

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

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

MIMEDX GROUP, INC.

(Exact name of Registrant as specified in its charter)

Florida
(State or other jurisdiction of
incorporation or organization)

26-2792552
(I.R.S. Employer
Identification No.)

60 Chastain Center Blvd.
Kennesaw, GA
(Address of principal executive offices)

30144
(Zip Code)

MiMedx Group, Inc.
Assumed 2006 Stock Incentive Plan
(Full title of the plan)

Michael J. Senken
MiMedx Group, Inc.
Chief Financial Officer
60 Chastain Center Blvd.
Kennesaw, GA 30144
(678) 384-6720

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

Indicate by 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) Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Amount to be registered(1)(2)	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee
Common Stock, \$0.001 par value per share(3)	406,710	\$2.70	\$1,098,117.00	\$125.84
Common Stock, \$0.001 par value per share(4)	10,593,290	\$1.44	\$15,254,337.60	\$1,748.15
TOTAL	11,000,000		\$16,352,451.60	\$1,873.99

- This registration statement on Form S-8 (this "Registration Statement") is being filed to register (i) 406,710 shares of common stock, U.S.\$0.001 par value per share of MiMedx Group, Inc. (the "Company") ("Common Stock") available for issuance under the MiMedx Group, Inc. Assumed 2006 Stock Incentive Plan (the "Incentive Plan") and (ii) 10,593,290 shares of Common Stock issuable upon exercise of options previously granted and presently outstanding under the Incentive Plan. The Company previously registered (i) 2,393,125 shares of Common Stock available for issuance under the Incentive Plan and (ii) 3,106,875 shares of Common Stock issuable upon exercise of options previously granted under the Incentive Plan under a Registration Statement on Form S-8 (Registration No. 333-153255), as filed with the Securities and Exchange Commission on August 29, 2008.
- This Registration Statement also registers additional securities to be offered or issued upon adjustment or changes made to the registered securities by reason of any stock splits, stock dividends or similar transactions as permitted by Rule 416(a) and Rule 416(b) under the Securities Act of 1933, as amended (the "Securities Act").
- Represents shares of Common Stock issuable upon exercise of options that have not yet been granted as of the date of this Registration Statement under the Incentive Plan. Estimated solely for the purpose of calculating the registration fee in accordance with Rules 457(c) and 457(h)(1) of the Securities Act, the proposed maximum offering price per share and the proposed maximum offering price are based on the average of the high and low sale prices for the Common Stock as reported on the OTCBB on September 13, 2012.
- Represents shares of Common Stock issuable upon exercise of outstanding options under the Incentive Plan as of the date of this Registration Statement. The proposed maximum offering price per share and proposed maximum offering price have been calculated based upon the weighted average exercise price in accordance with Rules 457(c) and 457(h)(1) under the Securities Act.

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**REGISTRATION OF ADDITIONAL SECURITIES – STATEMENT PURSUANT TO
GENERAL INSTRUCTION E OF FORM S-8**

MiMedx Group, Inc. (the “Company”) filed with the Securities and Exchange Commission a Registration Statement on Form S-8 (File No. 333-153255) on August 29, 2008 (the “2008 Registration Statement”) relating to shares of the Company’s Common Stock, par value \$0.001 per share (the “Common Stock”) to be offered and sold under the Company’s Assumed 2006 Stock Incentive Plan as amended (the “Incentive Plan”). The Registrant is hereby registering an additional (i) 406,710 shares of Common Stock available for issuance under the Incentive Plan and (ii) 10,593,290 shares of Common Stock issuable upon exercise of options previously granted and presently outstanding under the Incentive Plan. Pursuant to and as permitted by General Instruction E to Form S-8, the contents of the 2008 Registration Statement are hereby incorporated by reference herein, and the opinions and consents listed in Item 8 below are attached hereto.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents filed by the Company with the Securities and Exchange Commission (the “Commission”) are incorporated herein by reference:

