**Introduction:** We need to question tradition-based practices to improve patient care and outcomes. In our Post Anesthesia Care Unit (PACU), we routinely use humidified oxygen for our patients. Nurses currently change multipatient humidifiers daily. Due to infection concerns, we will soon be using single use humidifiers and will change those for each patient.

**Problem Identification:** Use of humidified oxygen is costly in terms of staff time and equipment. Patients complain about the discomfort of humidified oxygen.

**Purpose:** To determine if low flow non-humidified nasal cannulas or face masks could be used for non-intubated PACU patients without adversely affecting patient outcomes.

**Methodology:** The literature and physiological principles were reviewed, patients were interviewed and assessed, oxygen saturation was monitored, and costs of humidified versus non-humidified oxygen were estimated and compared.

**Results/Discussion:** The studies showed that routine use of humidified oxygen was not necessary for non-intubated post anesthesia patients. Physiologic principles confirm the upper airway naturally warms and humidifies the air. Twenty non-intubated patients who received humidified oxygen, then were switched to non-humidified oxygen prior to PACU discharge, were interviewed regarding comfort of the humidified oxygen. All twenty patients preferred the non-humidified nasal cannula. No adverse changes in oxygenation were noted. Costs were calculated from first quarter 2010 patient census and supply cost data to compare single use humidifiers versus non-humidified oxygen by nasal cannula or face mask. Cost comparison revealed potential savings of $30,000 annually for our PACU. Each single use humidification unit with mask and hose costs $3.93. The non-humidified nasal cannula and face mask each cost $0.31. It takes a nurse 2 ½ minutes to change the humidification unit and apply the face tent. It only takes 20 seconds to apply the non-humidified nasal cannula or face mask.

**Conclusion:** Non-humidified oxygen can be used for non-intubated post anesthesia adult patients.

**Implications/Future Research:** It’s important to question habit-based practices like the routine use of humidified oxygen and strive for evidence-based practices. Future research should focus on the optimal use of humidified/non-humidified oxygen and whether routinely applied oxygen is even necessary for non-intubated post anesthesia patients.