

CRYOLIFE INC
Form S-3
February 22, 2012

As filed with the Securities and Exchange Commission on February 22, 2012

Registration No. 333-_____

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

CRYOLIFE, INC.

(Exact name of registrant as specified in its charter)

Florida
(State or Other Jurisdiction of
Incorporation or Organization)

59-2417093
(I.R.S. Employer
Identification No.)

1655 Roberts Boulevard, NW, Kennesaw, Georgia 30144
(Address, including zip code, of registrant's principal executive offices)

Steven G. Anderson, President, Chief Executive Officer
and Chairman of the Board of Directors

CryoLife, Inc.
1655 Roberts Boulevard, NW
Kennesaw, Georgia 30144
(770) 419-3355

(Name and address, including zip code, and telephone number, including area code,
of agent for service)

Copy to:

Jeffrey W. Burris, Esq., Vice President
and General Counsel
CryoLife, Inc.
1655 Roberts Boulevard, NW
Kennesaw, Georgia 30144
(770) 419-3355

B. Joseph Alley, Jr., Esq.
Arnall Golden Gregory LLP
Suite 2100
171 17th Street, NW
Atlanta, Georgia 30363-1031
(404) 873-8500

Edgar Filing: CRYOLIFE INC - Form S-3

Approximate Date of Commencement of Proposed Sale to the Public: From time to time after the effective date of this Registration Statement.

If the only securities being represented on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box: []

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box: [X]

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering: []

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering: []

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box: []

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box: []

Indicate by a check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of “large accelerated filer”, “accelerated filer” and “smaller reporting company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)
reporting company)

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act or until this Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered (1)	Proposed Maximum Aggregate Offering Price (2) (3)	Amount of Registration Fee (2)
Common Stock (including attached preferred share purchase rights)		
Preferred Stock		
Depository Shares (4)		
Warrants		
Units		
Total	\$ 100,000,000	\$ 11,460 (5)

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended, the shares being registered hereunder include such indeterminate number of shares of common stock, preferred stock, depository shares, warrants and units as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.
- (2) Rule 457(o) under the Securities Act of 1933, as amended, permits the registration fee to be calculated on the basis of the maximum offering price of all of the securities listed and, therefore, the table does not specify by each class information as to the amount to be registered, the proposed maximum offering price per security or the amount of the registration fee. An indeterminate amount of common stock, preferred stock, depository shares, warrants and units may be issued from time to time at indeterminate prices, with an aggregate offering price not to exceed \$100,000,000.
- (3) This registration statement also covers an indeterminate amount of securities that may be issued in exchange for, or upon conversion or exercise of, as the case may be, any securities registered hereunder that provide for conversion, exercise or exchange. Any securities registered hereunder may be sold separately or as units with other securities registered hereunder.
- (4) The depository shares registered hereunder will be evidenced by depository receipts issued pursuant to a depository agreement. If the Registrant elects to offer to the public fractional interests in shares of preferred stock, then depository receipts will be distributed to those persons purchasing the fractional interests and the shares will be issued to the depository under the depository agreement.
- (5) Calculated pursuant to Rule 457(o) at the statutory rate of \$114.60 per \$1,000,000 of securities registered. Pursuant to Rule 415(a)(6) and Rule 457(p) under the Securities Act of 1933, as amended, the registrant is offsetting \$1,965 of the filing fee due hereunder by the amount of the filing fee that relates to \$50,000,000 of securities of the registrant registered on the Registration Statement on Form S-3 (File No. 333-155549) filed by the registrant on November 21, 2008, which securities were not sold by the registrant under such registration statement; the associated filing fee of \$1,965 for such unsold securities, calculated under Rule 457(o), is hereby used to offset \$1,965 of the registration fee due.

The information in this prospectus is incomplete and may be changed. The registrant may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

PROSPECTUS

\$100,000,000

CRYOLIFE, INC.

Common Stock
Preferred Stock
Depository Shares
Warrants
Units

This prospectus will allow us to issue, from time to time at prices and on terms to be determined at or prior to the time of the offering, any combination of the securities described in this prospectus, either individually or in units. We may also offer common stock upon conversion of the preferred stock, preferred stock upon conversion of the depository shares, or common stock, preferred stock or depository shares upon the exercise of warrants.

This prospectus provides you with a general description of the securities that may be offered. Each time securities are sold, we will provide one or more supplements to this prospectus that will contain additional information about the specific offering and the terms of the securities being offered. The supplements may also add, update or change information contained in this prospectus. You should carefully read this prospectus and any accompanying prospectus supplement before you invest in any of our securities. This prospectus may not be used to offer or sell our securities unless accompanied by a prospectus supplement.

Our common stock is listed for trading on the New York Stock Exchange under the symbol "CRY." Our executive offices are located at 1655 Roberts Boulevard, NW, Kennesaw, Georgia 30144. Our telephone number is (770) 419-3355. The last reported sale price of the common stock on February 21, 2012 was \$5.29 per share.

This investment involves risks. See "RISK FACTORS" beginning on page 7.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a

criminal offense.

The date of this prospectus is _____, ____.

TABLE OF CONTENTS

	Page
SUMMARY	1
ABOUT THIS PROSPECTUS	1
ABOUT CRYOLIFE	1
SECURITIES REGISTERED HEREBY THAT WE MAY OFFER	4
RATIO OF EARNINGS TO FIXED CHARGES	6
RISK FACTORS	7
FORWARD LOOKING STATEMENTS	23
USE OF PROCEEDS	24
DESCRIPTION OF CAPITAL STOCK	24
DESCRIPTION OF DEPOSITARY SHARES	29
DESCRIPTION OF WARRANTS	31
DESCRIPTION OF UNITS	33
PLAN OF DISTRIBUTION	34
WHERE YOU CAN FIND MORE INFORMATION	36
LEGAL MATTERS	37
EXPERTS	37

You should rely only on the information included or incorporated by reference in this prospectus and any accompanying prospectus supplement. We have not authorized any dealer, salesman or other person to provide you with additional or different information. This prospectus and any accompanying prospectus supplement are not an offer to sell or the solicitation of an offer to buy any securities other than the securities to which they relate and are not an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make an offer or solicitation in that jurisdiction. You should not assume that the information in this prospectus or any accompanying prospectus supplement or in any document incorporated by reference in this prospectus or any accompanying prospectus supplement is accurate as of any date other than the date of the document containing the information.

SUMMARY

This summary highlights information that we believe is especially important concerning our business and this offering. It does not contain all of the information that may be important to your investment decision. You should read the entire prospectus, including the documents incorporated herein by reference, “Risk Factors” and our financial statements and related notes, before deciding to purchase our securities.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, which we refer to as the “SEC,” using a “shelf” registration process. Under this shelf process, we may, over time, sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of \$100,000,000. This prospectus provides you with a general description of the securities we may offer pursuant to this prospectus. Each time we sell securities, we will provide one or more prospectus supplements that will contain specific information about the terms of that offering. This prospectus does not contain all of the information included in the registration statement. For a complete understanding of the offering of securities, you should refer to the registration statement relating to this prospectus, including its exhibits. A prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any accompanying prospectus supplement together with the additional information described under the heading “Where You Can Find More Information.”

ABOUT CRYOLIFE

CryoLife preserves and distributes human tissues and develops, manufactures, and commercializes medical devices for cardiac and vascular transplant applications. The human tissues distributed by CryoLife include the

- CryoValve® SG pulmonary heart valve,
- CryoPatch® SG pulmonary cardiac patch tissue,
- CryoVein and CryoArtery vascular tissues; and
- Other cardiac and vascular tissues.

CryoLife’s medical devices consist primarily of surgical sealants and hemostats including

- BioGlue® Surgical Adhesive,
- BioFoam® Surgical Matrix, and
- PerClot®, which CryoLife began distributing for Starch Medical, Inc., or SMI, in October of 2010 in certain

international markets.

In addition, following its acquisition of Cardiogenesis Corporation in May 2011, CryoLife markets devices that treat severe angina through a surgical procedure known as transmyocardial revascularization, or TMR.

CryoLife's international revenues were 17% of total revenues in 2010 and 20% of total revenues in 2011.

Services and Products

Preservation Services. CryoLife distributes preserved human cardiac and vascular tissue to implanting institutions throughout the U.S., Canada, and Europe. CryoLife processes and preserves cardiac and vascular tissue using proprietary processing and freezing techniques, or cryopreservation. Management believes the human tissues it distributes offer specific advantages over mechanical, synthetic, and animal-derived alternatives. Depending on the alternative, the advantages of CryoLife's heart valves include more natural blood flow properties, the ability to treat endocarditis, the elimination of a need for long-term drug therapy to prevent excessive blood clotting, and a reduced risk of catastrophic failure, thromboembolism (stroke), or calcification. CryoLife's cardiac tissues include the CryoValve SGPV and the CryoPatch SG, both processed with CryoLife's proprietary SynerGraft technology. CryoLife uses the SynerGraft technology for a portion of its pulmonary valve and pulmonary cardiac patch tissue processing. CryoLife's vascular tissues, including the CryoVein and CryoArtery, have been used to treat a variety of vascular reconstructions such as peripheral bypass, hemodialysis access, and aortic infections which have saved the lives and limbs of patients

Surgical Sealants and Hemostats. CryoLife's proprietary product BioGlue, designed for cardiac, vascular, pulmonary, and general surgical applications, is a polymer based on bovine blood protein and an agent for cross-linking proteins. CryoLife distributes BioGlue throughout the U.S. and in more than 75 other countries for designated applications. In the U.S. BioGlue is FDA approved as an adjunct to sutures and staples for use in adult patients in open surgical repair of large vessels. CryoLife distributes BioGlue for repair of soft tissues (which include cardiac, vascular, pulmonary, and additional soft tissues) in the European Economic Area under Conformité Européene Mark product certification, or CE Mark. In October of 2010 CryoLife distributes BioGlue in Japan for the repair of aortic dissections. Additional marketing approvals have been granted for specified applications in several other countries throughout the world, including Canada, Brazil, and Australia.

CryoLife's proprietary product, BioFoam, is a protein hydrogel biomaterial with an expansion agent which generates a mixed-cell foam. The foam creates a mechanical barrier to decrease blood flow and pores for the blood to enter, leading to cellular aggregation and enhanced hemostasis. BioFoam contains a foaming agent, which has the potential to rapidly seal organs, such as the liver, and may provide hemostasis in penetrating wounds and trauma. CryoLife distributes BioFoam under CE Mark certification for use as an adjunct in the sealing of liver and spleen when cessation of bleeding by ligature or conventional methods is ineffective or impractical. BioFoam has approval by the FDA for an investigational device exemption to conduct a human clinical trial with BioFoam to determine its safety and effectiveness in sealing liver tissues in patients for whom cessation of bleeding by ligature or other conventional methods is ineffective or impractical.

CryoLife has a worldwide distribution agreement (except in China and certain related territories and governing areas) and a license and manufacturing agreement with SMI of San Jose, California for PerClot, a polysaccharide hemostatic agent used in surgery. PerClot is an absorbable powder hemostat that has CE Mark designation allowing commercial distribution into the European Community and other markets. It is indicated for use in surgical procedures, including cardiac, vascular, orthopaedic, spinal, neurological, gynecological, ENT, and trauma surgery as an adjunct hemostat when control of bleeding from capillary, venous, or arteriolar vessels by pressure, ligature, and other conventional means is either ineffective or impractical. CryoLife filed an investigation device exemption ("IDE") with the FDA in March 2011 seeking approval to begin clinical trials for the purpose of obtaining Premarket Approval (a "PMA") to distribute PerClot in the U.S. In April 2011, the FDA disapproved CryoLife's IDE filing. CryoLife anticipates refileing its IDE for PerClot in early 2012.

Revascularization Technology. Following the acquisition of Cardiogenesis in May 2011, CryoLife develops and markets surgical products for the treatment of refractory angina in patients with chronic cardiac ischemia caused by coronary artery disease, which remains a leading cause of death for persons over the age of 65. Its products are used to create transmural laser channels into the myocardium, commonly referred to as transmyocardial revascularization, or TMR, which has proven effective in reducing symptoms in patients with refractory angina compared to optimal medical management. While these products can be employed as a minimally invasive standalone therapy, they are most often used in conjunction with coronary bypass surgery to treat incomplete revascularization, utilizing the technology in areas of myocardium not amenable to coronary bypass. CryoLife believes the clinical effect of transmural laser channeling can be further enhanced by the intramyocardial injection of stem cells. As such, it is developing proprietary catheter-based systems that combine TMR with the delivery of biologics, such as stem cells. CryoLife's PHOENIX Combination Delivery System is the first device developed for this purpose. CryoLife intends to conduct a pilot clinical evaluation in select European countries in 2012 while also investigating requirements to achieve an IDE approval for clinical evaluation of the Phoenix system in the U.S.

Research and Business Development

Through its continuing research and development activities, CryoLife uses its expertise in protein chemistry, biochemistry, cell biology, and engineering, and its understanding of the cardiac and vascular surgery medical specialties to develop useful technologies, services, and products. In addition, CryoLife uses this expertise to acquire and license supplemental and complimentary products and technologies. CryoLife seeks to identify market areas that can benefit from medical devices, preserved tissues, and other related technologies, to develop innovative products and techniques within these areas, to secure their commercial protection, to establish their efficacy, and then to market these products and techniques. In order to expand CryoLife's service and product offerings, CryoLife is in the process of developing or investigating several technologies and products. Some of the products in development have not been subject to completed clinical trials and have not received FDA or other regulatory approval, so CryoLife may not derive any revenues from them. CryoLife generally performs significant research and development work before offering its services and products, building on either existing proprietary and non-proprietary knowledge or acquired technology and know-how. CryoLife's current tissue preservation services were developed internally. CryoLife developed its BioGlue and BioFoam products from a technology originally developed by a third party and acquired by CryoLife. CryoLife purchased the rights to distribute and manufacture PerClot from a third party and is in the process of obtaining FDA approval to distribute PerClot in the U.S. CryoLife acquired the revascularization technologies from a third party.

Risk Factors

Our business is subject to a number of risks, including:

- the possibility of FDA actions and other regulatory actions,
 - additional expenses and losses from product recalls,
- possible losses from product liability, securities, and other litigation,
- lower demand for our products and adverse publicity resulting from product recalls and other FDA activity,
 - the possible inability to obtain sufficient insurance coverage,
 - the possible inability to protect our intellectual property rights,
 - the possible inability to obtain necessary regulatory approvals,
- the possible inability to successfully integrate acquired businesses and technologies,
- our subsidiary, Cardiogenesis Corporation, has been named in a patent infringement lawsuit,
- uncertainties related to patents and protection of proprietary technology that may adversely impact the value of our intellectual property,
- significant litigation with Medafor and related litigation cost that may have a material adverse impact on our profitability,
- our significant dependence on our revenues from BioGlue and tissues and our exposure to a variety of risks affecting these products and services,
- risks related to our BioGlue product, including competing products, our limited number of suppliers and the future expiration of our BioGlue patents;
 - the potential of impairments to the carrying value of certain investments over which we have limited control,
 - challenging domestic and international economic conditions and their constraining effect on hospital budgets,
- the possibility that we will not be able to obtain the necessary regulatory approvals to allow us to distribute PerClot in the United States or other jurisdictions;
- potential limits on our ability to charge fees, and potential additional tax expenses, from recent legislation to reform the U.S. healthcare system,

- and possible future lack of adequate capital.

