medical need and to the relative simplicity of the non-surgical procedure.”

**Next steps.** Mesoblast expects to complete full enrolment by early 3Q12. As such, we expect data by year end. This could become a significant catalyst for the stock.

Full results of Mesoblast’s prior studies were published in the March 2012 issue of the Journal of Neurosurgery. The scientific publication, entitled “Immunoselected STRO-3+mesenchymal precursor cells and restoration of the extracellular matrix of degenerate intervertebral discs”.  
*source: Journal of Neurosurgery, May 2012, Vol 16, No.5, Pages 479-488*

**Is the prior data set in animals (ovine, sheep) strong?** Three adjacent lumbar discs of 24 adult male sheep were injected intradisally with chondroitinase-ABC (cABC) to initiate disc degeneration. The remaining lumbar discs were used as normal controls. Three months after cABC injection, the L3–4 discs of all animals were injected with either a high dose (4 × 10<sup>6</sup> cells, in 12 sheep) or low dose (0.5 × 10<sup>6</sup> cells, in 12 sheep) of MPCs suspended in hyaluronic acid (HA). The adjacent L4–5 degenerate discs remained untreated; the L5–6 discs were injected with HA only. The animals were euthanized at three or months after MPC injections (six sheep from each group at each time point), and histological sections of the lumbar discs were prepared. Radiographs and MR images were obtained prior to cABC injection (baseline), three months after cABC injection (pretreatment), and just prior to necropsy (post-treatment).

**The Results:** Injection of cABC (chondroitinase-ABC to initiate disc degeneration). The damage was measured using a disc height index (DHI) and the target discs degenerated by 45%–50%. There was some recovery in DHI observed at 6 months after treatment in all cABC-injected discs, but the DHI increased to within baseline control values only in the MPC-injected discs.

This improvement was accompanied by a reduction in MRI degeneration scores. The histopathology scores observed at 3 months post-treatment for the high-dose MPC-injected discs and at 6 months post-treatment for the low-dose MPC-injected discs were significantly different from those of the non-injected and HA-injected discs ( $p < 0.001$ ) but not from the control disc scores.

**Conclusions: On the basis of the findings of this study, the authors conclude that the injection of MPCs into degenerate intervertebral discs can contribute to the regeneration of a new extracellular matrix.**

**The additional indications, (lumbar and cervical fusion) represent upside to our forecasts.**

**Lumbar and cervical spinal fusion product:** With around 30 million Americans suffering from back pain, anti-inflammatory medications, exercise, physiotherapy etc. are usually given a timeframe of up to three months to effectively work. However, when disc degeneration is severe, these conservative treatments can be rendered ineffective quickly.

The elimination of motion through fusion has been the gold-standard solution to a variety of degenerative disc diseases but continues to be reserved for patients with severe disc disease. Spinal fusion, in which two or more spinal segments are fused or mechanically locked to each other, is performed in patients with severe degenerative disc disease. It is a major surgical procedure often associated with serious complications including infection, permanent nerve damage, and recurrence or worsening of pain.

According to Mesoblast there are 240,000 cervical and 280,000 lumbar spinal fusions in the U.S. annually. Current hospital reimbursement for cervical spinal fusion is around \$24,000 per procedure (\$33,000 for a lumbar). The price of lumbar fusion implants is approximately \$10,000. In comparison to these figures, Mesoblast's MPC product, NeoFuse™, will be highly cost effective alternative that patients and their doctors are likely to seek. For patients whose discs have degenerated too extensively for repair, bony fusion is the only viable option to eliminate pain. Mesoblast is now in Phase II trials with NeoFuse™, in minimally invasive surgery for fusion of the spine. We have not factored this market into our estimates.

**Fracture Repair Product:** Again, citing Mesoblast as the source, more than one million of the 5.6 million fractures occurring annually in the United States are associated with healing difficulties in which repair processes stop before the break is completely repaired. Around 10% of fractures that heal poorly require bone grafting using either the patient's own bone tissue or that from a donor. Bone grafting is limited by a lack of blood supply to the new bone and by the limited number of regenerating bone cells in the grafted tissue.

Mesoblast believes its MPC technology can generate both new bone and new blood vessels, enabling greater bone regeneration. The company has completed a pilot clinical trial for non-healing, long bone fractures in the legs. The results showed that bony union and healing was achieved within a median time of approximately four months after stem cell implantation, compared with what otherwise would have been permanent non-healing of the fractures in the absence of cell therapy.

Our thoughts: We see NeoFuse™ as a much safer and potentially more effective therapy to Bone Morphogenic Proteins (BMPs). The use of BMPs is limited by their risks of bony over-growth. Today BMPs represent a significant market opportunity. As such we would not be surprised, post Phase II result from the fusion or back pain trials to see a major device company partner with Mesoblast and commercialize this product.

### **System Diseases- Moving Beyond Local Administration**

**Diabetes:** Mesoblast cites The World Health Organization estimates, which states that there are 171 million diabetes sufferers worldwide and that the number will grow to 366 million in 2030. The United States prevalence is 17.9 million with a further 5.7 million undiagnosed.

The total (direct and indirect) spending on diabetes in the United States is currently estimated at \$174 billion or one of every 10 health care dollars spent. The direct medical cost is estimated to be upwards of \$116 billion having doubled over the past five years. The average annual medical spending for a diabetic is more than 15,000. The global diabetes market was worth \$27.3 billion in 2008. In other words, the numbers are off the chart.

Type 2 diabetes accounts for 90-95 percent of the 230 million diabetics in the western world, and its prevalence is increasing at an alarming rate. Complications include heart disease, chronic kidney failure, blindness, nerve damage, and lower extremity amputations. Injections of insulin are used only as a last resort in Type 2 diabetics because of the risk of lowering glucose levels too greatly and too rapidly (hypoglycemia). Newer treatment modalities for Type 2 diabetes aim to enhance the ability of pancreatic beta cells to produce more insulin in an effort to better control blood glucose.

In a preclinical model, Mesoblast has shown that its proprietary adult stem cells could be an effective treatment for diabetes. In the study, a single dose of the patented human MPCs injected into mice with diabetes resulted in a significant increase in blood insulin levels and sustained reduction in blood glucose levels for the entire three week period of follow-up. This was due to restoration in the damaged pancreas of the balance between insulin-producing beta cells, which reduce blood glucose, and glucagon-producing alpha cells, which increase blood glucose.

In higher animal models (monkeys), Mesoblast showed a dose-dependent reduction in blood glucose levels over an 8-week period (seen in n=17 non-human primates with hyperglycemia, obesity and Type 2 Diabetes). In addition to the glucose-lowering effects of the MPCs, there was a direct correlation between reductions in fasting blood glucose levels over time and reductions in C-RP, suggesting that MPC therapy may be cardioprotective in Type 2 diabetic patients.

Last November the company reached agreement with the FDA on the key elements of the company's first clinical trial using intravenous delivery of its MPC cells in patients with Type 2 diabetes.



**Phase II Trial for Diabetes:** This will be a randomized, N=60 patient, placebo-controlled trial that will compare the effects of a single intravenous injection of one of three escalating doses of allogeneic MPCs with placebo in poorly-controlled patients with Type 2 Diabetes.

The primary safety endpoint of the study will be at 12 weeks, and during this period patients will be evaluated for effectiveness of the treatment in terms of blood glucose control and changes in various hormones that may be abnormal in patients with Type 2 diabetes. In addition, the trial will monitor treatment-related changes in C-reactive protein (C-RP), an established major predictor of heart attacks and death in patients.

The MPC doses, which will be tested, should be the same as the monkey studies. A single injection of 0.3, 1 and 2 million MPC/kg.

**How might Mesenchymal Precursor Cells (MPC's) work in diabetes?** It is widely believed that MPCs stimulate the body's own natural biological mechanisms such as increasing the production of insulin, increasing the sensitivity of muscle and fat tissues to insulin, and reducing the production of C-reactive protein.

Mesoblast provides the following:

- The cells produce anti-inflammatory cytokines, specifically those that reduce the level of IL-1Ra:“anakinra” and C-Reactive Proteins. As such they block the inflammatory response.
- The MPC's likely up regulate the production of Osteocalcin which in turn stimulates product of insulin from  $\beta$ -cells. (This is a new area of research that is getting tremendous attention).
- The MPC's are capable of “homing” to the Pancreas as target.
- Peripheral endocrine organs as targets (e.g. bones, adipose tissues)
- Restoration of normal pancreatic sensing of high glucose levels
- Restoration of normal pancreatic insulin secretion

**Data Points to watch:** Investors and partners will be watching this study. The first patients are expected to enroll at any time. Mesoblast's diabetes interim data results will likely become available by year's end. Good data could drive a partnership decision. We may see Teva to expand its relationship with Mesoblast although the current agreement does not preclude the company from partnering to the “partner of choice”. The bigger picture for investors to understand is the implications of a positive outcome goes beyond diabetes and begins to address an entirely different business model, systemic administration of these cells for multi-organ response.

