Mail Stop 6010 June 7, 2006

Stefan M. Lemperle, M.D.
Chief Executive Officer
Artes Medical, Inc.
5870 Pacific Center Boulevard
San Diego, California 92121

Re: Artes Medical, Inc.
Registration Statement on Form S-1, filed May 12, 2006
File No. 333-134086

Dear Dr. Lemperle:

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. In some of our comments, we may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not 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.

General

1. Please note that our reply to your request for confidential treatment for portions of certain exhibits will be provided under separate cover.

2. Please note that when you file a pre-effective amendment containing pricing-related information, we may have additional comments. As you are likely aware, you must file this amendment prior to circulating the prospectus.

3. Please note that when you file a pre-effective amendment that includes your price range, it must be bone fide. We interpret this to mean that your range may not exceed $2 if you price below $20 and 10% if you price above $20.

4. Please note that where we provide examples to illustrate what we mean by our comments, they are examples and not complete lists. If our comments are applicable to portions of the filing that we have not cited as examples, please make the appropriate changes in accordance with our comments.

5. Please revise the first two pages of the graphic so that the disclosure is in plain English. For example, please revise to explain what you mean by "temporary muscle paralytics," "purified bovine collagen," and "PMMA." Please also provide a legend that explains the current regulatory status of ArteFill, in particular that you still need to obtain FDA approval to market and sell ArteFill.

6. Please move the graphic on the third page to the business section of the prospectus. The information in this graphic regarding the results of your clinical trial and patient follow-up is best placed in the business section where investors will have more context of the information provided.

7. Please delete the terms "safe" and "enduring" from the graphic on the inside back cover. You have yet to receive final approval from the FDA to market and sell ArteFill.

8. Please confirm to us that you have provided us proofs of all graphic, visual or photographic information you will provide in the printed prospectus prior to its use.

9. Please update the financial statements as required by Rule 3-12 of Regulation S-X and updated any other related disclosure.

10. The forepart of your prospectus uses jargon and technical terms. For example, these words and phrases appear in the forepart of your prospectus:
    - dermal fillers,
    - approvable letter,
    - bovine collagen component,
    - synthetic, non-absorbable microspheres,
    - Med Watch letter,
    - hyaluronic acid-based, and
    - alloplastic implants.

    Please replace all technical language and jargon with language that can be understood by persons who do not work in your industry. Alternately, if you cannot find substitute language without changing the meaning, prove an explanation of the term where you first use it. See Rule 421(d)(2)(ii) of Regulation C.

11. Please revise your disclosure to identify the source for the following statements and provide us with third party support for these statements. The supporting documentation should be marked to indicate the text supporting the statements.

    - Injectable aesthetic treatments are the largest and the fastest growing segment of the non-surgical aesthetic treatment market.
    - During 2005, approximately 4.9 million injectable aesthetic procedures were performed in the United States.
    - In 2005, U.S. consumers spent more than $2.2 billion on injectable aesthetic treatments.
    - Based on market research, we believe that physicians purchased approximately $600 million of injectable aesthetic products for these treatments.
    - Industry research projects that the market for injectable aesthetic treatments will expand at a compound annual growth rate of more than 25% through 2011 in the United States and 20% throughout the rest of the world.

12. We note that you mention a predecessor product to ArteFill called Artecoll that was manufactured and sold outside the United States by a third party under a CE mark. Please revise your disclosure in an appropriate section of the prospectus to clarify the current status of Artecoll. Is it still manufactured and sold outside the United States by a third party? Did you acquire all rights to Artecoll? Please explain.

Cover Page

13. Please eliminate the term "joint book-running managers" from the cover page. You can discuss the relationship between the underwriters in the underwriting section if you wish.

Summary, pages 1-6

14. Please revise your disclosure to explain what you mean by "fully integrated" or remove this statement.

15. In the summary you make various statements regarding the results of your clinical trials. You state that your product candidate is "safe and effective" and make claims about its "wrinkle correction." We believe discussions regarding the results of clinical trials are better placed in the Business section where investors have more complete disclosure about the trials and the FDA process. Please revise your disclosure accordingly. You may discuss where you are in the regulatory process and the remaining steps to regulatory approval in the summary.

