COPD &Asthma

Protocol & Pathway

Margarita E. Pena, MD, FACEP
Medical Director, CDU
Associate Program Director, EM Residency
Ascension St. John Hospital, Detroit, MI
Professor, Wayne State University School of Medicine

Disclosures

- Genetesis, Inc. - Scientific Advisory Board

EDOU Evidence for Asthma

TREATMENT OF ACUTE ASTHMATIC ATTACKS IN A HOLDING UNIT OF A PEDIATRIC EMERGENCY ROOM

SEAN R. O'BRIEN, M.D., EDWARD W. HEIN, M.D., and R. MICHAEL SLY, M.D., F.A.C.A.

Ann Allergy Vol 45 Sept 1980

Use of the Emergency Department Observation Unit In the Treatment of Acute Asthma

Zwicke DL, Donohue JF, Wagner EH.

Ann Emerg Med 11:77-83, February 1982.

Medical Care
Issue: Volume 36(4), April 1998, pp 599-609

Publication Type: [Original Articles]
ISSN: 0025-7079
Accession: 00005650-199804000-00015
Keywords: asthma, observation medicine, emergency medicine, quality of life

[Original Articles]

Emergency Department Observation Unit Versus Hospital Inpatient Care for a Chronic Asthmatic Population: A Randomized Trial of Health Status Outcome and Cost

Rydman, Robert J. PhD[*†]; Isola, Miriam L. DrPH[†‡]; Roberts, Rebecca R. MD[*†]; Zalenski, Robert J. MD[*†§]; McDermott, Michael F. MD[*†]; Murphy, Daniel G. MD[*†¶]; McCarren, Madeline M. PhD[†]; Kampe, Linda M. BS, RRA[*†]

Review > Emerg Med Clin North Am. 2001 Feb;19(1):239-54.
doi: 10.1016/s0733-8627(05)70178-4.

Pediatric observation medicine

S E Mace [1]

EDOU Evidence for COPD

Lung (2018) 196:267–270
https://doi.org/10.1007/s00408-018-0102-1

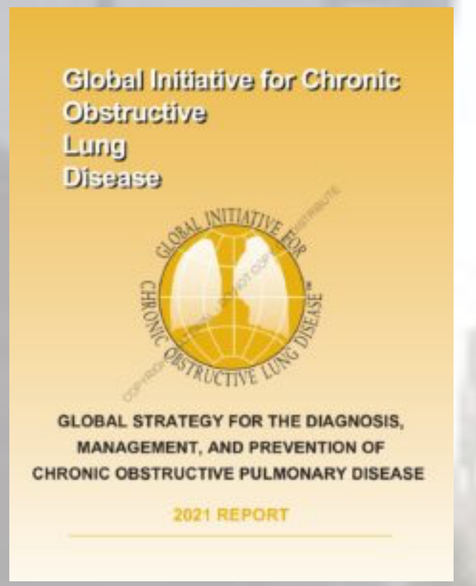
COPD

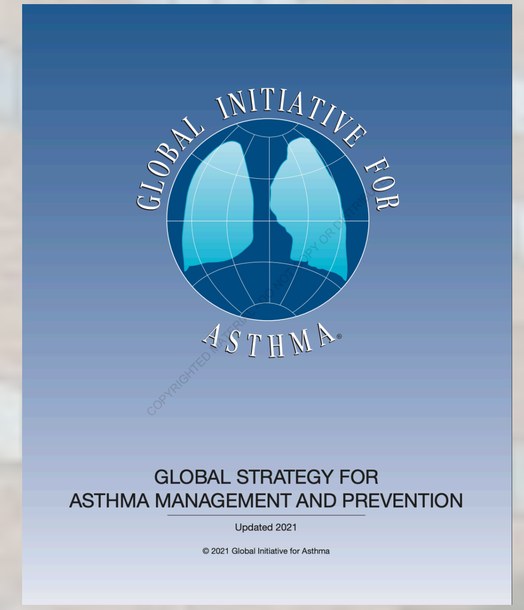
Can an Emergency Department Observation Unit Reduce Hospital Admissions for COPD Exacerbation?

