

DIAGNOSTIC APPLICATION: Safety and efficacy of sputum induction with the Lung Flute® compared with sputum induction with hypertonic saline and saliva

INTRODUCTION

- **Two clinical studies were conducted with 20 and 15 COPD subjects respectively**
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 - VA Western NY Healthcare System
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PURPOSE

- **Safety and efficacy of sputum induction with the Lung Flute was compared with sputum induction with hypertonic saline and saliva**
- **Biological markers were measured which indicate the presence of lower respiratory secretions:**
 - **Study I & II**
 - Gram Stain
 - Fibrinogen Content
 - Interleukin-8 Content
 - Free Neutrophil Elastase Activity
 - **Study II**
 - Total Cell Count
 - Neutrophil Count
 - Macrophage Count
 - Squamous Cell Count

RESULTS

- **Sputum induction with Lung Flute was as good as hypertonic saline on all four measures**
 - No statistical difference
- **Diagnostic Lung Flute was statistically better than saliva on three of four characteristics**
 - Gram stain
 - Fibrinogen content
 - Interleukin-8 content
 - No statistically significant difference was observed in Free Neutrophil Elastase activity
- **All 20 Diagnostic Lung Flute samples had at least 1 out of 4 markers indicative of lower respiratory tract secretions**
- **Safety was measured immediately after induction and 24 hours later**

	Lung Flute	Hypertonic Saline
Bronchospasms	1/20	10/20*

CONCLUSIONS

- Sputum induction is safe in COPD, including very severe COPD
- Sputum induction with the Diagnostic Lung Flute is successful in obtaining lower respiratory tract secretions
- Sputum samples obtained by induction with the Diagnostic Lung Flute are comparable to samples obtained by induction with hypertonic saline
- Sputum induction with the Diagnostic Lung Flute is safer, less time consuming, more convenient and tolerated better by patients than induction with hypertonic saline

* 9/10 required treatment with a beta 2 agonist