See “Risk Factors” below for a more detailed discussion of risks relating to our business and our securities.

CryoLife, Inc. was incorporated January 19, 1984 in Florida. All references to “CryoLife,” the “Company,” “we,” “us” or “our” in this prospectus mean CryoLife, Inc., a Florida corporation, and all entities owned or controlled by CryoLife, Inc., except where it is made clear that the term means only the parent company.

Our principal executive offices are located at 1655 Roberts Boulevard, NW, Kennesaw, Georgia 30144. Our telephone number is (770) 419-3355 and our Web site is located at www.cryolife.com. Information contained on our Web site is not part of this prospectus.

SECURITIES REGISTERED HEREBY THAT WE MAY OFFER

We may offer any of the following securities with a total value of up to \$100,000,000 from time to time under this prospectus at prices and on terms to be determined by market conditions at the time of the offering:

- common stock;
- preferred stock, in one or more series;
- depositary shares;
- warrants to purchase shares of common stock, shares of preferred stock or depositary shares; or
 - any combination of the foregoing securities, in units.

We refer to our common stock, preferred stock, depositary shares, warrants and units collectively in this prospectus as the “securities.” This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate offering price;
- rates and times of payment of dividends, if any;
- redemption, conversion or sinking fund terms, if any;
- voting or other rights, if any;

- conversion prices, if any; and
- important federal income tax considerations.

Common Stock. We may offer shares of our common stock. Our common stock currently is listed on the New York Stock Exchange under the symbol “CRY.” Shares of common stock that may be offered in this offering will, when issued and paid for, be fully paid and non-assessable.

Preferred Stock. We may offer shares of our preferred stock, in one or more series. Our board of directors will determine the rights, preferences, privileges and restrictions of the preferred stock, including any dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of any series. Convertible preferred stock will be convertible into shares of our common stock. Conversion may be mandatory or at your option and would be at prescribed conversion rates. Shares of preferred stock that may be offered in this offering will, when issued and paid for, be fully paid and non-assessable. The terms of the preferred stock we may offer under this prospectus and any prospectus supplement will be set forth in a certificate of designations relating to that series and will be incorporated by reference into the registration statement of which this prospectus is a part. We urge you to read the complete certificate of designations containing the terms of the applicable series of preferred stock, as well as the applicable prospectus supplement, and any related free writing prospectus that we may authorize to be provided to you, related to such series.

Depository Shares. We may from time to time issue receipts for depository shares representing fractional shares of our preferred stock. Any depository shares that we sell under this prospectus will be evidenced by depository receipts issued under a deposit agreement between us and a depository with whom we deposit the shares of the applicable series of preferred stock that underlie the depository shares that are sold. Subject to the terms of the deposit agreement, each holder of a depository share will be entitled, in proportion to the applicable fraction of a share of the preferred stock underlying the depository share, to all of the rights, preferences and privileges, and be subject to the qualifications and restrictions, of the preferred stock underlying that depository share. We will incorporate by reference into the registration statement of which this prospectus is a part the form of deposit agreement, including a form of depository receipt that describes the terms of any depository shares that we are offering before the issuance of the related depository shares. We urge you to read the prospectus supplements, and any related free writing prospectus that we may authorize to be provided to you, related to any depository shares being offered, as well as the complete depository agreement and depository receipt that contains the terms of the depository shares.

Warrants. We may issue warrants for the purchase of common stock, preferred stock in one or more series, and/or depository shares in one or more series. We may issue warrants independently or in combination with common stock, preferred stock, and/or depository shares. In this prospectus, we have summarized certain general features of the warrants under “Description of Warrants.” We urge you, however, to read the applicable prospectus supplement, and any related free writing prospectus that we may authorize to be provided to you, related to the particular series of warrants being offered, as well as the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that contain the terms of the warrants. We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that describe the terms of the particular series of warrants we are offering, and any supplemental agreements, before the issuance of such warrants.

Warrants may be issued under a warrant agreement that we enter into with a warrant agent. We will indicate the name and address of the warrant agent, if any, in the applicable prospectus supplement relating to a particular series of warrants.

Units. We may issue units representing any combination of common stock, preferred stock, depository shares and/or warrants from time to time. The units may be issued under one or more unit agreements. In this prospectus, we have summarized certain general features of the units.

We will incorporate by reference into the registration statement of which this prospectus is a part the form of unit agreement under which the units are designated, if any, describing the terms of the units we are offering before the issuance of the related units. We urge you to read the prospectus supplements related to any units being offered, as well as the complete unit agreement, if any, designating the units.

RATIO OF EARNINGS TO FIXED CHARGES AND PREFERRED DIVIDENDS

For purposes of determining the ratio of earnings to fixed charges and preferred dividends, earnings are defined as pre-tax income from continuing operations, before adjustment for fixed charges and amortization of capitalized interest. Fixed charges means the sum of interest expensed and capitalized, amortized premiums, discounts and capitalized expenses related to indebtedness and an estimate of the interest within rental expense. For this purpose, we assumed one-third of rental expense should be included in fixed charges. Preferred dividend means the amount of pre-tax earnings that is required to pay the dividends on outstanding preference securities.

	Year Ended December 31,				
	2007	2008	2009	2010	2011
Ratio of earnings to fixed charges and preferred stock dividends	5.07	12.38	14.80	7.24	11.07

RISK FACTORS

You should carefully consider the following risk factors and all other information contained or incorporated by reference in this prospectus or in any supplement to it before you make any investment decisions with respect to our securities.

If any of the adverse events described in the following factors actually occur, our business, financial condition and operating results could be materially and adversely affected, the value of your securities could decline and you could lose all or part of your investment.

Risks Relating To Our Business

We Are Significantly Dependent On Our Revenues From BioGlue And Are Subject To A Variety Of Risks Affecting This Product.

BioGlue is a significant source of our revenues. Should this product be the subject of adverse developments with regard to its safety, efficacy, or reimbursement practices, or if our rights to manufacture and market this product are challenged, the result could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

The Continued Introduction Into The Market Of Products That Compete With BioGlue Could Have An Irreversible Adverse Impact On Our Sales Of BioGlue.

In recent years competitors of BioGlue were able to obtain FDA approval for indications in which BioGlue had been used off-label. The continued introduction of these or similar competitive products could have an irreversible adverse impact on our sales of BioGlue and, therefore, our revenues, financial condition, profitability, and cash flows.

Our BioGlue Patent Expires In The U.S. In Mid-2012 And In The Rest Of The World In Mid-2013.

Our U.S. patent for BioGlue expires in mid-2012, and our patents in the rest of the world for BioGlue expire in mid-2013. Following expiration of these patents, competitors may utilize the inventions disclosed in the BioGlue patents in competing products, which could materially reduce our revenues and income from BioGlue, although any competing product would have to be approved by the appropriate regulatory authority, such as the FDA. In addition, the validity of our patent in Germany is being challenged. We filed suit in Germany against Tenaxis because we believe Tenaxis is infringing our main BioGlue patent in Germany. Tenaxis filed a separate nullity suit against this same BioGlue patent in Germany, and the lower court ruled that our BioGlue patent was nullified. We appealed this ruling, and the nullification was stayed pending resolution of the nullification case by the German Supreme Court, which will not occur until 2012 or potentially 2013. If we lose this appeal, we will lose intellectual property protection for our BioGlue product in Germany, potentially sooner than the expiration of our patent in mid-2013, which may cause us to lose revenues in Germany as competitors may legally offer similar products. Any such outcome could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

We Are Currently Involved In Significant Litigation With Medafor And That Litigation Cost Has Had, And Is Likely To Continue To Have, A Material Adverse Impact On Our Profitability.

We originally filed our lawsuit against Medafor in April of 2009 in the Northern District of Georgia. Discovery is ongoing, and, other than a few depositions, the parties have not begun the remainder of their depositions, which will be extensive. No trial date has been set by the Court, but we believe that any trial will not occur until 2013. The parties have also been, and continue to be, involved in other lawsuits in other venues. We incurred costs of approximately \$1.4 million in 2010 and \$2.3 million----- in 2011 on these lawsuits. Our costs in 2011 and 2010 have materially adversely impacted our financial condition, profitability, and cash flows, and we expect that our costs in 2012 and in 2013, which will likely be significantly higher than in 2011, will materially adversely impact, our financial condition, profitability, and cash flows.

Our Tissues And Products Allegedly Have Caused, And May In The Future Cause, Injury To Patients, And We Have Been, And May In The Future Be, Exposed To Tissue Processing And Product Liability Claims, Including One Currently Outstanding Product Liability Lawsuit, And Additional Regulatory Scrutiny As A Result.

The processing, preservation, and distribution of human tissues, and the manufacture and sale of medical devices entail inherent risks, including the possibility of medical complications for patients, and have resulted, and may in the future result in, tissue processing and product liability claims against us and adverse publicity. From time to time various plaintiffs have asserted that our tissues or medical devices have caused a variety of injuries, including death. We have been, and may be, sued and our insurance coverage has in the past been and may in the future be inadequate. Adverse judgments and settlements in excess of our available insurance coverage could materially adversely impact our financial condition, profitability, and cash flows.

Because medical complications are alleged to have been caused by or occur in connection with medical procedures involving our tissues or products, we have been, and may be, subject to additional FDA and other regulatory scrutiny, inspections, and adverse publicity. For example, in 2002 the FDA issued an order regarding our non-valved cardiac, vascular, and orthopaedic tissues processed by us from October 3, 2001 until August 13, 2002, which we refer to as the FDA Order. Pursuant to the FDA Order, we recalled these tissues or placed them on quarantine hold. Shortly after the FDA Order, the FDA posted a notice, now archived, on its website stating its concerns regarding our heart valve tissues. As a result, some surgeons and hospitals decided not to use our heart valves. Cautionary statements from the FDA or other regulators, adverse publicity, changes to our labeling, required prominent warnings, or negative reviews from the FDA or other regulators of our processing and manufacturing facilities have in the past decreased, and may in the future decrease, demand for our tissues or products and could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

In addition to the recall resulting from the FDA Order, we have in the past suspended the distribution of, or recalled, certain tissues, and in the future may have to suspend the distribution of or recall particular types of tissues or products as a result of reported adverse events. Suspension of the distribution of, or recall of, our tissues or products could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

Cardiogenesis Corporation, Our Wholly Owned Subsidiary, Has Been Named As A Defendant In A Patent Infringement Lawsuit, And Costly Litigation May Be Necessary To Protect Or Defend Its Intellectual Property Rights.

In 2008 CardioFocus, Inc. ("CardioFocus") filed a lawsuit against Cardiogenesis in the U.S. District Court for the District of Massachusetts alleging patent infringement of CardioFocus patents for the period 2002 to 2007. In the complaint CardioFocus alleges that Cardiogenesis and the other defendants had previously violated patent rights allegedly held by CardioFocus directed to the use of holmium-doped YAG lasers in connection with low-hydroxyl content silica fibers for use in performing surgery. All of the asserted patents have now expired, and Cardiogenesis is the sole remaining defendant in the action. CardioFocus seeks a royalty for Cardiogenesis' sales of the products in question, namely, the SolarGen, TMR, and New Star lasers and lasers systems, during the period 2002 to 2007. Cardiogenesis has steadily maintained that it does not infringe the patent claims in question.

Trial for this case is scheduled in June of 2012. In the event that the District Court of Massachusetts decides that Cardiogenesis did infringe the claims of the patents in question, and awards damages, those damages could be significant and the possibility exists that such a decision against us could have a material adverse impact on our financial condition, profitability, and cash flows.

Our Investment In Medafor Has Been Impaired Due To Medafor's Termination Of Our Exclusive Distribution Agreement With Medafor And Our Investment Could Be Further Impaired By Risks Associated With Medafor's

Business Or By Medafor's Actions, Which Could Have A Material Adverse Impact On Our Financial Condition And Profitability.

8

We recorded an impairment of \$3.6 million in the third quarter of 2010 to write down our investment in Medafor common stock that we had purchased in 2009 and 2010. The carrying value of our 2.4 million shares of Medafor common stock after this write down was \$2.6 million. The carrying value of our 2.4 million shares of Medafor common stock remained \$2.6 million as of December 31, 2011.

We will continue to evaluate the carrying value of this investment if changes to impairment factors or additional impairment factors become known to us that indicate that we should evaluate our investment in Medafor common stock for further impairment. Also, our investment in Medafor is subject to certain risks, including business and operational risks of Medafor outside of our control that could further impair the value of our investment, including the issuance of shares of Medafor common stock that could dilute our investment in Medafor. If we subsequently determine that the value of our Medafor common stock has been impaired further or if we decide to sell our Medafor common stock for less than the carrying value, the resulting impairment charge or realized loss on sale of the investment in Medafor could be material.

Medafor Has Filed Counter-Claims Against Us With Respect To Our Lawsuit Against Medafor, And If Medafor Is Successful In Its Claims, Our Revenues And Profitability May Be Materially, Adversely Impacted.

We filed a lawsuit against Medafor in 2009, alleging claims for, among other things, breach of contract, fraud, and negligent misrepresentation. The lawsuit arises out of the EDA that has recently been terminated by Medafor. Medafor has filed counter-claims against us. We have disputed the validity of all of Medafor's counter-claims and intend to vigorously defend against all claims. However, if Medafor is successful in its pursuit of the counter-claims and the Court rules in Medafor's favor, then we could be required to make substantial payments to Medafor as part of the judgment. While the details of any judgment that may be rendered against us in such a scenario are uncertain, the possibility exists that a judgment against us could have a material adverse impact on our financial condition, profitability, and cash flows.

We Will Not Fully Realize The Benefit Of Our Investment In Our Distribution And License And Manufacturing Agreements With Starch Medical, Inc. Unless We Are Able To Obtain FDA Approval For PerClot In The U.S., Which Will Require An Additional Commitment Of Funds.

On September 28, 2010 we entered into a worldwide distribution agreement and a license and manufacturing agreement with SMI pursuant to which we distribute and will, ultimately, manufacture PerClot. We were also authorized to pursue, obtain, and maintain regulatory approval for PerClot in the U.S. If this approval is not obtained prior to October 1, 2017, SMI may terminate our rights with respect to U.S. regulatory approval and require us to negotiate a reasonable revision to the agreement.

As part of the transaction, we paid SMI \$6.75 million in cash, which includes \$1.5 million in prepaid royalties, and \$1.25 million in restricted CryoLife common stock. We made an additional contingent payment of \$250,000 in 2011 and will pay additional contingent amounts of up to \$2.5 million to SMI if certain U.S. regulatory and other commercial milestones are achieved and will also pay royalties on sales of PerClot manufactured by us. In September 2011 we entered into an agreement with SMI for an additional \$1.0 million to acquire the technology used to produce the key component in the manufacture of PerClot. We anticipate that we will spend between \$5.0 million and \$6.0 million to gain U.S. regulatory approval in the next several years, most of which we expect to be incurred in 2012. We will incur additional costs to begin manufacturing PerClot and to begin marketing PerClot in the U.S. Our costs may be greater than anticipated, as the costs to obtain FDA approval, begin manufacturing PerClot from plant starch modified by SMI, and begin marketing PerClot are estimates and may ultimately be greater than anticipated.

