



May 6, 2010

First Quarter 2010 Results and Commercial and Clinical Update

Dear Shareholders,

The first quarter of 2010 was very strong for Cytori. In particular, we substantially grew product revenues, shipped more consumables per quarter than ever, launched a new product platform in the U.S. and completed several important objectives related to our pipeline.

Today, Cytori sells differentiated and proprietary products to the private-pay cosmetic surgery markets within the U.S., Europe, and Asia as well as innovative equipment for cell banking and research. In parallel, we are laying the foundation for future growth through advancements in our pipeline of therapeutic applications for our core product, the Celution® System. Celution® has been used by our physician customers to treat many debilitating or fatal medical conditions such as cardiovascular disease, non-healing and recalcitrant wounds from radiation injury, urinary incontinence and others.

Despite the breadth of diseases represented in this limited list above, there is a clear common thread connecting them all. That thread is ischemia. In these diseases, as well as many others, Cytori's technology helps patients by improving tissue ischemia or low blood supply conditions. Adipose-derived stem and regenerative cells (ADRCs) have unlimited potential in a large number of diseases by improving blood supply to tissues that would otherwise remain ischemic (or blood starved). When added to adipose tissue, ADRCs improve survival of this natural filler by improving blood supply and enhancing the flow of oxygen and nutrients. When ADRCs are administered directly into the diseased heart, ischemia is improved, based on a comprehensive portfolio of basic and preclinical research. This common mechanism of action of ADRCs formed the basis for Cytori's RESTORE 2 study that has completed enrollment in Europe as well as two Cytori sponsored cardiovascular studies that have been accepted for presentation at two forthcoming scientific meetings. Furthermore, a growing number of physicians around the world are further expanding the use of Cytori technology with investigator sponsored clinical studies.

Product Sales

In the first quarter, product revenues were \$2.3 million, representing 19% growth over Q1 2009 product revenues of \$1.9 million and 80% growth over the 4th quarter 2009. Revenues grew from a mix of Celution® and StemSource® sales in Europe, Asia and the U.S. and the move toward increased direct sales. Growth of consumable reorders reflects the established base of satisfied customers who are increasingly integrating Celution® into their practices. We also achieved our second StemSource® Cell Bank installation in Japan, which was ordered by one of our existing Celution® customers to meet growing patient demand to store their own stem cells following liposuction for subsequent cosmetic procedures.

The cumulative number of revenue generating systems grew to 110 in the quarter, compared to 59 at the end of the first quarter of 2009. In addition, 342 consumables, including 261 re-orders, were shipped, compared to 241 total consumables shipped in Q1 2009, 164 being reorders. More than 2,300 cumulative consumables have been shipped since commercialization began in Q1 2008.

Product Pipeline and Future Growth

Cosmetic and Reconstructive Surgery

Near term sales growth will come through a combination of increased sales of existing products including Celution®, StemSource® and PureGraft® for cosmetic and research applications as well as emerging consumable sales for use in breast reconstruction. Our FDA cleared PureGraft® product was launched at the American Society of Aesthetic Plastic Surgery meeting in Washington D.C. last week. More information on this unique product can be found on our newly introduced PureGraft® e-commerce site at www.puregraft.com. We anticipate EU approval on PureGraft® soon and expect this will contribute to sales growth increasingly throughout 2010.

Currently, reconstructive surgery represents only a fraction of overall consumable sales. We believe that 12 month data from RESTORE 2 will significantly expand our ability to obtain third party and governmental reimbursement, supporting increased adoption in that market. Well in advance of RESTORE 2 data release, Cytori has begun to expand its price negotiation and reimbursement efforts in Europe, focused principally on two areas. First, we are obtaining key opinion leader support for Cytori technology specifically in the Italian and U.K. markets. In addition, we are accelerating our direct lobbying efforts to third party payers and governmental gate keepers responsible for reimbursement decision making. Significant progress is being made in both markets and we will keep you updated as we achieve key milestones.

Interventional Cardiology

Tomorrow, May 7th, Cytori investigators will report results from our two cardiac clinical trials: APOLLO for acute myocardial infarction (heart attack) and PRECISE for chronic myocardial ischemia, a severe form of chronic heart disease. Specifically, these results will be presented at the 7th International Symposium on Stem Cell Therapy and Cardiovascular Innovations in Madrid, Spain. Following the presentation of these results, we will address possible next steps in this area.