Julia Budde[1] · Parul Agarwal[2] · Madhu Mazumdar[3] · Jonathan Yeo[4,5] · Sidney S. Braman[1]

- 12.8% reduction in hospital admission after EDOU opening *without* a change in proportion of patients directly discharged from the ED
- Median EDOU LOS = 14 h

Our CDU Protocol & Pathway





ATS American Thoracic Society

Our CDU Protocol

CDU INCLUSION CRITERIA

- Stable or acceptable vital signs (pulse ox ≥90% RA/baseline home requirement)
- Intermediate response to therapy in ED; improving but still wheezing/symptomatic and high likelihood of further improvement and subsequent discharge home
- No acute mental status changes
- Plan of care established and feasible within 24 hours

CDU EXCLUSION CRITERIA

- Unstable vital signs or clinical condition
- Acute co-morbid conditions: CHF, cardiac ischemia, dysrhythmia, pneumonia, PE
- Depressed mental status or altered level of consciousness
- Signs/symptoms of impending respiratory fatigue or failure
- Pulse oximetry <90% on RA/baseline home O2 requirement after initial ED therapy
- Requiring bipap

CDU INTERVENTIONS AS INDICATED

- Serial vital signs and re-evaluations
- Cardiac and pulse oximetry monitoring, ambulatory pulse ox
- Oxygen therapy
- Scheduled short-acting nebulized beta2-agonists and anticholinergics
- Medications (e.g. systemic corticosteroids, antibiotics)
- IV hydration
- Laboratory and imaging studies
- Consultations
- Smoking cessation counseling
- Patient education and discharge planning
- Caring healing practices

CDU DISPOSITION

Home

- Acceptable vital signs and labs if performed
- Improvement in clinical condition or return to baseline status
- Pulse ox >90% RA/baseline home O2 requirement
- No longer needing albuterol < q4hrs
- Adequate follow-up plan established

Admit

- Worsening condition (e.g. Requiring bipap) or positive findings requiring hospitalization
- Ambulatory pulse ox <90% on RA/baseline home O2 requirement
- Physician discretion