- (a) The Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2011, filed with the Commission on March 29, 2012;
- (b) The Company’s Current Reports on Form 8-K filed with the Commission on January 3, 2012, February 29, 2012, May 3, 2012, July 26, 2012 and September 10, 2012
- (c) The Company’s Quarterly Reports on Form 10-Q filed on May 14, 2012 and August 14, 2012;
- (d) The description of the Company’s Common Stock, no par value, contained in Item 2.01 of the Company’s Form 8-K filed February 8, 2008, including any amendment or report filed for the purpose of updating such description;
- (e) All other reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act since the end of the period referred to in (a), above.

All documents subsequently filed by the Company pursuant to Section 13(a), 13(c), 14 and 15(d) of the Exchange Act, prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities remaining unsold, shall be deemed to be incorporated by reference herein and to be a part hereof from the date of the filing of such documents.

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Item 8. Exhibits.

The following exhibits are filed as a part of this Registration Statement:

<u>Number</u>	<u>Description</u>
3.1	Articles of Incorporation of MiMedx Group, Inc. (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on April 2, 2008)
3.2	Bylaws of MiMedx Group, Inc. effective February 29, 2008 (incorporated by referenced to Exhibit 3.2 to the Company's Current Report on Form 8-K filed on April 2, 2008)
5	Opinion of Womble Carlyle Sandridge & Rice, LLP
10.1	MiMedx Group, Inc. Assumed 2006 Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on February 8, 2008)
10.2	Declaration of Amendment to MiMedx Group, Inc. Assumed 2006 Stock Incentive Plan (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed February 8, 2008)
10.3	Declaration of Amendment to MiMedx Group, Inc. Assumed 2006 Stock Incentive Plan (incorporated by reference to Exhibit 10.66 to the Company's Current Report on Form 8-K filed on July 15, 2008)
10.4	Form of Incentive Award Agreement under the MiMedx, Inc. 2006 Stock Incentive Plan (incorporated by reference to the Company's Current Report on Form 8-K filed on February 8, 2008)
10.5	Form of Nonqualified Incentive Award Agreement under the MiMedx, Inc. 2006 Stock Incentive Plan (incorporated by reference to the Company's Current Report on Form 8-K filed on February 8, 2008)
23.1	Consent of Womble Carlyle Sandridge & Rice, LLP (included in Exhibit 5)
23.2	Consent of Cherry, Bekaert & Holland, L.L.P.
24	Power of Attorney (included in the signature page hereto)

[Signatures to Follow on Following Pages]

SIGNATURES

Pursuant to the requirements of the Securities Act, MiMedx Group, Inc. 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 Kennesaw, State of Georgia, on this 19th day of September, 2012.

MIMEDX GROUP, INC.

By: /s/ Michael J. Senken
Name: Michael J. Senken
Title: Chief Financial Officer

Each of the undersigned, being a director and/or officer of MiMedx Group, Inc. (the "Company"), hereby nominates, constitutes and appoints Parker H. Petit, Michael J. Senken, and Roberta J. McCaw, or either of them severally, to be his or her true and lawful attorney-in-fact and agent and to sign in such person's name and on such person's behalf in any and all capacities stated below, and to file with the Securities and Exchange Commission (the stock, no par value, of the Company (the "Common Stock") in connection with the Company's Assured 2006 Stock Incentive Plan, as amended, and to file any and all amendments, including post-effective amendments, exhibits and other documents and instruments in connection therewith, to the Registration Statement, making such changes in the Registration Statement as such attorney-in-fact and agent deems appropriate, and generally to do all such things on his behalf in any and all capacities stated below to enable the Company to comply with the provisions of the Securities Act and all requirements of the Commission.

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 date indicated:

Signature

/s/ Parker H. Petit September 19, 2012
Parker H. Petit
Chairman of the Board, Chief Executive Officer and Director
Principal Executive Officer

/s/ Michael J. Senken September 19, 2012
Michael J. Senken
Chief Financial Officer
Principal Financial Officer

/s/ William C. Taylor September 19, 2012
William C. Taylor
President, Chief Operating Officer and Director

[Signatures Continued on Following Page]

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<u>/s/ Steve Gorlin</u> Steve Gorlin Director	September 19, 2012
<u>/s/ Charles E. Koob</u> Charles E. Koob Director	September 19, 2012
<u>/s/ Larry W. Papasan</u> Larry W. Papasan Director	September 19, 2012
<u>/s/ Joseph G. Bleser</u> Joseph G. Bleser Director	September 19, 2012
<u>/s/ J. Terry Dewberry</u> J. Terry Dewberry Director	September 19, 2012
<u>/s/ Bruce L. Hack</u> Bruce L. Hack Director	September 19, 2012
<u>/s/ Charles R. Evans</u> Charles R. Evans Director	September 19, 2012
<u>/s/ Neil S. Yeston</u> Neil S. Yeston Director	September 19, 2012

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EXHIBIT 5

September 19, 2012

MiMedx Group, Inc.
60 Chastain Center Boulevard
Kennesaw, Georgia 30144

RE: Registration Statement on Form S-8

Ladies and Gentlemen:

We have acted as counsel to MiMedx Group, Inc., a Florida corporation (the "Company"), in connection with the Company's above-referenced registration statement on Form S-8 (the "Registration Statement") under the Securities Act of 1933, as amended (the "1933 Act"), filed by the Company with the Securities and Exchange Commission (the "Commission"). The Registration Statement relates to the registration of 11,000,000 shares (the "Shares") of the Company's common stock, \$0.001 par value (the "Common Stock"), of which: (i) up to 406,710 shares of Common Stock will be issued and sold under the MiMedx Group, Inc. Assumed 2006 Stock Incentive Plan (the "Plan"), and (ii) up to 10,593,290 shares of Common Stock may be issued and sold upon exercise of options previously granted and presently outstanding under the Plan. This opinion is delivered to you pursuant to Item 8(a) of Form S-8 and Item 601(b)(5) of Regulation S-K of the Commission.

As the Company's counsel, we have examined originals or copies, certified or otherwise identified to our satisfaction, of the Company's articles of incorporation and bylaws, each as amended to date, and minutes and records of the corporate proceedings of the Company relating to the filing of the Registration Statement and the issuance of the Shares, as provided to us by the Company, certificates of public officials and of representatives of the Company, and statutes and other instruments and documents, as a basis for the opinions hereinafter expressed. In rendering this opinion, we have relied upon certificates of public officials and representatives of the Company with respect to the accuracy of the factual matters contained in such certificates.

In connection with such examination, we have assumed (a) the genuineness of all signatures and the legal capacity of all signatories; (b) the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as certified or photostatic copies; and (c) the proper issuance and accuracy of certificates of public officials and representatives of the Company.

Based on and subject to the foregoing, and having regard for such legal considerations as we deem relevant, it is our opinion that, when issued in accordance with the terms of the Plan, the Shares will be validly issued, fully paid and nonassessable.

This opinion is limited to the laws of the State of Florida, and we are expressing no opinion as to the effect of the laws of any other jurisdiction. This opinion is rendered as of the date hereof, and we undertake no obligation to advise you of any changes in applicable law or any other matters that may come to our attention after the date hereof.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to any reference to the name of our Firm in the Registration Statement. In giving this consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the 1933 Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Womble Carlyle Sandridge & Rice, LLP

EXHIBIT 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated, March 29, 2012, with respect to the consolidated financial statements of MiMedx Group, Inc. which appear in MiMedx Group Inc.'s Annual Report on Form 10-K for the year ended December 31, 2011.

/s/ Cherry, Bekaert & Holland, L.L.P
Cherry, Bekaert & Holland, L.L.P.

Atlanta, GA
September 19, 2012