

**FORM 5**

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

OMB APPROVAL	
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**ANNUAL STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**

- Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).
- Form 3 Holdings Reported.
- Form 4 Transactions Reported.

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>WEISSMAN IRVING</u>  (Last) (First) (Middle) <u>C/O STEMCELLS, INC.</u> <u>3155 PORTER DRIVE</u>  (Street) <u>PALO ALTO CA 94304</u>  (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>STEMCELLS INC [ STEM ]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner  Officer (give title below) Other (specify below)
	3. Statement for Issuer's Fiscal Year Ended (Month/Day/Year) <u>12/31/2009</u>	
	4. 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 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 at end of Issuer's Fiscal Year (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Beneficial Ownership (Instr. 4)
				Amount	(A) or (D)	Price			
Common Stock	12/30/2009	12/30/2009	G <sup>(1)</sup>	154,320	D	\$0.00	339,416 <sup>(2)</sup>	D	
Common Stock	12/30/2009	12/30/2009	G <sup>(3)</sup>	85,032	A	\$0.00	190,111	I	family trust <sup>(4)</sup>

**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)
					(A)	(D)	Date Exercisable	Expiration Date					

**Explanation of Responses:**

- This transaction involved gifts of securities by the reporting person to his children and grandchildren, either directly or to trusts established for thier benefit, as well as to certain charitable organizations.
- Includes 10,000 restricted stock units, vesting 100% on October 1, 2010, the one year anniversary of the grant.
- This transaction involved gifts of securities by the reporting person to trusts established for the benefit of either a family member of his or a minor who shares the reporting person's household. The reporting person disclaims beneficial ownership of the shares held in these trusts, and this report should not be deemed an admission that the reporting person is the beneficial owner of these shares for purposes of Section 16 or for any other purpose.
- 190,111 shares held in trust as to which Dr. Weissman disclaims beneficial ownership.

**Remarks:**

/s/ Ken Stratton, attorney-in-fact      02/12/2010

\*\* 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.