16. Please expand your discussion of the risks associated with your business. Since you discuss the anticipated benefits of your product candidate and your strategy, you should provide equally prominent disclosure highlighting potential problems that could affect your future success. Please expand the discussion of the risks listed and also discuss other major risks, including your limited operating history, the competitive nature of your target market and your current product litigation.

Risk Factors, page 7-27

General

17. Please delete the statement "Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our operations." It is not appropriate to refer to other risks that are not disclosed.

18. We note that if approved by the FDA your promotion of the efficacy benefits of ArteFill will be limited to six months. It appears, however, that you plan to distinguish ArteFill from competing products by claiming it has lasting effects. Please clarify how you will be able to market ArteFill as such if you are permitted only to promote its benefits for six months. Please also add a new risk factor or revise a current risk factor, such as the risk factor on page 9 regarding market acceptance, to discuss how the limited approval will impact your market strategy for success.

We have limited operating experience and a history of net losses . . . . , page 7

19. Please revise this risk factor to also explain that you have no revenues to date.

20. Please incorporate into this discussion the rate at which you are currently burning cash on a monthly basis.

We are currently involved in product litigation . . . ., pages 11-12

21. Please revise this risk factor to also explain your directors' and officers' liability insurance carrier has declined coverage of the Sandor litigation.

We have never commercialized any product . . . ., page 12

22. Please revise this risk factor and your MD&A under "Funding Requirements" to quantify your expected expenditures as they relate to building your sales force.

We currently do not have an FDA-approved manufacturing facility in the United States . . . ., page 12

23. You have indicated in this risk factor that the EIR states that the inspection of your manufacturing facilities is completely closed. In other sections of the prospectus, you state that you will not be required to take any further action related to the inspection. You also state that you expect to receive FDA clearance of your manufacturing facilities later this year. Please revise this risk factor to explain what additional steps or events by the FDA or other third parties must occur for the FDA to approve your manufacturing facilities.

We have limited manufacturing experience . . . ., pages 12-13

24. Please expand your discussion regarding the additional regulatory approvals you may require to develop commercial-scale manufacturing capabilities and to automate your production process.

We may experience negative publicity . . . ., pages 13-14

25. We note your reference here to predecessor products, in particular Artecoll, which were manufactured and marketed by unrelated parties. On page 8, however, you state that your co-founder and former CSO and former director used Artecoll on four individuals. Please revise your disclosure to explain this discrepancy.

Our ability to manufacture and sell ArteFill could be harmed if we experience problems with the supply of calf hides . . . ., pages 14-15

26. Please revise this risk factor to name the sole domestic supplier upon whom you are reliant.

We intend to increase the size of our company significantly . . . ., page 15

27. To the extent practicable, please quantify the number or percentage of additional employees you currently expect to add and please quantify the expected cost to you of such expansion.

We are dependent on our key management and technical personnel . . . ., page 16

28. Please provide the names of your key personnel.

29. Please briefly describe the material term and termination provisions of any employment contracts with key personnel.

We may rely on third parties for our international sales, marketing and distribution activities. Page 16

30. Please revise this risk factor to name the third party distributor in Taiwan.

If we acquire any companies or technologies . . . ., page 17

31. Please discuss any problems you had integrating your acquisition of FormMed Biomedicals. To the extent practicable, please quantify the impact of any material problems.

Our business, which depends on a small number of facilities, is vulnerable to natural disasters . . . ., page 17

32. Please disclose your level of insurance coverage for natural disasters, telecommunication and information systems failures and similar events. Please also disclose the cost to you of such coverage, if material.

Because we have operated as a private company, we have no experience complying with public company obligations . . . ., page 18

33. Your risk factor as currently written could apply to any initial public offering. Please revise it so that it addresses your situation more specifically. See Item 503(c) of Regulation S-K.

Changes in, or interpretations of, accounting rules and regulations . . . ., pages 18-19

34. In the risk factor preceding this one, you state that you have deferred stock-based compensation of $2.7 million that will be amortized over the next four years. In this risk factor, you state that you will be changing your accounting policy on the expensing of stock options. To the extent practicable, please quantify your expected impact of this change in accounting policy.