**Arthritis Product:** Osteoarthritis is a major degenerative disease of cartilage in joints, with the knee being the most commonly affected. The prevalence of painful disabling knee osteoarthritis (OA) in people over 55 years is 10%, of whom one quarter is severely disabled. Risk factors adding to the growing incidence include obesity and aging of the population.

According to Mesoblast there are approximately 800,000 patients who undergo arthroscopic knee surgery annually in the United States. This procedure can temporarily relieve acute knee pain and/or instability, but it does not improve knee conditions due to the lack of cartilage. The majority of arthroscopies go to reconstruction within ten years.

(to understand the arthroscopy paradigm and another exciting way, it may change, see our report on Omeros (OMER) - \$10.13 – Buy Rated).

In severe cases of OA, total knee reconstruction is indicated with 542,000 primary knee arthroplasties in the United States in 2006. Over the period 1997 to 2005, the volume of knee arthroplasties rose by about 69% from 328,800 to 555,800 procedures. The aggregate cost in the United States for knee arthroplasty was \$6.3 billion.

The actual cost of knee reconstruction is in the range \$26,000 to \$35,000 per operation. Other forms of treatment for knee OA include hyaluronic acid injections or treatment with Synvisc with at least two courses required each year. There were over 1.2 million treatments given in the United States in 2006.

The results of preclinical cartilage trials have shown that a single injection of Mesoblast's allogeneic cell product, RepliCart™, into knee joints damaged by osteoarthritis may prevent further deterioration and regenerate and regrow cartilage tissue lining the damaged joint.

This product has exciting potential but Mesoblast is being careful in what it pursues, how it is sequenced, and how the company's resources are leveraged. We do not factor in any revenues into our income statement model.

**Macular Degeneration:** According to Mesoblast, more than 50% of blindness in developed nations is due to age-related macular degeneration (AMD) and the incidence is expected to rise as the elderly population continues to increase.

In the United States alone, there are about 2 million people suffering from the wet form of AMD associated with abnormal blood vessels with over 200,000 new cases each year.

Current treatments for AMD include anti-VEGF therapy, which is beneficial in approximately 40% of patients. The lead anti-VEGF ophthalmic product is an antibody fragment with United States sales of US\$875 million in 2008. Patients may require intra-ocular injections as often as once a month for six to 24 months at a cost of approximately US\$2,000 per injection.

Preclinical studies have shown that a single injection of Mesoblast's adult stem cell technology may be synergistic to anti-VEGF treatment, particularly if the potential to restore eyesight is improved. A treatment that avoids repeated injections into the eye would have a major market advantage.

**Diabetic Macular Edema (DME):** Mesoblast is also targeting the most common cause of visual loss in diabetics, a condition called diabetic macular edema or edema (DME), which complicates underlying diabetic eye disease.

According to the company, the prevalence of DME among United States diabetics is nearly 30% in adults who have had diabetes for 20 years or more. The estimated annual incidence of new cases of DME is 75,000. The market for treating DME has been estimated at 335,000 procedures each year in U.S. and growing at 2.8% per annum.

Preclinical trials suggest that a single injection of MSC's stem cells are effective for the treatment of leaky blood vessels in the eye, the major cause of vision loss in patients with wet age-related macular degeneration and diabetic retinopathy. This one time administration holds the promise for a sustained effect and superior outcome to standard of care anti-VEGF therapies and represents an additional major market opportunity.

**Phase II Clinical Trial for Eye Diseases:** Mesoblast is now running a Phase II trial at the Singapore National Eye Centre. The trial is evaluating MPC's with an anti-VEGF agent, "Lucentis". Wet AMD, the leading cause of blindness in industrialized countries, has different forms in Asia and North America/Europe. Anti-VEGF agents are less effective in Asian form of wet AMD. As such the hope is that Mesoblast's allogeneic cells may be effective for both Asian and North American/European forms of wet AMD.

The trial will be a randomized, placebo-controlled P2 trial in N=18 patients. The trial will evaluate the safety and effectiveness of a single intraocular injection of MPCs combined with the anti-VEGF agent, Lucentis, in newly-diagnosed wet AMD patients. Controls will receive Lucentis alone. The trial will seek to establish if the allogeneic MPC treatment reduces the need for repeated monthly injections of Lucentis while improving visual acuity and quality of life.

**What Could the Future Hold for the next "systemic" indication?** We have to believe that Teva is evaluating the utility of MPC's in Multiple Sclerosis as well as other neurological conditions such as Parkinson's disease, Huntington's disease, Alzheimer's disease, idiopathic pulmonary fibrosis, NASH (non-alcoholic steatohepatitis, or fatty liver disease), kidney disease and related complications (often with diabetes).

Finally we review the Oncology – The Cord Blood Expansion Product. While exciting scientifically we do not see this as a significant commercial factor and do not include it in our model, however the product certainly has the potential to save lives and change the outcome for many patients. The treatment costs associated with transplants are very high, so in this orphan setting, the product could commercially surprise to the upside.

**Expanding Cord Blood: Ex-Vivo: A Bone Marrow Transplant Product:** According to the Center for International Blood and Marrow Transplant Research, there are now over 60,000 autologous and allogeneic bone marrow transplants performed annually worldwide, a number projected to further increase due to the anticipated growth in incidence of hematologic malignancies associated with an aging population.

Of the total transplants performed annually worldwide, approximately 25,000 are allogeneic. This number represents less than 30% of individuals who would otherwise be eligible to receive an unrelated donor bone marrow transplant because for the rest a fully matched donor cannot be found. Perfect matching is desirable for adult marrow transplants because of the very high risk of potentially life-threatening GvHD when unmatched transplants are performed. GvHD still occurs in as many as 60% of patients who receive fully matched bone marrow transplants from unrelated adult donors.

In contrast, cord blood causes significantly less GvHD, and can be used as a partially mismatched donor source. However, the number of hematopoietic precursor cells in unexpanded cord blood is too few to enable sufficiently robust and predictable bone marrow engraftment. Typically two cords are used and this can be expensive and complex.

Mesoblast hopes by ex-vivo expanding hematopoietic precursor cells from cord blood that they can then be used without full matching to effect rapid bone marrow reconstitution with a low risk of GvHD. **Of interest to note is the relationship between Mesoblast, Teva and Gamida Cell. Gamida is famous for their expansion technology which we understand is an integral part of this product.** Gamida Cell has a Joint Venture with Teva for StemEx®.

The goal of this product is to expand the use of allogeneic bone marrow transplantation to all those in need of the procedure but who currently cannot find a donor, with the potential to expand the total number of unrelated donor transplants performed by three to four folds.

We spoke with a well known opinion leader who is a hematological oncologist and bone marrow transplant physician. Our expert tells us that haplotype matches with siblings are becoming more successful so the need to use cord(s) is becoming less. In the literature we found multiple references that support this view (*Journal of clinical Oncology - March 7, 2005, JCO.2005.09.117*).

The authors in this one example conclude that “a transplantation procedure provides reliable, reproducible CD34+ cell purification, high engraftment rates, and prevention of GvHD. The mismatched-related transplant emerges as a viable, alternative source of stem cells for acute leukemia patients without matched donors and/or those who urgently need transplantation”. As such our physician expert does not see the use of cords expanding dramatically but admittedly it’s tough to know how this technology could change the BMT treatment paradigm. This is clearly a smaller niche opportunity that we understand was physician, demand driven. i.e. The company felt compelled to address the need and the decision was driven by both the compassionate need for this, the availability and know how to create the product and of course the commercial opportunity.

Mesoblast’s MPC Cord Product currently has U.S. Orphan Drug Designation to expand hematopoietic stem and progenitor cell numbers in patients with hematologic malignancies. In the first n=25 patients (the University of Texas MD Anderson Cancer) who received cord blood expanded (ex vivo), the numbers of hematopoietic progenitors and stem cells in the cord blood was expanded 40-44 folds. After transplantation with the expanded cord, the median time to neutrophil recovery was 15 days and to platelet recovery was approximately 54 days, compared with approximately 30 days and over 90-120 days, respectively, in published reports of patients transplanted with a single unexpanded cord.

