

Mail Stop 6010

July 13, 2006

Michael A. Baker, President and Chief Executive Officer
ArthroCare Corporation
111 Congress Avenue
Austin, Texas 78701

Via U S Mail and FAX [(512) 391-3901]

Re: ArthroCare Corporation
Form 10-K for the fiscal year ended December 31, 2005
Form 10-Q for March 31, 2006
File No. 0-27422

Dear Mr. Baker:

We have reviewed the information and proposed disclosures filed on June 28, 2006 and have the following additional comments. We have limited our review to only your financial statements and related disclosures, and do not intend to expand our review to other portions of your documents. Where indicated, we ask you to provide us with information so we may better understand your disclosure. Please be as detailed as necessary in your explanations. 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 numbers listed at the end of this letter.

Form 10-K for the fiscal year ended December 31, 2005

Financial Statements

Note 9 Commitments and Contingencies, page 72

1. We have read your response to our prior comment 1 and the information in Appendix A. We note that you have indicated that the payments under the Agreements with Smith & Nephew are contingent and will not be recognized until the contingency is resolved. Please explain to us how you accounted for each payment under the Agreements listed in the Appendix and how these are reflected in the financial statements.

Form 8-K filed May 3, 2006

2. We note that you present your non-GAAP measures and reconciliation in the form of statements of income. These formats may be confusing to investors as they also reflect several non-GAAP measures, including adjusted operating expenses, adjusted income from operations, adjusted net operating margin, adjusted income tax provision, adjusted net income and adjusted net income per share, which have not been described to investors. In fact, it appears that management does not use these non-GAAP measures but they are shown here as a result of the presentation format. Please note that Instruction 2 to Item 2.02 of Form 8-K requires that when furnishing information under this item you must provide all the disclosures required by paragraph (e)(1)(i) of Item 10 of Regulation S-K and Question 8 of the June 13, 2003 Frequently Asked Questions Regarding the Use of Non-GAAP Financial Measures, including a reconciliation to the directly comparable GAAP measure for **each** non-GAAP measure presented and explain why you believe the measures provide useful information to investors.
 - To eliminate investor confusion, please remove the non-GAAP statements of income from all future filings and instead disclose only those non-GAAP measures used by management that you wish to highlight for investors, with the appropriate reconciliations and disclosures.
 - Please note that in the event that your Form 8-K is incorporated by reference into a 33 Act registration statement, we may have additional questions relating to the appropriateness of this information being included in a document filed with, and not just furnished to, the Commission. At that time, we may request an amendment to the Form 8-K.

Mr. Michael A. Baker
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As appropriate, please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a response letter that keys your responses to our comments and provides the requested information. Detailed response letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments and the requested information

You may contact Jeanne Bennett at (202) 551-3606, or me at (202) 551-3676, if you have questions regarding our comments. In our absence you may contact Martin F. James, Senior Assistant Chief Accountant at (202) 551-3671.

Sincerely,

Brian R. Cascio
Accounting Branch Chief