Our efforts to protect our intellectual property may be less effective in some foreign countries . . . ., page 21

35. Please identify the foreign countries in which you face material risks of ineffective intellectual property protection.

We may be subject to the assertion of claims by our stockholders . . . ., pages 24-25

36. Please expand your discussion of this risk factor to explain why you believe investors in certain of your prior financings may allege that you failed to satisfy all of the requirements of applicable securities laws.

If you purchase our common stock in this offering, you will incur immediate and substantial dilution . . . ., page 26

37. Please revise this risk factor to explain that investors who purchase shares will contribute ___% of the total amount to fund the company but will own only ___% of the shares outstanding.

You could experience substantial dilution of your investment as a result of subsequent exercises of our outstanding warrants and options. Page 27

38. Please also disclose the weighted average exercise price of the warrants and options you discuss in this risk factor.

Use of Proceeds, page 29

39. In the third bullet you state you intend to use part of the proceeds to "conduct further clinical studies to generate additional data regarding the safety and efficacy of ArteFill for aesthetic use." Please clarify if this is for the post-market safety study you are required to complete referred to on pages 1 and 22 or for indications other than for the correction of nasolabial folds.

Management's Discussion and Analysis of Financial Condition and Results of Operation, pages 36-46

Critical Accounting Policies and Estimates, page 38

40. Please revise your discussion of accrued expenses to focus on the underlying critical accounting estimates and provide the following disclosures, as contemplated by Financial Reporting Codification Section 501.14 (Section V. of Financial Reporting Release 72),:

    . the estimate and the significant assumptions underlying the estimate;

    . how accurate the estimate/assumptions have been in the past;

    . how the estimate/assumptions have changed in the past and the effect the change had on your liquidity, financial position, and results of operations; and,

    . whether the estimate/assumptions are reasonably likely to change in the future; if so and if the effect of that change would be material, qualitative and quantitative disclosure about this change and the effect it would have on your liquidity, financial position, and results of operations.

Results of Operations, page 41

41. For the warrants that were issued in consideration for services and that, per page 84, you anticipate will be amended, please disclose how you will account for those amendments, the amount and timing of any additional expense you anticipate recognizing, and how you determined the amount of any additional expense. To the extent the amendments represent a known uncertainty that is reasonably likely to materially affect your results of operations, this disclosure would appear to be required by Item 303(A)(3)(ii) of Regulation S-K.

42. Please disclose the intrinsic value, based on the estimated IPO price, of vested and unvested instruments exercisable or convertible into your stock that were outstanding as of the most recent balance sheet date presented.

Recent Accounting Pronouncements, page 46

43. We note your reference to "disclosure of pro forma net loss and net loss per share above." You appear to be referring to the proforma disclosure in the footnotes to your financial statements. Please revise this statement to correct the reference.

Business, pages 47-67

General

44. Please describe all material terms of the following agreements and arrangements and file these agreements as exhibits to the extent you have not already done so.

    - Two license agreements with a competitor and Dr. Martin Lemperle;
    - Supply agreement or arrangements with sole supplier of calf hide,
    - Distribution agreement with third party in Taiwan,
    - Acquisition of PMMA from a company shareholder,
    - Acquisition agreement with FormMed Biomedicals AG,
    - MediPlant acquisition settlement agreement,
    - Manufacturing and Supply Agreement with MediPlant Biomaterials and Medical Devices GmbH, and
    - Fixed Price Supply Agreement with Lampire Biological Labs.

    For each agreement, at a minimum, please disclose the following to the extent applicable:

    - Each parties obligations,
    - Payment provisions, including upfront payments, annual payments and royalties,
    - Exclusivity provisions, and
    - Term and termination provisions.

    If you believe any of the relationships or agreements noted are not material, then provide us with an analysis supporting your determination.

Market Opportunity, pages 48-52

45. We refer to your statements on page 48 that discuss the market size of all aesthetic procedures, including surgical and non-surgical treatments. Your target market, however, is only a subset of non-surgical treatments. Please revise your disclosure to remove the statements regarding the market size of all aesthetic procedures. Your discussion regarding market opportunity should be limited to your target market.

