

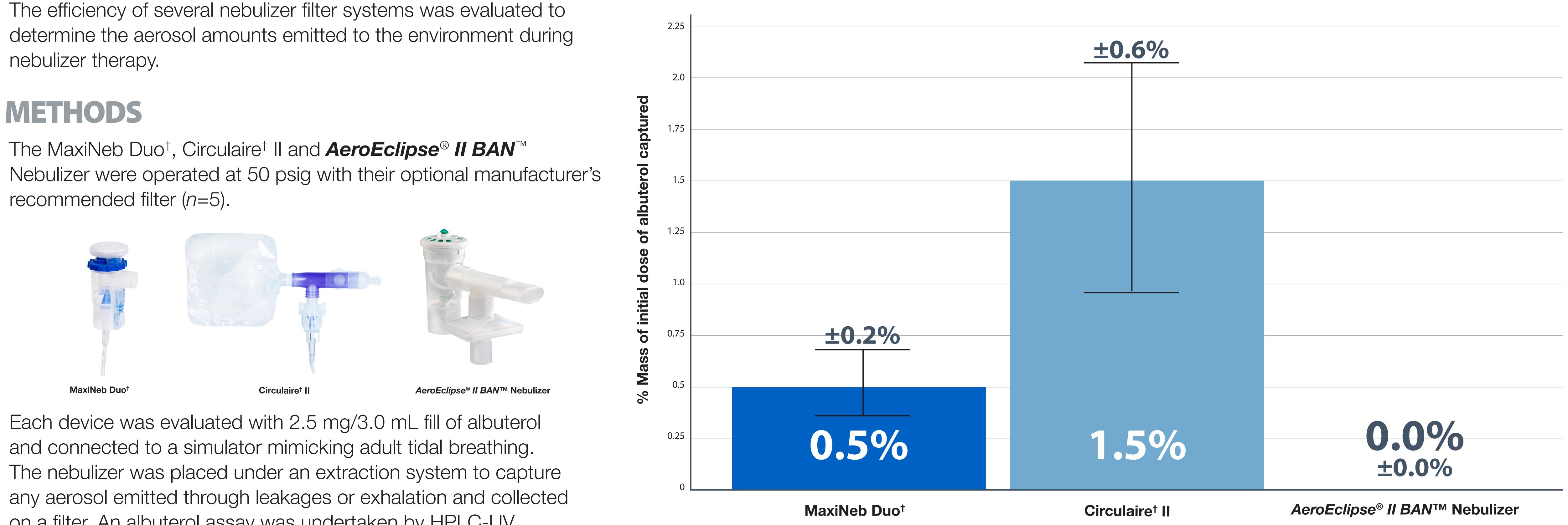
# PURPOSE

The SARS-CoV-2 pandemic has highlighted the need to avoid environmental contamination with aerosols. To aid in this the addition of a manufacturer's recommended filter is intended to capture any exhaled aerosol.

nebulizer therapy.

## METHODS

The MaxiNeb Duo<sup>+</sup>, Circulaire<sup>+</sup> II and **AeroEclipse<sup>®</sup> II BAN**<sup>™</sup> recommended filter (n=5).



and connected to a simulator mimicking adult tidal breathing. on a filter. An albuterol assay was undertaken by HPLC-UV spectrophotometry.

# Efficiency of a Nebulizer Filter Kit to Prevent Environmental Contamination **During Nebulizer Therapy**

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### RESULTS

The mass of albuterol captured from the extraction system with the MaxiNeb Duo<sup>+</sup>, Circulaire<sup>+</sup> II and **AeroEclipse**<sup>®</sup> II BAN<sup>TM</sup> Nebulizer was found to be  $0.5\% \pm 0.2\%$ ,  $1.5\% \pm 0.6\%$  and  $0.0\% \pm 0.0\%$  of the initial dose respectively.

#### CONCLUSIONAND CLINICALIMPLICATIONS

- The addition of the recommended filter to the **AeroEclipse<sup>®</sup> II BAN<sup>TM</sup>** Nebulizer eliminated all environmental losses from the device, reducing fugitive emissions to 0.0% from previously reported losses of 2.6%<sup>1</sup> without the filter.
- The other two nebulizers emitted small amounts of aerosol even when their optional filter was used, with one approaching similar reported Iosses of the **BAN<sup>™</sup>** Nebulizer without filter.<sup>1</sup> If replicated in a clinical setting, the risk to staff and patients would need to be assessed.



**CHEST Conference** October 16 - 19, 2022