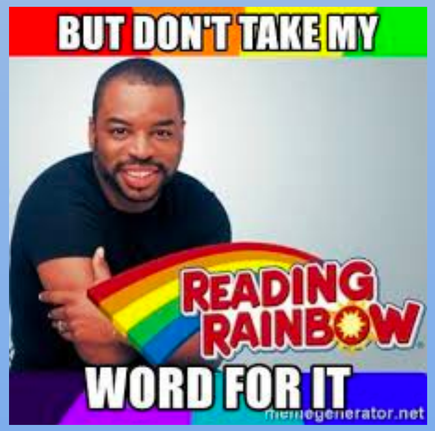
Inclusion/Exclusion

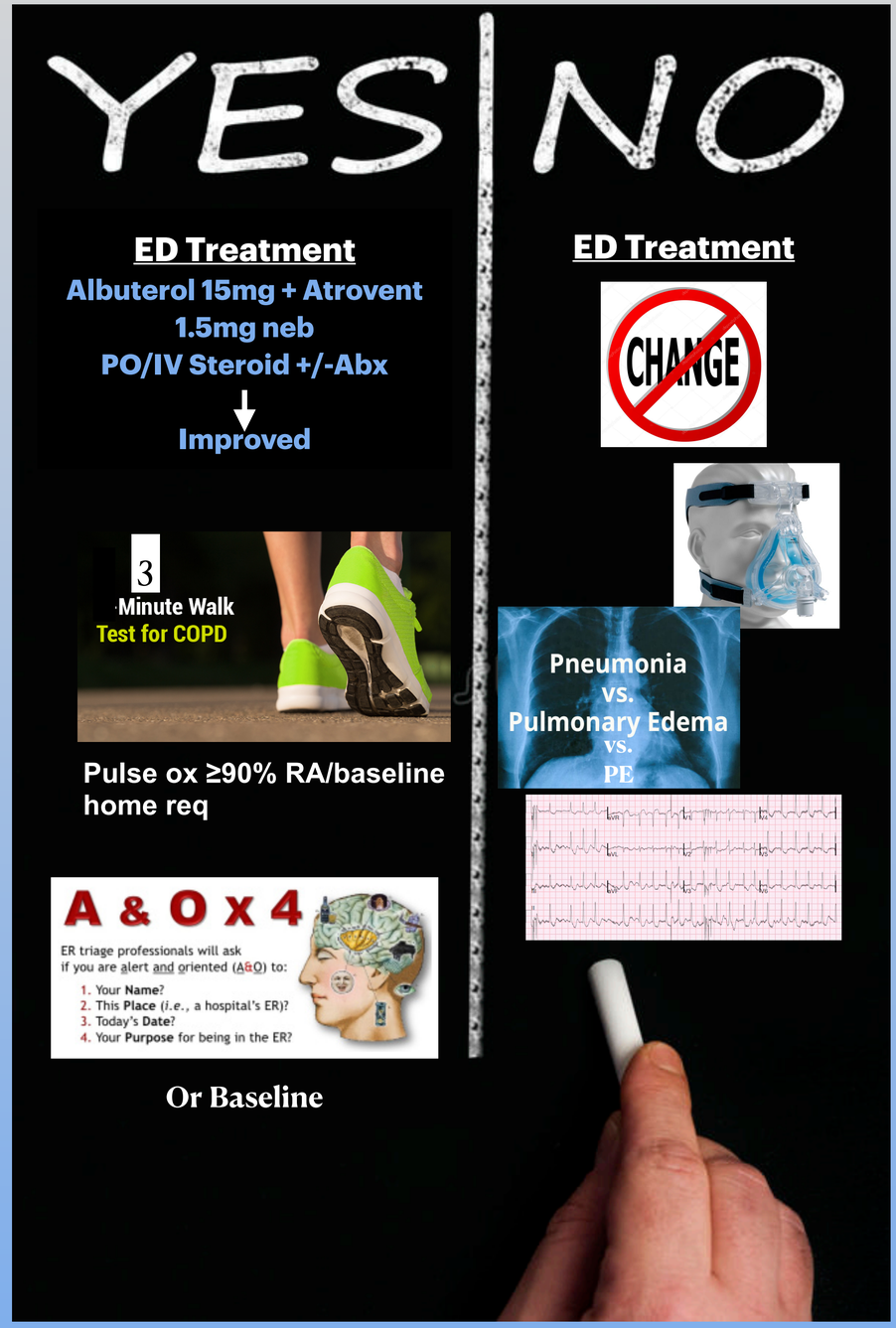
CDU INCLUSION CRITERIA

- Stable or acceptable vital signs (pulse ox ≥90% RA/baseline home requirement)
- Intermediate response to therapy in ED; improving but still wheezing/symptomatic and high likelihood of further improvement and subsequent discharge home
- No acute mental status changes
- Plan of care established and feasible within 24 hours

CDU EXCLUSION CRITERIA

- Unstable vital signs or clinical condition
- Acute co-morbid conditions: CHF, cardiac ischemia, dysrhythmia, pneumonia, PE
- Depressed mental status or altered level of consciousness
- Signs/symptoms of impending respiratory fatigue or failure
- Pulse oximetry <90% on RA/baseline home O2 requirement after initial ED therapy
- Requiring bipap





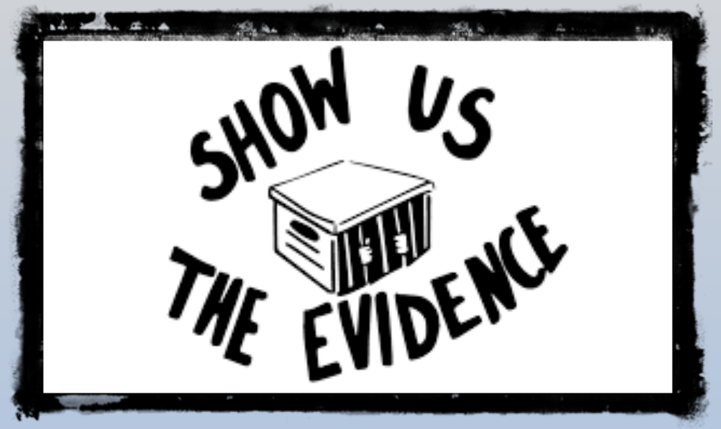
Emerg Med J. 2009 Apr;26(4):278-82. doi: 10.1136/emj.2008.059774.

Feasibility of a structured 3-minute walk test as a clinical decision tool for patients presenting to the emergency department with acute dyspnoea

A M Pan [1], I G Stiell, C M Clement, J Acheson, S D Aaron

Conclusions: The 3-minute walk test is a non-resource intensive, simple procedure with applicability in most ED for discharge decisions in patients with cardiopulmonary conditions.

A resting pulse ox cannot reliably predict which patients with COPD will develop exertional desaturation



The Ottawa COPD (chronic obstructive pulmonary disease) Risk Scale (OCRS) is used in the emergency department (ED) to identify patients with acute COPD who are at high risk for short-term serious outcomes.