In these patients, 80% successfully achieved the key composite endpoint at 100 days of survival with sustained engraftment of both neutrophils and platelets. This is significantly higher than the rate of 38% for this composite endpoint achieved after transplantation with two non-expanded cords.

The results suggest that transplantation of allogeneic MPC-expanded cord blood is promising as a strategy for effective bone marrow engraftment without the high risk of GvHD seen with adult allogeneic marrow. In those cases where a good match or sibling driven haplotype match is not found this could become the go-to therapy. As we said earlier it’s hard to predict how the treatment paradigm might change but it’s certainly worth watching.

In July of 2011 the company received FDA approval to move into a Phase III pivotal trial for Bone Marrow Transplant (BMT). FDA clearance was obtained within the 30-day minimum time period after Mesoblast filed its Phase 3 Investigational New Drug (IND) submission. The company is likely to seek fast track status (expedited approval) if the results are positive.

The trial is being conducted across 50 centers in the United States, Europe and Australia, and will enroll N=240 patients with hematologic malignancies undergoing unrelated donor bone marrow transplantation using matched or partially mismatched umbilical cord blood. Patients will be randomized to receive either non-expanded cord blood or cord blood expanded by MPCs and containing 40-fold higher numbers of hematopoietic cells. The primary endpoint is a shortened time to neutrophil and platelet recovery in the treatment group. The trial is being funded by Teva.

**A note on the competitive landscape:** Athersys and Osiris are both working in GvHD and related indications with similar products (allogeneic cells). The Osiris product, Prochymal, recently received approval in Canada (May 2012) after several failures in U.S. programs. Athersys reported compelling but early Phase I data (1Q-2012) and is now seeking permission to begin a Phase II registrational trial in the U.S. Also fascinating is a compassionate story case from Israel where Pluristem's PLX (placental derived cells) were used to rescue a pediatric patient who was dying from a failed bone marrow transplant. Suffice to say GvHD could be a competitive space among these companies in the future.

## VALUATION

Our valuation metrics for Mesoblast are “mechanically” based on free cash flow (FCF), discounted EPS, and sum of the parts (SOP) models. We assume a 30% straight royalty net of COGS from partner TEVA, (we understand this could be low). We include in our income statement model revenues from the cardiac products (Revascor™) and for Back-Pain (only), if we add in spinal fusion, the numbers are substantially higher, (for conservatism, we exclude it) as do we exclude the \$1.7 billion in milestones that are part of the agreement with Teva.

Our discount rate is set at 30% which is typical for a company with Phase III and multiple Phase II products. In order to compensate for the binary risk associated with trial results we apply a “probability of success” to our revenue models (60% for P3, 50% for P2). If we don’t apply a risk adjustment, given the size of the markets, the revenue and subsequent valuation numbers become too high to be credible. While we can model market size and opportunity and apply risk calculations we must heavily weigh all the data to have a feel for the opportunity. This is our most important metric, but not one that can be easily quantified.

Our analysis suggests that the current trial data, the partner commitments, the science, its credibility and the weight of supporting scientific published reports support our belief that this technology can work. Selecting cells via STRO-1 marker, which is only expressed on the earliest precursor mesenchymal cells, is itself unique. These cells appear to have a mechanism of action that is both anti-fibrotic and anti-inflammatory/immune modulatory (via shutting down specific T-cell subsets driving autoimmunity. The tropic factors may a magnitude more potent than MSC’s found later down the line in the lineage. This is the engine of the Mesoblast story.

We know investors view valuation for Mesoblast as high at a ~\$1.8 billion dollar market, even though it’s down from its peak of \$3 billion. We encourage our investors to consider the market opportunity for Revascor™ in CHF, not to mention AMI, CMI and others. Add in spine (back pain and fusion), diabetes, macular degeneration and you understand the complexities of the company. Couple this with 4 years of operating capital and a financial secure global partner in Teva who is paying for the cardiac trials. In our model the cardiac indications as explained and include only the (EU & US) and we add in the spine (back pain, US only). We do not factor in any other indications or territories, even though we know Teva is looking at this product globally.

We than apply this to derive out year EPS of \$6.20 in 2020. We then apply this to a discounted EPS model, a free cash flow model, and a sum of the parts model. These metrics are equal weighted and averaged to derive a price target of \$12. Our models (FCF and EPS) assume a 30% discount factor and, for EPS, a low multiple (10x) earnings, both in the year 2020 on fully diluted earnings (\$6.20 per share). Exhibit 11 provides a comparison to the other cell therapy companies. We have included only pure play companies so Teva, Baxter and Celgene are not part of the table. What these metrics show is an incredible disparity that exists between Mesoblast and its peers. The stem cell therapy space has been fraught with problems and is under-capitalized. Scientists have driven research, founded companies but often lacked an eye towards commercialization and failed to focus on the business objective. As such, the basis of this recommendation has to be to ignore the “comps” as not being valid. To look at Mesoblast as Teva looks at it. To judge the science and weight the market opportunity.

**Exhibit 8. FCF Model:** We assume a 30% discount rate, long term growth rate of 1% and model taxes at 29%. We also note that the U.S. ADR trades at 5x the AUX common (MSB).

Average	\$	12
Price Target	\$	14
Year		2012

DCF Valuation Using FCF (mln):

	2012	2013	2014	2015	2016	2017	2018	2019	2020
units (millions - \$)	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
EBIT	(54,785)	(69,743)	(94,940)	193,258	642,611	1,624,263	1,920,586	2,261,564	2,615,039
Tax Rate	0%	0%	0%	0%	0%	0%	25%	27%	29%
EBIT(1-t)	(54,785)	(69,743)	(94,940)	193,258	642,611	1,624,263	1,440,439	1,650,942	1,856,678
CapEx	(776)	(792)	(808)	(824)	(840)	(857)	(874)	(892)	(909)
Depreciation	138	140	143	146	149	152	155	158	161
Change in NWC	55,386	(1,959)	93,515	(194,738)	(644,147)	(1,625,858)	(1,442,094)	(1,652,659)	(1,858,460)
FCF	(110,810)	(68,435)	(189,119)	387,318	1,286,067	3,249,416	2,881,815	3,302,868	3,714,389
PV of FCF	(85,239)	(40,494)	(86,081)	135,611	450,288	875,162	597,043	526,366	455,345
Discount Rate		30%							
Long Term Growth Rate		1%							
Terminal Cash Flow	12,936,322								
Terminal Value YE 2020	1,585,867								
NPV	4,413,858								
NPV-Debt	140,933								
Shares out (thousands)	295,000								
NPV Per Share	\$	14							
			1H-2013E						
			\$72	Note: MSB = (ADR MBLTY)/5					

Source: Maxim estimates

**Exhibit 9. EPS Model:** We apply a multiple of 10x (low and conservative, given the higher margin nature of an allogeneic product) and a 30% discount rate.

Current Year	2012
Year of EPS	2020
Earnings Multiple	10
Discount Factor	30%
Selected Year EPS	\$ 6.20
NPV	\$ 8

Source: Maxim estimates

		Discount Rate and Earnings Multiple Varies, Year is Constant						
		2020 EPS						
		8	10%	15%	20%	25%	30%	35%
ADR	Earnings Multiple	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$ -
		5	\$14.47	\$10.14	\$7.21	\$5.20	\$3.80	\$ 2.81
		10	\$28.94	\$20.28	\$14.43	\$10.41	\$7.60	\$ 5.62
		15	\$43.41	\$30.42	\$21.64	\$15.61	\$11.41	\$ 8.43
		20	\$57.88	\$40.56	\$28.85	\$20.81	\$15.21	\$ 11.25
		25	\$72.34	\$50.70	\$36.07	\$26.02	\$19.01	\$ 14.06
		30	\$86.81	\$60.83	\$43.28	\$31.22	\$22.81	\$ 16.87
		35	\$101.28	\$70.97	\$50.49	\$36.42	\$26.62	\$ 19.68

Source: Maxim estimates

**Exhibit 10. Sum of the Parts Model:** This is a very rough estimate of the potential opportunities on a product x product basis.