Our Product Candidate, pages 53-54

46. Please expand your disclosure regarding bovine collagen to discuss where and how you store your "several years' supply of hides." To the extent material, please also disclose any material costs you incur to maintain this supply.

Manufacturing, page 57

47. Please revise your disclosure to explain the meaning of "Class 100,000 to Class 100."

Government Regulation, pages 58-62

48. Please revise your disclosure to explain what granuloma formation is, how it impacts individuals and why the FDA is concerned about this condition in patients treated with ArteFill.

49. Please expand this discussion to address the regulatory requirements of marketing and selling your product in Taiwan. We note that you have entered into a distribution agreement with a third party to market and sell in Taiwan.

Clinical History, pages 62-64

50. We note your statement on page 63 that "there was a statistically significant improvement in the mean FFA score for subjects who received ArteFill for the treatment of nasolabial folds compared with subjects who received the collagen control treatments (0.8 vs. 0.0; $p<0.001$)." Please explain to whom and how the FFA scores 0.8 vs. 0.0 apply. Is 0.8 the improved amount, or is this the amount for the control treatments?

Legal Proceedings, page 66

51. Based on the article headlined, "Illegal use of Artes wrinkle filler investigated; Product disfigured her, woman says in lawsuit," published in the San Diego Union Tribune on May 13, 2006, it appears that there may be an open criminal investigation against Dr. Gottfried Lemperle by the U.S. Attorney's office in San Diego. Please revise your disclosure to reflect this investigation.

Related Party Transactions, pages 83-85

Securities Issuances, page 83

52. Please revise your disclosure regarding the issuances to Creative Microspheres and Christopher Reinhard to disclose the amount they paid for the securities.

Principal Stockholders, pages 86-87

53. We note that you include related party disclosure for Peter and Georgia Angelos, Baltimore Business Leaders, LLC and NGN Capital, LLC on page 83 because they are 5% beneficial owners. Please provide the disclosure required by Item 403 for these persons to the extent they are still 5% beneficial owners.

Exhibits

54. Please file your remaining exhibits, including the legal opinion with your next amendment or as soon as it becomes available as we will need time to review prior to granting effectiveness of the registration statement.

Consolidated Financial Statements

Notes to Consolidated Financial Statements

Note 1. Organization and Summary of Significant Accounting Policies, page F-8

Unaudited Pro Forma Stockholders' Equity, page F-8

55. According to page F-22, the preferred stock automatically converts into common stock on a one-to-one basis if the offering results in at least $10.00 per common share and gross proceeds of more than $25,000,000. According to pages F-21 and F-30, sales of your Series E preferred stock and warrants as recent as March 28, 2006 appear to have resulted in proceeds of only $2.50 per preferred share, excluding the warrants. In addition, per page F-12, you reassessed the fair value of your common stock by starting with the proposed valuation from your investment bankers and concluded that the weighted-average fair value of the common stock underlying options granted to employees during 2005 was only $2.16 per share. In light of those disclosures, it is not clear why you appear to believe the offering will result in at least $10.00 per share. As such, please provide quantitative and qualitative disclosures explaining why it is appropriate to assume the preferred stock will convert into common upon completion of this offering, including a discussion reconciling the expected offering price to your recent stock sales.

Note 3. Acquisitions, page F-14

56. Please provide us an analysis detailing why it was appropriate to consider these transactions to be acquisitions of assets, not of a business, and how that it is consistent with EITF 98-3, which is referred to by footnote 4 of SFAS 141. In so doing, please clarify each of the following for us:

    a. As your disclosures here and on page 85 indicate you acquired certain patents and patent rights related to PMMA and a facility and the production equipment to manufacture PMMA materials, it is unclear whether you acquired the inputs

contemplated by paragraph 6 of EITF 98-3.

b. As your disclosures here and on page 57 indicate you acquired manufacturing know-how and that you utilize a proprietary manufacturing process, it is unclear whether you acquired the processes contemplated by that paragraph.

c. As your disclosures on page 53 indicate that PMMA has been used for more than 60 years in medical implants, it is unclear whether you acquired the outputs contemplated by that paragraph.

d. To the extent that any elements of a business were missing, please tell us whether they should be considered as minor by discussing the degree of difficulty and the level of investment necessary to obtain access to or to acquire the missing elements.

e. As the transactions do not appear to have resulted in any revenues, please tell us whether what you acquired was in the development stage and whether it had commenced its planned principal operations.

