



DIVISION OF
CORPORATION FINANCE

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

February 1, 2012

Uri Ben-Or
Chief Financial Officer
Topspin Medical, Inc.
16 Hatidhar St.
P.O.Box 4131
Raanana, Israel 43652

**Re: Topspin Medical, Inc.
Form 8-K
Filed January 5, 2012
File No. 333-144472**

Dear Mr. Ben-Or:

We have reviewed your filing 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 within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. 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 filing and the information you provide in response to these comments, we may have additional comments.

Recent Transactions, page 2

1. Please clarify your disclosure that the Medgenesis transaction was completed for no consideration.
2. Please revise to clarify whether Metamorefix is a privately owned company. If Metamorefix had equity trading in any public trading market, please revise to specify those markets.
3. We note your discussion of the convertible Metamorefix loans in the last paragraph on page 3. However, we also note the reference to additional convertible loan agreements in the third paragraph on page 34. Please explain.

Description of the Company, page 4

4. Please revise the introductory paragraphs of this section to disclose the company's revenues and net loss or profit for the most recent fiscal year and stub period, as applicable. In addition, please disclose that you have received a going concern opinion from your auditors.
5. Please revise to discuss in greater detail the factors that caused you to suspend your activities in October 2008. Please also revise to clarify the nature of your business between October 2008 when you suspended your activities and January 2010 when you decided to discontinue the development of your intellectual property. Additionally, please revise to address any bankruptcy, receivership or similar proceeding and any material reclassification, merger, consolidation, or purchase or sale of a significant amount of assets not in the ordinary course of business during the last three years. For example, we note your reference to bankruptcy proceedings on page 18.

Metamorefix's Product, page 6

6. We note your statement in the last sentence on page 6. Please clarify whether you have produced the final derma filler product or the final wound treatment product. Please also clarify how the derma filler product and the wound treatment product would be administered and by whom.

The United States Food & Drugs Administration, page 8

7. Revise this section to disclose the estimated time frame for approval under each process. We note, for example, that you describe "the K510 track" as a "relatively short procedure." In addition, please expand your discussion of "the K510 de novo process."
8. Please revise this section to clarify that you may not be able to apply for FDA approval through the review processes under which you currently intend to submit your application. Also add appropriate risk factor disclosure.

Approval of the FDA for marketing the dermal filler product, page 9

9. Please revise to clarify when you expect to submit your dermal filler product for FDA approval.

Approval of the FDA for marketing the product and for treating wounds, page 9

10. Please more fully describe the precedent products identified in the second sentence of this section.

Approval of compliance with the CE mark for a dermal filler product, page 10

11. Please disclose whether the preliminary meeting with EMA and the notified body has been held. Also, please clearly state whether the opinion of the notified body ensures that your product will be classified as a medical device. If not, please explain.

Market Size, page 11

12. Please provide objective support for your numerous statements in the filing regarding the characteristics of the industry, including its size and growth potential. We also note your claims regarding the limited effectiveness and other drawbacks of your competitors' products. Please provide substantiation for these claims.

Competition, page 13

13. We note your discussion of competitive conditions among dermal fillers. Please revise to include a discussion of competitive conditions among wound treatment products. In addition, please provide balanced discussion of the positive and negative aspects of competing products and methods.

Management's Discussion and Analysis..., page 17

14. Please revise to discuss whether you expect your financial position to remain at your current level or to increase or decrease. Please also revise to identify any significant elements of historical income or loss that will not continue in your post-merger operations. Additionally, we note your discussion of the "new avenues" for raising capital on page 20. Please revise to discuss, to the extent known, what these "new avenues" may be.

Liquidity and Capital Resources, page 20

15. Please describe your receipt of grants from the Office of the Chief Scientist of the Israeli Ministry of Industry, Trade and Labor, including the availability and likelihood of future grants.

Results and Operations of Metamorefix, page 22

16. Please revise to provide a discussion and analysis of the financial statements, changes in financial condition and results of operations for the years ended December 31, 2010 and December 31, 2009. See Instruction 1 to Item 303(a) of Regulation S-K.

Metamorefix's Plans of Operation, page 23

17. Refer to the second sentence in the final paragraph on page 23. Please revise to describe, if material, the risks and concerns related to the use of a molecule from human source.
18. The first paragraph on page 24 refers to targets that were met in 2011. Please revise to disclose the targets.

