# SESSION 1045

# BEST PRACTICES FOR MANAGING COUGH IN PH PATIENTS RECEIVING INHALED THERAPIES

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### Background

- Inhaled therapy for pulmonary hypertension (PH) is of great interest as it enables drug delivery directly to the site of disease at higher concentrations, allowing mitigation of systemic side effects<sup>1,2</sup>
- Systemic PH therapies can be associated with significant side effects,<sup>3,4</sup> which can impact patient adherence and treatment efficacy<sup>5</sup>
- · Cough with inhaled therapies may be more pronounced in patients with comorbid obstructive or restrictive lung
- Our objective was to identify best practices for cough management in patients receiving inhaled therapies for pulmonary arterial hypertension

### Methods

- An expert panel of 14 PH nurse practitioners and nurses based in the United States met on August 15, 2024, in Indianapolis, IN; two served as moderators
- Participants were selected based on their cardiac/pulmonary expertise and experience in treating patients with PH
- Participants shared best practices in managing cough with inhaled therapies for PH across three topics:

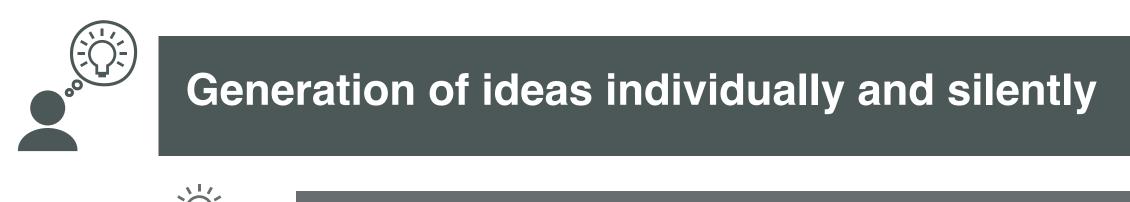
Communicating the reasons for cough

Setting patient expectations regarding cough prior to therapy initiation

Applying specific techniques to manage/mitigate cough

A Nominal Group Technique<sup>7</sup> was conducted to generate ideas for best practices in each of the three topics and to gain consensus regarding which ideas to prioritize (Figure 1)

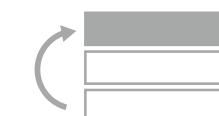
### Figure 1. Nominal Group Technique Process<sup>7,8</sup>



Round-robin sharing and recording of ideas (without debate)



Discussion of ideas to obtain clarification

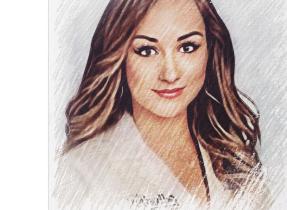


Prioritization of ideas via private voting

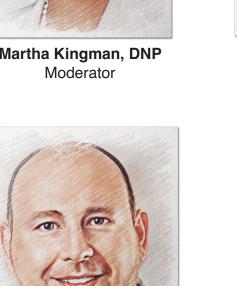
• Proposed ideas were entered into an online polling instrument, which allowed for anonymous voting. Depending on the number of ideas generated, participants were allotted 5 or 10 votes to prioritize the ideas they considered most important within each topic

### Our Expert Panel



















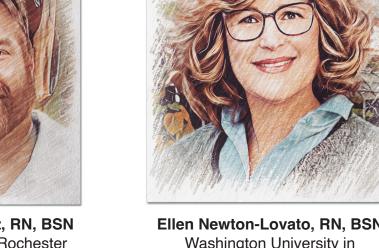


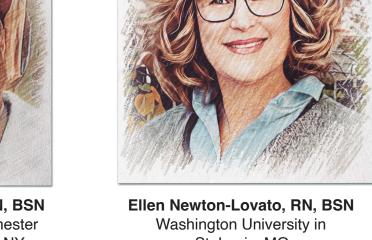








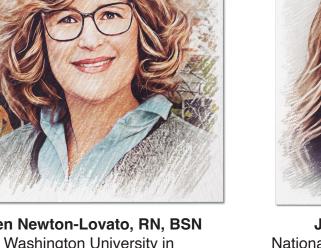


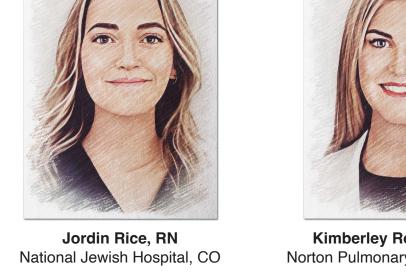
















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### SUMMARY OF BEST PRACTICE IDEAS

Key themes that emerged among the best practice ideas for each topic:

## > COMMUNICATING THE REASONS FOR COUGH

- Cough is a natural, expected reaction to the inhalation of foreign particles
- Deep inhalation can induce a cough
- The patient's baseline cough should be considered, as not all cough may be attributed to the inhaled medication

### > SETTING PATIENT EXPECTATIONS REGARDING COUGH PRIOR TO THERAPY INITIATION

- Cough is a potential, expected response to inhaled therapy and is typically transient in nature
- Inhalation technique may be modified to reduce cough
- Some cough may be attributed to comorbid conditions and/or concomitant medications
- Supportive measures are often successful in reducing cough with inhaled therapies

Research supported by: Gossamer Bio, Inc.

