

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

OMB APPROVAL

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Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934
or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>O'Neill Patrick</u> (Last) (First) (Middle) <u>C/O LANTHEUS HOLDINGS, INC.</u> <u>331 TREBLE COVE ROAD</u> (Street) <u>NORTH</u> <u>MA</u> <u>01862</u> <u>BILLERICA</u> (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) <u>06/24/2015</u>	3. Issuer Name and Ticker or Trading Symbol <u>Lantheus Holdings, Inc. [LNTH]</u>	
		4. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner Officer (give title below) Other (specify below)	5. If Amendment, Date of Original Filed (Month/Day/Year) 6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Beneficially Owned

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
<u>Common Stock</u>	<u>6,049</u>	<u>D</u>	

Table II - Derivative Securities Beneficially Owned
(e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)		4. Conversion or Exercise Price of Derivative Security	5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of Shares			
<u>Stock Option (right to buy)</u>	<u>(1)</u>	<u>02/26/2018</u>	<u>Common Stock</u>	<u>17,793</u>	<u>5.62</u>	<u>D</u>	
<u>Stock Option (right to buy)</u>	<u>(1)</u>	<u>05/06/2023</u>	<u>Common Stock</u>	<u>5,233</u>	<u>19.11</u>	<u>D</u>	
<u>Stock Option (right to buy)</u>	<u>(1)</u>	<u>02/26/2024</u>	<u>Common Stock</u>	<u>5,862</u>	<u>17.06</u>	<u>D</u>	
<u>Stock Option (right to buy)</u>	<u>(2)</u>	<u>02/26/2025</u>	<u>Common Stock</u>	<u>8,051</u>	<u>12.42</u>	<u>D</u>	

Explanation of Responses:

- This option is currently exercisable.
- The shares subject to this option vest in twelve equal monthly installments, beginning March 26, 2015.

Remarks:

Exhibit List Exhibit 24 - Power of Attorney

/s/ Michael P. Duffy, attorney-in-fact 06/24/2015

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 5 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.

LANTHEUS HOLDINGS, INC.

POWER OF ATTORNEY

Know all by these presents, that the undersigned hereby constitutes and appoints each of the President, Treasurer, Assistant Treasurer, Secretary and Assistant Secretary of Lantheus Holdings, Inc. (the "Company"), acting singly or together and with full power of substitution, as the undersigned's true and lawful attorney-in-fact with full power and authority to act in the name of and for and on behalf of the undersigned to:

- (1) prepare, execute in the undersigned's name and on the undersigned's behalf, and submit to the U.S. Securities and Exchange Commission (the "SEC") a Form ID, including amendments thereto, and any other documents necessary or appropriate to obtain codes and passwords enabling the undersigned to make electronic filings with the SEC of reports required by Section 16(a) of the Securities Exchange Act of 1934 or any rule or regulation of the SEC;
- (2) execute for and on behalf of the undersigned, in the undersigned's capacity as an officer and/or director of the Company, Forms 3, 4 and 5 in accordance with Section 16(a) of the Securities Exchange Act of 1934 and the rules thereunder;
- (3) do and perform any and all acts for and on behalf of the undersigned which may be necessary or desirable to obtain and maintain the undersigned's filing codes, complete and execute any such Form 3, 4 or 5, complete and execute any amendment or amendments thereto, and timely file such form with the SEC and any stock exchange or similar authority; and
- (4) take any other action of any type whatsoever in connection with the foregoing which, in the opinion of such attorney-in-fact, may be of benefit to, in the best interest of, or legally required by or of, the undersigned, it being understood that the documents executed by such attorney-in-fact on behalf of the undersigned pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in such attorney-in-fact's discretion.

The undersigned hereby grants to each such attorney-in-fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary, or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted. The undersigned acknowledges that the foregoing attorneys-in-fact, in serving in such capacity at the request of the undersigned, are not assuming, nor is the Company assuming, any of the undersigned's responsibilities to comply with Section 16 of the Securities Exchange Act of 1934.

This Power of Attorney shall remain in full force and effect until the undersigned is no longer required to file Forms 3, 4 and 5 with respect to the undersigned's holdings of and transactions in securities issued by the Company, unless earlier revoked by the undersigned in a signed writing delivered to the foregoing attorneys-in-fact.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed as of this 23rd day of June 2015.

/s/ Patrick O'Neill
Signature

Patrick O'Neill
Print Name