We will not be able to fully realize the benefit of our investment in our agreements with SMI in future years unless we are able to obtain the necessary regulatory approvals in the U.S. to distribute PerClot within the timetable anticipated, which is currently 2013 or 2014, or at all, and this failure would materially adversely impact our financial condition, anticipated future revenues and profitability. There is no guarantee that we will obtain this approval when anticipated or at all. Estimates regarding the timing of regulatory approval for PerClot are subject to factors beyond our control, and the approval process may be delayed because of unforeseen scheduling difficulties and unfavorable results at various stages in the process. The FDA rejected our initial IDE application for PerClot and we are working to address its concerns; however, there is no guarantee that we can do so on a timely or cost efficient basis. Our approval efforts for PerClot in the United States are subject to delays and cost overages, and management may decide to terminate or delay its pursuit of U.S. regulatory approval for PerClot at any time due to changing conditions in our company, in the marketplace or in the economy in general.

The Receipt Of Impaired Materials Or Supplies That Do Not Meet Our Standards Or The Recall Of Materials Or Supplies By Our Vendors Or Suppliers Could Have A Material Adverse Impact On Our Revenues, Financial Condition, Profitability, And Cash Flows.

The materials and supplies used in our processing of tissue and our manufacturing processes for devices are subject to quality standards and requirements, and many of these supplies and products are subject to regulatory oversight and action. If materials or supplies used in our processes fail to meet these standards and requirements or are subject to recall or other quality action, it is likely the outcome of this event will be the rejection or recall of the processed tissue or devices and/or the immediate expense of the costs of the preservation or manufacturing. For example, in 2011 certain supplies of processing solution used in our processing of tissue did not meet our quality requirements. As a result, we ceased processing the tissues that used this solution and expensed \$674,000 related to the preservation costs for these tissues.

Any of these occurrences or actions could materially adversely impact our revenues, financial condition, profitability, and cash flows.

Our Sales Are Impacted By Challenging Domestic And International Economic Conditions And Their Constraining Effect On Hospital Budgets And Demand For Our Tissues And Products Could Decrease In The Future, Which Could Have A Material Adverse Impact On Our Business.

The demand for our tissues and BioGlue has fluctuated recently and may continue to fluctuate. In challenging economic environments, hospitals attempt to control costs by reducing spending on consumable items, which can result in reduced demand for some of our products and services. We believe that our tissues and products will continue to be in demand for the foreseeable future. However, if the economic recession continues or worsens, changes occur in healthcare policies that force or encourage our customers to limit their use of our tissues and products, or if new competitive tissues or products are introduced, demand for our tissues and products could decrease in the future. If demand for our tissues or products decreases significantly in the future, our revenues and cash flows would likely decrease, possibly materially. In addition, our processing throughput of tissue and our manufacturing throughput of BioGlue would necessarily need to decrease, which would likely adversely impact our margins, and, therefore, our profitability, possibly materially. Further, if demand for our tissues decreases in the future, we may not be able to ship our tissues before they expire, which would cause us to write down our deferred preservation costs. Since our international revenues are currently approximately one-fifth of our total revenues, our sales may be impacted by challenging economic conditions in countries around the world, in addition to the U.S., particularly in Europe and Japan. These factors could materially adversely impact our financial condition and profitability.

Healthcare Policy Changes, Including Recent Federal Legislation To Reform The U.S. Healthcare System, May Have A Material Adverse Impact On Us.

In response to perceived increases in health care costs in recent years, there have been, and continue to be, proposals by the federal government, state governments, regulators, and third-party payors to control these costs and, more generally, to reform the U.S. healthcare system. Certain of these proposals could limit the fees we are able to charge for our services, prices we are able to charge for our products, or the amounts of reimbursement available for our services or products and could limit the acceptance and availability of our services and products. In addition, as discussed below, recent federal legislation would impose significant new taxes on medical device makers such as us. The adoption of some or all of these proposals, including the recent federal legislation, could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

On March 23, 2010 President Obama signed the Patient Protection and Affordable Care Act. This legislation imposes a new 2.3% tax on the sale after December 31, 2012 of a taxable medical device by the manufacturer, producer, or importer. We believe that, if this tax had been in effect in 2011, it would likely have cost the Company approximately \$1.1 million. However, the final regulations implementing the new tax have not been promulgated, so we are uncertain about the amount that ultimately will be paid. These taxes will result in a significant increase in the tax burden on us, which could have a material adverse impact on our financial condition, profitability, and cash flows.

The Loss Of Any Of Our Sole-Source Suppliers Could Have A Material Adverse Impact On Our Revenues, Financial Condition, Profitability, And Cash Flows.

We purchase certain supplies used in our processing of tissues and our manufacturing of products from single sources due to quality considerations, costs, or constraints resulting from regulatory requirements. With respect to BioGlue, for instance, we have only one supplier for our BioGlue syringe. Additionally, we have only two suppliers of bovine serum albumin, which is necessary for the manufacture of BioGlue. If we lose one or more of these suppliers, our ability to manufacture and sell BioGlue could be adversely impacted. We cannot be sure that we would be able to replace any such loss on a timely basis, if at all.

Agreements with certain suppliers are terminable by either party or may expire. Where a particular single-source supply relationship is terminated, we may not be able to establish additional or replacement suppliers for certain components or materials quickly. This is largely due to the FDA approval system, which mandates validation of materials prior to use in our tissue processing and product manufacturing, and the complex nature of the manufacturing processes employed by many suppliers. In addition, we may lose a sole-source supplier due to, among other things, the acquisition of such supplier by a competitor, which may cause the supplier to stop selling its products to us, or the bankruptcy of such a supplier, which may cause the supplier to cease operations. A reduction or interruption by a sole-source supplier of the supply of materials or key components used in our tissue processing or our product manufacturing or an increase in the price of those materials or components could materially adversely impact our revenues, financial condition, profitability, and cash flows.

We May Be Unsuccessful In Our Efforts To Market And Sell PerClot In The U.S. And Internationally.

Even if we are able to obtain FDA approval to distribute PerClot in the U.S. according to our estimated timeline, we may be unsuccessful in our attempts to sell PerClot in the U.S. as other competing products may have penetrated the market by that time. Also, while we do not believe Medafor would have a valid reason to do so, based on our past history with Medafor, it is possible that Medafor may attempt to challenge the legality of our distribution of PerClot in both the U.S. and international markets or file a patent infringement action against us or SMI, the company that manufactures PerClot for us. If we are ultimately unable to distribute PerClot in the U.S., we would not be able to fully realize the benefit of our investment in PerClot, which could materially adversely impact our financial condition, profitability, and future revenues. If Medafor were successful in its challenge to the legality of our distribution agreement or in a patent infringement action against us or SMI, it could materially adversely impact our revenues, financial condition, profitability and cash flows.

We Have Inherited Risks And Uncertainties Related To Cardiogenesis' Business.

In May 2011 we acquired Cardiogenesis, and Cardiogenesis is now operating as a subsidiary of CryoLife. We have inherited certain risks and uncertainties related to Cardiogenesis' business. These risks and uncertainties include the following:

-

We may be unable to maintain revenues and achieve growth in revenues from Cardiogenesis' revascularization technologies in the future due to our dependence upon physician awareness of this technology as a safe, efficacious, and appropriate treatment for their patients;

- We will continue to purchase some of Cardiogenesis' key product components from single suppliers, and the loss of these suppliers could prevent or delay shipments of its products, delay its clinical trials, or otherwise adversely affect our Cardiogenesis business;
- If Cardiogenesis' independent contract manufacturers fail to timely deliver sufficient quantities of some of Cardiogenesis' products and components, our Cardiogenesis operations may be harmed;
- Cardiogenesis' contract manufacturers are at locations that may be at risk from earthquakes or other natural disasters;
- Cardiogenesis may have liability for actions that occurred prior to our acquisition of Cardiogenesis which could adversely affect us; and
- Cardiogenesis' internal control over financial reporting may not have been effective prior to the merger, which could impact the value of our investment in Cardiogenesis and potentially lead to lawsuits from former Cardiogenesis shareholders, which could have a significant and adverse effect on us.

Any of these conditions or contingencies could have a material adverse effect on our revenues, financial condition, profitability, and cash flows.

We May Expand Through Acquisitions, Or Licenses Of, Or Investments In, Other Companies Or Technologies, Which May Result In Additional Dilution To Our Stockholders And Consume Resources That May Be Necessary To Sustain Our Business.

One of our business strategies is to acquire technologies, products, and licenses to grow our business. In connection with one or more of those transactions, we may:

- Issue additional equity securities that would dilute our stockholders' value;
- Use cash that we may need in the future to operate our business;
- Incur debt that could have terms unfavorable to us or that we might be unable to repay; and
- Structure the transaction in a manner that has unfavorable tax consequences, such as a stock purchase that does not permit a step-up in the tax basis for the assets acquired.

Business acquisitions also involve the risk of unknown liabilities associated with the acquired business. In addition, we may not realize the anticipated benefits of any acquisition, including securing the services of key employees. Incurring unknown liabilities or the failure to realize the anticipated benefits of an acquisition could materially adversely impact our business.

We May Not Realize The Anticipated Benefits From Acquisitions And We May Find It Difficult To Integrate Recent Or Potential Future Acquisitions Of Technology Or Business Combinations, Which Could Disrupt Our Business, Dilute Stockholder Value, And Adversely Impact Our Operating Results.

Acquisitions involve the integration of companies that have previously operated independently. We expect that future acquisitions may result in financial and operational benefits, including increased revenues, cost savings, and other financial and operating benefits. We cannot be certain, however, that we will be able to realize increased revenues,

cost savings, or other benefits from any acquisition, or to the extent such benefits are realized, that they are realized timely. Integration may also be difficult, unpredictable, and subject to delay because of possible cultural conflicts and different opinions on product roadmaps or other strategic matters. We may integrate or, in some cases, replace numerous systems, including those involving purchasing, accounting and finance, sales, billing, employee benefits, payroll, and regulatory compliance, many of which may be dissimilar. Difficulties associated with integrating an acquisition's service and product offering into ours, or with integrating an acquisition's operations into ours, could have a material adverse impact on the combined company and the market price of our common stock. Our integration efforts may not succeed or may distract our management's attention from existing business operations. Our failure to successfully manage and integrate recent technology acquisitions and any future acquisitions could materially adversely impact our business.

We Are Subject To Stringent Domestic And Foreign Regulation Which May Impede The Approval Process Of Our Tissues And Products, Hinder Our Development Activities And Manufacturing Processes, And, In Some Cases, Result In The Recall Or Seizure Of Previously Cleared Or Approved Tissues And Products.

Our tissues, products, development activities, tissue processing, and manufacturing processes are subject to extensive and rigorous regulation by the FDA, by comparable agencies in foreign countries, and by other regulatory agencies and governing bodies. Under applicable law, processors of human tissues and manufacturers of medical devices must comply with certain regulations that cover the composition, labeling, testing, clinical study, manufacturing, packaging, and distribution of tissues and products. In addition, medical devices must receive FDA clearance or approval before they can be commercially marketed in the U.S., and the FDA may require testing and surveillance programs to monitor the effects of approved products that have been commercialized and can prevent or limit further marketing of a product based on the results of these post-marketing programs. The process of obtaining marketing approval or clearance can take a significant period of time, require expenditure of substantial resources, and result in limitations on the indicated uses of the tissues and products. Furthermore, most major markets for tissues and products outside of the U.S. require clearance, approval, or compliance with certain standards before tissues and products can be commercially available. We cannot be certain that we will receive these required clearances or approvals from the FDA and foreign regulatory agencies on a timely basis. The failure to receive clearance or approval for significant new tissues and products on a timely basis could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

The FDA may conduct periodic inspections to determine compliance with applicable tissue and product regulations for any of our marketed tissues and products. Approvals by the FDA can be withdrawn due to failure to comply with regulatory standards or the occurrence of unforeseen problems following initial approval. In addition, the FDA could reevaluate our tissues or products, or the processes or solutions used with our tissues or products, and determine that they must go through additional approvals or require approvals where none were previously required. The failure to comply with regulatory standards, the discovery of previously unknown problems with tissues or products, or reevaluation of our tissues and products or the processes and solutions used with our tissues and products could result in fines; delays or suspensions of regulatory clearances; seizures or recalls of tissues, products, or solutions; the banning of a particular device; operating restrictions; or criminal prosecution. The related expenses and decreased revenues as a result of negative publicity and legal claims could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

For example, in 2002 the FDA issued the FDA Order discussed above at “Our Tissues And Products Allegedly Have Caused And May In The Future Cause, Injury To Patients, And We Have Been, And May In The Future Be, Exposed To Tissue Processing And Product Liability Claims, Including One Currently Outstanding Product Liability Lawsuit, And Additional Regulatory Scrutiny As A Result.”

Our HemoStase Sales Ceased In Late March 2011, And We Will Not Be Able To Participate In The Hemostats Market In The U.S. Or Other Markets Where We Lack Regulatory Approval Unless We Can Obtain FDA Or Other Regulatory Approval For PerClot.

On September 27, 2010 Medafor sent CryoLife a letter stating that Medafor was “fully, finally and immediately terminating” our exclusive distribution agreement, or EDA.

We have not had any revenues from HemoStase since first quarter of 2011. We began selling PerClot internationally in the fourth quarter of 2010, but unlike HemoStase, PerClot is not approved for sales in the U.S. where we sold the majority of our HemoStase product. In addition, PerClot is not approved for sales in all countries of the world in which HemoStase was approved. As a result, our anticipated 2012 revenues from PerClot will be materially lower

than our 2010 HemoStase revenues. The FDA approval process for U.S. sales of PerClot is expected to be expensive and time-consuming, is not expected to be completed any sooner than 2013 or 2014, and is subject to many risks that could increase the costs or time involved or even prevent sales from ever occurring in the United States. See “We Will Not Fully Realize The Benefit Of Our Investment In Our Distribution And License And Manufacturing Agreements With Starch Medical, Inc. Unless We Are Able To Obtain FDA Approval For PerClot In The U.S., Which Will Require An Additional Commitment Of Funds,” above, for a discussion of these risks. The reduction in our revenues due to the loss of the HemoStase product, together with the uncertainty surrounding our ability to obtain FDA approval to market PerClot in the U.S., is expected to continue to materially adversely impact our revenues, financial condition, profitability, and cash flows.

We May Not Be Successful In Obtaining Necessary Clinical Results And Regulatory Approvals For Services And Products In Development, And Our New Services And Products May Not Achieve Market Acceptance.

Our growth and profitability will depend, in part, upon our ability to complete development of, and successfully introduce, new services and products. We are uncertain whether we can develop commercially acceptable new services and products. We must also expend significant time and resources to obtain the required regulatory approvals. Although we have conducted preclinical studies on certain services and products under development which indicate that such services and products may be effective in a particular application, we cannot be certain that the results we obtain from expanded clinical studies will be consistent with earlier trial results or be sufficient for us to obtain any required regulatory approvals or clearances. We cannot give assurance that we will not experience difficulties that could delay or prevent us from successfully developing, introducing, and marketing new services and products. We also cannot give assurance that the regulatory agencies will clear or approve these or any new services and products on a timely basis, if ever, or that the new services and products will adequately meet the requirements of the applicable market or achieve market acceptance.

