



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

August 17, 2010

Mr. David A. Garrison
Executive Vice President and Chief Financial Officer
Arrhythmia Research Technology, Inc.
25 Sawyer Passway
Fitchburg, MA 01420

Re: Arrhythmia Research Technology, Inc.
Form 10-Q for the fiscal quarter ended June 30, 2010
Filed August 16, 2010
File No. 001-09731

Dear Mr. Garrison:

We have reviewed your response letter dated August 13, 2010 and related 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. 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 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 please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Form 10-Q for the fiscal quarter ended June 30, 2010

Consolidated Financial Statements

Note 4. Business Combination Activities, page 5

1. We see that the options and common stock issued as consideration for the purchase of RMDDx Corporation was placed in escrow and is released and vested based upon the achievement of certain performance targets. Please clarify if how accounted for the amounts as contingent consideration under FASB ASC 805-30-25-5 and 6. In this regard, tell us if you have recorded the contingent consideration as a liability or equity, as discussed in the accounting literature.
2. In future filings please include a description of the reasons why the purchase of RMDDx resulted in a bargain purchase gain. For example, explain why you believe the former owners were willing to sell RMDDx at a discount from fair value. Please tell us whether the transaction resulted from a forced sale in which the seller is acting under compulsion. Refer to FASB ASC 805-30-50-1(f). Please provide us with a sample of your revised disclosure.
3. As a related matter, tell us how you performed the reassessment of whether you correctly identified all of the assets acquired and all of the liabilities assumed before recognizing the gain on the purchase. Refer to FASB ASC 805-30-25-4 and FASB ASC 805-30-30-4 through 30-6.
4. We see that RMDDx's business is currently devoted to the development of remote wireless medical technology for heart monitors. Please tell us how you considered that you acquired any in process research and development or other intangible assets. Refer to FASB ASC 805-20-55.

You may contact Leigh Ann Schultz at (202) 551-3628 or Kristin Lochhead, Accounting Reviewer, at (202) 551-3664 if you have questions regarding comments on the financial statements and related matters. In this regard, please do not hesitate to contact me at (202) 551-3676 with any other questions.

Sincerely,

Brian Cascio
Accounting Branch Chief