

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

MEDTRONIC, INC.

(Exact name of registrant as specified in its charter)

Minnesota
(State or other jurisdiction of
incorporation or organization)

41-0793183
(I.R.S. Employer
Identification No.)

7000 Central Avenue, N.E.
Minneapolis, Minnesota 55432-3576
(612) 574-4000

(Address, including zip code, and telephone number,
including area code, of registrant's principal executive offices)

Ronald E. Lund
Senior Vice President, General Counsel and Secretary
Medtronic, Inc.

7000 Central Avenue, N.E.
Minneapolis, Minnesota 55432-3576
(612) 574-4000

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

Copies to:

David C. Grorud
Fredrikson & Byron, P.A.
1100 International Centre
900 Second Avenue South
Minneapolis, Minnesota 55402
(612) 347-7000

Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this Registration Statement as determined by market conditions and other factors. Pursuant to Rule 429 under the Securities Act of 1933, the Prospectus which constitutes part of this Registration Statement relates to the resale of an additional 26,864 shares of the Registrant's common stock registered by this Registration Statement and also relates to the resale of 1,218,885 shares of the Registrant's common stock registered on Form S-3, Registration No. 33-64521.

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 offered 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, please 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, check the following box and list the Securities Act registration statement number of 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 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(1)	Proposed Maximum Offering Price Per Unit(2)	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock to be offered by Selling Shareholders (3)	26,864	\$62.25	\$1,672,284.00	\$576.65

- (1) Pursuant to Rule 429 under the Securities Act of 1933, this Registration Statement relates to the resale of an additional 26,864 shares of the registrant's common stock issued in connection with the same transaction, and to be resold in the same offering, as 1,218,885 shares of the registrant's common stock which are already registered for resale on Form S-3, Registration No. 33-64521. In connection with such prior Registration Statement, a filing fee of \$21,146.60 was paid on November 22, 1995.
- (2) For purposes of calculating the registration fee pursuant to Rule 457(c) under the Securities Act of 1933, such amount is based upon the average of the high and low prices of the registrant's Common Stock on September 16, 1996 (a date within five business days prior to the date of filing).
- (3) Each share of Common Stock includes a Preferred Stock Purchase Right pursuant to the registrant's Shareholder Rights Plan.

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 of 1933 or until this Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

PROSPECTUS

MEDTRONIC, INC.

1,245,749 SHARES OF COMMON STOCK

This Prospectus relates to the offer and sale of up to 1,245,749 shares of Common Stock (the "Shares"), par value of \$.10, of Medtronic, Inc., a Minnesota corporation (the "Company") issued in connection with the Company's acquisition of Micro Interventional Systems, Inc. ("MIS") on November 3, 1995 (the "MIS Merger"). 1,218,885 of such Shares were issued to the Selling Shareholders at the closing of the MIS Merger, and 26,864 Shares were held in escrow and distributed to the Selling Shareholders in September, 1996. The Selling Shareholders may offer their Shares from time to time through or to brokers at market prices prevailing at the time of sale or in one or more negotiated transactions at prices acceptable to the Selling Shareholders or upon such other terms in such manner as is acceptable to the particular Selling Shareholder. (See "Plan of Distribution"). Each Share includes a Preferred Stock Purchase Right pursuant to the Company's Shareholder Rights Plan. These rights currently are not exercisable and are not transferable separately from the Shares. The Company will not receive any proceeds from sales of the Shares.

The Company will bear all expenses of the offering (estimated to be \$45,000, including up to \$25,000 of fees and expenses of counsel to the Selling Shareholders), except that the Selling Shareholders will pay any applicable underwriter's commissions and expenses, brokerage fees or transfer taxes, as well as any fees and disbursements of counsel for the Selling Shareholders in excess of \$25,000. The Company and the Selling Shareholders have agreed to indemnify each other against certain liabilities, including liabilities arising under the Securities Act of 1933 (the "Securities Act").

The Company's Common Stock is traded on the New York Stock Exchange under the symbol "MDT." The last reported price of the Company's Common Stock on September __, 1996, as reported by the New York Stock Exchange, was \$___ per share.

THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this Prospectus is September __, 1996.

No person is authorized to give any information or to make any representations, other than those contained or incorporated by reference in this Prospectus, in connection with the offering contemplated hereby, and, if given or made, such information or representations must not be relied upon as having been authorized by the Company. This Prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities other than the registered securities to which it relates. This Prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. Neither the delivery of this Prospectus nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the Company since the date hereof or that the information contained or incorporated by reference herein is correct as of any time subsequent to its date.