57. Please tell us why you did not allocate any of the purchase price from these transactions to acquired in-process research and development, as you disclosed: (a) on page F-14 that Mediplant possessed certain development activities, (b) on page 62 that the intellectual property you acquired related to ArteFill, and (c) on page 64 that your research and development expenses in subsequent periods primarily related to ArteFill. In so doing, please explain how your accounting complied with paragraph 11(c) of SFAS 2.

Note 4. Balance Sheet Details, page F-16

Deferred Financing Costs, page F-16

58. We noted, on page F-27, that $276,000 was capitalized as deferred financing costs in connection with the amendment of the 2005 Bridge Loan. Please tell us what other amounts were included in the $1,011,000 balance as of December 31, 2005.

Note 7. Stockholders' Equity (Deficit), page F-20

Stock Option Plans, page F-23

59. When you update the financial statements pursuant to Rule 3-12 of Regulation S-X, you presumably will provide disclosures about the issuances during the updated period of equity instruments or other instruments that could be exercised or converted into your stock. When you do, please provide at least as much information about those issuances as you have provided in these financial statements about prior issuances. To the extent there are issuances after the date of those financial statements that you did not otherwise intend to

disclose, please disclose the following information, in chronological order, for each issuance after that date through the date you file each amendment to your registration statement:

- Date of each issuance or transaction;
- Number of shares issued or issuable upon exercise or conversion;
- Purchase, exercise or conversion price per share;
- Any restrictions or vesting terms;
- Management's estimate of the per share fair value of the instrument and, if different, the underlying common stock and the significant factors, assumptions and methodologies used in determining the estimate;
- A discussion of each significant factors contributing to the difference between the fair value of the underlying common stock as of (1) the issuance date and (2) each of the following dates:
    - March 28, 2006, when page F-30 says a sale of your Series E preferred stock and warrants resulted in proceeds of only $2.50 per preferred share, excluding the warrants;
    - the dates of any subsequent issuances of equity or other instruments in an arm's length cash transaction with willing, unrelated parties;
    - the date of your amendment; and,
    - the date when you have a reasonable estimate of the IPO price.
- The expense or other charge recognized in each period presented, if any;
- The valuation alternative selected and, if appropriate, the reason management chose not to obtain a contemporaneous valuation by an unrelated valuation specialist.
- The nature of the relationship between the company and the recipient, including whether the recipient was a related party or an unrelated third party; and,
- The nature and terms of any concurrent transactions with the recipient.

Warrants, page F-25

60. As you appear to have experienced significant warrant activity, please also provide disclosures summarizing this activity and the warrants outstanding, such as those required of share options by paragraph A240 of SFAS 123(R). In those disclosures, please indicate the outstanding warrants that, per page 84, you anticipate your Board of Directors will amend prior to the completion of this offering. Similarly, please indicate the other warrants

that, per page 84, will terminate upon the completion of this offering if they remain unexercised.

* * * * *

As appropriate, please amend your filing in response to these comments. 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 supplemental 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 filings reviewed by the staff to be certain 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.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;

- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and

- the company may not assert this action 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 connection with our review of your filing or in response to our comments on your filing.

We will consider a written request for acceleration of the effective date of the registration statement as a confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact Vanessa Robertson at (202) 551-3649 or Oscar Young at (202) 551-3622 if you have questions regarding comments on the financial statements and related matters. Please contact Sonia Barros at (202) 551-3655 or John Krug at (202) 551-3862 with any other questions.

Sincerely,

Jeffrey P. Riedler
Assistant Director

cc: Craig S. Andrews
Jeffrey C. Thacker
Heller Ehrman LLP
4350 La Jolla Village Drive, Seventh Floor
San Diego, California 92122