Mesoblast Sum of the Parts	LT Gr	Discount Rate	Yrs. to Mkt	% Success	Peak Sales MMs	Term Val
Revascor - CHF	1%	30%	4	60%	\$3,000	\$10,345
NPV						\$3.68
Revascor AMI	1%	30%	5	30%	\$1,000	\$3,448
NPV						\$0.47
Revascor CMI	1%	30%	6	30%	\$1,500	\$5,172
NPV						\$0.54
BMT - CORDS	1%	30%	2	60%	\$250	\$862
NPV						\$0.52
Invertebrate Disc Repair "DDD"	1%	30%	3	60%	\$3,000	\$10,345
NPV						\$4.79
Replicart Knee OsteoArthritis	1%	30%	6	50%	\$500	\$1,724
NPV						\$0.30
Long Bone Fracture Repair	1%	30%	6	25%	\$200	\$690
NPV						\$0.06
Age Related Macular Degeneration (AMD)	1%	30%	5	30%	\$2,000	\$6,897
NPV						\$0.94
Type 2 Diabetese	1%	30%	5	25%	\$3,000	\$10,345
NPV						\$1.18
Other(s)	1%	30%	6	25%	\$500	\$1,724
NPV						\$0.15
Net Margin						50%
MM Shrs OS					1H-2013E	295
Total						\$12

Source: Maxim estimates

**The competitive landscape:** The regenerative medicine side of the stem cell space is for the most part a micro-capitalized group of companies with early-stage products. Overall, the space is under-capitalized, with Mesoblast as the noted exception. Most of the companies on this list have Phase I programs or are just beginning Phase II. The noted exceptions include Aastrom (ASTM - \$1.97 -BUY), now in Phase III, Osiris, failed prior Phase III trials in GvHD and currently in Phase III in Crohn’s disease and most recently with an approved product, Prochymal, in GvHD in Canada. Mesoblast is close to getting approval to begin a Phase III trials in CHF and Baxter, is in a Phase 3 cell therapy trial for angina, or heart pain.

**Exhibit 11. Comparative Valuations: Market Cap. , Enterprise Value and Cash**

Company Name	Ticker	Share Price	Market Cap (\$MM)	Cash (\$MM) Q1-2012	Enterprise Value (\$MM)
Athersys	ATHX	\$1.42	\$42	\$15	\$27
Aastrom	ASTM	\$1.97	\$76	\$37	\$39
Advanced Cell Technology	ACTC	\$0.08	\$161	\$11	\$150
BioTime	BTX	\$4.18	\$207	\$17	\$191
Bioheart	BHRT	\$0.03	\$3	\$0	\$3
CytoMedix	CMXI	\$1.91	\$147	\$8	\$139
Cytori Therapeutics	CYTX	\$2.27	\$128	\$34	\$94
Mesoblast	MBLTY-5	\$32.65	\$1,858	\$241	\$1,617
Neostem	NBS	\$0.40	\$53	na	na
Neuralstem	CUR	\$0.91	\$50	\$5	\$45
Opexa	OPXA	\$0.43	\$11	\$5	\$6
Osiris Therapeutics	OSIR	\$6.49	\$234	\$42	\$192
Pluristem Therapeutics, Inc.	PSTI	\$2.51	\$109	\$38	\$71
Stem Cells	STEM	\$0.72	\$18	\$9	\$9
Average (s)		\$4.20	\$235	\$37	\$213

Share price and data as of 5.30.2012: Quarterly figures annualized to calculate remains qtrs of cash  
 Source: Company reports and Maxim



## FUNDAMENTAL RISKS

**Developmental risks.** Successfully managing multiple Phase I, II, and III trials is a major risk. The trial could take longer than expected to enroll. The trial could become more expensive than estimated, creating a cash crisis. The trial design could change, and the CRO running the trial can induce errors and delays.

**Manufacturing risk.** Mesoblast contracts with Lonza to manufacture their allogeneic product.. Product consistency and product potency are major manufacturing hurdles in the cell therapy space. Lonza is an expert in cell based product but the field is new and as such represents risk area. Inconsistent product and/or the inability to scale product to meet commercial demands, and the ability to do so in a cost-effective way, represent areas of manufacturing risk.

**Regulatory risk.** Mesoblast must be able to obtain the approval of the EMA/ FDA and Australian Regulatory Agency before commercial sales of the product candidates commence in Europe, the United States and Australia. Solid results are critical, but so is proper filing and interaction with the regulatory agencies.

**Commercial risk.** Mesoblast has partnered some of its indications with Teva Pharmaceuticals. Teva may continue to work with Mesoblast, expand its relationship or could pull away from the company. Mesoblast may be in a position to partner those indications not partnered with Teva, if an outside partner can be found.

**Competitive landscape.** Mesoblast faces competition from all sides. On the allogeneic front it includes Osiris, Athersys, and Pluristem. On the autologous side it includes Baxter, Neostem's Amorcyte, Cytori, Cytomedix and others.

**Financing risk.** Mesoblast is not a profitable company and while the company has high cash balance today it's likely that the company might need to raise additional capital prior to commercialization. The company's ability to do so could be critical to keep the current programs moving forward to provide a value creation event in the future.



Cardio Vascular Models for Revascor™ : STEMI, CMI, CHF

Input Target COGS	\$3,000
Input Target COGS	\$3,000
Input Target Pricing Revascor	\$30,000
Input Target Pricing Revascor	\$30,000

Revascor - STEMI (USA)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
AMI - Annual Incidence	1,200,000	1,212,000	1,224,120	1,236,361	1,248,725	1,261,212	1,273,824	1,286,562	1,299,428	1,312,422	1,325,547	1,338,802	1,352,190	1,365,714	1,379,369	1,393,163	1,407,094	1,421,165	1,435,377	1,449,731	1,464,228	1,478,870	1,493,659	1,508,596	1,523,682
Growth Rate - Incidence	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
% STEMI	160,000	161,600	163,216	164,848	166,497	168,162	169,843	171,542	173,257	174,990	176,740	178,507	180,292	182,095	183,916	185,755	187,613	189,489	191,384	193,297	195,230	197,183	199,155	201,146	203,158
Growth Rate - Incidence	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
% Viable who qualify (EF, Consent, Insurance)	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Viable Treatment Population	40,000	40,400	40,804	41,212	41,624	42,040	42,458	42,879	43,303	43,731	44,163	44,599	45,038	45,480	45,925	46,374	46,826	47,281	47,738	48,197	48,659	49,124	49,591	50,060	50,531
Market Share	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
# Treated STEMI Patients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Price of Therapy						\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
% Change in Pricing						0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Gross Revenues (Millions)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13	\$ 86	\$ 165	\$ 267	\$ 436	\$ 476	\$ 519	\$ 566	\$ 618	\$ 674	\$ 736	\$ 796	\$ 859	\$ 925	\$ 994	\$ 1,065	\$ 1,138	\$ 1,213	\$ 1,290	\$ 1,369
Manufacturing Cost (unit)				\$ 3,000	\$ 2,940	\$ 2,911	\$ 2,882	\$ 2,854	\$ 2,827	\$ 2,801	\$ 2,776	\$ 2,751	\$ 2,726	\$ 2,701	\$ 2,676	\$ 2,651	\$ 2,626	\$ 2,601	\$ 2,576	\$ 2,551	\$ 2,526	\$ 2,501	\$ 2,476	\$ 2,451	\$ 2,426
Change in Manufacturing Cost				-1.0%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%
Total Manufacturing COGS (M)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4	\$ 8	\$ 18	\$ 23	\$ 37	\$ 40	\$ 39	\$ 40	\$ 42	\$ 43	\$ 46	\$ 47	\$ 48	\$ 49	\$ 51	\$ 52	\$ 54	\$ 55	\$ 57	\$ 59
Net Revenues (Millions)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9	\$ 77	\$ 167	\$ 244	\$ 399	\$ 436	\$ 480	\$ 526	\$ 576	\$ 630	\$ 689	\$ 747	\$ 807	\$ 869	\$ 933	\$ 1,000	\$ 1,069	\$ 1,140	\$ 1,213	\$ 1,289
Royalties - 30%																									
Net Revenues						\$ 6	\$ 53	\$ 118	\$ 172	\$ 264	\$ 295	\$ 324	\$ 356	\$ 387	\$ 420	\$ 453	\$ 487	\$ 522	\$ 558	\$ 595	\$ 633	\$ 672	\$ 712	\$ 753	\$ 795