AVAILABLE INFORMATION

The Company is subject to the informational requirements of the Securities Exchange Act of 1934 (the "Exchange Act"), and in accordance therewith files reports, proxy statements and other information with the Securities and Exchange Commission (the "Commission"). Such reports, proxy statements and other information can be inspected at the public reference facilities maintained by the Commission at Room 1024, 450 Fifth Street, N.W., Washington, D.C., 20549, and at the Commission's regional offices in New York (75 Park Place, New York, New York 10007) and Chicago (500 West Madison, Suite 1400, Chicago, Illinois 60661). Copies of such material can be obtained from the Public Reference Section of the Commission at Room 1024, 450 Fifth Street, N.W., Washington, D.C. 20549, at prescribed rates.

The Company's Common Stock is listed on the New York Stock Exchange. Copies of reports, proxy statements and other information concerning the Company can be inspected at the offices of such Exchange.

The Company has filed with the Commission two Registration Statements on Form S-3 under the Securities Act of 1933 with respect to the securities offered hereby. For further information with respect to the Company and such securities, reference is made to such Registration Statements and to the exhibits thereto. Any statement contained or incorporated by reference herein concerning the provisions of any document is qualified in its entirety by reference to the copy of such document filed as an exhibit to the Registration Statements or otherwise filed with the Commission.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents, filed by the Company with the Commission pursuant to the Exchange Act, are hereby incorporated by reference in this Prospectus and shall be deemed to be a part hereof:

1. The Company's Annual Report on Form 10-K for the fiscal year ended April 30, 1996 (Commission File No. 1-7707).
2. The Company's Quarterly Report on Form 10-Q for the quarter ended August 2, 1996 (Commission File No. 1-7707).
3. The Company's Current Reports on Form 8-K dated May 23, 1996, June 28, 1996, and August 19, 1996.
4. The description of the Company's Common Stock, \$.10 par value, which is contained or incorporated by reference in the Company's Registration Statement on Form 8-A (Commission File No. 1-7707) filed under the Exchange Act, including any amendments or reports filed for the purpose of updating such description.
5. The description of the Company's Preferred Stock Purchase Rights attached to its Common Stock contained in the Company's Registration Statement on Form 8-A (Commission File No. 1-7707) filed under the Exchange Act.

All documents filed by the Company pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this Prospectus and prior to the termination of the offering of the Shares shall be deemed to be incorporated by reference in this Prospectus and to be a part hereof from the date of filing of such documents. Any statement contained in a document incorporated by reference or deemed to be incorporated by reference in this Prospectus shall be deemed to be modified or superseded for all purposes of this Prospectus to the extent that a statement contained herein, therein or in any subsequently filed document which also is incorporated or deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Prospectus.

The Company will provide without charge to each person, including any beneficial owner to whom a copy of this Prospectus is delivered, upon the written or oral request of such person, a copy of any or all of the documents incorporated herein by reference (not including the exhibits to such documents, unless such exhibits are specifically incorporated by reference in such documents). Requests for such copies should be directed to Investor Relations Department, Medtronic, Inc., 7000 Central Avenue, N.E., Minneapolis, Minnesota 55432, telephone (612) 574-4000.

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THE COMPANY

Medtronic, Inc. (the "Company" or "Medtronic"), a Minnesota corporation, is the issuer of the Shares offered hereby. The Company's principal executive offices are located at 7000 Central Avenue N.E., Minneapolis, Minnesota 55432-3576, and its telephone number is (612) 574-4000. Medtronic is the world's leading medical technology company specializing in implantable and invasive therapies. Primary products include implantable pacemaker systems used for treatment of bradycardia, implantable tachyarrhythmia management systems, mechanical and tissue heart valves, balloons and guiding catheters used in angioplasty, stents, implantable neurostimulation and drug delivery systems, and perfusion systems including blood oxygenators, centrifugal blood pumps, cannula products, and autotransfusion and blood monitoring systems.

USE OF PROCEEDS

The Company will receive no proceeds from sales of Shares by the Selling Shareholders.

SELLING SHAREHOLDERS

The Selling Shareholders include the former shareholders of MIS listed below for whom the Shares were issued in November 1995 pursuant to the MIS Merger, and may also include, to the extent permitted by law, individuals or entities, including charitable institutions, to whom such former MIS shareholders may make pledges, gifts, partnership distributions, or trust distributions of Shares. The Selling Shareholders may choose to sell or transfer less than all or none of the Shares. The following table sets forth certain information with respect to the beneficial ownership of the Company's Common Stock by those Selling Shareholders who received Shares in the MIS Merger, prior to any pledges, gifts, trust or partnership distributions, or other transfers by such Selling Shareholders. The following table indicates which Selling Shareholders are officers of Medtronic's MIS subsidiary.