Our ability to complete the development of any of our services and products is subject to all of the risks associated with the commercialization of new services and products based on innovative technologies. Such risks include unanticipated technical or other problems, processing or manufacturing difficulties, and the possibility that we have allocated insufficient funds to complete such development. Consequently, we may not be able to successfully introduce and market our services or products which are under development, or we may not be able to do so on a timely basis. These services and products may not meet price or performance objectives and may not prove to be as effective as competing services and products. If we are unable to successfully complete the development of a service, product, or application, or if we determine for financial, technical, or other reasons not to complete development or obtain regulatory approval or clearance of any service, product, or application, particularly in instances when we have expended significant capital, this could have a material adverse impact on our revenues, financial condition, profitability, and cash flows. Research and development efforts are time consuming and expensive, and we cannot be sure that these efforts will lead to commercially successful services or products. Even the successful commercialization of a new service or product in the medical industry can be characterized by slow growth and high costs associated with marketing, under-utilized production capacity, and continuing research and development and education costs. The introduction of new services or products may require significant physician training and years of clinical evidence derived from follow-up studies on human implant recipients in order to gain acceptance in the medical community. Our potential new services or products currently under development include the following:

- PerClot in the U.S. and other jurisdictions,
 - CryoValve SGAV,
 - BioFoam in the U.S.,
- Cardiogenesis' Phoenix System, for combining TMR with the delivery of biologics, such as stem cells,
 - ProPatch and related products,
 - SynerGraft processed tissues, and
 - New indications for BioGlue.

Uncertainties Related To Patents And Protection Of Proprietary Technology May Adversely Impact The Value Of Our Intellectual Property.

We own several patents, patent applications, and licenses relating to our technologies, which we believe provide us with important competitive advantages. In addition, we have certain proprietary technologies and methods that provide us with important competitive advantages. We cannot be certain that our pending patent applications will issue as patents or that no one will challenge the validity or enforceability of any patent that we own. We also cannot be certain that if anyone does make such a challenge, that we will be able to successfully defend that challenge. We may have to incur substantial litigation costs to uphold the validity and prevent infringement of a patent or to protect our proprietary technologies and methods. Furthermore, competitors may independently develop similar technologies or duplicate our technologies or design around the patented aspects of such technologies. In addition, our technologies or products or services could infringe patents or other rights owned by others, or others could infringe our patents.

For example, we filed suit in Germany against Tenaxis because we believe that Tenaxis is infringing our main BioGlue patent in Germany. Tenaxis filed a separate suit to nullify this same BioGlue patent in Germany, and the Patent Court issued an order nullifying this patent. We appealed the nullification, which means the patent stays in effect while the appeal is pending; however, there can be no guarantee that we will succeed. The ultimate nullification of this patent, if it occurs, will not prohibit us from selling BioGlue in Germany, but would allow Tenaxis and others to market competing products based on the BioGlue technology. Tenaxis has been selling its competing product in Germany since at least 2009 and has been competing with our BioGlue product since that time. Should we be unsuccessful in our lawsuit regarding infringement of our BioGlue patent, in our appeal of the nullification, or in prohibiting any other infringements of our patents, or should the validity of our patents be successfully challenged by other third parties in Germany or other countries, we may face increased competition from products based on the BioGlue technology, and our revenues, financial condition, profitability, and cash flows could be materially, adversely impacted.

Intense Competition May Impact Our Ability To Operate Profitably.

We face competition from other companies engaged in the following lines of business:

- The processing and preservation of human tissue,
- The marketing of mechanical, synthetic, and animal-based tissue valves for implantation,
- The marketing of surgical adhesives, surgical sealants, and hemostatic agents, and
- Cardiogenesis' TMR System.

Management believes that at least two domestic tissue banks offer preserved human heart valves and many companies offer porcine, bovine, and mechanical heart valves, including St. Jude Medical, Inc., Medtronic, Inc., and Edwards Life Sciences.

Our BioGlue product competes with other surgical adhesives and surgical sealants, including Baxter International, Inc.'s Tisseel, CoSeal, and TachoSil; Ethicon, Inc.'s, (a Johnson & Johnson Company), Evicel and Omnex; Covidien, Ltd.'s U.S. Surgical Division's Duraseal product; Tenaxis's ArterX; and Neomend, Inc.'s ProGel. Other large medical device, pharmaceutical, and biopharmaceutical companies may also be developing competitive products. Our BioGlue product competes on the basis of its high tensile strength and ease of use.

Our BioFoam product competes with other surgical hemostatic agents that include Pfizer, Inc.'s Gelfoam; Baxter International, Inc.'s FloSeal; Ethicon, Inc.'s Spongostan, Instat, Surgicel, and Surgicel Nu-Knit; C.R. Bard, Inc.'s Avitene; Nycomed's TachoSil; and Orthovita, Inc.'s Vitagel. Other medical device, pharmaceutical, and biopharmaceutical companies may also develop competitive products. Our BioFoam product competes on the basis of its clinical efficacy and ease of use.

Our PerClot product competes with thrombin products, including King Pharmaceuticals, Inc.'s Thrombin JMI; ZymoGenetics, Inc.'s Recothrom; and Omrix Biopharmaceuticals, Inc.'s, (a Johnson & Johnson Company), Evithrom; and surgical hemostats, including Pfizer, Inc.'s Gelfoam; C.R. Bard, Inc.'s Avitene; Baxter International, Inc.'s FloSeal; Ethicon, Inc.'s Surgicel, Surgiflo, and Surgifoam; and Medafor's Arista, which we previously distributed as HemoStase. We are also aware that a few companies have surgical hemostat products under development. Other medical device, pharmaceutical, and biopharmaceutical companies may also be developing competitive products. Our PerClot product competes on the basis of its safety profile, clinical efficacy, absorption rates, and ease of use.

Many of our competitors have greater financial, technical, manufacturing, and marketing resources than we do and are well established in their markets. We have increased fees and prices on some of our international services and products since January 1, 2011. This increase may provide an opportunity for our competitors to gain market share. If we are unable to continue to increase prices as planned and retain or improve our market share, our ability to grow revenues and profits may be materially adversely impacted.

We cannot give assurance that our tissues and products will be able to compete successfully. Any products that we develop that gain regulatory clearance or approval will have to compete for market acceptance and market share. In addition, our competitors may gain competitive advantages that may be difficult to overcome. If we fail to compete effectively, this could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

If We Are Not Successful In Expanding Our Business Activities In International Markets, We May Be Unable To Increase Our Revenues.

Our international operations are subject to a number of risks which may vary from the risks we face in the U.S., including:

- Difficulties and costs associated with staffing and managing foreign operations, including foreign distributor relationships,
- Longer accounts receivable collection cycles in certain foreign countries and additional cost of collection of those receivables,
 - More limited protection for intellectual property in some countries,
 - Changes in currency exchange rates,
 - Adverse economic or political changes,
 - Unexpected changes in regulatory requirements and tariffs,
- Potential trade restrictions, exchange controls, and import and export licensing requirements, and
 - Potentially adverse tax consequences of overlapping tax structures.

Our failure to adequately address these risks could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

We Are Dependent On The Availability Of Sufficient Quantities Of Tissue From Human Donors.

The success of our tissue preservation services depends upon, among other factors, the availability of sufficient quantities of tissue from human donors. We rely primarily upon the efforts of third party procurement organizations, tissue banks, most of which are not-for-profit, and others to educate the public and foster a willingness to donate tissue. If the supply of donated human tissue is materially reduced, this would restrict our growth and could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

Key Growth Strategies May Not Generate The Anticipated Benefits.

The key elements of our strategy related to growing our business and leveraging our strength and expertise in our core marketplaces to generate revenue and earnings growth are to:

- Identify and evaluate acquisition opportunities of and investments in complementary product lines and companies,

Edgar Filing: CRYOLIFE INC - Form S-3

- Expand our core business,
- Develop our pipeline of services and products,
- License Company technology to third parties for non-competing uses, and
- Analyze and identify underperforming assets for potential sale or disposal.

Although management has begun implementing these strategies, we cannot be certain that they will ultimately enhance shareholder value.

Investments In New Technologies And Acquisitions Of Products Or Distribution Rights May Not Be Successful.

We may invest in new technology licenses and acquire products or distribution rights that may not succeed in the marketplace. In such cases we may be unable to recover our initial investment, which could include the cost of acquiring license or distribution rights, acquiring products, purchasing initial inventory, or investments in early stage companies. Inability to recover our investment or any write off of such investment may materially adversely impact our financial condition and profitability.

Regulatory Action Outside Of The U.S. Has Affected Our Business In The Past And May Affect Our Business In The Future.

After the FDA issued the FDA Order, discussed above at “Our Tissues And Products Allegedly Have Caused, And May In The Future Cause, Injury To Patients, And We Have Been, And May In The Future Be, Exposed To Tissue Processing And Product Liability Claims, Including One Currently Outstanding Product Liability Lawsuit, And Additional Regulatory Scrutiny As A Result,” Health Canada also issued a recall of the same types of tissue. In addition, other countries have made inquiries regarding the tissues that we export, although these inquiries are now, to our knowledge, complete. In the event other countries raise additional regulatory concerns, we may be unable to export tissues to those countries. Regulatory concerns could also be raised regarding the products we market internationally, including BioGlue, BioFoam and PerClot. Revenues from international tissue preservation services were approximately \$2.7 million, \$2.3 million, and \$1.6 million, for the years ended December 31, 2011, 2010, and 2009, respectively. International revenues from product sales, which includes international BioGlue, BioFoam, HemoStase, and PerClot revenues, were approximately \$21.0 million, \$17.3 million, and \$16.0 million, for the years ended December 31, 2011, 2010, and 2009, respectively. Loss of all or a material portion of our international revenues would have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

Consolidation In The Healthcare Industry Could Continue To Result In Demands For Price Concessions, Limits On The Use Of Our Tissues And Products, And Limitations On Our Ability To Sell To Certain Of Our Significant Market Segments.

The cost of healthcare has risen significantly over the past decade and numerous initiatives and reforms initiated by legislators, regulators, and third-party payors to curb these costs have resulted in a consolidation trend in the medical device industry as well as among our customers, including healthcare providers. This in turn has resulted in greater pricing pressures and limitations on our ability to sell to important market segments, as group purchasing organizations, independent delivery networks, and large single accounts continue to consolidate purchasing decisions for some of our customers. We expect that market demand, government regulation, third-party reimbursement policies, and societal pressures will continue to change the worldwide healthcare industry, resulting in further business consolidations and alliances which may exert further downward pressure on the fees charged for our tissues and prices for our products, which could materially adversely impact our revenues, financial condition, profitability, and cash flows.

Extensive Government Regulation May Adversely Impact Our Ability To Develop And Market Services And Products.

Government regulation in the U.S., Europe, Asia and other jurisdictions can determine the success of our efforts and our competitors' efforts to market and develop services and products. Most of our services and products in development, if successfully developed, will require regulatory approvals from the FDA and perhaps other regulatory authorities before they may be commercially distributed, including in most instances a PMA. The process of obtaining a PMA from the FDA normally involves clinical trials as well as an extensive PMA application and often

takes many years. Some products may qualify for clearance to be marketed under a Section 510(k) process, in which the manufacturer provides a premarket notification that it intends to begin marketing a product, and shows that the product is substantially equivalent to another legally marketed predicate product. While more streamlined than the full PMA process, the 510(k) notification process may also require clinical trials and take many years. For example, the 510(k) clearance for the CryoValve SGPV took four years. The process for approval or clearance from the FDA is expensive and can vary significantly based on the type, complexity, and novelty of the product. We cannot give any assurance that any services and products developed by us, independently or in collaboration with others, will receive the required approvals or clearances for processing or manufacturing and marketing.

Delays in obtaining U.S. or foreign approvals could result in substantial additional costs and adversely impact our competitive position. The FDA may also place conditions on service or product approvals that could restrict commercial applications of our services or products. The FDA may withdraw service and product marketing approvals or clearances if we do not maintain compliance with regulatory standards, if problems occur following initial marketing, or based on the results of post-market studies. Delays imposed by the governmental approval and clearance process may materially reduce the period during which we have the exclusive right to commercialize patented services and products.

Delays or rejections may also be encountered by us during any stage of the regulatory approval process if clinical or other data fails to satisfactorily demonstrate compliance with, or if the service or product fails to meet, the regulatory agency's requirements for safety, efficacy, and quality. Those requirements may become more stringent due to changes in applicable laws, regulatory agency policies, or the adoption of new regulations. Clinical trials may also be delayed due to the following:

- Unanticipated side effects,
 - Lack of funding,
- Inability to locate or recruit clinical investigators,
 - Inability to locate, recruit, and qualify sufficient numbers of patients,
 - Redesign of clinical trial programs,
- Inability to manufacture or acquire sufficient quantities of the particular tissue, product, or any other components required for clinical trials,
 - Changes in development focus, and
 - Disclosure of trial results by competitors.

Even if we are able to obtain regulatory approval for any services or products offered, the scope of the approval may significantly limit the indicated usage for which such services or products may be marketed. The unapproved use of our tissues or products could adversely impact the reputation of our Company and our services and products. Services or products marketed pursuant to FDA or foreign oversight or foreign approvals are subject to continuing regulation and periodic inspections. Labeling and promotional activities are also subject to scrutiny by the FDA and, in certain instances, by the Federal Trade Commission. The export of devices and biologics is also subject to regulation and may require FDA approval. From time to time, the FDA may modify such regulations, imposing additional or different requirements. If we fail to comply with applicable FDA requirements, which may be ambiguous, we could face civil and criminal enforcement actions, warnings, citations, product recalls or detentions, and other penalties. This could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

In addition, the National Organ Transplant Act of 1984, or "NOTA," prohibits the acquisition or transfer of human organs for valuable consideration for use in human transplantation. NOTA permits the payment of reasonable expenses associated with the removal, transportation, implantation, processing, preservation, quality control, and storage of human organs. Congress could adopt more restrictive interpretations of NOTA in the future that challenge one or more aspects of industry methods of charging for preservation services. Our laboratory operations, and those

of our competitors, are subject to the U.S. Department of Labor, Occupational Safety and Health Administration, and U.S. Environmental Protection Agency requirements for prevention of occupational exposure to infectious agents and hazardous chemicals and protection of the environment. Some states have enacted statutes and regulations which govern the processing, transportation, and storage of human organs and tissue.

The EU has three separate directives called the EUCTD that establish a benchmark standard for the regulation of tissues and cells to be implanted in humans. The EUCTD requires that countries in the European Economic Area take responsibility for regulating tissues and cells through a Competent Authority. Although Europa, our subsidiary, has a license to ship tissue into the United Kingdom and a provisional license to distribute tissue into Germany through those countries' Competent Authorities, these countries could change their regulations or processes, and, thereby, increase the cost to us of distribution, or modify or eliminate our ability and Europa's ability to distribute tissue into the United Kingdom and Germany. In addition, Europa ships tissue into Austria, which currently has no Competent Authority. When Austria puts in place its Competent Authority, it could cause CryoLife and Europa to cease distribution of tissue into Austria temporarily or permanently or increase the costs to do so materially.

In addition, U.S. and foreign governments and regulatory agencies may adopt more restrictive laws or regulations in the future that could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

The Success Of Many Of Our Tissues And Products Depends Upon Strong Relationships With Physicians.

If we fail to maintain our working relationships with physicians, many of our tissues and products may not be developed and marketed to appropriately meet the needs and expectations of the professionals who use and support our tissues and products. The research, development, marketing, and sales of many of our new and improved tissues and products are dependent upon our maintaining working relationships with physicians. We rely on these professionals to provide us with considerable knowledge and experience regarding our tissues and products and their marketing. Physicians assist us as researchers, marketing consultants, product consultants, and public speakers.

