

FORM S-8
 REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

CRYOLIFE, INC.
 (Exact name of registrant as specified in its charter)

Florida 59-2417093

(State or other jurisdiction (I.R.S. Employer
 of incorporation or organization Identification No.)

2211 New Market Parkway, Suite 142, Marietta, Georgia 30067
 (Address of Principal Executive Offices) (Zip Code)

CRYOLIFE, INC. NON-EMPLOYEE DIRECTORS STOCK OPTION PLAN
 (Full title of the plan)

Steven G. Anderson, President, CEO and
 Chairman of the Board of Directors
 CryoLife, Inc.

2211 New Market Parkway, Suite 142
 Marietta, Georgia 30067

(Name and address of agent for service)

(770) 952-1660

(Telephone number, including area code, of agent for service)

Copy to:

B. Joseph Alley, Jr., Esq.
 Arnall Golden & Gregory
 2800 One Atlantic Center
 1201 West Peachtree Street
 Atlanta, Georgia 30303-3450
 (404) 873-8500

CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Proposed maximum aggregate offering price	Amount of registration fee*
Common Stock, \$.01 par value	\$2,720,937.50	\$938.26

*Calculated pursuant to Rule 457(h) as follows: (a) with respect to 92,500 shares subject to currently outstanding options, based upon the exercise price of \$7.25 per share for each of the outstanding options, and (b) with respect to the remaining 67,500 shares of Common Stock reserved under the Plan, based on the average of the high and low prices reported for the Common Stock on The Nasdaq Stock Market on May 8, 1996 (\$30.375)

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE.

The following documents are incorporated by reference in the Registration Statement:

(a) The Registrant's Annual Report on Form 10-K filed with respect to the Registrant's fiscal year ended December 31, 1995.

(b) The Registrant's Current Report on Form 8-K filed with the Securities and Exchange Commission on April 16, 1996.

(c) The description of the Registrant's Common Stock contained in the Registrant's 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.

(d) All documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, prior to the filing of a post-effective amendment to this registration statement which indicates that all of the shares of Common Stock offered have been sold or which deregisters all of such shares then remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be a part hereof from the date of filing of such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this registration statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this registration statement.

ITEM 4. DESCRIPTION OF SECURITIES

Not applicable.

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL.

Not applicable.

ITEM 6. 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 Restated Articles of Incorporation, and the Registrant's 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 and Article VI of the Registrant's Bylaws require 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 to the maximum extent allowed by Section 607.0850 of the FBCA (formerly Section 607.014 of the Florida General Corporation Act).

The Securities Purchase Agreement dated December 17, 1985 between the Registrant and certain shareholders of the Registrant provides that any investors exercising registration rights pursuant to such agreement must indemnify the officers and directors signing the registration statement against any liability arising from statements or omissions made in reliance upon information furnished by such investors to the Registrant for use in such registration statement.

The registration rights agreement dated August 22, 1991, among the Registrant, Galen Partners, L.P. ("Galen"), and Galen Partners International, L.P. ("Galen International") provides that if Galen or Galen International exercises its registration rights, then such prospective seller and any underwriter acting on its behalf shall have agreed to indemnify the Registrant and each officer and director signing such registration statement for any liability arising from any untrue statement or omission made in such registration statement in reliance upon written information provided to the Registrant for use in such registration statement. The registration rights agreement further specifies that the indemnification rights granted therein shall be inoperative if, in connection with an underwritten public offering, an underwriting agreement is executed containing provisions covering indemnification among the partners thereto.

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.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED.

Not applicable.

ITEM 8. EXHIBITS.

Exhibit No.	Exhibit
5	Opinion of Arnall Golden & Gregory regarding legality
23.1	Consent of Arnall Golden & Gregory (included as part of Exhibit 5 hereto)
23.2	Consent of KPMG Peat Marwick LLP

ITEM 9. 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;

(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 paragraph (a)(1)(i) and (a)(1)(ii) shall not apply if the information required to be included in

a post-effective amendment by those paragraphs is contained in periodic reports filed 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.

(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.

(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.

(h) 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 provisions described in Item 6, 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 proceedings) 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.

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-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Marietta, State of Georgia on May 9, 1996.

CRYOLIFE, INC.

By: 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 Steven G. Anderson and Edwin B. Cordell, Jr. and each of them, his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and

in his name, place, and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) 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 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 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
Steven G. Anderson ----- Steven G. Anderson	President, Chief Executive Officer and Chairman of the Board of Directors (Principal Executive Officer)	May 9, 1996
Edwin B. Cordell, Jr. ----- Edwin B. Cordell, Jr.	Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	May 9, 1996
Ronald D. McCall ----- Ronald D. McCall	Director	May 9, 1996
Benjamin H. Gray ----- Benjamin H. Gray	Director	April 28, 1996
Rodney G. Lacy ----- Rodney G. Lacy	Director	April 28, 1996
Bruce F. Wesson ----- Bruce F. Wesson	Director	May 9, 1996
Ronald Charles Elkins, M.D. ----- Ronald Charles Elkins, M.D.	Director	April 29, 1996

EXHIBIT 5

ARNALL GOLDEN & GREGORY
2800 One Atlantic Center
1201 West Peachtree Street
Atlanta, Georgia 30309-3450

(404) 873-8500

(404) 873-8501

May 10, 1996

CryoLife, Inc.
2211 New Market Parkway
Suite 142
Marietta, Georgia 30067

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

This opinion is rendered in connection with the proposed issue and sale by CryoLife, Inc., a Florida corporation (the "Company"), of up to 160,000 shares of the Company's Common Stock, \$.01 par value (the "Shares"), pursuant to the Company's Non-Employee Directors Stock Option Plan (the "Plan") upon the terms and conditions set forth in the Registration Statement on Form S-8 (the "Registration Statement") filed by the Company with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Act"). We have acted as counsel for the Company in connection with the issuance and sale of the Shares by the Company.

In rendering the opinion contained herein, we have relied in part upon examination of the Company's corporate records, documents, certificates and other instruments and the examination of such questions of law as we have considered necessary or appropriate for the purpose of this opinion. Based upon the foregoing, and assuming that the purchase price of each of the Shares will exceed the par value thereof, we are of the opinion that the Shares have been duly and validly authorized and when sold in the manner contemplated by the Plan, and upon receipt by the Company of payment therefor, and upon issuance pursuant to a current prospectus in conformity with the Act, they will be legally issued, fully paid and non-assessable.

We consent to the filing of this opinion as an exhibit to the Registration Statement. This consent is not to be construed as an admission that we are a party whose consent is required to be filed with the Registration Statement under the provisions of the Act.

Sincerely,

ARNALL GOLDEN & GREGORY
ARNALL GOLDEN & GREGORY

ACCOUNTANTS' CONSENT

The Board of Directors
CryoLife, Inc.

We consent to incorporation by reference in the registration statement on Form S-8 of CryoLife, Inc. of our reports dated February 14, 1996, except as to Note 13, which is as of March 18, 1996, relating to the consolidated balance sheets of CryoLife, Inc. and subsidiaries as of December 31, 1995 and 1994, and the related consolidated statements of income, shareholders' equity and cash flows and related schedule for each of the years in the three-year period ended December 31, 1995, which reports appear in the December 31, 1995 annual report on Form 10-K of CryoLife, Inc.

KPMG PEAT MARWICK LLP
KPMG PEAT MARWICK LLP

Atlanta, Georgia
May 9, 1996