Management, page 25

19. We note your statement that the disclosure is “[a]s of December 31, 2010.” Please revise to identify your post-merger directors and executive officers.
20. Please revise to describe the standard you used to qualify your independent directors as independent.

Executive Compensation, page 27

21. We note footnote 1 to the summary compensation table. However, you state in the Form 8-K filed on October 12, 2011 that Mr. Shtarkman served as the company's Chief Executive Officer between February 2011 and October 6, 2011. Please clarify.
22. Please revise to provide the information required by Item 402 of Regulation S-K for Metamorefix Ltd.'s most recently completed fiscal year. See Regulation S-K Compliance and Disclosure Interpretations 217.02 and 217.12.

Compensation of Directors, page 27

23. We note your statement that your external directors received compensation according to the Israeli regulations concerning payment to external directors. Please explain.

Related Party Transactions, page 28

24. Please revise to disclose the date upon which the related party transaction with Medgenesis occurred as well as the date when the agreement with Mr. Linkovsky was entered into and the total amount paid under this agreement. Please also revise to disclose the identity of the investor discussed in the third paragraph of this section.
25. Please revise to disclose all related party transactions for the two fiscal years preceding your last fiscal year in addition to periods specified in Item 404 of Regulation S-K. See Instruction 1 to Item 404. For example, we note the “Investment Agreement with Medgenesis” section on page 32 and the convertible Metamorefix loans and convertible Topspin loan discussed on page 3.

Security Ownership of Certain Beneficial Owners and management, page 29

26. Please revise the footnotes to the table to identify the natural persons with voting and dispositive control over the shares held by Israel Healthcare Ventures 2 LP Incorporated.

Investments in Metamorexif's capital and transactions in its shares, page 29

27. Please add a risk factor to disclose, if true, that the protected shares discussed in this section receive a preference over your ordinary shares.

Unregistered sales of equity securities, page 32

28. Please revise to clarify the exemption from registration claimed for all of the transactions discussed and state briefly the facts relied upon in your determinations that the exemptions were available.

Exhibits

29. Please tell us why you have not filed the following as exhibits:
- The Material Transfer Agreement with BioTechnology General discussed on page 6;
 - The agreement with Baxter Healthcare Corp. on page 6;
 - The lease agreement discussed on page 12;
 - The employment agreements discussed on page 27;
 - The office services agreement discussed on page 28; and
 - Material agreements described on pages 32-35.

Exhibit 99.1

Metamorexif Ltd. Financial Statements as of December 31, 2010, page 1

30. We note your disclosure in Note 1(b) that Metamorexif Ltd. is in the development stage. As such, please revise the Metamorexif financial statements to include the cumulative financial statement information required by Topic 915 of the FASB Accounting Standards Codification. The financial statements shall be identified as those of a development stage entity under paragraph 915-205-45-4 of the FASB Accounting Standards Codification. Please note this comment also applies to the interim financial statements.

Metamorexif Ltd. Financial Statements as of September 30, 2011, page 22

31. Please revise to also include comparative statements of loss for the three months ended September 30, 2011 and 2010. Refer to Item 2.01(f) of Form 8-K.

Exhibit 99.2

Metamorex Ltd. Condensed Consolidated Pro Forma Unaudited Statements of Losses
For the periods September 30, 2011 and December 31, 2010

32. Please present historical and pro forma basic and diluted per share data and the number of shares used to compute such per share data on the face of the pro forma statements of losses. Please further revise your description of pro forma adjustments to describe how the historical outstanding shares were affected by the transaction to compute the pro forma shares outstanding. Refer to Note 3 to Rule 8 of Regulation S-X, Rule 8-05 of Regulation S-X and Rule 11-02(b)(7) of Regulation S-X.

Pro Forma Adjustments

33. Pro forma adjustments should give effect to events that are directly attributable to the specific transaction identified. Please explain to us how adjustment (3) meets the requirements of Rule 11-02(b)(6) of Regulation S-X or otherwise, revise the pro forma financial statements to eliminate this adjustment.

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.

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.

Uri Ben-Or
Topspin Medical, Inc.
February 1, 2012
Page 7

You may contact Gary Newberry at (202) 551-3761 or Kevin L. Vaughn, Accounting Branch Chief, at (202) 551-3643 if you have questions regarding comments on the financial statements and related matters. Please contact Allicia Lam at (202) 551-3316 or Daniel Morris, Special Counsel, at (202) 551-3314 with any other questions.

Sincerely,

/s/ Daniel Morris for

Amanda Ravitz
Assistant Director