Certain states have begun to regulate interactions with physicians and other healthcare professionals. There is existing legislation and regulations that govern interactions with physicians and other healthcare professionals, and there is proposed legislation and regulations that govern interactions with physicians and other healthcare professionals that are currently before state legislatures and the U.S. Congress. For example, unless implementation is further delayed by the Department of Health and Human Services, Congress, or the courts, beginning in 2013, we will have to disclose payments made to physicians for meals or other services in 2012 to the Department of Health and Human Services. These existing regulations and legislation currently impact our ability to maintain strong relationships with physicians and, may in the future, further impact our relationships with physicians and the proposed regulations and legislation, if passed or implemented, may impact our ability to maintain strong relationships with physicians in the future. If we are unable to maintain our strong relationships with these professionals and do not continue to receive their advice and input, the development and marketing of our products could suffer, which could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

Our Existing Insurance Policies May Not Be Sufficient To Cover Our Actual Claims Liability.

Our tissues and products allegedly have caused, and may in the future cause, injury to patients using our tissues or products, and we have been, and may be, exposed to tissue processing and product liability claims. We maintain claims-made insurance policies to mitigate our financial exposure to tissue processing and product liability claims. Claims-made insurance policies generally cover only those asserted claims and incidents that are reported to the insurance carrier while the policy is in effect. Thus, a claims-made policy does not generally represent a transfer of risk for claims and incidents that have been incurred but not reported to the insurance carrier during the policy period.

Our December 31, 2011 Consolidated Balance Sheet reflects a \$2.0 million liability for the estimated cost of resolving unreported tissue processing and product liability claims. We believe that the liability could be estimated to be as high as \$3.7 million, after including a reasonable margin for statistical fluctuations. Based on an actuarial valuation, we estimated that as of December 31, 2011, \$700,000 of the accrual for unreported liability claims would be recoverable under our insurance policies. These amounts represent management's estimate of the probable losses and anticipated recoveries for unreported liability claims related to services performed and products sold prior to December 31, 2011. Actual results may differ from this estimate. Our tissue processing and product liability insurance policies do not include coverage for any punitive damages.

If we are unsuccessful in arranging acceptable settlements of future tissue processing or product liability claims or future securities class action or derivative claims, we may not have sufficient insurance coverage and liquid assets to meet these obligations. Additionally, if one or more claims with respect to which we become hereafter a defendant should be tried with a substantial verdict rendered in favor of the plaintiff(s), such verdict(s) could exceed our

available insurance coverage and liquid assets. If we are unable to meet required future cash payments to resolve any outstanding or any future claims, this will materially adversely impact our financial condition, profitability, and cash flows. Further, if the costs of pending or incurred but unreported tissue processing and product liability claims exceed our current estimates, our financial condition, profitability, and cash flows may be materially adversely impacted. If we do not have sufficient resources to pay any future verdicts rendered against us, we may be forced to cease operations or seek protection under applicable bankruptcy laws.

We May Be Unable To Obtain Adequate Insurance At A Reasonable Cost, If At All.

If we are unable to obtain satisfactory insurance coverage in the future, we may be subject to additional future exposure from tissue processing and product liability claims. Additionally, insurance rates may be significantly higher than in the past, and insurers may provide less coverage, which may materially adversely impact our financial condition, profitability, and cash flows. In addition, should we be subject to liability, whether imposed by a court or due to a settlement that results in a large insurance claim, our insurance rates could increase significantly. Our current tissue processing and product liability insurance policy is a nine-year claims-made policy covering claims incurred during the period April 1, 2003 through March 31, 2012 and reported during the period April 1, 2011 through March 31, 2012. Claims incurred prior to April 2003 that have not been reported are uninsured. Any punitive damage components of claims are also uninsured.

We Are Not Insured Against All Potential Losses. Natural Disasters Or Other Catastrophes Could Adversely Impact Our Business, Financial Condition, And Profitability.

Our facilities could be materially damaged by tornadoes, flooding, other natural disasters, or catastrophic circumstances. For example, our current facility in Kennesaw, Georgia, is the central location for all of our tissue processing and most of our BioGlue manufacturing. If this facility were to be materially damaged by a natural disaster it would cause a loss of processing and production and additional expenses to us to the extent any such damage is not fully covered by our business interruption and disaster insurance.

Even with insurance coverage, natural disasters or other catastrophic events could cause us to suffer substantial losses in our operational capacity and could also lead to a loss of opportunity and to a potential adverse impact on our relationships with our existing customers resulting from our inability to process tissues or produce products for them, for which we would not be compensated by existing insurance. This in turn could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

Our Credit Facility, Which Expires In October Of 2014, Limits Our Ability To Pursue Significant Acquisitions.

Our credit facility, which expires in October of 2014, prohibits mergers and acquisitions other than certain permitted acquisitions. Permitted acquisitions include certain stock acquisitions and non-hostile acquisitions that have been approved by the Board of Directors and/or the stockholders of the target company if, after giving effect to the acquisition, there is no event of default under the credit facility and there is still at least \$1.5 million available to be borrowed under the credit facility. The total consideration that we pay or are obligated to pay for all acquisitions consummated during the term of the credit facility, less the portion of any such consideration funded by the issuance of common or preferred stock, may not exceed an aggregate of \$15.0 million. As a result, our ability to consummate acquisitions and fully realize our growth strategy may be materially adversely impacted while this credit facility remains in effect. Any credit facility we subsequently enter into may have similar or more stringent restrictions on our ability to pursue significant acquisitions.

Our Ability To Borrow Under Our Credit Facility May Be Limited.

Our credit facility contains a number of affirmative covenants that we must satisfy before we can borrow. For example, we must satisfy specified leverage ratios, and there are also varying levels of adjusted earnings before interest, taxes, depreciation, and amortization under the credit facility that we have covenanted to maintain during the term of the credit facility. Failure to satisfy any of these requirements could limit our borrowing ability and materially adversely impact our liquidity.

Continued Fluctuation Of Foreign Currencies Relative To The U.S. Dollar Could Materially Adversely Impact Our Business.

The majority of our foreign tissue processing and product revenues are denominated in British Pounds and Euros and, as such, are sensitive to changes in exchange rates. In addition, a portion of our dollar-denominated product sales are made to customers in other countries who must convert local currencies into U.S. Dollars in order to purchase these products. We also have balances, such as cash, accounts receivable, accounts payable, and accruals that are denominated in foreign currencies. These foreign currency transactions and balances are sensitive to changes in exchange rates. Fluctuations in exchange rates of British Pounds and Euros or other local currencies in relation to the U.S. Dollar could materially reduce our future revenues as compared to the comparable prior periods. Should this occur, it could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

Rapid Technological Change Could Cause Our Services And Products To Become Obsolete.

The technologies underlying our services and products are subject to rapid and profound technological change. Competition intensifies as technical advances in each field are made and become more widely known. We can give no assurance that others will not develop services, products, or processes with significant advantages over the services, products, and processes that we offer or are seeking to develop. Any such occurrence could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

Our CryoValve SGPV Post-Clearance Study May Not Provide Expected Results.

At the FDA's request, we are conducting a post-clearance study to seek evidence for the potential and implied long-term benefits of the SynerGraft process used to process the CryoValve SGPV. The data to be collected includes long-term information on safety, hemodynamic function, immune response, and explant analysis. Although we believe that this information may help us ascertain whether the SynerGraft process reduces the immune response of the transplanted human heart valve and allows for the collagen matrix to recellularize with the recipient's own cells, it is possible that the results of the study will not be as expected. If this study shows that the SynerGraft process does not reduce immune response and/or cause the collagen matrix to recellularize with the recipient's cells, we may be unable to realize some or all of the long-term benefits that we anticipated for the use of this process, and the Company may not be able to continue to process a portion of its human pulmonary valves and cardiac patch tissues with the SynerGraft technology.

Our Investment In ValveXchange, Inc. May Become Impaired, Which Could Have A Material Adverse Impact On Our Earnings.

In July 2011 we purchased approximately 2.4 million shares of Series A Preferred Stock of ValveXchange, Inc. ("ValveXchange") for approximately \$3.5 million. ValveXchange is a private medical device company that was spun off from Cleveland Clinic to develop a lifetime heart valve replacement technology platform featuring exchangeable bioprosthetic leaflets. CryoLife's carrying value of this investment includes the purchase price and certain transaction costs, and CryoLife's investment represents an approximate 19% equity ownership in ValveXchange.

In accordance with accounting principles generally accepted in the U.S. ("GAAP"), we regularly review our investments based on available information and make determinations regarding the value of our investments. While we are not currently aware of any factors that would require us to reevaluate our investment in ValveXchange or record an impairment of this investment, we have in the past recorded an impairment of our investment in Medafor, as described above at "Our Investment In Medafor May Have Been Further Impaired Due To Medafor's Termination Of Our Exclusive Distribution Agreement With It, Which Could Have A Material Adverse Impact On Our Financial

Condition And Profitability.” In the future, factors beyond our control could cause us to take similar action with respect to our ValveXchange investment. In such an event, if we ultimately determined that we were required to write down the carrying value of our investment in ValveXchange, our earnings could be materially adversely impacted, depending on the extent of the impairment.

We Are Dependent On Our Key Personnel.

Our business and future operating results depend in significant part upon the continued contributions of our key field personnel and senior management, many of whom would be difficult to replace, including our Chief Executive Officer, Steven G. Anderson, whose employment agreement expires in December 2012. Our business and future operating results also depend in significant part upon our ability to attract and retain qualified management, processing, marketing, sales, and support personnel for our operations. Competition for such personnel is intense, and we cannot ensure that we will be successful in attracting and retaining such personnel. We do not have key life insurance policies on any of our key personnel. If we lose any key employees, if any of our key employees fail to perform adequately, or if we are unable to attract and retain skilled employees as needed, this could have a material adverse impact on our revenues, financial condition, profitability, and cash flows.

Risks Related To Our Common Stock

Trading Prices For Our Common Stock, And For The Securities Of Biotechnology Companies In General, Have Been, And May Continue To Be, Volatile.

The trading price of our common stock has been subject to wide fluctuations and may continue to be volatile in the future. Trading price fluctuations can be caused by a variety of factors, many of which are beyond our control, including:

- Governmental regulatory acts,
- Regulatory actions such as adverse FDA activity,
- Other actions taken by government regulators,
- General conditions in the medical device or service industries,
- Announcement of technological innovations or new products by us or our competitors,
- Tissue processing and product liability claims,
- Developments with respect to patents or proprietary rights,
- Variations in operating results, and
- Changes in earnings estimates by securities analysts.

If our revenues or operating results in future quarters fall below the expectations of securities analysts and investors, the price of our common stock would likely decline, perhaps substantially. If our share prices do not meet the requirements of the New York Stock Exchange, our shares may be delisted. The closing price of our common stock has ranged from a high of \$16.35 to a low of \$4.00 in the period from January 1, 2008 to January 31, 2012.

In addition, changes in the trading price of our common stock may bear no relation to our actual operational or financial results. The market prices of the securities of biotechnology companies have been highly volatile and are likely to remain highly volatile in the future. This volatility has often been unrelated to the operating performance of particular companies. In the past, companies that experienced volatility in the market price of their securities have

often faced securities class-action litigation. Moreover, market prices for stocks of biotechnology and technology companies frequently reach levels that bear no relationship to the operating performance of these companies. These market prices generally are not sustainable and are highly volatile. Whether or not meritorious, litigation brought against us could result in substantial costs, divert our management's attention and resources, and materially adversely impact our financial condition, profitability, and cash flows.

Anti-Takeover Provisions May Discourage Or Make More Difficult An Attempt To Obtain Control Of Us.

Our Articles of Incorporation and Bylaws contain provisions that may discourage or make more difficult any attempt by a person or group to obtain control of our Company, including provisions authorizing the issuance of preferred stock without shareholder approval, restricting the persons who may call a special meeting of the shareholders, and prohibiting shareholders from taking action by written consent. In addition, we are subject to certain provisions of Florida law that may discourage or make more difficult takeover attempts or acquisitions of substantial amounts of our common stock. Further, pursuant to the terms of a shareholder rights plan adopted in 1995 and amended in 2005, each outstanding share of common stock has one attached right. The rights will cause substantial dilution of the ownership of a person or group that attempts to acquire our Company on terms not approved by the Board of Directors and may deter hostile takeover attempts. These provisions could potentially deprive our stockholders of opportunities to sell shares of our stock at above-market prices.

We Have Not Paid Cash Dividends On Our Common Stock And May Be Unable To Do So Due To Contractual Restrictions.

We have not paid cash dividends on our common stock. In addition, our credit agreement prohibits us from paying cash dividends without the lender's approval, and under Florida law, we may not be able to pay cash dividends on our capital stock. The terms of any future financing arrangements that we may enter into may also restrict our ability to pay dividends.

FORWARD LOOKING STATEMENTS

This prospectus includes and incorporates by reference "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, or Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or Exchange Act. Forward-looking statements give our current expectations or forecasts of future events. The words "could," "may," "might," "will," "would," "shall," "should," "pro forma," "potential," "pending," "intend," "expect," "anticipate," "estimate," "plan," "future" and other similar expressions generally identify forward-looking statements including, in particular, statements regarding future services, market expansion, revenues, cost savings, regulatory activity, available funds and capital resources, and pending litigation. These forward-looking statements are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Investors are cautioned not to place undue reliance on these forward-looking statements, which are as of their respective dates. Such forward-looking statements reflect the views of our management at the time such statements are made and are subject to a number of risks, uncertainties, estimates and assumptions, including, without limitation, in addition to those identified in the text surrounding such statements, those identified under "Risk Factors" and elsewhere in this prospectus.

All statements, other than statements of historical facts, included herein that address activities, events or developments that CryoLife expects or anticipates will or may occur in the future, are forward-looking statements, including statements regarding:

- Advantages of the human tissues CryoLife distributes;
- Plans regarding regulatory approval of PerClot and the PHOENIX Combination Delivery System;
 - Beliefs regarding the potential benefits of combining TMR with the delivery of biologics;
 - CryoLife's continuing research and development activities;
- Intentions regarding the use of the net proceeds from the sale of securities offered in this prospectus;
- Our expectations regarding the effects of recent and potential future acquisitions of businesses and technologies;
- Our expectations regarding the effects of recent healthcare reform legislation, including the amounts of taxes we may pay, which are uncertain because the government has not released the final implementing regulations; and
 - Other statements regarding future plans and strategies, anticipated events, or trends.

These statements are based on certain assumptions and analyses made by CryoLife in light of its experience and its perception of historical trends, current conditions, and expected future developments as well as other factors it believes are appropriate in the circumstances. However, whether actual results and developments will conform with CryoLife's expectations and predictions is subject to a number of risks and uncertainties which could cause actual results to differ materially from CryoLife's expectations, including the risk factors discussed in this prospectus and other factors, many of which are beyond the control of CryoLife. Consequently, all of the forward-looking statements made or incorporated by reference in this prospectus are qualified by these cautionary statements and there can be no assurance that the actual results or developments anticipated by CryoLife will be realized or, even if substantially realized, that they will have the expected consequences to or effects on CryoLife or its business or

operations. CryoLife assumes no obligation to update publicly any such forward-looking statements, whether as a result of new information, future events, or otherwise.

USE OF PROCEEDS

Unless we indicate otherwise in the applicable prospectus supplement, our management will have broad discretion over the use of the net proceeds from the sale of the securities offered in this prospectus. We currently intend to use such proceeds for working capital and general corporate purposes, which could include the repayment of debt. We may also use such proceeds to fund the acquisition of companies, businesses, technologies, products or assets. However, we currently have no commitments or agreements for any specific acquisitions. Pending use of the net proceeds, we intend to invest the net proceeds in short-term, investment-grade, interest-bearing securities. Any specific allocation of the net proceeds of an offering of securities to a specific purpose will be determined at the time of the offering and will be described in an accompanying prospectus supplement.