Total the points for the following items:

Items	Points
1. Initial assessment	
a) History of CABG	(1) ____
b) History of intervention for PVD	(1) ____
c) History of intubation for respiratory distress	(2) ____
d) Heart rate on ED arrival > 110	(2) ____
2. Investigations	
a) ECG has acute ischemic changes	(2) ____
b) Chest x-ray has any pulmonary congestion	(1) ____
c) Hemoglobin < 100 g/L	(3) ____
d) Urea 12 mmol/L	(1) ____
e) Serum CO_2 35 mmol/L	(1) ____
3. Re-Assessment after ED treatment	
a) SaO_2 < 90% on room air or usual O_2, or HR 120	(2) ____
Total score (0–16):	____

COPD risk categories for serious adverse events

Total score	Risk, %	Category
0	2.2	Low
1	4.0	Medium
2	7.2	Medium
3	12.5	High
4	20.9	High
5	32.9	Very high
6	47.5	Very high
7	62.6	Very high
8	75.6	Very high
10	91.4	Very high

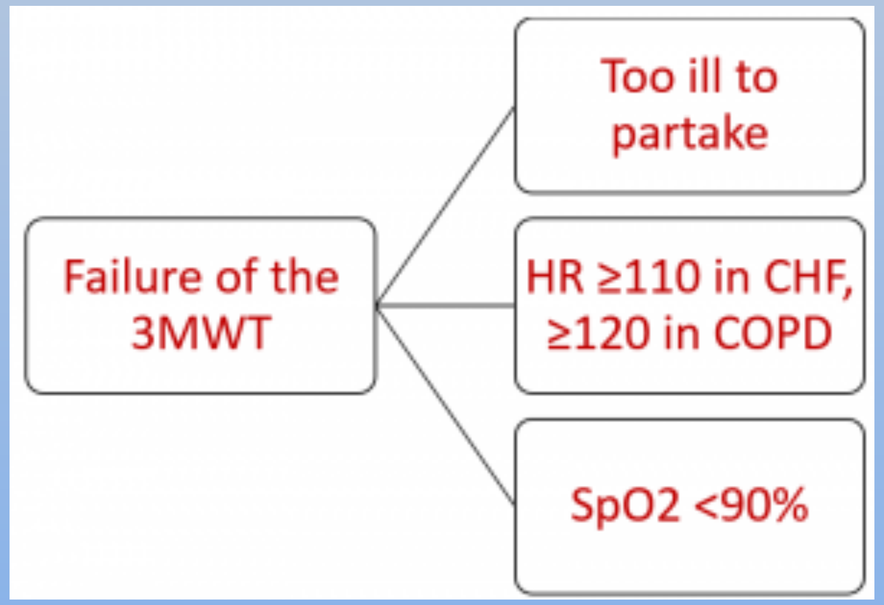
Ian G. Stiell et al. CMAJ 2018;190:E1406-E1413

Stiell IG, Perry JJ, Clement CM, et al. Clinical validation of a risk scale for serious outcomes among patients with chronic obstructive pulmonary disease managed in the emergency department. CMAJ. 2018;190(48):E1406-E1413.

History		
Coronary bypass graft	No 0	Yes +1
Intervention for peripheral vascular disease	No 0	Yes +1
Intubation for respiratory distress Any history	No 0	Yes +2
Examination		
HR ≥110/min On arrival to ED	No 0	Yes +2
Too ill to do walk test after treatment in ED SaO_2 <90% or HR ≥120/min after 3 minute walk test (see Evidence for details)	No 0	Yes +2
Investigations		
Acute ischemic changes on EKG By clinician judgment	No 0	Yes +2
Pulmonary congestion on chest x-ray By clinician judgment	No 0	Yes +1
Hemoglobin <10 g/dL (100 g/L)	No 0	Yes +3
Urea ≥12 mmol/L (BUN ≥34 mg/dL)	No 0	Yes +1
Serum CO_2 ≥35 mEq/L (35 mmol/L)	No 0	Yes +1

2 points COPD Risk Scale	**Medium** risk Risk group	**7.2** % Risk of adverse event (MI, intubation, etc; see Evidence for details)

Pulse ox < 90% = FAIL



Ambulatory vital signs in the workup of pulmonary embolism using a standardized 3-minute walk test

Qamar Amin, MD*; Jeffrey J. Perry, MD, MSc*; Ian G. Stiell, MD, MSc*; Subhra Mohapatra, BSc*; Abdulaziz Alsadoon, MD*; Marc Rodger, MD, MSc†

CJEM 2015;17(3):270-278

an ambulatory heart rate change of >10 BPM or a ≥2% absolute decrease in ambulatory oxygen saturation from baseline during a standardized 3-minute walk test are highly correlated with pulmonary embolism.

