

Maria Palasis, Ph.D.  
Chief Executive Officer  
Lyra Therapeutics, Inc.  
480 Arsenal Way  
Watertown, MA 02472

Re: Lyra Therapeutics, Inc.  
Draft Registration Statement on Form S-1  
Submitted November 8, 2019  
CIK No. 0001327273

Dear Dr. Palasis:

We have reviewed your draft 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 providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. 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 the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Draft Registration Statement on Form S-1 submitted November 8, 2019

Prospectus Summary, page 2

1. Please revise your disclosure to briefly define the terms "refractory" and "elastomeric matrix" at first use.  
Our Solution for CRS, page 2

2. We note your statements on page 3, 103 and 104 regarding your belief that the key potential benefits of your current investigational product portfolio, LYR-210 and LYR-220, include "efficacy" and "safety" and on page 105 regarding your belief that LYR-210 is well positioned in the CRS treatment paradigm to provide a preferred alternative to surgery with an "attractive efficacy and safety profile." As your product candidates have  
Maria Palasis, Ph.D.  
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not received FDA approval, it is premature to suggest or imply that they are safe or effective. Please revise.

Implications of Being an Emerging Growth Company, page 5

3. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.

Risk Factors  
If we lose key management or scientific personnel...our business may materially suffer, page 64

4. Please revise to identify the key management or scientific personnel

upon whom you rely.  
Provisions in our restated certificate of incorporation and restated bylaws and under Delaware law...., page 70

5. Please revise to break out under a separate heading your discussion of your exclusive forum provision in paragraphs one and two on page 71. Please also address here, as you do at page 161, the applicability of the provision to actions arising under the Securities Act.  
Use of Proceeds, page 76

6. Please revise paragraph three to provide an estimate regarding how far in the development process for LYR-210 and LYR-220 the allocated proceeds of the offering will enable you to reach. Please also disclose whether additional funds will be necessary to complete the two trials you identify. If a material amount of other funds is necessary to complete these trials, state the amounts and sources of such other funds. Refer to Instruction 3 of Item 504 of Regulation S-K.  
Critical Accounting Policies  
Stock-Based Compensation, page 91

7. Once you have an estimated offering price or range, please explain to us how you determined the fair value of the common stock underlying your equity issuances and the reasons for any differences between the recent valuations of your common stock leading up to the IPO and the estimated offering price. This information will help facilitate our review of your accounting for equity issuances including stock compensation and beneficial conversion features.

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Page 3  
Business  
Our Strategy, page 105

8. We note your disclosure that your strategy is to "rapidly advance" LYR-210 through clinical development. Please revise this disclosure to remove any implication that you will be successful in commercializing your product candidates in a rapid or accelerated manner as such statements are speculative.  
General

9. Please provide us proofs of all graphics, visual, or photographic information you will provide in the printed prospectus prior to its use, for example in a preliminary prospectus.

Please note that we may have comments regarding these materials. You may contact Ameen Hamady at 202-551-3891 or Kate Tillan at 202-551-3604 if you have questions regarding comments on the financial statements and related matters. Please contact Paul Fischer at 202-551-3415 or Irene Paik at 202-551-6553 with any other questions.

Sincerely,

FirstName LastNameMaria Palasis, Ph.D.  
Corporation Finance  
Comapany NameLyra Therapeutics, Inc.

Division of

Office of Life

Sciences  
December 4, 2019 Page 3  
cc: Wesley C. Holmes, Esq.  
FirstName LastName