

Mail Stop 4561

February 13, 2007

VIA U.S. MAIL AND FAX (305) 579-9724

Mr. David Aviezer, Ph.D.  
President and Chief Executive Officer  
Orthodontix, Inc.  
2 Snunit Street  
Science Park  
POB 455  
Carmiel, Israel 21000

**Re: Orthodontix, Inc.  
Item 4.01 Form 8-K  
Filed February 7, 2007  
File No. 000-27836**

Dear Mr. Aviezer:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone number listed at the end of this letter.

Form 8-K filed February 7, 2007

1. Please revise the Form to comply with Item 304(a)(1)(ii) of Regulation S-K which requires a statement indicating whether the principal accountant's report on the financial statements was qualified as to uncertainty, audit scope, or accounting principles, and a description of each such qualification.
2. In addition, Item 304(a)(1)(iv) of Regulation S-K requires a statement whether during the registrant's two most recent fiscal years and any subsequent interim

- period through the date of resignation, declination or dismissal there were any disagreements with the former accountant on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreement(s), if not resolved to the satisfaction of the former accountant, would have caused it to make reference to the subject matter of the disagreement(s) in connection with its reports. In the event of disagreement(s) and/or reportable event(s), provide the specific disclosures required by Item 304(a)(1)(iv) and (v) of Regulation S-K.
3. To the extent that you make changes to the Form 8-K to comply with our comments, please obtain and file an updated Exhibit 16 letter from the former accountant stating whether the accountant agrees with the statements made in your revised Form 8-K. Refer to Item 304(a) of Regulation S-K.

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As appropriate, please amend your filing and respond to these comments within five business days or tell us when you will respond. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

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 all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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 connection with responding to our comments, please provide, in writing, a 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.

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In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

Any questions regarding the above should be directed to me at (202) 551-3693.

Sincerely,

Eric McPhee  
Staff Accountant