



## 9. Recommendations

*This section is based on a review of the cited meta-analyses, integrated reviews, and clinical practice guidelines published on dyspnea (see Section 4 & 5).*

**Practice** - Multiple factors, such as but not limited to, anemia, anxiety, ascites, asthma, cachexia, chronic obstructive or restrictive pulmonary disease, heart failure, hepatomegaly, neuromuscular disease, obesity, pneumonectomy or a partial resection of a lung and thyrotoxicosis can cause or contribute to dyspnea (Dudgeon & Lertzman, 1998; Dudgeon, Kristjanson, Sloan, Lertzman, & Clement, 2001). The optimal treatment of dyspnea is to treat reversible causes with specific therapies and to use palliative therapies to treat irreversible causes for symptomatic relief (American Thoracic Society, 1999).

- Assess for the presence of reversible causes of dyspnea and institute therapy as indicated and appropriate.
- Evaluate dyspnea with an instrument or tool that is sensitive to patients' clinical situations.
- Document assessment and reassessment to measure response to interventions.
- A trial of an oral or parenteral opioid is indicated to treat acute exacerbations of dyspnea (American Thoracic Society, 1999; Jennings et al., 2001; Jennings et al., 2002).
- Measure oxygen saturation at rest and with exertion, if feasible, to assess for hypoxia-induced dyspnea. Provide supplemental oxygen as indicated (Booth et al., 2004).
- In the absence of hypoxia, determine whether oxygen therapy provides dyspnea relief, per patients' perceptions (Booth et al., 2004).
- Refer to a pulmonary rehabilitation program if COPD is a contributing factor to dyspnea and if rehabilitation is a feasible goal (Salman et al., 2003).

### Education

- Patients with dyspnea should receive education in relaxation techniques (including progressive muscle relaxation) and breathing retraining, if appropriate to the clinical situation (Devine & Percy, 1996).

### Research

- Evaluate the reliability and validity of tools to measure dyspnea in screening populations and in diverse cancer populations stratified according to early- or advanced-stage disease.
- Conduct integrated reviews and meta-analysis of the impact of dyspnea on function and quality of life and focus this analysis research on patients with cancer.
- Include disparity variables such as race, ethnicity, and gender and variables of quality of life and effect on functional status in dyspnea clinical research studies.



- Conduct studies to test appropriate drug, dose, and schedule of opioid to relieve dyspnea. Future research should isolate common opioids such as morphine, oxycodone, or fentanyl and evaluate the effectiveness to reduce breathlessness with respect to dosage and scheduling.
- Develop and test a standardized assessment process to determine the effectiveness of oxygen therapy in the presence and absence of hypoxemia.
- Develop and test psychoeducational breathing interventions to reduce dyspnea. Research is needed to determine which component is most significant or how each component contributes to reducing dyspnea.
- Measure the effectiveness of dyspnea interventions as they relate to changes in symptoms and effect on functional status and quality of life.
- For all interventions that show evidence of effect in reducing breathlessness in patients with COPD, research is needed to demonstrate the outcomes in patients with cancer.

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