



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
CORPORATION FINANCE

August 6, 2013

Via E-mail

Alan J. Lewis, Ph.D.
Chief Executive Officer
Medistem, Inc.
9255 Towne Centre Drive, Suite 450
San Diego, CA 92121

Re: Medistem, Inc.
Registration Statement on Form 10-12G
Filed July 9, 2013
File No. 000-54999

Dear Dr. Lewis:

We have reviewed your registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

General

1. Please note that your registration statement will become effective by operation of law 60 days from the date you filed it and that you will then be responsible for filing reports required by Section 13 of the Securities Exchange Act of 1934, even if we have not completed the review process of your filing.
2. Since you appear to qualify as an “emerging growth company,” as defined in the Jumpstart Our Business Startups Act, please disclose that you are an emerging growth company and revise your registration statement to:
 - Describe how and when a company may lose emerging growth company status;
 - Briefly describe the various exemptions that are available to you, such as exemptions from Section 404(b) of the Sarbanes-Oxley Act of 2002 and Section 14A(a) and (b) of the Securities Exchange Act of 1934; and

- State your election under Section 107(b) of the JOBS Act:
 - If you have elected to opt out of the extended transition period for complying with new or revised accounting standards pursuant to Section 107(b), include a statement that the election is irrevocable; or
 - If you have elected to use the extended transition period for complying with new or revised accounting standards under Section 102(b)(2), provide a risk factor explaining that this election allows you to delay the adoption of new or revised accounting standards that have different effective dates for public and private companies until those standards apply to private companies. Please state in your risk factor that, as a result of this election, your financial statements may not be comparable to companies that comply with public company effective dates. Include a similar statement in your critical accounting policy disclosures.

In addition, consider describing the extent to which any of these exemptions are available to you as a Smaller Reporting Company.

Item 1. Business

3. To the extent practicable, please minimize the use of highly technical terminology in this section and elsewhere in the registration statement that may be unfamiliar to lay investors. If the use of such terms is necessary, please give the meaning and significance of such terms in plain language that may be understood by a person not acquainted with this industry or scientific field. For example, an explanation of the terms “stromal cells,” “fibroblastic,” “markers,” “telomerase,” “angiogenesis,” “endothelial revitalization,” “matrix metalloprotease” and “FoxP3 expression” should accompany their first usage in the registration statement.
4. We note your footnote on page 1 regarding the Phase II clinical that you have initiated in Moscow, Russia. In lieu of the footnote, please move this disclosure to the relevant paragraph in the main text on page 1 so that the information immediately follows the last sentence of the third paragraph in your business overview. In addition, please revise your disclosure throughout the registration statement, where applicable, to reiterate that your Phase II trial in Moscow is not an FDA-approved trial.

Regenerative Medicine Industry, page 2

5. We note your statement on page 3, “However, our ERCs possess properties such that they typically do not trigger an immune response when injected into unrelated recipients, thus allowing for allogeneic use.” Please describe the properties you reference in this statement and explain why they prevent ERCs from triggering an immune response when injected into unrelated recipients.

Endometrial Regenerative Cells, page 3

6. Footnote number 12 on page 4 does not appear to correspond to a particular statement in your disclosure. Please correct this omission or remove the footnote.

Our Clinical Programs

Our Critical Limb Ischemia Program, page 6

7. Please advise us whether you have entered into a collaboration, services or other agreement with Dr. Michael Murphy related to the development of ERCs in patients with CLI. If so, please expand your disclosure to provide the material terms of the agreement, including; the parties' rights and obligations, duration of the agreement, termination provisions, aggregate amounts paid to date under the agreement, aggregate potential payments to be paid in the future, profit sharing provisions and any up front/execution payments. Also, please file the agreement as an exhibit pursuant to Item 601(b)(10) of Regulation S-K.
8. We note that you have partnered with Shanghai Jia Fu Medical Apparatus, Inc. to conduct a pilot CLI clinical study in China. Please describe the material terms of any agreement with Shanghai Jia Fu Medical, Inc. including, the parties' rights and obligations, duration of the agreement, termination provisions, aggregate amounts paid to date under the agreement, aggregate potential payments to be paid in the future and any up front/execution payments. Also, please file the agreement as an exhibit pursuant to Item 601(b)(10) of Regulation S-K. In the alternative, please provide your analysis why such an agreement is not material and therefore need not be filed as an exhibit.
9. We note that the protocol of your CLI clinical study in China mirrors your upcoming FDA clinical trial. Please expand your disclosure to describe the protocol of your CLI clinical study in China and how it confirmed that your ERCs can be shipped and injected without adverse events. Also, please disclose the total number of CLI patients that will participate in this pilot study.