• It is important to communicate to patients the potential benefits of the inhaled medication in relation to the potential side effects they may experience

### APPLYING SPECIFIC TECHNIQUES TO MANAGE/MITIGATE COUGH

- Evaluate, describe, document, and manage baseline cough (including optimizing therapies for respiratory comorbidities)
- Observe patients during inhalation and provide/repeat training to ensure proper posture and inhalation technique
- Recommend beverages, foods, and over-the-counter and prescription medications to assist in mitigating cough (including optimizing lung therapies for comorbid respiratory conditions)

### Conclusions

- This initiative led by an expert panel of PH nurses and nurse practitioners has identified actionable ideas for best practice regarding cough mitigation in patients receiving inhaled PH therapies
- These findings will support both health care providers and patients with techniques to better manage cough with inhaled therapies
- To build on this work, we are exploring future initiatives to evaluate the real-world efficacy of the proposed cough-management recommendations in PH

References: 1. Kumbhare U, et al. Cureus. 2022;14(10):e30134. 2. Chang RYK, et al. Br J Pharmacol. 2020;177(18):4096-4112. 3. Chin KM, et al.



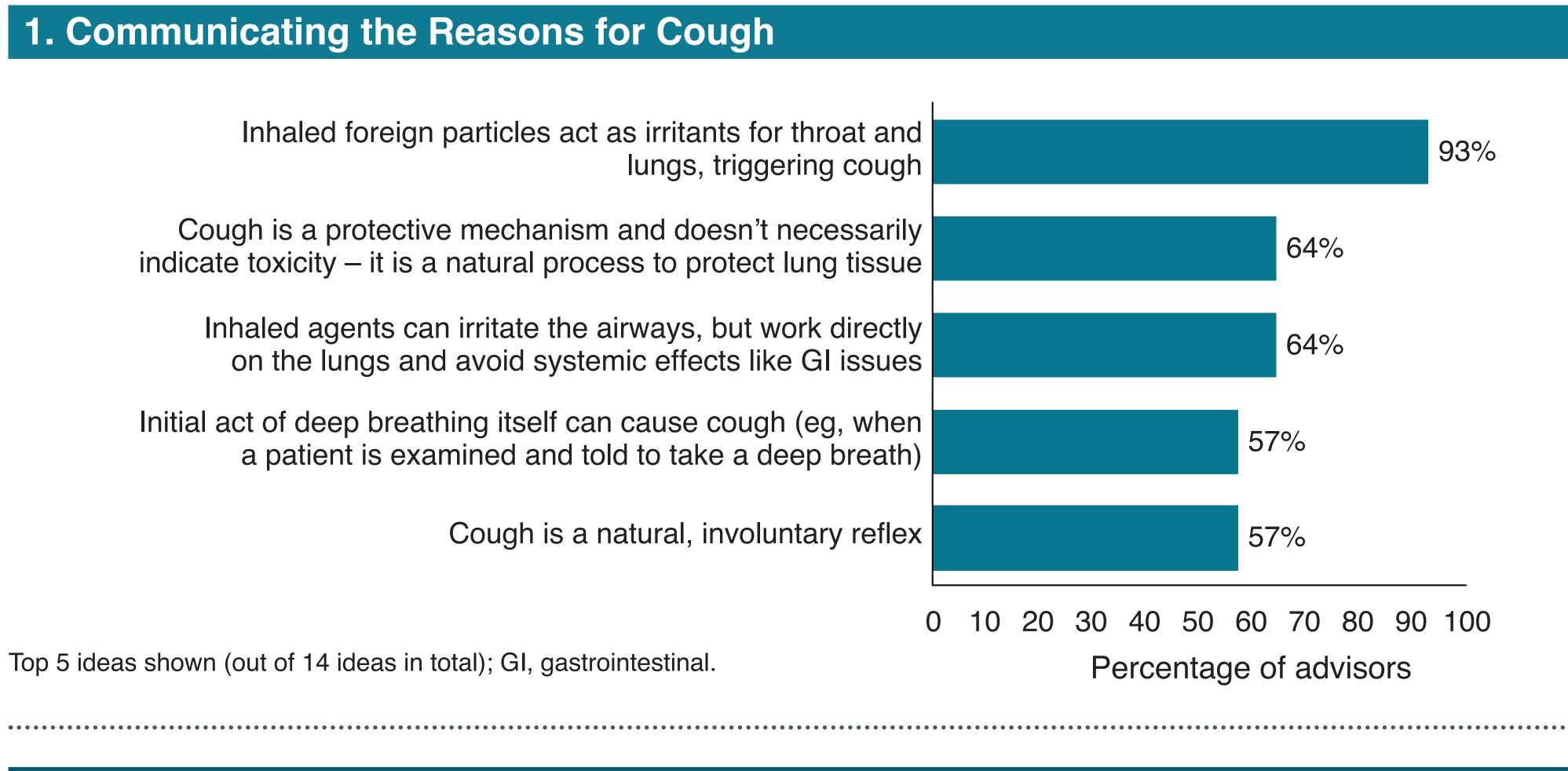
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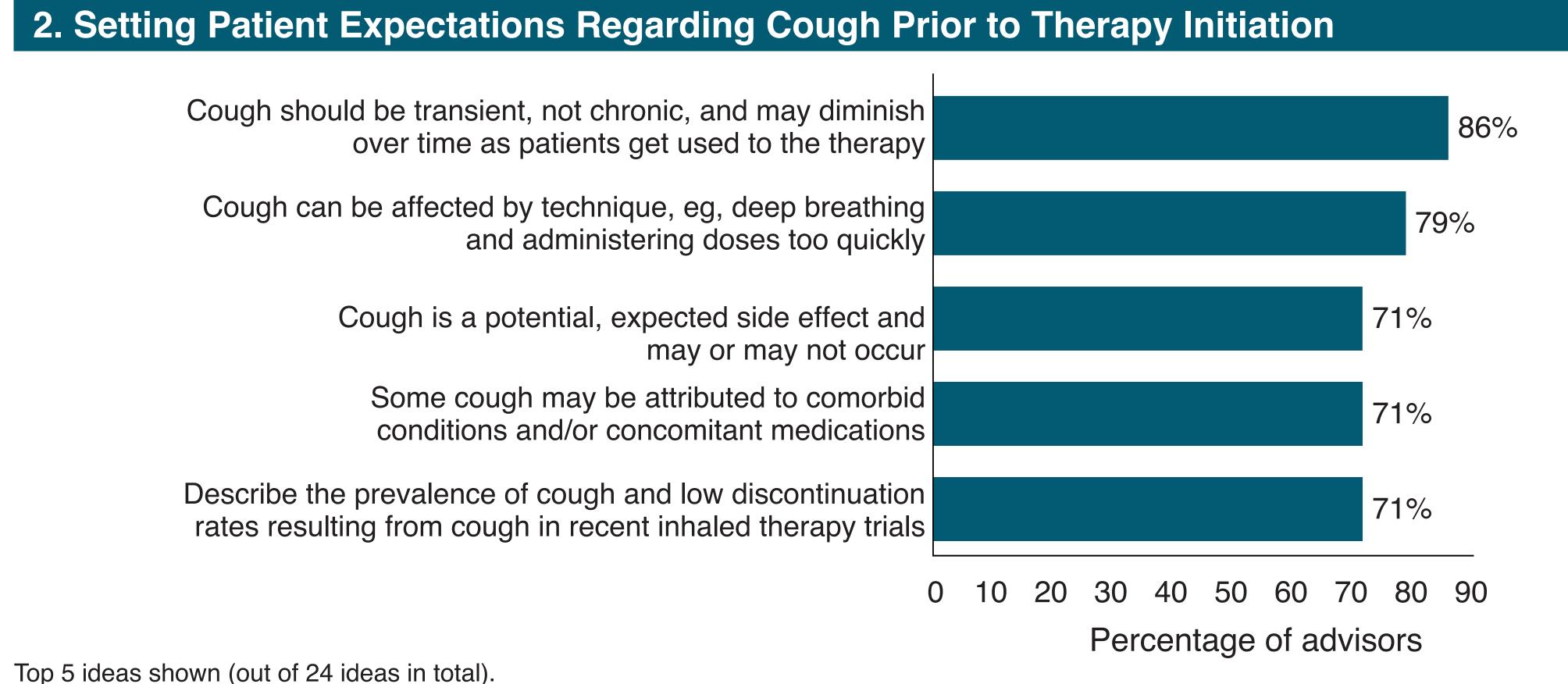
Eur Respir J. 2024;64(4):2401325. **4.** Humbert M, et al. Eur Heart J. 2022;43(38):3618-3731. **5.** Narechania S, et al. J Cardiovasc Pharmacol Ther. 2020;25(2):131-141. **6.** Sahakijpijarn S, et al. *Adv Drug Deliv Rev*. 2020;165-166:127-141. **7.** Arakawa N and Bader LR. *Res Social Adm Pharm*. 2022;18(1):2222-2229. 8. US Department of Health and Human Services. Available at: https://www.cdc.gov/healthy-youth/php/program-evaluation/pdf/