Original research

OPEN ACCESS

Post-exertion oxygen saturation as a prognostic factor for adverse outcome in patients attending the emergency department with suspected COVID-19: a substudy of the PRIEST observational cohort study

Steve Goodacre ,[1] Ben Thomas ,[1] Ellen Lee,[1] Laura Sutton,[1] Amanda Loban,[1]

BMJ Goodacre S, *et al*. *Emerg Med J* 2020;**0**:1–6. doi:10.1136/emermed-2020-210528 1

Key messages

What is already known on this subject

- Post exertional decrease in oxygen saturation can be used to predict prognosis in chronic lung diseases.
- Post exertional desaturation has been proposed as a way of predicting adverse outcome in people with suspected COVID-19.

What this study adds

- Post-exertion oxygen saturation provides modest prognostic information in the assessment of selected patients attending the emergency department with suspected COVID-19.

Independent Predictors of SAEs as Determined by Stepwise Logistic Regression Analysis for HF Patients*

Variable	B	Odds Ratio	95% CI
NT-proBNP > 5,000 ng/L†	0.77	2.16	0.92–5.07
History of stroke or TIA	0.95	2.58	1.24–5.40
Prior intubation	1.54	4.67	0.91–23.90
ECG has acute ischemic changes	1.19	3.30	1.25–8.73
Heart rate ≥ 110 beats/min on ED arrival	0.99	2.69	1.23–5.88
SaO_2 < 90% on arrival	0.77	2.15	1.01–4.60
Troponin I or T elevated ≥ MI level	1.19	3.30	1.04–10.42
Urea ≥ 12 mmol/L	0.66	1.93	1.01–3.69
Serum CO_2 > 35 mmol/L	1.59	4.92	1.14–21.24
Heart rate ≥ 110 beats/min during 3-minute walk test	0.64	1.89	0.97–3.69
Intercept	-3.71	0.02	0.01–0.05

Ottawa Heart Failure Risk Scale

Items	Points
1. History	
a) Stroke or TIA	1
b) Intubation for respiratory distress	2
2. Examination	
a) Heart rate on ED arrival ≥ 110	2
b) SaO_2 < 90% on arrival	1
c) Heart rate ≥ 110 during 3-minute walk test (or too ill to perform walk test)	1
3. Investigations	
a) ECG has acute ischemic changes	2
b) Urea ≥ 12 mmol/L	1
c) Serum CO_2 ≥ 35 mmol/L	2
d) Troponin I or T elevated to MI level	2
e) NT-proBNP ≥ 5,000 ng/L	1


MARCH OF THE PENGUINS 2
THE NEXT STEP
hulu
ORIGINALS

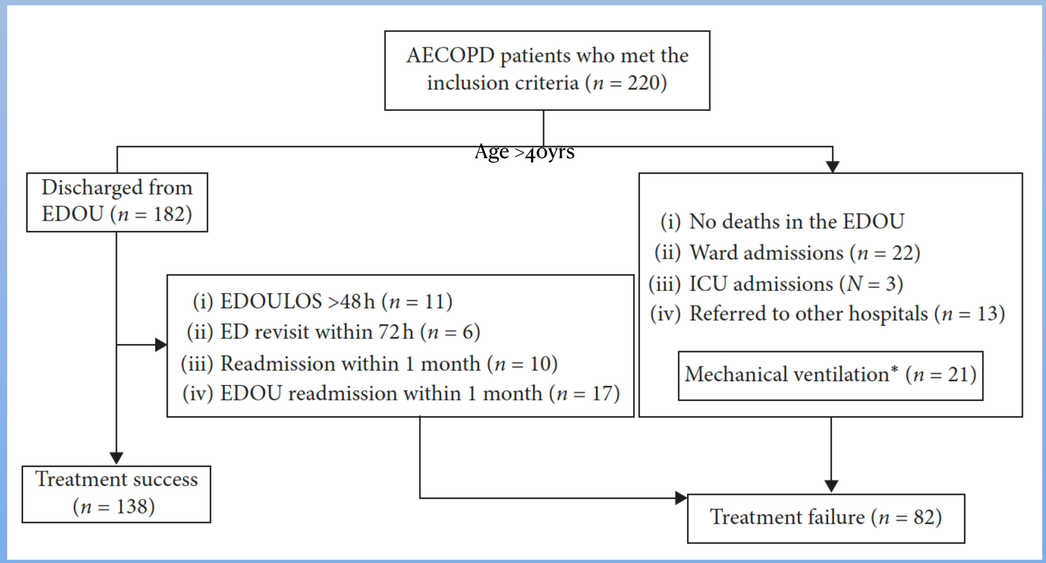

BBC

Emergency Medicine International
Volume 2020, Article ID 8261375, 7 pages
https://doi.org/10.1155/2020/8261375

