

As filed with the Securities and Exchange Commission on March 30, 1998
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 58-2417093
(State or other jurisdiction of (I.R.S. Employer Identification Number)
incorporation or organization)

1655 ROBERTS BOULEVARD, N.W.
KENNESAW, GEORGIA 30144
(770) 419-3355
(Address, including zip code, and telephone number, including area code, of
registrant's principal executive offices)

STEVEN G. ANDERSON
CHIEF EXECUTIVE OFFICER
CRYOLIFE, INC.
1655 ROBERTS BOULEVARD, N.W.
KENNESAW, GEORGIA 30144
(770) 419-3355
(Name, address, including zip code and telephone number, including area
code, of agent for service)

COPIES OF COMMUNICATIONS TO:

B. Joseph Alley, Jr., Esq. Arnall Golden & Gregory, LLP 2800 One Atlantic Center 1201 West Peachtree Street Atlanta, Georgia 30309 (404) 873-8500	William T. Whelan, Esq. Palmer & Dodge LLP One Beacon Street Boston, Massachusetts 02108 (617) 573-0100
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APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE OF THE
SECURITIES TO THE PUBLIC: As soon as practicable after this
Registration Statement becomes effective.

If the only securities being registered 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.

If this Form is filed to register additional securities for an offering
pursuant to Rule 462(b) under the Securities Act, please check the following box
and list the Securities Act registration statement number of the earlier
effective registration statement for the same offering. 333-46545

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 delivery of the prospectus is expected to be made pursuant to Rule 434,
please check the following box.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered	Proposed Maximum Offering Price Per Share(1)	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee(1)
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(1) Calculated pursuant to Rule 457(c) and based on the average of the high and low prices of the Company's Common Stock on March 23, 1998, as reported on the New York Stock Exchange.

This registration statement is being filed with respect to the registration of additional shares of Common Stock, \$.01 par value per share, of CryoLife, Inc., a Florida corporation, (the "Company") for an offering pursuant to Rule 462(b) under the Securities Act of 1933, as amended. The contents of the Company's earlier effective registration statement (File No. 333-46545) are incorporated in this registration statement by reference.

The required opinions and consents are listed on an Exhibit Index attached hereto and filed herewith.

EXHIBIT INDEX

Exhibit No.	Description
5.1	Opinion of Arnall Golden & Gregory, LLP. (Incorporated by reference to Exhibit 5.1 to the Registrant's Registration Statement on Form S-3 (Registration Statement No. 333-46545)).
23.1	Consents of Ernst & Young LLP. (Incorporated by reference to Exhibit 23.1 to the Registrant's Registration Statement on Form S-3 (Registration Statement No. 333-46545)).
23.2	Consent of KPMG Peat Marwick LLP. Filed herewith.
23.3	Consent of Arnall Golden & Gregory, LLP. (Included in Exhibit 5.1).
24.1	Powers of Attorney. (Incorporated by reference to Exhibit 24.1 to the Registrant's Registration Statement on Form S-3 (Registration Statement No. 333-46545)).

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 March 30, 1998.

CRYOLIFE, INC.

By: /s/ Steven G. Anderson

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

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)	March 30, 1998
/s/ Edwin B. Cordell, Jr. ----- Edwin B. Cordell, Jr.	Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	March 30, 1998
* ----- Ronald D. McCall	Director	
* ----- Benjamin H. Gray	Director	
* ----- Virginia C. Lacy	Director	
* ----- Ronald Charles Elkins, M.D.	Director	
*By: /s/ Edwin B. Cordell, Jr. ----- Edwin B. Cordell, Jr. Attorney-in-fact		March 30, 1998

ACCOUNTANT'S CONSENT

The Board of Directors
CryoLife, Inc.

We consent to the use of our report included herein and to the references to our firm under the headings "Selected Consolidated Financial Data" and "Experts" in the prospectus.

KPMG Peat Marwick LLP

Atlanta, Georgia
March 30, 1998