Our Congestive Heart Failure (CHF) Program, page 7

10. Please provide the material terms of your license agreement with ERCCell, LLC in this section, including; the nature and scope of the intellectual property transferred, the parties' rights and obligations, duration of the agreement, termination provisions, aggregate potential payments to be paid in the future and royalty rates. If you have any other agreements in place with ERCCell, please advise us of such. We may have further comments based on your response.
11. Please provide disclosure elaborating on your catheter-based retrograde administration technique. Please also clarify, in the relevant section of your registration statement, your delivery system for ERCs in your CLI program.

Type I Diabetes Program, page 7

12. Please provide the material terms of your license agreement with Yale University, including, the nature and scope of the intellectual property transferred, the parties' rights and obligations, duration of the agreement, termination provisions, aggregate amounts paid to date under the agreement, aggregate potential milestones payments to be paid in the future, royalty rates and any up front/execution payments. Also, please file the agreement pursuant to Item 601(b)(10) of Regulation S-K.

Intellectual Property, page 9

13. Please provide the following additional information:

- expiration date of your issued patent #8,241,621;
- the filing dates of your patent applications; and
- whether the patent is owned or licensed and, if licensed, from whom

Item 1A. Risk Factors

Risks Related to our Business

Inadequate internal controls and accounting practices could lead to errors...., page 14

14. Please identify the material weaknesses that were identified in your internal control over financial reporting and segregation of duties, the effect of these weaknesses on your financial statements and recent remedial measures you implemented in order to address these weaknesses.

We need additional capital to conduct our operations and our ability to obtain...., page 14

15. Please quantify the amount of your cash, cash equivalents and working capital and how long these funds will allow you to continue your operations if additional capital is not obtained. We note that in the section entitled, "Liquidity and Capital Resources," you state that you expect that cash infusions from future equity or debt offerings, or both, will permit you to finance your existing operating activities for the next twelve months. Please also expand your disclosure in this risk factor and in the "Liquidity and Capital Resources" section to quantify the amount of funds that you will need to obtain in order to maintain your operating activities for the next twelve months.

We may not be able to compete successfully because of the number and...., page 17

16. Please refer the reader here to the disclosure of competitors that appears earlier on page 11 in your Competition discussion.

Risks Relating to an Investment in our Securities

There is a limited public market for our shares of common stock, page 19

17. Please revise your disclosure in this risk factor to state that your “is” classified as a penny stock.

Item 5. Directors and Executive Officers

Executive Officers, page 30

18. Please provide Dr. Alan J. Lewis’ experience from November 2011 through October 2012.
19. Please identify the executive officer who serves as the Chief Accounting Officer or Controller. If such person is not currently listed, please provide the information for that individual required by Item 401 of Regulation S-K. If you have no such person serving in the capacity of Chief Accounting Officer or Controller please advise us. We may have further comments based on your response.

Non-Executive Directors, page 31

20. For each director, please briefly discuss the specific experience, qualifications, attributes or skills that led to the conclusion that the person should serve as a director. Please see Item 401(e)(1) of Regulation S-K for guidance.

Employment Agreements, page 35

21. Please quantify the amount of cash payments that Dr. Ichim received for approximately 6 months after October 6, 2012.
22. We note that you have also filed the employment agreement with Donald F. Dickerson as an exhibit. Please expand your disclosure to provide the material terms of the employment agreement with Mr. Dickerson.

Item 7. Certain Relationships and Related Party Transactions, ..., page 36

23. We note that Cromos Pharma, Inc. is not directly compensated by you for its services. Please identify the direct source of Cromos Pharma’s compensation.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company’s disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Alan J. Lewis
Medistem, Inc.
August 6, 2013
Page 6

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

You may contact Johnny Gharib at (202) 551-3170, Daniel Greenspan at (202) 551-3623 or me at (202) 551-3715 with any questions.

Sincerely,

/s/ Daniel Greenspan for

Jeffrey P. Riedler
Assistant Director

cc: Via E-mail
John Salvador, Esq.
Chief Operations Officer
Medistem, Inc.
9255 Towne Centre Drive, Suite 450
San Diego, CA 92121