Revascor CMI - Angina (USA)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Ischemia Induced CMI (Incidence): "Angina"	165,000	166,650	168,317	170,000	171,700	173,417	175,151	176,902	178,671	180,458	182,263	184,085	185,926	187,785	189,663	191,560	193,476	195,410	197,364	199,338	201,331	203,345	205,378	207,432	209,506
Growth Rate - Incidence	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
% STEMI	850,000	858,500	867,000	875,756	884,513	893,359	902,292	911,315	920,341	929,364	938,386	947,407	956,427	965,447	974,467	983,487	992,507	1,001,527	1,010,547	1,019,567	1,028,587	1,037,607	1,046,627	1,055,647	1,064,667
Growth Rate - Incidence	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
% Viable who qualify (Consent, Insurance, EF)	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Viable Treatment Population	212,500	214,625	216,771	218,939	221,128	223,340	225,582	227,845	230,119	232,404	234,699	237,004	239,319	241,644	243,979	246,324	248,679	251,044	253,419	255,804	258,199	260,604	263,019	265,444	267,879
Market Share	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
# Treated CMI Patients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Price of Therapy						\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
% Change in Pricing						0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Gross Revenues (Millions)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6	\$ 426	\$ 904	\$ 1,330	\$ 1,642	\$ 1,759	\$ 1,884	\$ 2,017	\$ 2,161	\$ 2,314	\$ 2,478	\$ 2,653	\$ 2,829	\$ 3,004	\$ 3,189	\$ 3,374	\$ 3,559	\$ 3,744	\$ 3,929	\$ 4,114
Manufacturing Cost (unit)						\$ 3,000	\$ 2,970	\$ 2,940	\$ 2,911	\$ 2,882	\$ 2,853	\$ 2,824	\$ 2,796	\$ 2,768	\$ 2,741	\$ 2,713	\$ 2,686	\$ 2,659	\$ 2,633	\$ 2,606	\$ 2,580	\$ 2,554	\$ 2,529	\$ 2,504	\$ 2,479
Change in Manufacturing Cost						-1.0%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%
Total Manufacturing COGS (M)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4	\$ 8	\$ 18	\$ 23	\$ 37	\$ 40	\$ 39	\$ 40	\$ 42	\$ 43	\$ 46	\$ 47	\$ 48	\$ 49	\$ 51	\$ 52	\$ 54	\$ 55	\$ 57	\$ 59
Net Revenues (Millions)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2	\$ 384	\$ 816	\$ 1,100	\$ 1,485	\$ 1,592	\$ 1,706	\$ 1,829	\$ 1,961	\$ 2,103	\$ 2,254	\$ 2,324	\$ 2,396	\$ 2,471	\$ 2,547	\$ 2,624	\$ 2,702	\$ 2,781	\$ 2,862	\$ 2,943
Royalties - 30%																									
Net Revenues						\$ 2	\$ 288	\$ 595	\$ 816	\$ 1,085	\$ 1,172	\$ 1,265	\$ 1,362	\$ 1,461	\$ 1,562	\$ 1,661	\$ 1,759	\$ 1,857	\$ 1,955	\$ 2,053	\$ 2,151	\$ 2,249	\$ 2,347	\$ 2,445	\$ 2,543

Revascor CHF (USA)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Ischemia Induced CHF (Incidence): Class I/IV	500,000	505,000	510,050	515,151	520,302	525,505	530,760	536,068	541,428	546,843	552,311	557,834	563,413	569,047	574,737	580,484	586,289	592,152	598,074	604,054	610,095	616,196	622,358	628,582	634,867
Growth Rate - Incidence	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
% STEMI	5,000,000	5,050,000	5,100,500	5,151,505	5,203,020	5,255,050	5,307,601	5,360,677	5,414,284	5,468,426	5,523,111	5,578,344	5,634,125	5,690,466	5,747,371	5,804,845	5,862,893	5,921,522	5,980,737	6,040,545	6,100,956	6,161,966	6,223,579	6,285,815	6,348,673
Growth Rate - Incidence	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
% Viable who qualify (Consent, Insurance, EF)	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Viable Treatment Population	200,000	202,000	204,020	206,060	208,121	210,202	212,304	214,427	216,571	218,737	220,924	223,134	225,366	227,629	230,000	232,389	234,796	237,221	239,664	242,125	244,604	247,101	249,616	252,149	254,699
Market Share	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
# Treated CHF Patients	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Price of Therapy						\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
% Change in Pricing						0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Gross Revenues (Millions)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6	\$ 955	\$ 1,287	\$ 1,949	\$ 2,461	\$ 2,651	\$ 3,012	\$ 3,380	\$ 3,764	\$ 4,164	\$ 4,584	\$ 5,029	\$ 5,499	\$ 5,994	\$ 6,514	\$ 7,059	\$ 7,629	\$		

**Mesoblast Limited**  
**Income Statements**

(In thousands, except per share data)

