

OMB APPROVAL	
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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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>Slichenmyer William</u> <hr/> (Last) (First) (Middle) <u>C/O AVEO PHARMACEUTICALS, INC.</u> <u>75 SIDNEY STREET</u> <hr/> (Street) <u>CAMBRIDGE MA 02139</u> <hr/> (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>AVEO PHARMACEUTICALS INC [AVEO]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner Officer (give title below) Other (specify below) X <u>Chief Medical Officer</u>
	3. Date of Earliest Transaction (Month/Day/Year) <u>10/20/2010</u>	
4. If Amendment, Date of Original Filed (Month/Day/Year)		

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	10/19/2010		M		3,000	A	\$9.64	3,000	D	
Common Stock	10/19/2010		S ⁽¹⁾		3,000	D	\$15.2055 ⁽²⁾	0	D	

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

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)	
				Code	V	(A)	(D)	Date Exercisable	Expiration Date						Title
Stock Option (right to buy)	\$9.64	10/19/2010		M			3,000	(3)	10/08/2019	Common Stock	3,000	\$0	184,500	D	

Explanation of Responses:

- The sale reported in this Form 4 was effected pursuant to a Rule 10b5-1 trading plan adopted by the reporting person on September 13, 2010.
- The price reported in this Column 4 is a weighted average price. The shares were sold in multiple transactions at prices ranging from \$15.20 to \$15.25, inclusive. The reporting person undertakes to provide AVEO Pharmaceuticals, Inc., any security holder of AVEO Pharmaceuticals, Inc., or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares sold at each price within the range set forth in this footnote.
- The option vests as to 25% of the shares on September 14, 2010 and in equal monthly installments thereafter as to the remaining shares through September 14, 2013.

/s/ William Slichenmyer, MD 10/20/2010

** 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 4 (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.