

Mail Stop 6010

May 3, 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
Forms 10-Q for 2005
File No. 0-27422

Dear Mr. Baker:

We have reviewed your filings and have the following 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.

Mr. Michael A. Baker
ArthroCare Corporation
May 3, 2006
Page 2

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

Financial Statements

Note 9 Commitments and Contingencies, page 72

1. We note the settlement of the Smith & Nephew litigation resulted in two agreements: the Settlement and Licensing Agreement; and the Supply and Distribution Agreement. Please tell us the significant terms of these agreements and explain the related accounting treatment. Please tell us the milestones that must be reached under these agreements and how you will account for these milestones.

Note 16 Segment Information, page 82

2. We see you have presented your geographic information in large groupings. Please explain to us what consideration you gave to reporting domestic (US) information separately as required by paragraph 38 of SFAS 131. Please tell us why it is not necessary to present separate information about Europe where you have subsidiaries in Italy and Luxembourg; and offices in Sweden, France and Germany.

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

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing reviewed by the staff 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 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.

Mr. Michael A. Baker

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.

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.

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