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Name	Shares Owned Before Offering	Shares Offered	Shares Owned After Offering
AMECO GmbH	27,732	27,732	-0-
Brentwood Associates VI, L.P.	288,879	288,879	-0-
Gerri Chantelain	1,779	1,779	-0-
Ruediger Dahle	9,252	9,252	-0-
Delphi BioVentures II, L.P.	287,408	287,408	-0-
Delphi BioInvestments II, L.P.	1,470	1,470	-0-
J.A.C. Deuss	3,696	3,696	-0-
Martin Dieck	2,772	2,772	-0-
Ronald Dieckl	129,418	129,418	-0-
Dubo Enterprise, Inc.	6,470	6,470	-0-
Glynn Ventures III	19,411	19,411	-0-
David A. Golden	6,470	6,470	-0-
Harvey M. Goldstein	6,470	6,470	-0-
Claude Jacquillard	3,881	3,881	-0-
Richard Jaraczewskil	129,418	129,418	-0-
Matt Mackowski	57,312	57,312	-0-
Erin McGurkl	129,418	129,418	-0-
Nicolai GmbH & Co. KG	9,242	9,242	-0-
David Norman	53,152	53,152	-0-
Roger Perkins	2,772	2,772	-0-
Piper Jaffray Healthcare Capital Ltd. Partnership	32,354	32,354	-0-
Richard Rottman M.D., Inc.	5,545	5,545	-0-
Robert Shepler	27,732	27,732	-0-
WS Investment Company 93E	3,696	3,696	-0-

1 Officer of Medtronic's MIS subsidiary.

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PLAN OF DISTRIBUTION

The sale or transfer of all or a portion of the Shares offered hereby by the Selling Shareholders or by their pledgees, donees or other applicable transferees or successors in interest may be effected from time to time at prevailing market prices at the time of such sales, at prices related to such prevailing prices, at fixed prices (that may be changed) or at negotiated prices. The Selling Shareholders may effect such transactions by selling

directly to purchasers in negotiated transactions, to dealers acting as principals or through one or more brokers, or any combination of these methods of sale. In addition, Shares may be transferred in connection with partnership or trust distributions by the Selling Shareholders or in connection with the settlement of call options, short sales or similar transactions that may be effected by the Selling Shareholders. Dealers or brokers may receive compensation in the form of discounts, concessions or commissions from the Selling Shareholders. The Company and the Selling Shareholders may agree to indemnify such brokers or dealers against certain liabilities, including liabilities under the Securities Act. In addition, the Company has agreed to indemnify the Selling Shareholders and any underwriter with respect to the shares of Common Stock offered hereby against certain liabilities, including, without limitation certain liabilities under the Securities Act. The Company has agreed to pay certain costs and expenses incurred in connection with the registration of the shares of Common Stock offered hereby. The Selling Shareholders shall be responsible for all selling commissions, transfer taxes and related charges in connection with the offer and sale of such shares.

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PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The estimated expenses in connection with this offering are as follows:

Securities and Exchange Commission Filing Fee.....	\$21,723.25(1)
Printing and Engraving Fees and Expenses	2,000*
Legal Fees and Expenses.....	20,000*
Accounting Fees and Expenses.....	0*
Miscellaneous.....	1,276.75*
Total Expenses.....	<u>\$ 45,000*</u>
	=====

(1) Includes \$21,146.60 SEC registration fee previously paid in connection with a Registration Statement on Form S-3, Registration No. 33-64521, pursuant to which 1,218,885 shares of the Registrant's common stock were registered in connection with this offering, and \$576.65 SEC registration fee related to the additional shares of the Registrant's common stock registered by this Registration Statement.

*Estimated

Item 15. Indemnification of Directors and Officers.