DESCRIPTION OF CAPITAL STOCK

Description of Capital Stock

The Company is authorized to issue up to 75,000,000 shares of Common Stock, \$.01 par value, and 5,000,000 shares of Preferred Stock, \$.01 par value. As of February 10, 2012, there were 27,711,808 shares of Common Stock outstanding net of 2,385,695 treasury shares. They were held by approximately 418 shareholders of record. There were no shares of Preferred Stock outstanding as of February 10, 2012.

The following summary is qualified in its entirety by reference to the Company's Amended and Restated Articles of Incorporation, the Company's Amended and Restated Bylaws and the Florida Business Corporation Act (the "FBCA").

Common Stock

Holders of Common Stock are entitled to one vote per share of Common Stock held of record on all matters to be voted upon by the Company's shareholders generally. Holders of Common Stock are not entitled to cumulative voting rights. As a result, the holders of a majority of the shares of Common Stock voting for the election of directors may elect all of the Company's directors if they choose to do so, and, in such event, the holders of the remaining shares of Common Stock will not be able to elect any person or persons to the Board of Directors.

Holders of Common Stock are entitled to receive, on a pro rata basis, such dividends and distributions, if any, as may be declared from time to time by the Board of Directors out of funds legally available therefor, subject to any preferential dividend right of any issued and outstanding shares of Preferred Stock. In the event of liquidation, dissolution or winding up of the Company, after payment of creditors, holders of Common Stock are entitled to share ratably in all assets, subject to the payment of any liquidation preference of any issued and outstanding shares of Preferred Stock. The shares of Common Stock currently outstanding are validly issued, fully paid and non-assessable.

Preferred Stock

The Board of Directors of the Company is empowered, without approval of the Company's shareholders, to cause shares of Preferred Stock (the "Preferred Stock") to be issued in one or more series and to fix and determine the relative rights and preferences of the shares of any such series, subject to the limits of Florida law. Because the Board of Directors has the power to establish the preferences and rights of each series, it may afford the holders of any series of Preferred Stock preferences, powers and rights, voting or otherwise, senior to the rights of holders of Common Stock.

While providing desirable flexibility for possible acquisitions and other corporate purposes, and eliminating delays associated with a shareholder vote on specific issuances, the issuance of Preferred Stock could adversely affect the voting power of holders of common stock, as well as dividend and liquidation payments on both Common Stock and Preferred Stock. It also could have the effect of delaying, deferring or preventing a change in control of CryoLife.

The prospectus supplement relating to an offering of Preferred Stock will specify the terms of any series of Preferred Stock offered by it including:

- the series, the number of shares offered and the liquidation value of the Preferred Stock;
 - the price at which the Preferred Stock will be issued;
- the dividend rate, the dates on which the dividends will be payable and other terms relating to the payment of dividends on the Preferred Stock;
 - the liquidation preference of the Preferred Stock;
- whether the Preferred Stock is redeemable or subject to a sinking fund, and the terms of any such redemption or sinking fund;
- whether the Preferred Stock is convertible into or exchangeable for any other securities, and the terms of any such conversion or exchange; and
 - any additional rights, preferences, qualifications, limitations or restrictions of the Preferred Stock.

The description of the terms of the Preferred Stock to be set forth in an applicable prospectus supplement will not be complete and will be subject to and qualified in its entirety by reference to the statement of resolution relating to the applicable series of Preferred Stock. The registration statement of which this prospectus forms a part will include the statement of resolution as an exhibit or incorporate it by reference.

Stock Options and Restricted Stock Awards

As of February 20, 2012, the Company had issued and outstanding options to purchase an aggregate of approximately 2,156,783 shares of Common Stock (net of forfeitures, expirations and cancellations) pursuant to its Stock Option Plans, at exercise prices between \$4.83 and \$27.90. Of such options, approximately 1,061,192 were exercisable as of February 20, 2012. As of February 20, 2012, the Company had issued and outstanding approximately 728,865 shares of restricted stock that are subject to future time-based vesting and a risk of forfeiture.

Articles of Incorporation and Bylaws

Certain provisions of the Articles of Incorporation and Bylaws of the Company and of Florida law, which are summarized below, could have the effect of making it more difficult to change the composition of the Company's Board of Directors or for any person or entity to acquire control of the Company.

Special Meetings

Pursuant to the Company's Articles of Incorporation and Bylaws, special meetings of the shareholders may be called only by the President or Secretary at the request in writing of a majority of the Board of Directors then in office or at the request in writing of shareholders owning not less than 50% of all votes entitled to be cast at the special meeting.

Prohibition of Shareholder Action Without Meeting

Under the Company's Articles of Incorporation, the shareholders may not take action by written consent. Any and all action by the shareholders is required to be taken at the annual shareholders' meeting or at a special shareholders'

meeting.

25

Anti-Takeover Statute

The Company is subject to FBCA Section 607.0901, which provides that, subject to certain exceptions, an “affiliated transaction” must be approved by the holders of two-thirds of the voting shares other than those beneficially owned by an “interested shareholder” unless the corporation has elected to opt out of this requirement in its Articles of Incorporation or its Bylaws. The Company has not elected to opt out of this requirement, which may have the effect of making it more difficult for any person or group to acquire the Company or substantial amounts of the Company’s Common Stock.

Ability to Consider Other Constituencies

The Directors of the Company are subject to the “general standards for Directors” provisions set forth in Section 607.0830 of the FBCA. These provisions provide that, among other things, in discharging his or her duties and determining what is in the best interests of the Company, a Director may consider such factors as the Director deems relevant, including the long-term prospects and interests of the Company and its shareholders, and the social, economic, legal or other effects of any proposed action on the employees, suppliers or customers of the Company, the communities in which the Company operates and the economy in general. Consequently, in connection with any proposed corporate action, the Board of Directors is empowered to consider interests of other constituencies in addition to the interests of the Company’s shareholders. Shareholders should be aware that Directors who take into account these other factors may make decisions which are less beneficial to the shareholders than if the law did not permit consideration of such other factors.

Shareholder Rights Plan

In November 1995, the Board of Directors of the Company established a rights plan, pursuant to which one preferred share purchase right (a “Right”) is attached to each outstanding share of Common Stock. The description and terms of the Rights were set forth in a rights agreement dated as of November 27, 1995, between the Company and Chemical Mellon Shareholder Services, the original “Rights Agent.” The agreement was amended effective June 1, 1997, when the Company’s Board appointed American Stock Transfer and Trust Company successor Rights Agent. On November 2, 2005, the Company amended and restated the agreement to extend its expiration date to November 23, 2015, and make other changes. The First Amended and Restated Rights Agreement (the “Rights Agreement”) between the Company and American Stock Transfer and Trust Company became effective as of November 23, 2005.

Each share of Common Stock outstanding on December 11, 1995 (the “First Record Date”) is entitled to one Right, as defined in and subject to the terms and conditions of the Rights Agreement. Under the Rights Agreement, a Right entitles the holder to purchase from the Company one one-hundredth of a share of Series A Junior Participating Preferred Stock, par value \$.01 per Share (the “Preferred Shares”) at a price of \$33.33 per one one-hundredth of a Preferred Share (the “Purchase Price”), subject to adjustment. Each share of Common Stock that becomes outstanding after the First Record Date is also entitled to a Right, subject to the terms of the Rights Agreement.

Currently, each Right is non-exercisable and is evidenced only by the certificate of Common Stock to which it is attached. The Rights will not be exercisable and will not be evidenced by separate certificates (“Right Certificates”, as further defined below) until the Distribution Date. Rights Certificates will be issued upon the “Distribution Date,” which will occur on the earlier of:

- 10 days following a public announcement that a person or group of affiliated or associated persons (with certain exceptions, an “Acquiring Person”) has acquired beneficial ownership of 15% or more of the outstanding Common Stock; or

- 10 business days following the commencement of, or announcement of an intention to make, a tender offer or exchange offer the consummation of which would result in the beneficial ownership by a person or group of 15% or more of the outstanding Common Stock (except that the Board of Directors may extend the 10-business-day period before a person or group becomes an Acquiring Person).

Until the Distribution Date (or earlier redemption, exchange or expiration of the Rights), the Rights will be transferred with and only with the shares of common stock that are entitled to receive rights under the Rights Agreement ("Eligible Shares").

The Rights entitle holders to acquire company securities under defined circumstances after the Distribution Date. Rights beneficially owned by an Acquiring Person (and its affiliates, associates, and transferees (collectively, the "Acquiring Persons")), however, become void from and after the time such persons become Acquiring Persons, and Acquiring Persons have no rights whatsoever under the Rights Agreement. The benefits of the Rights held by shareholders that are not Acquiring Persons and that are not so voided are described below. All references to Rights that follow refer only to Rights held by persons who are not Acquiring Persons.

As soon as practicable following the Distribution Date, separate certificates evidencing the Rights ("Right Certificates") will be mailed to holders of record of the Eligible Shares as of the close of business on the Distribution Date, and such separate Right Certificates will thereafter alone evidence the Rights. The Rights are not exercisable until the Distribution Date and expire on November 23, 2015 (the "Final Expiration Date"), unless the Final Expiration Date is advanced or extended or unless the Rights are earlier redeemed or exchanged by the Company, in each case, as described below. Until a Right is exercised, the Right confers no rights as a stockholder of the Company, including, without limitation, the right to vote or to receive dividends.

The Rights entitle holders to purchase Preferred Shares in certain circumstances. The Purchase Price payable, and the number of Preferred Shares or other securities or property issuable, upon exercise of the Rights are subject to adjustment from time to time to prevent dilution upon any of the following events:

- in the event of a stock dividend on, or a subdivision, combination or reclassification of, the Preferred Shares;
- upon the grant to holders of the Preferred Shares of certain rights or warrants to subscribe for or purchase Preferred Shares at a price, or securities convertible into Preferred Shares with a conversion price, less than the then-current market price of the Preferred Shares; or
 - upon the distribution to holders of the Preferred Shares of evidences of indebtedness or assets (excluding regular periodic cash dividends or dividends payable in Preferred Shares) or of subscription rights or warrants (other than those referred to above).

The number of outstanding Rights and the number of one one-hundredths of a Preferred Share issuable upon exercise of each Right are also subject to adjustment in the event of a stock dividend on the Common Shares payable in Common Shares or subdivisions, consolidations or combinations of the Common Shares occurring, in any such case, prior to the Distribution Date.

Preferred Shares purchasable upon exercise of the Rights will not be redeemable. Each Preferred Share will be entitled, when, as and if declared, to a minimum preferential quarterly dividend payment of \$1.00 per share but will be entitled to an aggregate dividend of 100 times the dividend declared per Common Share. In the event of liquidation, the holders of the Preferred Shares will be entitled to a minimum preferential liquidation payment of \$1.00 per share but will be entitled to an aggregate payment of 100 times the payment made per Common Share. Each Preferred Share will have 100 votes, voting together with the Common Shares. Finally, in the event of any merger, consolidation or other transaction in which Common Shares are exchanged, each Preferred Share will be entitled to receive 100 times the amount received per Common Share. These rights are protected by customary antidilution provisions.

Because of the nature of the Preferred Shares, dividend, liquidation and voting rights, the value of the one one-hundredth interest in a Preferred Share purchasable upon exercise of each Right should approximate the value of one Common Share. In the event that any person or group becomes an Acquiring Person, each holder of a Right will have the right to receive upon exercise of a Right, and in lieu of Preferred Shares, that number of Common Shares having a market value of two times the exercise price of the Right.

In the event that, after a person or group has become an Acquiring Person, the Company is acquired in a merger or other business combination transaction or 50% or more of its consolidated assets or earning power are sold, proper provision will be made so that each holder of a Right will thereafter have the right to receive, upon the exercise of a Right and in lieu of Preferred Shares or Common Shares of the Company, that number of shares of common stock of the person with whom the Company has engaged in the foregoing transaction (or its parent) that at the time of such transaction will have a market value of two times the exercise price of the Right.

At any time after any person or group becomes an Acquiring Person and prior to the acquisition by any person or group of 50% or more of the outstanding Common Shares, the Board of Directors of the Company may exchange the Rights, in whole or in part, at an exchange ratio of one Common Share, or a fractional share of Preferred Shares (or other preferred stock) equivalent in value thereto, per Right (subject to adjustment).

With certain exceptions, no adjustment in the Purchase Price will be required until cumulative adjustments require an adjustment of at least 1% in such Purchase Price. No fractional Preferred Shares will be issued (other than fractions which are integral multiples of one one-hundredth of a Preferred Share, which may, at the election of the Company, be evidenced by depository receipts) and in lieu thereof, an adjustment in cash will be made based on the current market price of the Preferred Shares or the Common Shares.

At any time prior to the time an Acquiring Person becomes such, the Board of Directors of the Company may redeem the Rights in whole, but not in part, at a price of \$.001 per Right (the "Redemption Price") payable, at the option of the Company, in cash, Common Shares or such other form of consideration as the Board of Directors of the Company shall determine. The redemption of the Rights may be made effective at such time on such basis with such conditions as the Board of Directors in its sole discretion may establish. Immediately upon any redemption of the Rights, the right to exercise the Rights will terminate and the only right of the holders of Rights will be to receive the Redemption Price.

The Company may amend the Rights Agreement in any manner, provided, after (a) such time as a person or group becomes an Acquiring Person, or (b) the Distribution Date, whichever is earlier, the Company may not amend the Rights Agreement in any manner that adversely affects the interests of the holders of the Rights (other than the interests of an Acquiring Person or an affiliate or associate of an Acquiring Person).

The description of the Rights contained herein is qualified in its entirety by reference to the First Amended and Restated Rights Agreement, which is incorporated by reference into the registration statement of which this Prospectus forms a part.

Shareholder Action

Except as otherwise provided by law or in our articles of incorporation or bylaws, the approval by holders of a majority of the shares of common stock present in person or represented by proxy at a meeting and entitled to vote is sufficient to authorize, affirm, ratify or consent to a matter voted on by shareholders. The FBCA requires the approval of the holders of a majority of the outstanding stock entitled to vote for certain extraordinary corporate transactions, such as a merger, sale of substantially all assets, dissolution or amendment of the articles of incorporation.

Transfer Agent and Registrar

The Transfer Agent and Registrar for the Common Stock is American Stock Transfer & Trust Company. It is located at 6201 15th Avenue, Brooklyn, NY 11219, and its telephone number is (718) 921-8124.

DESCRIPTION OF DEPOSITARY SHARES

General

We may offer fractional shares of preferred stock, rather than full shares of preferred stock. If we decide to offer fractional shares of preferred stock, we will issue receipts for depositary shares. Each depositary share will represent a fraction of a share of a particular series of preferred stock. The prospectus supplement will indicate that fraction. The shares of preferred stock represented by depositary shares will be deposited under a depositary agreement between us and a bank or trust company that meets certain requirements and is selected by us (the “Bank Depositary”). Each owner of a depositary share will be entitled to all the rights and preferences of the preferred stock represented by the depositary share. The depositary shares will be evidenced by depositary receipts issued pursuant to the depositary agreement. Depositary receipts will be distributed to those persons purchasing the fractional shares of preferred stock in accordance with the terms of the offering.