U.S. Regulatory Approval for the Celution® System



Obtaining U.S. approval for Celution® is a major goal for Cytori. A Pre-IDE meeting with the FDA is scheduled this month to define clinical objectives needed for Celution® approval for soft tissue reconstruction. We anticipate that our next opportunity to update investors on this U.S. application will be upon the acceptance of our IDE application, which would signify that the FDA has agreed to our trial design.

In the meantime, we intend to rapidly grow U.S. sales of our PureGraft® and StemSource® products. This benefits today's top line growth and helps Cytori build key U.S. physician relationships and product awareness as well as strengthen our position as the clear leader in the field.

'Cytori's Innovation Partners' and New Uses of Cytori Technology

Regenerative medicine is a new and exciting field of medicine. As a result, many physician researchers want safe, clinical-grade cells to restore the lives of their patients. This is a common theme we hear each week. As a result, many hospitals around the world are conducting independent investigator-initiated studies using the Celution® System for indications as diverse as urinary incontinence, cardiomyopathy, renal failure, liver disease, radiation injury and burns. The value that our 'innovation partners' bring is undeniable. In fact, RESTORE I, a breast cancer reconstruction study, is the first example of the value of this opportunity that has led to our first potential U.S. indication for Celution®.

In short, Celution® is an 'innovation platform' as much as a therapeutic medical device. This aspect of our business is a critical strategic advantage for the Company. By outsourcing the early clinical development to expert clinicians in this way, we cost effectively accelerate our clinical development program and create greater opportunities to take key indications directly to market or to establish strategic partnerships.

Operating Results

We generated a substantial increase in gross margin. Gross margin increased to 59% in the first quarter 2010 compared with 43% in the first quarter 2009. The improvement in margin is due largely to a greater proportion of direct sales and improved manufacturing efficiencies.

While aggressively driving sales, we continue to control our expenses. Total operating expenses were effectively unchanged compared to the first quarter of 2009, excluding the non-cash change in warrant and option liabilities. We also substantially improved our balance sheet, ending the first quarter with \$22.7 million in cash and cash equivalents compared to \$12.9 million at the end of 2009. Subsequent to the end of the quarter, we raised an additional \$2.3 million from the sale of stock through our committed equity agreement with Seaside 88, LP.

Summary

In our 2009 year end shareholder letter, I mentioned our 3 core objectives for 2010 and I would like to summarize them: 1) expand our cosmetic and reconstructive surgery related sales, 2) advance our core pipeline applications and 3) establish a substantive partnership. The first quarter of 2010 represents a very strong start to the year. We are confident in continued sales growth for the remainder of 2010, with clinical outcomes to be reported from our APOLLO and PRECISE cardiovascular trials this week. The increased visibility provided by both sales growth and the reporting of key clinical data provide a basis for advancing discussions with potential partners.

Thank you for your interest in Cytori and we look forward to keeping you updated on our growth and progress.

Warm Regards,

A handwritten signature in black ink, appearing to read 'C. Calhoun'.

Christopher J. Calhoun
Chief Executive Officer

Cautionary Statement Regarding Forward-Looking Statements

This shareholder letter includes forward-looking statements regarding events, trends and business prospects, which may affect our future operating results and financial position. Such statements, including, but not limited to, those regarding our forecasts for 2010 operating expenses and cash utilization rate, future growth through advancements in our pipeline of therapeutic applications for our core product, the Celution® System, our sales expectations, including those from our marketing and distribution partners, the continued growth of investigator clinical trials using our technology, system and consumable order trends, our ability to obtain EU approval and successfully commercialize the PureGraft™ product, as well as our ability to obtain third party and governmental reimbursement for our consumables and therefore increase adoption in the reconstructive surgery market, are all subject to risks and uncertainties that could cause our actual results and financial position to differ materially. Some of these risks and uncertainties include, but are not limited to, risks related to our history of operating losses, the need for further financing and our ability to access the necessary additional capital for our business, inherent risk and uncertainty in the protection intellectual property rights, regulatory uncertainties regarding the collection and results of, clinical data, dependence on third party performance, as well as other risks and uncertainties described under the "Risk Factors" in Cytori's Securities and Exchange Commission Filings on Form 10-K and 10-Q. We assume no responsibility to update or revise any forward-looking statements to reflect events, trends or circumstances after the date they are made.