Research Article

Factors Associated with Treatment Failure in Patients with Acute Exacerbation of COPD Admitted to the Emergency Department Observation Unit

Wasuntaraporn Pethyabarn, Sareeman Chewae, and Ar-aishah Dadeh



	OR
Baseline SABA Use	6.1
Arrhythmias	3.8
Pneumonia (CXR)	3.2
ED LOS <4hrs	3
LT O2 Therapy	2.9
Diabetes Mellitus	2.3

Interventions

Admit/Transfer/Discharge

Vital Signs

- [x] Vital Signs
  Start Date T:N, Routine, q4h, and at discharge
- [x] Pulse Oximetry
  Start Date T:N, q4h, with vitals and at discharge
- [ ] Pulse Oximetry with Ambulation
  Start Date T:N, q8hrResp 2 Times

Bronchodilators

- [ ] ED Nebulizer - MDI(SUB)*
- [x] albuterol nebulized
  (Proventil nebulized), 5 mg, Soln, Nebulized, q4hResp
- [ ] albuterol nebulized
  (Proventil nebulized), 2.5 mg, Soln, Nebulized, q4hResp
- [x] albuterol nebulized
  (Proventil nebulized), 2.5 mg, Soln, Nebulized, q1h, PRN Shortness of Breath
- [x] ipratropium nebulized
  (Atrovent nebulized), 0.5 mg, Soln, Nebulized, q4hResp
- [ ] albuterol-ipratropium nebulized
  (DuoNeb), 3 mL, Soln, Nebulized, q4hResp

COPD /Asthma Pathway

Admit/Transfer/Discharge

Vital Signs

- [x] Vital Signs
  Start Date T:N, Routine, q4h, and at discharge
- [x] Pulse Oximetry
  Start Date T:N, q4h, with vitals and at discharge
- [ ] Pulse Oximetry with Ambulation
  Start Date T:N, q8hrResp 2 Times

Medications

- [x] Smoking Cessation(SUB)*

Antimicrobials

- [ ] doxycycline
  (Vibramycin), 100 mg, PO (oral), q12h, COPD - acute exacerbation
- [ ] azithromycin
  (Zithromax), 500 mg, PO (oral), Once, COPD - acute exacerbation, STAT
- [ ] azithromycin
  (Zithromax), 250 mg, PO (oral), qDay, COPD - acute exacerbation, Duration: 4 day(s)

Bronchodilators

- [ ] ED Nebulizer - MDI(SUB)*
- [x] albuterol nebulized
  (Proventil nebulized), 5 mg, Soln, Nebulized, q4hResp
- [ ] albuterol nebulized
  (Proventil nebulized), 2.5 mg, Soln, Nebulized, q4hResp
- [x] albuterol nebulized
  (Proventil nebulized), 2.5 mg, Soln, Nebulized, q1h, PRN Shortness of Breath
- [x] ipratropium nebulized
  (Atrovent nebulized), 0.5 mg, Soln, Nebulized, q4hResp
- [ ] albuterol-ipratropium nebulized
  (DuoNeb), 3 mL, Soln, Nebulized, q4hResp

Systemic Corticosteroids

- [ ] predniSONE
  (predniSONE), 40 mg, Tab, PO (oral), bidMeals
- [ ] methylPREDNISolone sodium succinate injection
  (SOLU-medrol), 40 mg, Injection, IV Push, q8h, Duration: 3 Times