Section 302A.521 of the Minnesota Business Corporation Act provides that a corporation shall indemnify any person who was or is threatened to be made a party to any proceeding by reason of the former or present official capacity of such person, against judgments, penalties and fines, including, without limitation, excise taxes assessed against such person with respect to an employee benefit plan, settlements and reasonable expenses, including attorneys' fees and disbursements, incurred by such person in connection with the proceeding, if, with respect to the acts or omissions of such person complained of in the proceeding, such person has not been indemnified by another organization or employee benefit plan for the same expenses with respect to the same acts or omissions, acted in good faith, received no improper personal benefit and Section 302A.255 (which pertains to director conflicts of interest), if applicable, has been satisfied; in the case of a criminal proceeding, had no reasonable cause to believe the conduct was unlawful; and in the case of acts or omissions by person in their official capacity for the corporation, reasonably believed that the conduct was in the best interests of the corporation, or in the case of acts or omissions by persons in their capacity for other organizations, reasonably believed that the conduct was not opposed to the best interests of the corporation. The Registrant's Articles of Incorporation and Bylaws do not limit the Registrant's obligation to indemnify such persons.

The Registrant's Articles of Incorporation limit the liability of its directors to the full extent permitted by the Minnesota Business Corporation Act. Specifically, directors of the Registrant will not be personally liable for monetary damages for breach of fiduciary duty as directors except liability for

(i) any breach of the duty of loyalty to the Registrant or its shareholders, (ii) acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law, (iii) dividends or other distributions of corporate assets that are in contravention of certain statutory or contractual restrictions, (iv) violations of certain Minnesota securities laws, or (v) any transaction from which the director derives an improper personal benefit. Liability under federal securities law is not limited by the Registrant's Articles of Incorporation.

Subject to exclusions and limitations, the Registrant maintains certain insurance coverage against liability which a director or officer may incur in his or her capacity as such.

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Item 16. Exhibits.

Exhibit
Number

Item

- | | |
|------|--|
| 4.1 | Articles of Incorporation, as amended to date (incorporated by reference to Exhibit 3.1 to Registrant's Form 10-Q for the fiscal quarter ended July 28, 1995). |
| 5.1 | Opinion of Ronald E. Lund, Senior Vice President, General Counsel and Secretary of Medtronic, Inc. |
| 23.1 | Consent of Price Waterhouse, LLP |
| 23.2 | Consent of Ronald E. Lund, Senior Vice President, General Counsel and Secretary of Medtronic, Inc. (included in opinion filed as Exhibit 5.1). |
| 24 | Power of Attorney from certain directors and officers. |

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;

(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) and (a)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic 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.

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(2) That, for the purposes 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 from 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.

(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 final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certified that it has reasonable grounds to believe that it meets all 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 Minneapolis, State of Minnesota, on September 19, 1996.

MEDTRONIC, INC.

By: /s/ William W. George
William W. George, Chairman of the Board
and Chief Executive Officer

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.

Signature	Title
/s/ William W. George William W. George	Chairman of the Board, Chief Executive Officer and Director (principal executive officer)
/s/ Robert L. Ryan Robert L. Ryan	Senior Vice President and Chief Financial Officer (principal financial and accounting officer)
F. Caleb Blodgett* F. Caleb Blodgett	Director

Arthur D. Collins, Jr.* Director
Arthur D. Collins, Jr.

Antonio M. Gotto, Jr., M.D.* Director
Antonio M. Gotto, Jr., M.D.

Bernadine P. Healy, M.D.* Director
Bernadine P. Healy, M.D.

Thomas E. Holloran* Director
Thomas E. Holloran

(Signatures continued on next page)

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Glen D. Nelson, M.D.* Director
Glen D. Nelson, M.D.

Richard L. Schall* Director
Richard L. Schall

Jack W. Schuler* Director
Jack W. Schuler

Gerald W. Simonson* Director
Gerald W. Simonson

Gordon M. Sprenger* Director
Gordon M. Sprenger

Richard A. Swalin, Ph.D.* Director
Richard A. Swalin, Ph.D.

*By/s/ Ronald E. Lund
Ronald E. Lund, as Attorney-in Fact

Dated: September 19, 1996

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EXHIBIT INDEX
TO
FORM S-3 REGISTRATION STATEMENT

MEDTRONIC, INC.

Exhibit Item
Number

- 4.1 Articles of Incorporation, as amended to date (incorporated by reference to Exhibit 3.1 to Registrant's Form 10-Q for the fiscal quarter ended July 28, 1995).
- 5.1 Opinion of Ronald E. Lund, Senior Vice President, General Counsel and Secretary of Medtronic, Inc.
- 23.1 Consent of Price Waterhouse LLP
- 23.2 Consent of Ronald E. Lund, Senior Vice President, General Counsel and Secretary of Medtronic, Inc. (included in opinion filed as Exhibit 5.1).
- 24 Power of Attorney from certain directors and officers.