We have summarized selected provisions of a depositary agreement and the related depositary receipts. The summary is not complete. The forms of the deposit agreement and the depositary receipts relating to any particular issue of depositary shares will be filed with the SEC on a Current Report on Form 8-K prior to our offering of the depositary shares, and you should read such documents for provisions that may be important to you.

Dividends and Other Distributions

If we pay a cash distribution or dividend on a series of preferred stock represented by depositary shares, the Bank Depositary will distribute such dividends to the record holders of such depositary shares. If the distributions are in property other than cash, the Bank Depositary will distribute the property to the record holders of the depositary shares. If the Bank Depositary, however, determines that it is not feasible to make the distribution of property, the Bank Depositary may, with our approval, sell such property and distribute the net proceeds from such sale to the record holders of the depositary shares.

Redemption of Depositary Shares

If we redeem a series of preferred stock represented by depositary shares, the Bank Depositary will redeem the depositary shares from the proceeds received by the Bank Depositary in connection with the redemption. The redemption price per depositary share will equal the applicable fraction of the redemption price per share of the preferred stock. If fewer than all the depositary shares are redeemed, the depositary shares to be redeemed will be selected by lot or pro rata as the Bank Depositary may determine.

Voting the Preferred Stock

Upon receipt of notice of any meeting at which the holders of the preferred stock represented by depositary shares are entitled to vote, the Bank Depositary will mail the notice to the record holders of the depositary shares relating to such preferred stock. Each record holder of these depositary shares on the record date (which will be the same date as the record date for the preferred stock) may instruct the Bank Depositary as to how to vote the preferred stock represented by such holder’s depositary shares. The Bank Depositary will endeavor, insofar as practicable, to vote the amount of the preferred stock represented by such depositary shares in accordance with such instructions, and we will take all action which the Bank Depositary deems necessary in order to enable the Bank Depositary to do so. The Bank Depositary will abstain from voting shares of the preferred stock to the extent it does not receive specific instructions from the holders of depositary shares representing such preferred stock.

Conversion of Preferred Stock

If the prospectus supplement relating to any depositary shares that we may sell under this prospectus states that the underlying preferred stock is convertible into our common stock or other securities, the following will apply. The depositary shares, as such, will not be convertible into any of our securities. Rather, any holder of the depositary shares may surrender the related depositary receipts to the Bank Depositary with written instructions that direct us to cause conversion of the preferred stock represented by the depositary shares into or for whole shares of our common stock or other securities, as applicable. Upon receipt of those instructions and any amounts payable by the holder in connection with the conversion, we will cause the conversion using the same procedures as those provided for conversion of the underlying preferred stock. If only some of a holder's depositary shares are converted, a new depositary receipt or receipts will be issued to the holder for any depositary shares not converted.

Amendment and Termination of the Depositary Agreement

The form of depositary receipt evidencing the depositary shares and any provision of the depositary agreement may be amended by agreement between the Bank Depositary and us. However, any amendment that materially and adversely alters the rights of the holders of depositary shares will not be effective until 90 days after notice of that amendment has been given to the holders. Each holder of depositary shares at the time any amendment becomes effective shall be deemed to consent and agree to that amendment and to be bound by the depositary agreement as so amended. The depositary agreement may be terminated by the Bank Depositary or us only if (i) all outstanding depositary shares have been redeemed or (ii) there has been a final distribution in respect of the preferred stock in connection with any liquidation, dissolution or winding up of our company and such distribution has been distributed to the holders of depositary receipts.

Charges of Bank Depositary

We will pay all transfer and other taxes and governmental charges arising solely from the existence of the depositary arrangements. We will pay charges of the Bank Depositary in connection with the initial deposit of the preferred stock and any redemption of the preferred stock. Holders of depositary receipts will pay other transfer taxes and other taxes and governmental charges and any other charges, including a fee for the withdrawal of shares of preferred stock upon surrender of depositary receipts, as are expressly provided for their accounts in the depositary agreement.

Withdrawal of Preferred Stock

Upon surrender of depositary receipts at the principal office of the Bank Depositary, subject to the terms of the depositary agreement, the owner of the depositary shares may demand delivery of the number of whole shares of preferred stock represented by those depositary shares. Partial shares of preferred stock will not be issued. If the depositary receipts delivered by the holder evidence a number of depositary shares in excess of the number of depositary shares representing the number of whole shares of preferred stock to be withdrawn, the Bank Depositary will deliver to such holder at the same time a new depositary receipt evidencing the excess number of depositary shares. Holders of preferred stock thus withdrawn may not thereafter deposit those shares under the depositary agreement or receive depositary receipts evidencing depositary shares therefor.

Limitation of Liability

Neither we nor the Bank Depositary will be liable if either of us is prevented or delayed by law or any circumstance beyond our control in performing our respective obligations under the depositary agreement. Our obligations and those of the Bank Depositary will be limited to performance of our respective duties under the depositary agreement without, in our case, negligence or bad faith or, in the case of the depositary, negligence or willful misconduct. Neither the Bank Depositary nor we will be obligated to prosecute or defend any legal proceeding in respect of any depositary shares or preferred stock unless satisfactory indemnity is furnished. We and the Bank Depositary may rely upon advice of attorneys or accountants, or upon information provided by persons presenting the underlying preferred stock for deposit, holders of depositary receipts or other persons believed by us in good faith to be competent and on documents believed to be genuine.

Resignation and Removal of Bank Depositary

The Bank Depositary may resign at any time by delivering to us notice of its election to do so, and we may at any time remove the Bank Depositary. Any such resignation or removal will take effect upon the appointment of a successor Bank Depositary and its acceptance of such appointment. Such successor Bank Depositary must be appointed within

60 days after delivery of the notice of resignation or removal and must be a bank or trust company meeting the requirements of the depositary agreement.

DESCRIPTION OF WARRANTS

General

The following description, together with the additional information we may include in any applicable prospectus supplements and free writing prospectuses, summarizes the material terms and provisions of the warrants that we may offer under this prospectus, which may consist of warrants to purchase common stock, preferred stock or depositary shares and may be issued in one or more series. Warrants may be offered independently or in combination with common stock, preferred stock or depositary shares, or as a part of units, offered by any prospectus supplement. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. The following description of warrants will apply to the warrants offered by this prospectus unless we provide otherwise in the applicable prospectus supplement. The applicable prospectus supplement for a particular series of warrants may specify different or additional terms.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of warrant and/or the warrant agreement and warrant certificate, as applicable, that describe the terms of the particular series of warrants we are offering, and any supplemental agreements, before the issuance of such warrants. The following summaries of material terms and provisions of the warrants are subject to, and qualified in their entirety by reference to, all the provisions of the form of warrant and/or the warrant agreement and warrant certificate, as applicable, and any supplemental agreements applicable to a particular series of warrants that we may offer under this prospectus. We urge you to read the applicable prospectus supplement related to the particular series of warrants that we may offer under this prospectus, as well as any related free writing prospectuses, and the complete form of warrant and/or the warrant agreement and warrant certificate, as applicable, and any supplemental agreements, that contain the terms of the warrants.

The prospectus supplement relating to a particular series of warrants to purchase our common stock or preferred stock will describe the terms of the warrants, including the following:

- the title of the warrants;
- the offering price for the warrants, if any;
- the aggregate number of the warrants;
- the designation and terms of the common stock, preferred stock or depositary shares that may be purchased upon exercise of the warrants;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each security;
- if applicable, the date from and after which the warrants and any securities issued with the warrants will be separately transferable;
- the number of shares of common stock or preferred stock that may be purchased upon exercise of a warrant and the exercise price for the warrants;
- the dates on which the right to exercise the warrants shall commence and expire;

- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. federal income tax considerations;
- the antidilution provisions of the warrants, if any;
- the redemption or call provisions, if any, applicable to the warrants;
- any provisions with respect to a holder's right to require us to repurchase the warrants upon a change in control; and
- any additional material terms of the warrants, including terms, procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of warrants will not be entitled to:

- vote, consent or receive dividends;
- receive notice as shareholders with respect to any meeting of shareholders for the election of our directors or any other matter; or
- exercise any rights as shareholders of CryoLife.

As set forth in the applicable prospectus supplement and any applicable free writing prospectus, the exercise price and the number of shares of common stock purchasable upon exercise of each warrant will be subject to adjustment in certain events, including the issuance of a stock dividend to any holders of common stock or preferred stock, a stock split, reverse stock split, combination, subdivision or reclassification of common stock or preferred stock and any other events specified in the applicable prospectus supplement.

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement or free writing prospectus at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant or warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent, if applicable, in immediately available funds, as provided in the applicable prospectus supplement. We will set forth on the reverse side of any warrant certificate and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to any warrant agent.

Upon receipt of the required payment and any warrant certificate properly completed and duly executed at the corporate trust office of any warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by a warrant certificate are exercised, then we will issue a new warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

Enforceability of Rights by Holders of Warrants

Each warrant agent, if any, will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

Governing Law

Unless we provide otherwise in the applicable prospectus supplement, the warrants and warrant agreements will be governed by and construed in accordance with the laws of the State of Florida.

DESCRIPTION OF UNITS

The following description, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the units that we may offer under this prospectus. Units may be offered independently or together with common stock, preferred stock, depositary shares and/or warrants offered by any prospectus supplement, and may be attached to or separate from those securities. While the terms we have summarized below will generally apply to any future units that we may offer under this prospectus, we will describe the particular terms of any series of units that we may offer in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below.

We may issue the units under a unit agreement. We use the term “unit agreement” to refer to any of these unit agreements. We will incorporate by reference into the registration statement of which this prospectus is a part the form of unit agreement, including a form of unit certificate, if any, that describes the terms of the series of units we are offering before the issuance of the related series of units. The following description of the unit agreement and the units summarizes those aspects of the units and those portions of the unit agreement that we believe will be most important to your decision to invest in our units. You should keep in mind, however, that it is the unit agreement, and not this summary, that defines your rights as a holder of units. There may be other provisions in the unit agreement that are also important to you. The particular terms of the units offered by any prospectus supplement and the extent to which the general provisions described below may apply to such units will be outlined in the applicable prospectus supplement. We urge you to read the applicable prospectus supplements related to the units that we sell under this prospectus, as well as the complete unit agreements that contain the terms of the units. See “Where You Can Find More Information” for information on how to obtain a copy of the unit agreement when it is filed.

General

We may issue units comprised of one or more shares of common stock, shares of preferred stock, depositary shares and warrants in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

We will describe in the applicable prospectus supplement the terms of the series of units, including:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement that differ from those described in this prospectus; and
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those described under “Description of Capital Stock,” “Description of Depositary Shares,” and “Description of Warrants,” will apply to each unit and to any common stock, preferred stock, depositary share, or warrant included in each unit, respectively.

Issuance in Series

We may issue units in such amounts and in numerous distinct series as we determine.

Enforceability of Rights by Holders of Units

Each unit agent, if there is one, will act solely as our agent under the applicable unit agreement and will not assume any obligation or relationship of agency or trust with any holder of any unit. A single bank or trust company may act as unit agent for more than one series of units. A unit agent will have no duty or responsibility in case of any default by us under the applicable unit agreement or unit, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a unit may, without the consent of the related unit agent or the holder of any other unit, enforce by appropriate legal action its rights as holder under any security included in the unit.

Title

We, the unit agent, if there is one, and any of their agents may treat the registered holder of any unit certificate as an absolute owner of the units evidenced by that certificate for any purposes and as the person entitled to exercise the rights attaching to the units so requested, despite any notice to the contrary.

PLAN OF DISTRIBUTION

We may sell the securities being offered hereby in one or more of the following methods from time to time:

- to underwriters for resale to the public or to investors;
- a block trade, which may involve crosses, in which the broker or dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker or dealer, including purchases by a broker or dealer as principal and resale by such broker or dealer for its own account pursuant to this prospectus;
- through ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- through agents to the public or to investors;
- directly to investors in privately negotiated transactions; or
- through a combination of any of these methods of sale.

The securities may be sold from time to time in one or more transactions at:

- fixed prices, which may be changed;
- the prevailing market price at the time of sale;
- varying prices determined at the time of sale; or
- at negotiated prices.

Sales may be effected in transactions:

- on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, including the New York Stock Exchange in the case of shares of our common stock;
- in the over-the-counter market;
- in transactions otherwise than on such exchanges or services or in the over-the-counter market;
- through the writing of options; or
- through the settlement of short sales.

We may enter into derivative or other hedging transactions with financial institutions, or sell securities not covered by this prospectus to financial institutions in privately negotiated transactions. These financial institutions may in turn engage in sales of securities to hedge their position, deliver this prospectus in connection with some or all of those sales and use the securities covered by this prospectus to close out any short position created in connection with those sales. We may also sell securities short using this prospectus and deliver securities covered by this prospectus to close out such short positions, or loan or pledge securities to financial institutions that in turn may sell the securities using this prospectus. We may loan, pledge or grant a security interest in some or all of the securities covered by this prospectus to support a derivative or hedging position or other obligation and, if we default in the performance of our obligations, the pledgees or secured parties may offer and sell the securities from time to time pursuant to this prospectus.

We will describe in a prospectus supplement the terms of the offering of securities, including:

- the name or names of any underwriters or agents;
- the purchase price of the securities being offered and the proceeds we will receive from the sale;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any underwriting discounts or agency fees and other items constituting underwriters' or agents' compensation;
- any initial public offering price; and
- any discounts or concessions allowed or reallocated or paid to dealers.

Underwriters and Agents

If we use underwriters for a sale of securities, the underwriters will acquire the securities for their own account. The underwriters may resell the securities in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may change from time to time any initial public offering price and any discounts or concessions the underwriters allow, reallocate or pay to dealers. We may use underwriters with whom we have a material relationship. We will describe in the prospectus supplement naming the underwriter the nature of any such relationship.

An underwriter, agent, broker or dealer may receive compensation in the form of discounts, concessions or commissions from the purchasers of the shares for whom such broker-dealers may act as agents or to whom they sell as principals, or both (which compensation as to a particular broker-dealer might be in excess of customary commissions).

We may designate agents who agree to use their reasonable efforts to solicit purchases for the period of their appointment or to sell securities on a continuing basis.

Underwriters, dealers and agents that participate in the distribution of the securities may be underwriters as defined in the Securities Act of 1933 and any discounts or commissions they receive from us and any profit on their resale of the securities may be treated as underwriting discounts and commissions under the Securities Act. We will identify in the applicable prospectus supplement any underwriters, dealers or agents and will describe their compensation.

We may have agreements with the underwriters, dealers and agents to indemnify them against specified civil liabilities, including liabilities under the Securities Act. Underwriters, dealers and agents may engage in transactions with or perform services for us or our subsidiaries in the ordinary course of their businesses.

Any underwriter may engage in over-allotment, stabilizing and syndicate short covering transactions and penalty bids only in compliance with Regulation M of the Securities Exchange Act of 1934. If we offer securities in an "at the market" offering, stabilizing transactions will not be permitted. Over-allotment involves sales in excess of the offering size, which creates a short position. Stabilizing transactions involve bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Syndicate short covering transactions involve purchases of securities in the open market after the distribution has been completed in order to cover syndicate short positions. Penalty bids permit the underwriters to reclaim selling concessions from dealers when the securities originally sold by the dealers are purchased in covering transactions to cover syndicate short positions. These transactions may cause the price of the securities sold in an offering to be higher than it would otherwise be. These transactions, if commenced, may be discontinued by the underwriters at any time.

Direct Sales

We may also sell securities directly to one or more purchasers without using underwriters or agents.