Supplemental Insulin Scales

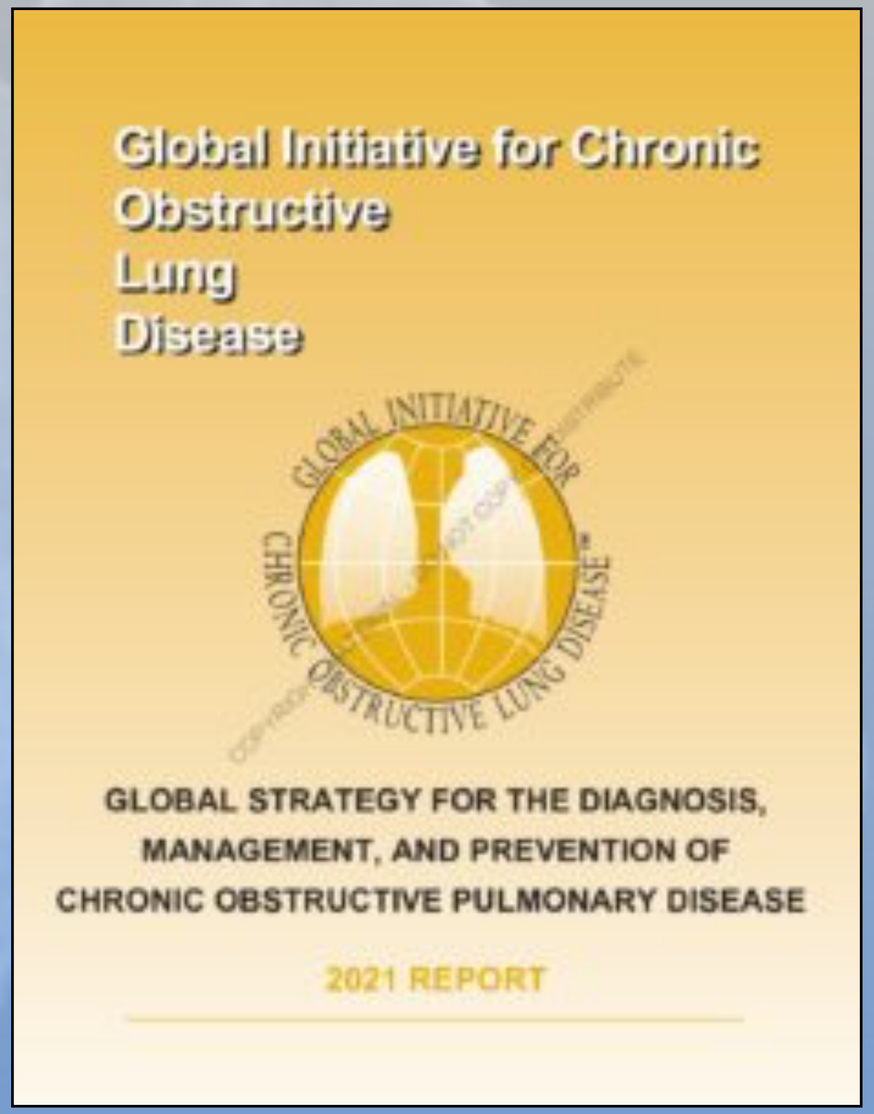
- [x] Dextrose 50% in Water
  50 mL, Injection, IV Push, AsNeeded, PRN Other (see order comment)
  Comments: if blood glucose less than 50 milligram/deciliter and patient obtunded
- [ ] CDU Insulin Aspart (Novolog) Sliding Scale (medium dose) (SUB)*

- **Systemic corticosteroids** can improve lung function (FEV1), oxygenation and shorten recovery time and hospitalization duration. Duration of therapy should not be more than **5-7 days.**

- **Antibiotics,** when indicated, can shorten recovery time, reduce the risk of early relapse, treatment failure, and hospitalization duration. Duration of therapy should be **5-7 days.**

- **Gastroesophageal reflux (GERD)** is associated with an increased risk of exacerbations and poorer health status.

- Maintenance therapy with **long-acting bronchodilators** should be initiated as soon as possible **before hospital discharge**



Team-Based Approach

COPD Care Bundle in Emergency Department Observation Unit Reduces Emergency Department Revisits

Muhammad A Zafar, Timothy M Loftus, Jack P Palmer, Michael Phillips, Jonathan Ko, Steven R Ward, Madeline Foertsch, Amber Dalhover, Matthew E Doers, Eric W Mueller, Evaline A Alessandrini, and Ralph J Panos

Respir Care 2020;65(1):1–10.

38.6% reduction of 30-day all-cause ED revisit rate after bundle implementation (48.9% vs 30%, p= 003)

COPD Care Bundle

- Appropriate COPD Medications
- 30-day Medication Supply of Insurance Compliant Inhalers
- Personalized Inhaler Education
- Standardized D/C Instructions
- PCP F/U Appt < 15 days

Disposition

Home
- Acceptable vital signs and labs if performed
- Improvement in clinical condition or return to baseline status
- Pulse ox >90% RA/baseline home O2 requirement
- No longer needing albuterol < q4hrs
- Adequate follow-up plan established

Admit
- Worsening condition (e.g. Requiring bipap) or positive findings requiring hospitalization
- Ambulatory pulse ox <90% on RA/baseline home O2 requirement
- Physician discretion

