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April 21, 2023

VIA EDGAR AS CORRESPONDENCE

United States Securities and Exchange Commission
Division of Corporation Finance
Office of Industrial Applications and Services
100 F Street, N.E.
Washington, D.C. 20549
Attention: Benjamin Richie

**Re: SeaStar Medical Holding Corporation
Post-Effective Amendment No. 2 to Registration Statement on Form S-1
Filed March 31, 2023
File No. 333-268503**

Dear Mr. Richie:

On behalf of SeaStar Medical Holding Corporation, a Delaware corporation (the "Company"), we are responding to the comment of the staff (the "Staff") of the U.S. Securities and Exchange Commission contained in its letter dated April 16, 2023 (the "Comment Letter"), relating to the above-referenced filing of the Company's Post-Effective Amendment No. 2 to Registration Statement on Form S-1 (the "Form S-1").

Set forth below are the Company's response to the Staff's comment. The response set forth below is based upon information provided by the Company, which we have not independently verified. For the convenience of the Staff, the response contained herein utilizes the numbering of the comment and the heading used in the Comment Letter, and the text of the Staff's comment is reproduced in italics below.

Post-Effective Amendment No. 2 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 a 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.*

Response:

The Company acknowledges the Staff's comment and respectfully advises the Staff that the Form S-1 went effective on January 9, 2023, and included the information required by Item 402 of Regulation S-K as of the fiscal year ended December 31, 2022. We respectfully submit that the prospectus contained in the Post-Effective Amendment No. 1 filed on March 28, 2023 contained audited financial statements as of December 31, 2021 and December 31, 2020 and, therefore, complied with Section 10(a)(3) of the Securities Act of 1933, which requires that "when a prospectus is used more than nine months after the effective date of the registration statement, the information contained therein shall be as of a date no more than 16 months prior to such use." As disclosed in the explanatory note, the Post-Effective Amendment No. 1 filed on March 28, 2023 was filed to correct disclosure on the amount of stock awards of named executive officers in the Summary Compensation Table and certain additional disclosures to reflect material developments since the effective date. The Post-Effective Amendment No. 2 filed on March 31, 2022, which only included an updated exhibit, was inadvertently filed using the EDGAR header tag POS AM instead of the EDGAR header tag POS EX, which the Company was eligible to use pursuant to Rule 401(g) of the Securities Act.

Notwithstanding the above, the Company acknowledges that, as articulated in Section 1220.10 of the Division of Corporation Finance's Financial Report Manual, a post-effective amendment "must include updated financial statements meeting the requirements of Regulation S-K at *effectiveness of the amendment*," (emphasis added). The Company has filed Post-Effective Amendment No. 3 with a complete prospectus to include updated financial statements with this response letter.

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If the Staff has any questions or comments regarding the foregoing, please contact the undersigned by telephone at (650)843-7263 or via email at albert.lung@morganlewis.com.

Sincerely,

Morgan, Lewis & Bockius LLP

By: /s/ Albert Lung

Name: Albert Lung

cc: