

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

April 16, 2023

Eric Schlorff Chief Executive Officer SeaStar Medical Holding Corporation 3513 Brighton Blvd, Suite 410 Denver, CO 80216

Re: SeaStar Medical Holding Corporation
Post-Effective Amendment No. 3 to Registration Statement on Form S-1
Filed March 31, 2023
File No. 333-269338

Dear Eric Schlorff:

We have reviewed your post-effective amendment and have the following comment. In our comment, 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 comment applies 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 this comment, we may have additional comments.

Post-Effective Amendment on Form S-1, filed March 31, 2023

General

1. We note that you filed Post-Effective Amendment No. 1 to the above registration statement on March 28, 2023, and then on March 30, filed the Form 10-K for the fiscal year ended December 31, 2022. On March 31, 2023, you filed Post-Effective Amendment No. 2 to add Exhibit No. 23.1, an auditor's consent. Please revise to include a complete prospectus that includes all disclosure required by Part I of Form S-1, updated to include the current financial statements and to include the information as of the date of the post-effective amendment, including the information required by Item 402 of Regulation S-K, which requires information as of the last completed fiscal year. Please refer to Securities Act Forms Compliance and Disclosure Interpretations 113.02 and 113.08.

Eric Schlorff SeaStar Medical Holding Corporation April 16, 2023 Page 2

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

You may contact Benjamin Richie at 202-551-7857 or Abby Adams at 202-551-6902 with any questions.

Sincerely,

Division of Corporation Finance Office of Industrial Applications and Services

cc: Albert Lung