Mesoblast, Inc. Income Statement ('000) AUD	Mesoblast: YE June 30																												
	2011A	1H-2012	2H-2012	2012E	1H-2013E	2H-2013E	2013E	1H-2014E	2H-2014E	2014E	1H-2015E	2H-2015E	2015E	1H-2016E	2H-2016E	2016E	1H-2017E	2H-2017E	2017E	1H-2018E	2H-2018E	2018E	1H-2019E	2H-2019E	2019E	1H-2020E	2H-2020E	2020E	
Revenue ('000's)																													
Revenues in CHF, CMI and AMI - U.S. ONLY - TEVA NET PAYMENTS	35,562	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46,994	57,437	104,432	107,251	131,085	238,336	173,814	212,439	386,253	246,598	301,397	547,995	
% Sequential Growth																													
Revenues in CHF, CMI and AMI - EU - TEVA NET PAYMENTS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46,994	57,437	104,432	107,251	131,085	238,336	173,814	212,439	386,253	246,598	301,397	547,995	
% Sequential Growth																													
Inventoried Disc Repair & Related Indications (U.S.)	-	-	-	-	-	-	-	-	-	-	115,403	260,595	375,997	377,909	525,371	903,280	761,882	1,000,278	1,762,161	880,728	916,676	1,797,404	898,342	935,009	1,833,352	916,309	953,710	1,870,019	
% Sequential Growth																													
Mesoblast Product Revenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
% Sequential Growth																													
Royalty, Other & Rest of World Revenues	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
% Sequential Growth																													
<b>Total Revenues</b>	<b>35,687</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>115,403</b>	<b>260,595</b>	<b>375,997</b>	<b>377,909</b>	<b>525,371</b>	<b>903,280</b>	<b>855,671</b>	<b>1,115,153</b>	<b>1,971,024</b>	<b>1,095,230</b>	<b>1,178,846</b>	<b>2,274,076</b>	<b>1,245,970</b>	<b>1,359,887</b>	<b>2,605,857</b>	<b>1,409,504</b>	<b>1,556,504</b>	<b>2,966,008</b>	
<b>Expenses</b>																													
Mesoblast COGS (Mesoblast product) Ex TEVA	-	-	-	-	-	-	-	-	-	-	11,540	26,059	37,600	37,791	52,537	90,328	76,188	100,028	176,216	88,073	91,668	179,740	89,834	93,501	183,335	91,631	95,371	187,002	
COGS % Sales											10%	10%	10%	10%	10%	10%	10%	10%	9%	10%	10%	8%	10%	10%	7%	10%	10%	6%	10%
R&D	34,547	17,619	17,619	35,238	25,000	25,000	50,000	37,500	37,500	75,000	62,500	62,500	125,000	75,000	75,000	150,000	75,000	75,000	150,000	76,500	76,500	153,000	70,000	70,000	140,000	71,400	71,400	142,800	
R&D % Revs																													
SG&A: Note TEVA pays GA&A on TEVA Products	19,354	9,774	9,774	19,548	9,872	9,872	19,743	9,970	9,970	19,940	10,070	10,070	20,140	10,171	10,171	20,341	10,272	10,272	20,545	10,375	10,375	20,750	10,479	10,479	20,958	10,584	10,584	21,167	
SG&A %																													
SG&A %	3.300	1.683	1.683	3.366	1.717	1.717	3.433	1.751	1.751	3.502	1.786	1.786	3.572	1.822	1.822	3.643	1.858	1.858	3.716	1.895	1.895	3.791	1.933	1.933	3.866	1.972	1.972	3.944	
Non-GAAP Adj.	3.300	1.683	1.683	3.366	1.717	1.717	3.433	1.751	1.751	3.502	1.786	1.786	3.572	1.822	1.822	3.643	1.858	1.858	3.716	1.895	1.895	3.791	1.933	1.933	3.866	1.972	1.972	3.944	
<b>Total expenses</b>	<b>53,901</b>	<b>27,393</b>	<b>27,393</b>	<b>54,785</b>	<b>34,872</b>	<b>34,872</b>	<b>69,743</b>	<b>47,470</b>	<b>47,470</b>	<b>94,940</b>	<b>84,110</b>	<b>98,629</b>	<b>182,740</b>	<b>122,961</b>	<b>137,708</b>	<b>260,669</b>	<b>161,461</b>	<b>185,300</b>	<b>346,761</b>	<b>174,948</b>	<b>178,543</b>	<b>353,490</b>	<b>170,313</b>	<b>173,980</b>	<b>344,293</b>	<b>173,615</b>	<b>177,355</b>	<b>350,969</b>	
Oper. Inc. (Loss)	(18,214)	(27,393)	(27,393)	(54,785)	(34,872)	(34,872)	(69,743)	(47,470)	(47,470)	(94,940)	31,293	161,965	193,258	254,947	387,664	642,611	694,410	929,853	1,624,263	920,283	1,000,303	1,920,586	1,075,657	1,185,908	2,261,564	1,235,890	1,379,149	2,615,039	
Oper Margin																													
Interest & Investment Income	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Interest Expense	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Income Loss from Affiliates	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Currency/Exchange Gains (Loss)	248	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>EBT Excluding Unusual Items</b>	<b>(18,481)</b>	<b>(27,393)</b>	<b>(27,393)</b>	<b>(54,785)</b>	<b>(34,872)</b>	<b>(34,872)</b>	<b>(69,743)</b>	<b>(47,470)</b>	<b>(47,470)</b>	<b>(94,940)</b>	<b>31,293</b>	<b>161,965</b>	<b>193,258</b>	<b>254,947</b>	<b>387,664</b>	<b>642,611</b>	<b>694,410</b>	<b>929,853</b>	<b>1,624,263</b>	<b>920,283</b>	<b>1,000,303</b>	<b>1,920,586</b>	<b>1,075,657</b>	<b>1,185,908</b>	<b>2,261,564</b>	<b>1,235,890</b>	<b>1,379,149</b>	<b>2,615,039</b>	
Merger & Related Restructuring Charges	(500)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Impairment of goodwill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Gain (Loss) On Sale Of Invest.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Asset Write-down	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Other Unusual Items	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Pre-tax Income</b>	<b>(18,481)</b>	<b>(27,393)</b>	<b>(27,393)</b>	<b>(54,785)</b>	<b>(34,872)</b>	<b>(34,872)</b>	<b>(69,743)</b>	<b>(47,470)</b>	<b>(47,470)</b>	<b>(94,940)</b>	<b>31,293</b>	<b>161,965</b>	<b>193,258</b>	<b>254,947</b>	<b>387,664</b>	<b>642,611</b>	<b>694,410</b>	<b>929,853</b>	<b>1,624,263</b>	<b>920,283</b>	<b>1,000,303</b>	<b>1,920,586</b>	<b>1,075,657</b>	<b>1,185,908</b>	<b>2,261,564</b>	<b>1,235,890</b>	<b>1,379,149</b>	<b>2,615,039</b>	
Pre-tax Margin	NM																												
Taxes (or benefits)	28,148	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	230,071	250,076	480,146	290,427	320,195	610,622	358,408	399,953	758,361	
Tax Rate																				25%	25%	25%	27%	27%	27%	29%	29%	29%	
<b>GAAP NI</b>	<b>(46,629)</b>	<b>(27,393)</b>	<b>(27,393)</b>	<b>(54,785)</b>	<b>(34,872)</b>	<b>(34,872)</b>	<b>(69,743)</b>	<b>(47,470)</b>	<b>(47,470)</b>	<b>(94,940)</b>	<b>31,293</b>	<b>161,965</b>	<b>193,258</b>	<b>254,947</b>	<b>387,664</b>	<b>642,611</b>	<b>694,410</b>	<b>929,853</b>	<b>1,624,263</b>	<b>690,212</b>	<b>750,227</b>	<b>1,440,439</b>	<b>785,229</b>	<b>865,712</b>	<b>1,650,942</b>	<b>877,482</b>	<b>979,196</b>	<b>1,856,678</b>	
Net Margin	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	27%	#DIV/0!	51%	67%	#DIV/0!	71%	81%	83%	82%	63%	64%	63%	63%	64%	63%	62%	63%	63%	
<b>GAAP-EPS</b>	<b>(0.17)</b>	<b>(0.10)</b>	<b>(0.10)</b>	<b>(0.19)</b>	<b>(0.12)</b>	<b>(0.12)</b>	<b>(0.24)</b>	<b>(0.16)</b>	<b>(0.16)</b>	<b>(0.32)</b>	<b>0.11</b>	<b>0.55</b>	<b>0.65</b>	<b>0.86</b>	<b>1.30</b>	<b>2.16</b>	<b>2.34</b>	<b>3.12</b>	<b>5.46</b>	<b>2.32</b>	<b>2.52</b>	<b>4.83</b>	<b>2.63</b>	<b>2.90</b>	<b>5.53</b>	<b>2.93</b>	<b>3.27</b>	<b>6.20</b>	
Non GAAP EPS (dil)																													
Wtdl Avg Shrs (Bas) - '000s	278,853	281,642	284,458	284,458	295,000	295,295	295,295	295,590	295,886	295,886	296,182	296,478	296,478	296,774	297,071	297,071	297,368	297,666	297,666	297,963	298,261	298,261	298,560	298,858	298,858	299,157	299,456	299,456	
Wtdl Avg Shrs (Dil) - '000s	278,853	281,642	284,458	284,458	295,000	295,295	295,295	295,590	295,886	295,886	296,182	296,478	296,478	296,774	297,071	297,071	297,368	297,666	297,666	297,963	298,261	298,261	298,560	298,858	298,858	299,157	299,456	299,456	

Source: Company reports and Maxim

Source: Company reports and Maxim Group LLC estimates.

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**Mesoblast Limited**  
**Statements of Cash Flow**  
*(In thousands, except per share data)*