Trading Markets

If so indicated in the applicable prospectus supplement, we may authorize agents and underwriters to solicit offers by certain institutions to purchase securities from us at the public offering price set forth in the applicable prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on the date or dates stated in the applicable prospectus supplement. Such delayed delivery contracts will be subject to only those conditions set forth in the applicable prospectus supplement. A commission indicated in the applicable prospectus supplement will be paid to underwriters and agents soliciting purchases of securities pursuant to delayed delivery contracts accepted by us.

Each series of securities will be a new issue and, other than our common stock, which is listed on The New York Stock Exchange, will have no established trading market. Any shares of common stock sold pursuant to a prospectus supplement will be listed on the New York Stock Exchange, subject to official notice of issuance, or on such other trading market on which our shares of common stock may be listed from time to time. We may elect to list any series of securities on an exchange, and in the case of common stock, on any additional exchange, but, unless otherwise specified in the applicable prospectus supplement, we shall not be obligated to do so. No assurance can be given as to the liquidity of the trading market for any of the securities. Any underwriters to whom we sell securities for public offering and sale may make a market in the securities, but these underwriters will not be obligated to do so and may discontinue any market making at any time without notice.

Agents, underwriters and dealers may be customers of, engage in transactions with, or perform services for, us and our subsidiaries in the ordinary course of business.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy and information statements and other information with the Securities and Exchange Commission. We have filed a registration statement on Form S-3 with the SEC to register under the Securities Act of 1933 the common stock offered hereby. This prospectus constitutes a part of that registration statement. As allowed by the SEC's rules, this prospectus does not contain all of the information set forth in the registration statement, certain parts of which have been omitted in accordance with the rules and regulations of the SEC. Please refer to the registration statement and related exhibits and schedules filed therewith for further information with respect to us and the securities offered hereby. Although the prospectus describes the material provisions of documents referenced herein and filed as exhibits, statements contained herein concerning the provisions of any such document are not necessarily complete. In each instance, reference is made to the copy of such document filed as an exhibit to the registration statement or otherwise filed by us with the SEC and each such statement is qualified in its entirety by such reference.

The following documents, which we have filed with the SEC (file number 001-13165), are incorporated by reference in and made a part of this prospectus:

- Our Annual Report on Form 10-K filed with respect to our fiscal year ended December 31, 2011;
- Our Current Reports on Form 8-K filed on January 18, 2012 and January 30, 2012; and
- The description of our Common Stock contained in our Registration Statement filed under Section 12 of the Securities Exchange Act of 1934, including any amendment or report filed for the purpose of updating such description.

We are also incorporating by reference any future filings we make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of the offering. These documents will be deemed to be incorporated by reference in this prospectus and to be a part of it from the date they are filed with the SEC. Unless specifically stated to the contrary, none of the information that we disclose under Items 2.02 or 7.01 of any Current Report on Form 8-K that we may from time to time furnish to the SEC will be incorporated by reference into, or otherwise included in, this prospectus. You may read and copy any document we file at the SEC's public reference room located at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room.

Our SEC filings are also available to the public from commercial document retrieval services and at the Web site maintained by the SEC at <http://www.sec.gov>. This information is also available without charge upon written or oral request to:

CryoLife, Inc.
Attn: Secretary
1655 Roberts Boulevard, NW
Kennesaw, Georgia 30144
(770) 419-3355

You should rely only on the information contained or incorporated by reference in this prospectus or any prospectus supplement. We have not authorized anyone else to provide you with different information. We may not make an offer of securities in any state where the offer is not permitted. The delivery of this prospectus does not, under any circumstances, mean that there has not been a change in our affairs since the date of this prospectus. It also does not mean that the information in this prospectus is correct after this date.

LEGAL MATTERS

The validity of the common stock (including any common stock issuable upon the conversion of any preferred stock), preferred stock (including any preferred stock underlying any depository shares) and the depository shares offered by this prospectus have been passed upon for us by Arnall Golden Gregory LLP. Legal counsel to any underwriters may pass upon legal matters for such underwriters.

EXPERTS

The consolidated financial statements incorporated in this Registration Statement on Form S-3 by reference from Cryolife, Inc.'s Annual Report on Form 10-K and the effectiveness of Cryolife, Inc.'s internal control over financial reporting have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports, which are incorporated herein by reference. Such consolidated financial statements have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

CRYOLIFE, INC.

\$100,000,000

Common Stock
Preferred Stock
Depositary Shares
Warrants
Units

PROSPECTUS

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. Other Expenses of Issuance and Distribution

All expenses, other than fees and expenses of legal or other advisors to the selling shareholders, will be paid by CryoLife. Such expenses are as follows:*

SEC registration fee	\$11,460
NYSE listing fee	25,000
Printing expenses	25,000
Accounting fees and expenses	15,000
Legal fees and expenses	125,000
Miscellaneous	15,000
Total	\$216,460

*The amounts set forth, except for the filing fees for the SEC, are estimated.

ITEM 15. Indemnification of Directors and Officers

The Registrant is a Florida corporation. The following summary is qualified in its entirety by reference to the complete text of the Florida Business Corporation Act (the "FBCA"), the Registrant's Amended and Restated Articles of Incorporation, and the Registrant's Amended and Restated Bylaws.

Under Section 607.0850(1) of the FBCA, a corporation may indemnify any of its directors and officers against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding (including any appeal thereof) (i) if such person acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the corporation, and (ii) with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. In actions brought by or in the right of the corporation, however, Section 607.0850(2) provides that no indemnification shall be made in respect of any claim, issue or matter as to which the director or officer shall have been adjudged to be liable unless, and only to the extent that, the court in which such proceeding was brought, or any other court of competent jurisdiction, shall determine upon application that, despite the adjudication of liability but in view of all circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which such court shall deem proper. Article X of the Registrant's Restated Articles of Incorporation requires that, if in the judgment of the majority of the Board of Directors (excluding from such majority any director under consideration for indemnification) the criteria set forth under Section 607.0850 have been met, then the Registrant shall indemnify its directors and officers for certain liabilities incurred in the performance of their duties on behalf of the Registrant in the manner and to the extent contemplated by Section 607.0850 of the FBCA (formerly Section 607.014 of the Florida General Corporation Act). Article VI of the Registrant's Amended and Restated Bylaws provides that indemnification is available to directors and officers only if the person to be indemnified acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interest of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe

that his or her conduct was unlawful. The Registrant will have no obligation to provide indemnification until a determination has been made that the applicable standard of conduct has been met and that indemnification is not prohibited by relevant law. With respect to proceedings brought by or in the right of the Registrant, no indemnification shall be made if the officer or director is adjudged to be liable unless, and only to the extent that, a court of competent jurisdiction shall determine that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnification. The Registrant's Amended and Restated Bylaws also state that the rights to indemnification are binding contract rights which are binding on the Registrant with respect to any conduct that takes place while the provision remains in place, even if the provision is later amended, and that the rights continue as to a person who has ceased to be an officer or director. Expenses, including reasonable attorneys' fees, paralegals' fees and court costs, incurred by a director or officer in defending a proceeding for which indemnification is provided will be paid by the Registrant in advance of the final disposition of such proceeding provided that the director or officer represents that he or she has met the applicable standard of conduct in relation to the proceeding and will repay such amount if he or she is ultimately found not to be entitled to indemnification.

II-1

The Registrant has purchased insurance to insure (i) the Registrant's directors and officers against damages from actions and claims incurred in the course of their duties, and (ii) the Registrant against expenses incurred in defending lawsuits arising from certain alleged acts of its directors and officers.

The Registrant has entered into indemnification agreements with each of its directors and its Executive Vice President, Chief Operating Officer and Chief Financial Officer ("Indemnitees"). Pursuant to such agreements, the Registrant shall indemnify each Indemnitee whenever he or she is or was a party or is threatened to be made a party to any proceeding, including without limitation any such proceeding brought by or in the right of the Registrant, because he or she is or was a director or officer of the Registrant or is or was serving at the request of the Registrant as a director or officer of another corporation, partnership, joint venture, trust or other enterprise, or because of anything done or not done by the Indemnitee in such capacity, against expenses and liabilities (including the costs of any investigation, defense, settlement or appeal) actually and reasonably incurred by the Indemnitee or on his or her behalf in connection with such proceeding, if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Registrant, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that an Indemnitee did not act in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the Registrant, and, with respect to any criminal action or proceeding, had reasonable cause to believe that his or her conduct was unlawful. Unless a determination has been made that the Indemnitee is not entitled to indemnification pursuant to the agreement, all reasonable expenses incurred by or on behalf of such Indemnitee shall be advanced from time to time by the Registrant to the Indemnitee within thirty (30) days after the Registrant's receipt of a written request for an advance of expenses by such Indemnitee, whether prior to or after final disposition of a proceeding. Indemnitee shall agree, at the time of such advance, to repay the amounts advanced if it is ultimately determined that Indemnitee is not entitled to be indemnified under the terms of the agreement. Any advances made shall be unsecured and no interest shall be charged thereon.

ITEM 16. Exhibits

ExhibitExhibit

No.

- 3.1* Amended and Restated Articles of Incorporation of the Company. (Restated solely for the purpose of filing with the Commission.)
- 3.2 Amended and Restated ByLaws of the Company. (Incorporated by reference to Exhibit 3.1 to the Registrant's Report on Form 8-K filed July 27, 2011.)
- 4.1 Form of Certificate for the Company's Common Stock. (Incorporated by reference to Exhibit 4.2 to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 1997.)
- 4.2 First Amended and Restated Rights Agreement, dated as of November 2, 2005, between CryoLife, Inc. and American Stock Transfer & Trust Company. (Incorporated herein by reference to Exhibit 4.1 to Registrant's Current Report on Form 8-K filed November 3, 2005.)
- 4.3+ Form of Depositary Agreement.
- 4.4+ Form of Depositary Receipt.

4.5+ Form of Warrant Agreement.

II-2

- 4.6+ Form of Warrant Certificate.
- 4.7+ Form of Unit Agreement.
- 4.8+ Form of Unit Certificate.
- 5.1* Opinion of Arnall Golden Gregory LLP regarding legality of the common stock, preferred stock, depository shares, warrants and units.
- 12.1* Computation of Ratio of Earnings to Fixed Charges.
- 23.1* Consent of Arnall Golden Gregory LLP (included as part of Exhibit 5.1 hereto.)
- 23.2* Consent of Deloitte & Touche LLP.
- 24.1* Power of Attorney (included in the signature pages of this registration statement.)
- 99.1 Form of Indemnification Agreement entered into with each of the Registrant's directors, except Harvey Morgan, and its Executive Vice President, Chief Operating Officer and Chief Financial Officer (Incorporated herein by reference to Exhibit 99.1 to the Form S-3/A filed by Registrant on January 4, 2005.)
- 99.2 Form of Indemnification Agreement entered into with Harvey Morgan (Incorporated herein by reference to Exhibit 99.2 to the Form S-3 filed by Registrant on November 21, 2008).

+ To be filed by amendment or as an exhibit to a Current Report on Form 8-K of the Registrant

* Filed with this Form S-3

ITEM 17. Undertakings

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement;

Provided however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the Registration Statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the Registration Statement.

II-3

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the Registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the Registration Statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date; or

(5) That, for the purpose of determining liability of the Registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities: The undersigned Registrant undertakes that in a primary offering of securities of the undersigned Registrant pursuant to this Registration Statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned Registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- i. Any preliminary prospectus or prospectus of the undersigned Registrant relating to the offering required to be filed pursuant to Rule 424;
- ii. Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned Registrant or used or referred to by the undersigned Registrant;
- iii. The portion of any other free writing prospectus relating to the offering containing material information about the undersigned Registrant or its securities provided by or on behalf of the undersigned Registrant; and
- iv. Any other communication that is an offer in the offering made by the undersigned Registrant to the purchaser.

(b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

II-4

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

II-5

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Kennesaw, State of Georgia on February 22, 2012.

CRYOLIFE, INC.

By: /s/ Steven G. Anderson
 Steven G. Anderson
 President, Chief Executive Officer
 and Chairman of the Board of
 Directors

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints D Ashley Lee and Jeffrey W. Burris and each of them, his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place, and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments and amendments pursuant to Rule 462(b)) to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

PRINCIPAL EXECUTIVE, FINANCIAL & ACCOUNTING OFFICERS AND DIRECTORS:

Name	Title	Date
/s/ Steven G. Anderson Steven G. Anderson	President, Chief Executive Officer and Chairman of the Board of Directors (Principal Executive Officer)	February 22, 2012
/s/ D.A. Lee D. Ashley Lee	Executive Vice President, Chief Operating Officer and Chief Financial Officer (Principal Financial Officer)	February 22, 2012

/s/ Amy D. Horton	Chief Accounting Officer (Principal Accounting Officer)	February 22, 2012
Amy D. Horton		
/s/ Thomas F. Ackerman	Director	February 22, 2012
Thomas F. Ackerman		
/s/ James S. Benson	Director	February 22, 2012
James S. Benson		
/s/ Daniel J. Bevevino	Director	February 22, 2012
Daniel J. Bevevino		

/s/ Ronald C. Elkins, M.D.
Ronald C. Elkins

Director

February 22, 2012

/s/ Ronald D. McCall

Director

February 22,
2012

Ronald D. McCall

/s/ Harvey Morgan

Director

February 22,
2012

Harvey Morgan

II-7

EXHIBIT INDEX

Exhibit
No.

- 3.1* Amended and Restated Articles of Incorporation of the Company. (Restated solely for the purpose of filing with the Commission.)
- 3.2 Amended and Restated ByLaws of the Company. (Incorporated by reference to Exhibit 3.1 to the Registrant's Report on Form 8-K filed July 27, 2011.)
- 4.1 Form of Certificate for the Company's Common Stock. (Incorporated by reference to Exhibit 4.2 to the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 1997.)
- 4.2 First Amended and Restated Rights Agreement, dated as of November 2, 2005, between CryoLife, Inc. and American Stock Transfer & Trust Company. (Incorporated herein by reference to Exhibit 4.1 to Registrant's Current Report on Form 8-K filed November 3, 2005.)
- 4.3+ Form of Depositary Agreement.
- 4.4+ Form of Depositary Receipt.
- 4.5+ Form of Warrant Agreement.
- 4.6+ Form of Warrant Certificate.
- 4.7+ Form of Unit Agreement.
- 4.8+ Form of Unit Certificate.
- 5.1* Opinion of Arnall Golden Gregory LLP regarding legality of the common stock, preferred stock, depositary shares, warrants and units.
- 12.1* Computation of Ratio of Earnings to Fixed Charges.
- 23.1* Consent of Arnall Golden Gregory LLP (included as part of Exhibit 5.1 hereto.)
- 23.2* Consent of Deloitte & Touche LLP.
- 24.1* Power of Attorney (included in the signature pages of this registration statement.)
- 99.1 Form of Indemnification Agreement entered into with each of the Registrant's directors, except Harvey Morgan, and its Executive Vice President, Chief Operating Officer and Chief Financial Officer (Incorporated herein by reference to Exhibit 99.1 to the Form S-3/A filed by Registrant on January 4, 2005.)
- 99.2 Form of Indemnification Agreement entered into with Harvey Morgan (Incorporated herein by reference to Exhibit 99.2 to the Form S-3 filed by Registrant on November 21, 2008).

+ To be filed by amendment or as an exhibit to a Current Report on Form 8-K of the Registrant

* Filed with this Form S-3
