



## EMS System for Metropolitan Oklahoma City and Tulsa 2021 Medical Control Board Treatment Protocols



Approved 9/9/20, Effective 1/15/21, replaces all prior versions

### 16C – ALBUTEROL (PROVENTIL<sup>®</sup>, VENTOLIN<sup>®</sup>)

EMERGENCY MEDICAL DISPATCHER
EMERGENCY MEDICAL RESPONDER
EMT
EMT-INTERMEDIATE 85
ADVANCED EMT
PARAMEDIC

Self-Administration Phone Directive - 3B 3C 3D 12B

Assist Pt with Self Administration - 3B 3C 3D 12B

**Class:** Sympathomimetic Bronchodilator

**Actions/Pharmacodynamics:** Albuterol is a relatively selective beta<sub>2</sub> adrenergic stimulant. Albuterol causes relaxation of the smooth muscles of the bronchial tree thus decreasing airway resistance, facilitating mucus drainage, and increasing vital capacity. It exerts mild effects on beta<sub>1</sub> (heart) or alpha (peripheral vasculature) receptors. In therapeutic doses, albuterol, by inhibiting histamine release from mast cells, also reduces the mucus secretion, capillary leaking, and mucosal edema caused by an allergic response in the lungs.

**Indications:** Dyspnea - Uncertain Etiology (3B)  
Dyspnea - Asthma (3C)  
Dyspnea - Chronic Obstructive Pulmonary Disease (3D)  
Acute Allergic Reactions (8D)  
Bee/Wasp Stings (8F)  
Smoke Inhalation (12B)

**Contraindications:** Known hypersensitivity to albuterol. Albuterol should not be used if the sole etiology of dyspnea is strongly suspected to be CHF, as albuterol-induced tachycardia may worsen the compromised cardiac output in CHF.

**Pharmacokinetics:** Onset within 5 – 15 minutes; peak effect in 1 – 1.5 hours; duration of effect is up to 3 – 6 hours; half – life is less than 3 hours. Distribution: When inhaled, albuterol is distributed to muscle cells along the bronchial tree. Very little is systemically absorbed and distributed.

**Side Effects:** Tremors, anxiety, dizziness, headache, cough, reflex bronchospasm, palpitations, tachycardia, and hypertension.



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### PROTOCOL 16C: Albuterol (Proventil®, Ventolin®)

**Dosage:**        **Dyspnea - Uncertain Etiology - Adult & Pediatric Weight ≥ 15kg (3B)**  
                      **Smoke Inhalation - Adult & Pediatric Weight ≥ 15kg (12B)**  
                      5 mg nebulized, may repeat once

**Dyspnea - Uncertain Etiology - Pediatric Weight < 15kg (3B)**  
**Smoke Inhalation - Pediatric Weight < 15kg (12B)**  
2.5 mg nebulized, may repeat once

**Dyspnea - Asthma - Adult & Pediatric Weight ≥ 15kg (3C)**  
**Dyspnea - Chronic Obstructive Pulmonary Disease - Adult (3D)**  
**Acute Allergic Reactions - Adult & Pediatric Weight ≥ 15kg (8D)**  
**Bee/Wasp Stings - Adult & Pediatric Weight ≥ 15kg (8F)**  
5 mg nebulized (with ipratropium bromide 0.5 mg), may repeat twice

**Dyspnea - Asthma - Pediatric Weight < 15kg (3C)**  
**Acute Allergic Reactions - Pediatric Weight < 15kg (8D)**  
**Bee/Wasp Stings - Pediatric Weight < 15kg (8F)**  
2.5 mg nebulized (with ipratropium bromide 0.25 mg), may repeat twice

**How Supplied:**        2.5 mg/3 mL (0.083%) in nebulizer vials.  
                                  (Always check concentration and dose per container at time of patient  
                                  medication administration)