Mesoblast Cash Flow Statement ('000) - AUD June YE	2011A	2H-2012	2012E	1H-2013E	2H-2013E	2013E	1H-2014E	2H-2014E	2014E	1H-2015E	2H-2015E	2015E	1H-2016E	2H-2016E	2016E	1H-2017E	2H-2017E	2017E	1H-2018E	2H-2018E	2018E	1H-2019E	2H-2019E	2019E	1H-2020E	2H-2020E	2020E
<b>Cash flows from operating activities:</b>																											
Net Income	(46,629)	(54,785)	(54,785)	(34,872)	(69,743)	(69,743)	(47,470)	(94,940)	(94,940)	31,293	193,258	193,258	254,947	642,611	642,611	694,410	1,624,263	1,624,263	690,212	1,440,439	1,440,439	785,229	1,650,942	1,650,942	877,482	1,856,678	1,856,678
Depreciation & Amort.	135	138	138	70	140	140	72	143	143	73	146	146	75	149	149	76	152	152	78	155	155	79	158	158	81	161	161
Amort. of Goodwill and Intangibles	66																										
<b>Depreciation &amp; Amort., Total</b>	<b>201</b>	<b>138</b>	<b>138</b>	<b>70</b>	<b>140</b>	<b>140</b>	<b>72</b>	<b>143</b>	<b>143</b>	<b>73</b>	<b>146</b>	<b>146</b>	<b>75</b>	<b>149</b>	<b>149</b>	<b>76</b>	<b>152</b>	<b>152</b>	<b>78</b>	<b>155</b>	<b>155</b>	<b>79</b>	<b>158</b>	<b>158</b>	<b>81</b>	<b>161</b>	<b>161</b>
(Gain) Loss From Sale Of Assets	-																										
(Gain) Loss On Sale Of Invest.	(86,738)																										
(Income) Loss on Equity Invest.	(13,369)																										
Stock-Based Compensation	3,300																										
Other Operating Activities	9,565																										
Change in Acc. Receivable	137																										
Change in Acc. Payable	804																										
Change in Other Net Operating Assets	116,099																										
<b>Cash from Ops.</b>	<b>(16,630)</b>	<b>(54,648)</b>	<b>(54,648)</b>	<b>(34,801)</b>	<b>(69,603)</b>	<b>(69,603)</b>	<b>(47,399)</b>	<b>(94,797)</b>	<b>(94,797)</b>	<b>31,366</b>	<b>193,404</b>	<b>193,404</b>	<b>255,022</b>	<b>642,760</b>	<b>642,760</b>	<b>694,486</b>	<b>1,624,415</b>	<b>1,624,415</b>	<b>690,289</b>	<b>1,440,594</b>	<b>1,440,594</b>	<b>785,308</b>	<b>1,651,100</b>	<b>1,651,100</b>	<b>877,562</b>	<b>1,856,839</b>	<b>1,856,839</b>
Capital Expenditure	(761)	(776)	(776)	(396)	(792)	(792)	(404)	(808)	(808)	(412)	(824)	(824)	(420)	(840)	(840)	(429)	(857)	(857)	(437)	(874)	(874)	(446)	(892)	(892)	(455)	(909)	(909)
Cash Acquisitions																											
Divestitures	-																										
Sale (Purchase) of Intangible assets	143																										
Invest. in Marketable & Equity Secur.																											
Net (Inc.) Dec. in Loans Originated/Sold																											
Other Investing Activities	5,494																										
<b>Cash from Investing</b>	<b>4,876</b>	<b>(776)</b>	<b>(776)</b>	<b>(396)</b>	<b>(792)</b>	<b>(792)</b>	<b>(404)</b>	<b>(808)</b>	<b>(808)</b>	<b>(412)</b>	<b>(824)</b>	<b>(824)</b>	<b>(420)</b>	<b>(840)</b>	<b>(840)</b>	<b>(429)</b>	<b>(857)</b>	<b>(857)</b>	<b>(437)</b>	<b>(874)</b>	<b>(874)</b>	<b>(446)</b>	<b>(892)</b>	<b>(892)</b>	<b>(455)</b>	<b>(909)</b>	<b>(909)</b>
Short Term Debt Issued																											
<b>Long-Term Debt Issued</b>																											
<b>Total Debt Issued</b>																											
Short Term Debt Repaid																											
Long-Term Debt Repaid																											
<b>Total Debt Repaid</b>																											
Issuance of Common Stock	112,592	37	37	71,952	71,954	71,954	2,077	2,079	2,079	2,144	2,146	2,146	2,213	2,215	2,215	2,285	2,287	2,287	2,359	2,361	2,361	2,435	2,437	2,437	2,514	2,516	2,516
Total Dividends Paid																											
Special Dividend Paid																											
Other Financing Activities	(53)																										
<b>Cash from Financing</b>	<b>112,539</b>	<b>37</b>	<b>37</b>	<b>71,952</b>	<b>71,954</b>	<b>71,954</b>	<b>2,077</b>	<b>2,079</b>	<b>2,079</b>	<b>2,144</b>	<b>2,146</b>	<b>2,146</b>	<b>2,213</b>	<b>2,215</b>	<b>2,215</b>	<b>2,285</b>	<b>2,287</b>	<b>2,287</b>	<b>2,359</b>	<b>2,361</b>	<b>2,361</b>	<b>2,435</b>	<b>2,437</b>	<b>2,437</b>	<b>2,514</b>	<b>2,516</b>	<b>2,516</b>
Foreign Exchange Rate Adj.	(547)																										
Cash at Beginning of Period																											
<b>Net Change in Cash</b>	<b>100,238</b>	<b>(55,387)</b>	<b>(55,387)</b>	<b>36,755</b>	<b>1,560</b>	<b>1,560</b>	<b>(45,726)</b>	<b>(93,526)</b>	<b>(93,526)</b>	<b>33,097</b>	<b>194,726</b>	<b>194,726</b>	<b>256,815</b>	<b>644,135</b>	<b>644,135</b>	<b>696,342</b>	<b>1,625,845</b>	<b>1,625,845</b>	<b>692,211</b>	<b>1,442,081</b>	<b>1,442,081</b>	<b>787,298</b>	<b>1,652,646</b>	<b>1,652,646</b>	<b>879,622</b>	<b>1,858,446</b>	<b>1,858,446</b>
Cash and equivalents, beginning of period	240,843	240,843	240,843	185,456	185,456	185,456	187,016	187,016	187,016	93,490	93,490	93,490	288,216	288,216	288,216	288,216	932,351	932,351	2,558,197	2,558,197	2,558,197	4,000,278	4,000,278	4,000,278	5,652,924	5,652,924	5,652,924
Cash and equivalents, end of period	185,456	185,456	185,456	222,211	187,016	187,016	141,290	93,490	93,490	126,588	288,216	288,216	545,031	932,351	932,351	1,628,693	2,558,197	2,558,197	3,250,408	4,000,278	4,000,278	4,787,575	5,652,924	5,652,924	6,532,545	7,511,370	7,511,370

Source: Company reports, Thomson 1 (historical) and Maxim

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Source: Company reports and Maxim Group LLC estimates.



**Balance Sheet**

(In thousands, except per share data)

Mesoblast, Inc. Balance Sheet (\$'000) AUD - June YE

	2H-2011A	2011A	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
<b>ASSETS</b>											
Cash And Equivalents	263,228	240,843	185,456	187,016	93,490	288,216	932,351	2,558,197	4,000,278	5,652,924	7,511,370
<b>Total Cash &amp; ST Investments</b>	<b>\$263,228</b>	<b>\$240,843</b>	<b>\$185,456</b>	<b>\$187,016</b>	<b>\$93,490</b>	<b>\$288,216</b>	<b>\$932,351</b>	<b>\$2,558,197</b>	<b>\$4,000,278</b>	<b>\$5,652,924</b>	<b>\$7,511,370</b>
Accounts Receivable	71	93	93	93	93	93	93	93	93	93	93
Other Receivables	2,030	4,541	4,541	4,541	4,541	4,541	4,541	4,541	4,541	4,541	4,541
Notes Receivable	-	-	-	-	-	-	-	-	-	-	-
<b>Total Receivables</b>	<b>\$2,101</b>	<b>\$4,634</b>	<b>\$4,634</b>	<b>\$4,634</b>	<b>\$4,634</b>	<b>\$4,634</b>	<b>\$4,634</b>	<b>\$4,634</b>	<b>\$4,634</b>	<b>\$4,634</b>	<b>\$4,634</b>
Prepaid Exp.	-	-	-	-	-	-	-	-	-	-	-
Other Current Assets	166	606	606	606	606	606	606	606	606	606	606
<b>Total Current Assets</b>	<b>\$265,495</b>	<b>\$246,083</b>	<b>\$190,696</b>	<b>\$192,256</b>	<b>\$98,730</b>	<b>\$293,456</b>	<b>\$937,591</b>	<b>\$2,563,437</b>	<b>\$4,005,518</b>	<b>\$5,658,164</b>	<b>\$7,516,610</b>
Gross Property, Plant & Equipment	978	-	776	792	808	824	840	857	874	892	909
Accumulated Depreciation	(368)	-	(138)	(140)	(143)	(146)	(149)	(152)	(155)	(158)	(161)
Net Property, Plant & Equipment	610	842	1,481	2,132	2,796	3,474	4,165	4,870	5,589	6,322	7,071
Long-term Investments	-	-	-	-	-	-	-	-	-	-	-
Goodwill	109,739	116,394	116,394	116,394	116,394	116,394	116,394	116,394	116,394	116,394	116,394
Other Intangibles	365,587	380,717	380,717	380,717	380,717	380,717	380,717	380,717	380,717	380,717	380,717
Deferred Tax Assets, LT	21,820	-	-	-	-	-	-	-	-	-	-
Other Long-Term Assets	-	-	-	-	-	-	-	-	-	-	-
<b>Total Assets</b>	<b>\$763,251</b>	<b>\$744,036</b>	<b>\$689,288</b>	<b>\$691,499</b>	<b>\$598,637</b>	<b>\$794,041</b>	<b>\$1,438,867</b>	<b>\$3,065,417</b>	<b>\$4,508,218</b>	<b>\$6,161,597</b>	<b>\$8,020,791</b>
<b>LIABILITIES</b>											
Accounts Payable	3,038	7,630	7,630	7,630	7,630	7,630	7,630	7,630	7,630	7,630	7,630
Accrued Exp.	627	-	-	-	-	-	-	-	-	-	-
Unearned Revenue, Current	27,130	28,256	28,256	28,256	28,256	28,256	28,256	28,256	28,256	28,256	28,256
Other Current Liabilities	-	611	611	611	611	611	611	611	611	611	611
<b>Total Current Liabilities</b>	<b>\$30,795</b>	<b>\$36,497</b>	<b>\$36,497</b>	<b>\$36,497</b>	<b>\$36,497</b>	<b>\$36,497</b>	<b>\$36,497</b>	<b>\$36,497</b>	<b>\$36,497</b>	<b>\$36,497</b>	<b>\$36,497</b>
Unearned Revenue, Non-Current	81,334	70,581	70,581	70,581	70,581	70,581	70,581	70,581	70,581	70,581	70,581
Pension & Other Post-Retire. Benefits	57	-	-	-	-	-	-	-	-	-	-
Def. Tax Liability, Non-Curr.	127,817	133,120	133,120	133,120	133,120	133,120	133,120	133,120	133,120	133,120	133,120
Other Non-Current Liabilities	7,402	7,813	7,813	7,813	7,813	7,813	7,813	7,813	7,813	7,813	7,813
<b>Total Liabilities</b>	<b>\$247,405</b>	<b>\$248,011</b>	<b>\$248,011</b>	<b>\$248,011</b>	<b>\$248,011</b>	<b>\$248,011</b>	<b>\$248,011</b>	<b>\$248,011</b>	<b>\$248,011</b>	<b>\$248,011</b>	<b>\$248,011</b>
Common Stock	477,117	481,592	481,592	481,592	481,592	481,592	481,592	481,592	481,592	481,592	481,592
Additional Paid In Capital	-	37	37	71,992	74,070	76,216	78,431	80,719	83,080	85,517	88,033
Retained Earnings	34,981	(9,146)	(63,931)	(133,674)	(228,615)	(35,357)	607,254	2,231,517	3,922,032	5,893,169	8,149,800
Treasury Stock	-	-	-	-	-	-	-	-	-	-	-
Comprehensive Inc. and Other	3,748	23,579	23,579	23,579	23,579	23,579	23,579	23,579	23,579	23,579	23,579
<b>Total Common Equity</b>	<b>\$515,846</b>	<b>\$496,025</b>	<b>\$441,277</b>	<b>\$443,488</b>	<b>\$350,626</b>	<b>\$546,030</b>	<b>\$1,190,856</b>	<b>\$2,817,406</b>	<b>\$4,510,282</b>	<b>\$6,483,857</b>	<b>\$8,743,004</b>
<b>Total Equity</b>	<b>515,846</b>	<b>496,025</b>	<b>441,277</b>	<b>443,488</b>	<b>350,626</b>	<b>546,030</b>	<b>1,190,856</b>	<b>2,817,406</b>	<b>4,510,282</b>	<b>6,483,857</b>	<b>8,743,004</b>
<b>Total Liabilities And Equity</b>	<b>\$763,251</b>	<b>\$744,036</b>	<b>\$689,288</b>	<b>\$691,499</b>	<b>\$598,637</b>	<b>\$794,041</b>	<b>\$1,438,867</b>	<b>\$3,065,417</b>	<b>\$4,758,293</b>	<b>\$6,731,868</b>	<b>\$8,991,015</b>
Source: Cap IQ and Maxim Estimates	217,798	278,853	284,458	295,295	295,886	296,478	297,071	297,666	298,261	298,858	299,456

