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

DIVISION OF
CORPORATION FINANCE

June 25, 2014

Via E-mail

Anish Bhatnagar
Chief Executive Officer
Capnia, Inc.
3 Twin Dolphin Drive, Suite 160
Redwood City, CA 94065

Re: Capnia, Inc.
Registration Statement on Form S-1
Filed June 10, 2014
File No. 333-196635

Dear Mr. Bhatnagar:

We have reviewed your registration statement and have the following comments. 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 by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

CoSense, page 1

1. We note your revised disclosures on pages 1 and 17 concerning the AAP guidelines. Please revise your disclosure on page 1 to clarify which of the "certain" neonates are covered by the AAP recommendation. In light of your disclosure on page 17, please explain to us your basis for disclosing on page 1 that the AAP guidelines recommend the use of ETCO for these neonates absent provision of a concrete workflow for the diagnosis and treatment of hemolysis. To the extent that the nature and scope of the AAP guidelines are equivocal, please revise your summary disclosure on page 1 to explain the uncertainty associated with the AAP guidelines.

Serenz, page 3

2. We note your revised disclosure concerning Serenz's potential classification as either a medical device or drug device combination. Please revise to explain briefly how this classification will impact the level of investment required and the timeframe for approval.

3. We note your revised disclosures on page 3 in response to prior comment 9 and on page 97 concerning the basis for GSK's decision to terminate the relationship. Please revise your disclosure on page 3 to clarify, if true, that GSK's decision, as explained to you, was based on its belief that the FDA would classify the product as a drug-device combination. Also, to the extent that GSK's termination of the relationship negatively impacts your ability to find a new partner or distributor, please revise to explain this circumstance.

The Offering, page 6

4. Please revise your disclosure on pages 8 and 136, as appropriate, to clarify the status of all outstanding warrants at the time of the offering. In this regard, we note that your disclosure on pages 8 and 136 indicate that you will have warrants outstanding to purchase preferred shares; however, your disclosure on page F-10 appears to assume that these warrants will automatically convert into common shares in connection with the offering. Please also revise the Summary to highlight your disclosure at the top of page 137 regarding the discounted option exercise price for the common stock warrants issued in connection with the 2010/2012 notes.

Market, Industry and Other Data, page 54

5. Investors are entitled to rely on the disclosure contained in the prospectus. In this regard, you may not disclaim responsibility for your disclosures and a party who provides a consent for a summary that is included in the prospectus also may not disclaim responsibility for the content of that summary. Accordingly, please tell us the purpose of the disclosure you have included in the third paragraph under the heading. Also, please provide us with an analysis explaining how the second, fifth, seventh and eighth sentences of Exhibit B to Exhibit 99.1 are consistent with Rule 436 and Securities Act Section 11(a)(4).

Common Stock Valuations, page 66

6. We note the reference to independent third-party valuations to determine the estimated fair market value of your common stock on pages 66 and F-28. Please tell us the nature and extent of your reliance on the third party for common stock valuations. Also please describe to us your consideration of Question 141.02 of the Compliance and Disclosure Interpretations on Securities Act Sections, which can be found at http://www.sec.gov/divisions/corpfin/guidance/sasinterp.htm.

Contractual obligations and commitments, page 73

7. We note your response to prior comment 21. Please revise to include the table reflecting your obligations as of December 31, 2013, including any note obligations.

Limitations of Current Diagnostic Methods, page 78

8. We note your revised disclosure in response to prior comment 25. Please revise your disclosures to clarify how the Coombs test is "inaccurate."

CoSense: FDA 510(k) Clearance and CE Mark Approval, page 80

9. We note your revised disclosures on pages 2 and 81 in response to prior comment 6. Please revise the Business section, and elsewhere, as appropriate, to explain which CO concentrations are "clinically relevant" to detection of hemolysis.

Clinical Trials, page 82

10. We refer to prior comments 26 and 27. Your revised disclosure on page 83 states that a close correlation between ETCO measurements from CoSense and COHb levels measured via gas chromatography confirms that ETCO values with CoSense "accurately measures" bilirubin production. Please revise to provide support for this conclusion by also disclosing, if true, that (i) COHb is recognized as providing an accurate measurement of bilirubin production and (ii) gas chromatography is recognized as a method that provides accurate COHb measurements.

Federal Food, Drug, and Cosmetic Act, page 99

11. We note your revised disclosure concerning the 510(k) clearance status of your CoSense product. Please revise to explain the scope of the "initial" 510(k) clearance.

Management, page 109

12. We note your revised disclosures in response to prior comment 41. Please further revise to clarify whether your consulting arrangement with Mr. Nabhan remains in place. Please also refer to Regulation S-K, Item 404 and revise your related-party transactions disclosure to describe your consulting arrangements with Messrs. Wondka and Nabhan.

401(k) plan, page 126

13. It is unclear how the May 2014 stock option grant approval relates to your 401(k) plan. Accordingly, please revise to locate your disclosure concerning the grants under a more appropriate heading. Please also revise the Summary disclosure to highlight the grant approvals and disclose when the options will become exercisable. Also, please confirm that these new options will be reflected in your disclosure on page 8.

Exhibits

14. We refer to your disclosure on page 73 regarding your sublease arrangements for your new office space. Please refer to Regulation S-K, Item 601(b)(10)(ii)(D) and file the

sublease as an exhibit to the registration statement.

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 the information the Securities Act of 1933 and all applicable Securities Act rules require. 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 you request acceleration of the effective date of the pending registration statement please provide a written statement from the company 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 staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as 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. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Jeanne Bennett at (202) 551-3606 or Brian Cascio, Accounting Branch Chief, at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Joseph McCann at (202) 551-6262 or Daniel Morris, Special Counsel, at (202) 551-3314 with any other questions.

Sincerely,

/s/ Daniel Morris for

Amanda Ravitz
Assistant Director

cc (via email): Elton Satusky, Esq. - Wilson Sonsini Goodrich & Rosati