EXHIBIT 5.1

September 19, 1996

Medtronic, Inc.
7000 Central Avenue NE
Minneapolis, MN 55432

Ladies and Gentlemen:

In connection with the Registration Statement on Form S-3 under the Securities Act of 1933, as amended (the "Registration Statement"), relating to the offering of up to 26,864 shares of Common Stock, \$.10 par value (the "Shares"), of Medtronic, Inc., a Minnesota corporation (the "Company"), to be sold by certain shareholders, I have examined such corporate records and other documents, including the Registration Statement, and have reviewed such matters of law as I have deemed relevant hereto and, based upon such examination and review, it is my opinion that all necessary corporate action on the part of the Company has been taken to authorize the issuance and sale of the Shares and that, when issued and sold as contemplated in the Registration Statement, the Shares will be legally issued, fully paid and nonassessable under the current laws of the State of Minnesota.

I am admitted to the practice of law in the State of Minnesota and the foregoing opinions are limited to the laws of that state and the federal laws of the United States of America.

I consent to the filing of this opinion as an exhibit to the Registration Statement.

Very truly yours,

/s/ Ronald E. Lund

Ronald E. Lund
Senior Vice President,
General Counsel and Secretary

EXHIBIT 23.1

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in the Prospectus constituting part of this Registration Statement on Form S-3 of our report dated May 22, 1996, which appears on page 61 of the 1996 Annual Report to Shareholders of Medtronic, Inc., which is incorporated by reference in Medtronic, Inc.'s Annual Report on Form 10-K for the fiscal year ended April 30, 1996. We also consent to the incorporation by reference of our report on the Financial Statement Schedule which appears on page 12 of such Annual Report on Form 10-K.

/s/ Price Waterhouse LLP

PRICE WATERHOUSE LLP

Minneapolis, Minnesota
September 19, 1996

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that each of the undersigned directors and officers of Medtronic, Inc., a Minnesota corporation ("Medtronic"), hereby constitutes and appoints WILLIAM W. GEORGE and RONALD E. LUND, or either of them, their true and lawful attorneys-in-fact and agents, each with full power and authority to act as such without the other, with full power of substitution and resubstitution, for the undersigned and in the undersigned's name, place and stead, in any and all capacities, to do any and all acts and things and to execute any and all instruments that any of said attorneys and agents may deem necessary or advisable in connection with Medtronic's acquisition of Micro Interventional Systems, Inc. ("MIS") to enable the shareholders of MIS receiving Medtronic common stock in connection with such acquisition (including but not limited to option holders under the MIS 1993 Stock Plan, as amended, who will receive Medtronic common stock upon any exercise of options under such plan) to receive registered Medtronic common stock or to resell such Medtronic common stock in compliance with the Securities Act of 1933, as amended, with any regulations, rules or requirements of the Securities and Exchange Commission thereunder, and with any state Blue Sky laws or regulations in connection therewith, including specifically, but without limiting the generality of the foregoing, power and authority to sign the names of the undersigned to the Registration Statement on Form S-3 (or other appropriate Form) and the Registration Statement on Form S-8 therefor, to any amendment to such Registration Statements, and to any instrument or document filed with said Commission as a part of or in connection with such Registration Statements or any amendment thereto; and the undersigned hereby ratify and confirm all that said attorneys and agents, or their substitutes or resubstitutes, may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, the undersigned have subscribed there presents effective as of the 12th day of October, 1995.

By /s/ F. Caleb Blodgett
F. Caleb Blodgett

By /s/ Edith W. Martin, Ph.D.
Edith W. Martin, Ph.D.

By /s/ Arthur D. Collins, Jr.
Arthur D. Collins, Jr.

By /s/ Glen D. Nelson, M.D.
Glen D. Nelson, M.D.

By /s/ Gary L. Ellis
Gary L. Ellis

By /s/ Robert L. Ryan
Robert L. Ryan

By /s/ William W. George
William W. George

By /s/ Richard L. Schall
Richard L. Schall

By /s/ Antonio M. Gotto Jr., M.D.
Antonio M. Gotto Jr., M.D.

By /s/ Jack W. Schuler
Jack W. Schuler

By /s/ Bernadine P. Healy, M.D.
Bernadine P. Healy, M.D.

By /s/ Gerald W. Simonson
Gerald W. Simonson

By /s/ Vernon H. Heath
Vernon H. Heath

By /s/ Gordon M. Sprenger
Gordon M. Sprenger

By /s/ Thomas E. Holloran
Thomas E. Holloran

By /s/ Richard A. Swalin, Ph.D.
Richard A. Swalin, Ph.D.

By /s/ Winston R. Wallin
Winston R. Wallin