Source: Company reports and Maxim Group LLC estimates.

Jason Kolbert  
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DISCLOSURES

Maxim Group LLC Stock Rating System		As of:	5/30/2012
Expected Performance*		% of Coverage Universe with Rating	% of Ratings for which Firm provided Investment Banking Services in the last 12 months
<b>Buy</b>	Expected total return of 15% or more over next 12 months	68.0%	10.3%
<b>Hold</b>	Expected total return of plus or minus 14% over next 12 months	21.0%	4.8%
<b>Sell</b>	Expected total negative return of at least 15% over next 12 months	11.0%	0.0%

\* Relative to Nasdaq Composite.  
An Under Review (UR) rating represents a stock that the Firm has temporarily placed under review due to a material change.

**Maxim makes a market in Aastrom Biosciences, Inc.**

**Maxim Group expects to receive or intends to seek compensation for investment banking services from Aastrom Biosciences, Inc., Athersys, Inc., and Mesoblast Limited in the next 3 months.**

I, **Jason Kolbert**, attest that the views expressed in this research report accurately reflect my personal views about the subject security and issuer. Furthermore, no part of my compensation was, is, or will be directly or indirectly related to the specific recommendation or views expressed in this research report.

The research analyst(s) primarily responsible for the preparation of this research report have received compensation based upon various factors, including the firm’s total revenues, a portion of which is generated by investment banking activities.

**Valuation Methods:** Our 12-month price target for **Mesoblast Limited** is based on triangulation of three metrics, all equal weighted, which include Free Cash Flow (FCF), Discounted EPS and sum of the parts models (SOP). We use a 30% discount rate. Our key assumption is that Mesoblast’s lead product Revascor™ (MPC’s) is commercialized in Cardiovascular indications and its similar product in Orthopedic (Degenerative Disc Disease). Please see the valuation section of this report for a complete explanation on how we model the company.

Our 12-month price target for **Aastrom Biosciences** is based on triangulation of three metrics which include FCF, Discounted EPS and sum of the parts models. We use a 30% discount rate but assume that Aastrom Bioscience Corp.’s lead product is commercialized in Critical Limb ischemia (CLI).

Our valuation metrics for **Athersys Corporation** are based on free cash flow (FCF), discounted EPS, and sum of the parts (SOP) models. These metrics are equal weighted and averaged to derive a price target. These metrics are based on the market potential of the Athersys platform technology, principally MultiStem and its critical success in IBD, GvHD, and stroke. MultiStem is still in the early stages of clinical development, and there is no “proof of concept.” With that said, the main catalyst event that investors are watching is the outcome of the Pfizer-led ulcerative colitis trial. We are hopeful that the data will be strong and warrant progression to a larger pivotal study. We have assumed as much in our model and discounted back cash flow and earnings from 2017 and a 30% rate, and we utilized a similar approach in our “sum of the parts” model. It’s also important to note that Athersys is likely to return to the marketplace and raise additional capital. We assume a rising share count to almost 45 million versus today’s 28 million shares.

**Price target and investment risks:** Aside from general market and other economic risks, risks particular to our price target and rating for **Mesoblast Limited** include: 1) The regulatory and clinical risk associated with the pivotal trial in bone marrow transplant; diabetes, heart failure, heart attack, AMD, degenerative disc disease, orthopedic fracture and other clinical programs. 2) the rate and degree of progress of product development; 3) the rate of regulatory approval to proceed with clinical trial programs; 4) the level of success achieved in clinical trials; 5) the requirements for marketing authorization from regulatory bodies in

the United States and other countries; 6) the liquidity and market volatility of Mesoblast's equity securities; 7) regulatory and manufacturing requirements and uncertainties; and 8) technological developments by competitors 8) ongoing status of the "partnership" between Mesoblast and Teva Pharmaceuticals.

Aside from general market and other economic risks, risks particular to our price target and rating for **Aastrom Bioscience Corp.** include: 1) The regulatory and clinical risk associated with the pivotal trial in critical limb ischemia (CLI) and dilated cardiomyopathy (DCM); 2) the rate and degree of progress of product development; 3) the rate of regulatory approval to proceed with clinical trial programs; 4) the level of success achieved in clinical trials; 5) the requirements for marketing authorization from regulatory bodies in the United States and other countries; 6) the liquidity and market volatility of Aastrom's equity securities; 7) regulatory and manufacturing requirements and uncertainties; and 8) technological developments by competitors.

Price Target and Investment Risks: Aside from general market and other economic risks, risks particular to our price target and rating for **Athersys Corporation** include: 1) The regulatory and clinical risk associated with the multiple clinical programs in UC, GvHD, and stroke; 2) the rate and degree of progress of product development; 3) the rate of regulatory approval to proceed with clinical trial programs; 4) the level of success achieved in clinical trials; 5) the requirements for marketing authorization from regulatory bodies in the United States and other countries; 6) the liquidity and market volatility of Athersys' equity securities; and 7) the regulatory and manufacturing requirements and uncertainties and technological developments by competitors.

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## RISK RATINGS

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Risk ratings take into account both fundamental criteria and price volatility.

### **Speculative –**

Fundamental Criteria: This is a risk rating assigned to early-stage companies with minimal to no revenues, lack of earnings, balance sheet concerns, and/or a short operating history. Accordingly, fundamental risk is expected to be significantly above the industry.

Price Volatility: Because of the inherent fundamental criteria of the companies falling within this risk category, the price volatility is expected to be significant with the possibility that the investment could eventually be worthless.

Speculative stocks may not be suitable for a significant class of individual investors.

### **High –**

Fundamental Criteria: This is a risk rating assigned to companies having below-average revenue and earnings visibility, negative cash flow, and low market cap or public float. Accordingly, fundamental risk is expected to be above the industry.

Price volatility: The price volatility of companies falling within this category is expected to be above the industry.

High-risk stocks may not be suitable for a significant class of individual investors.

### **Medium –**

Fundamental Criteria: This is a risk rating assigned to companies that may have average revenue and earnings visibility, positive cash flow, and is fairly liquid.

Accordingly, both price volatility and fundamental risk are expected to approximate the industry average.

### **Low –**

Fundamental Criteria: This is a risk rating assigned to companies that may have above-average revenue and earnings visibility, positive cash flow, and is fairly liquid.

Accordingly, both price volatility and fundamental risk are expected to be below the industry.

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**DISCLAIMERS**

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**ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST**

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