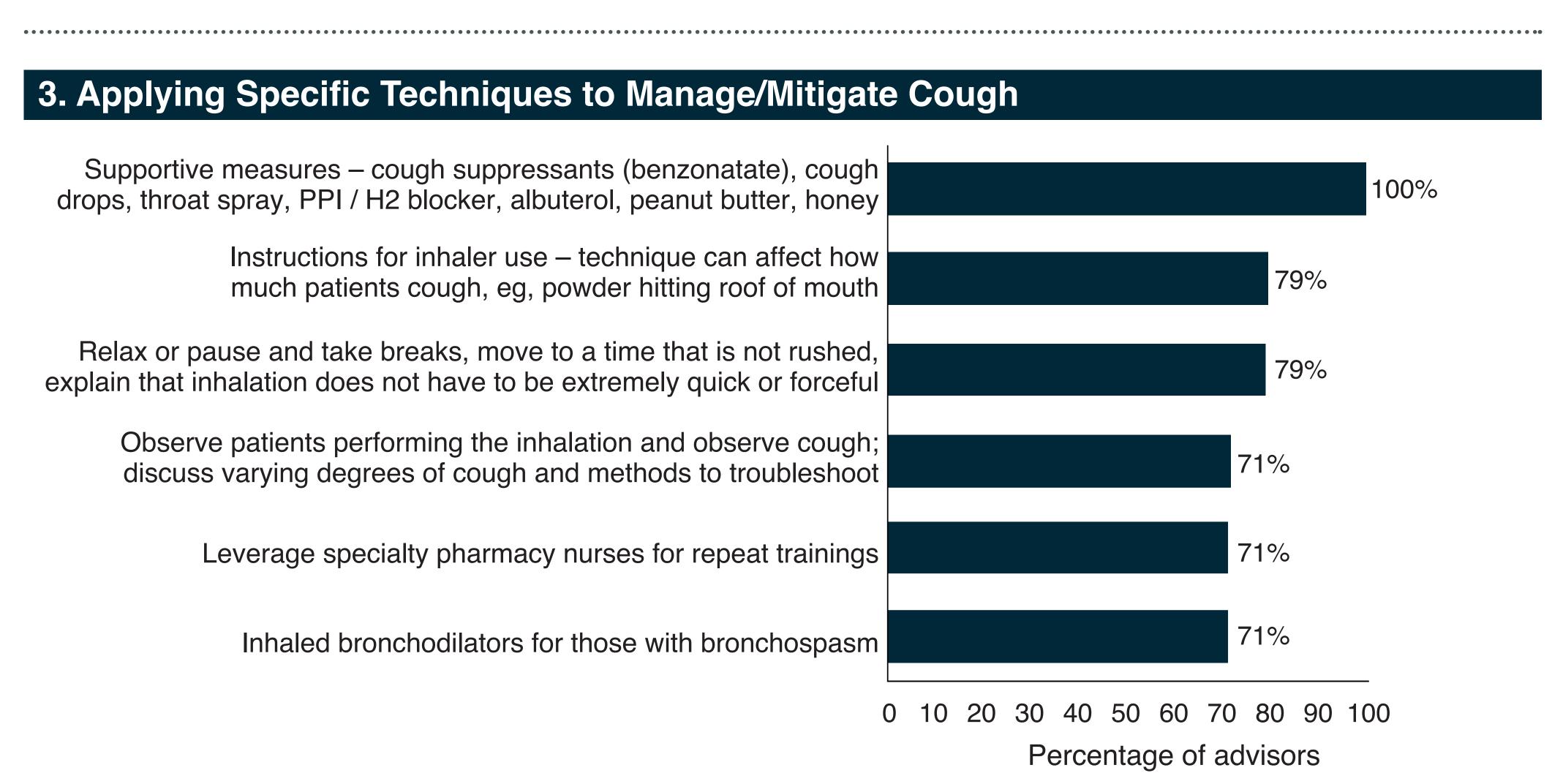


## **Voting Results for Best Practice Ideas**

Results reflect the proportion of advisors that voted for each concept.







Top 6 ideas shown, including ties (out of 30 ideas in total); H2, histamine 2; PPI, proton pump inhibitor.