FY 2020
- 448 Asthma/COPD patients
- 7.4% of all CDU pts
- LOS 17 hrs
- 20% admission rate

Discharge

- CM to assist with home O2 supplies, meds
- CM assessment for Home Care
- COPD meds/inhalers (meds in hand)
- Proper inhaler use (spacer)
- COPD & Smoking Cessation D/C instructions
- Follow-up appointment scheduled (variable)

Admit

Disposition: BORG scale

Academic Emergency Medicine
Official Journal of the Society for Academic Emergency Medicine

Original Contribution

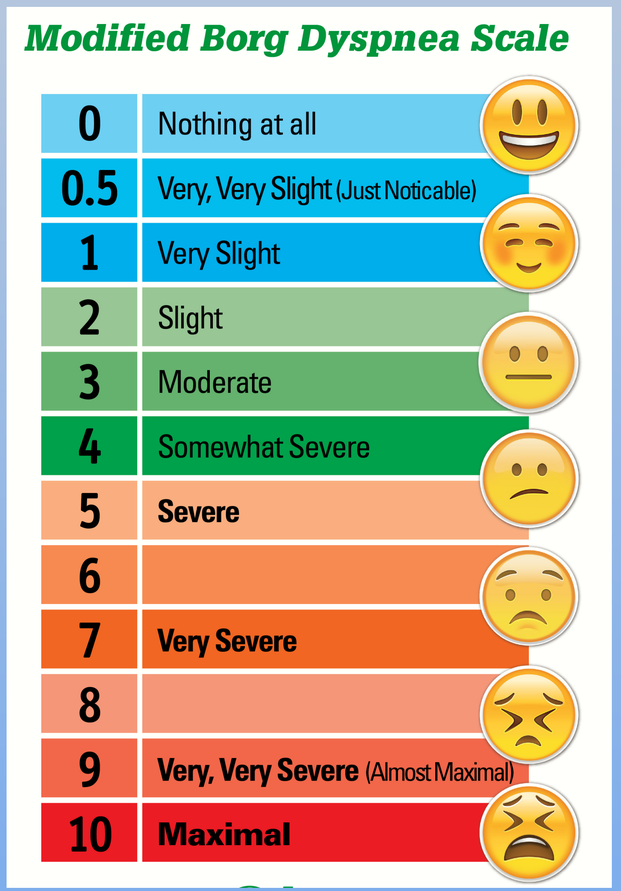
Resting Borg score as a predictor of safe discharge of chronic obstructive pulmonary disease from the emergency department observation unit

Ruchira Sengupta MD, Timothy M. Loftus MD, MBA, Matthew Doers MD, Roman A. Jandarov PhD, Michael Phillips RRT, Jonathan Ko RRT, Ralph J. Panos MD, Muhammad A. Zafar MD, MS

First published: 17 July 2020 | https://doi.org/10.1111/acem.14091

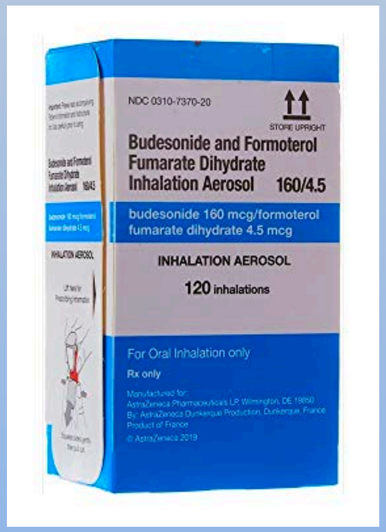
- 'Safe Discharge'= no ED revisit or hospitalization in subsequent 7 days after OU discharge
- An improvement in BORG score by >2 in serial assessments is an indicator of safe discharge
- A pre-disposition Borg score <4 is an independent predictor of safe discharge (AUC 0.77)

BORG Dyspnea scale How is your breathing right now?	
0	Comfortable
1	Really Easy
2	Easy
3	Moderate
4	Sort of Hard
5	Hard
6	
7	Really Hard
8	
9	Really, Really Hard
10	Maximal, Worst Possible



NEW

- For safety, GINA no longer recommends treatment of asthma in adults and adolescents with SABA alone. All adults and adolescents with asthma should receive ICS-containing controller treatment to reduce their risk of serious exacerbations and to control symptoms. ICS-containing controller can be delivered either with regular daily treatment or, in mild asthma, with as-needed ICS-formoterol taken whenever needed for symptom relief.

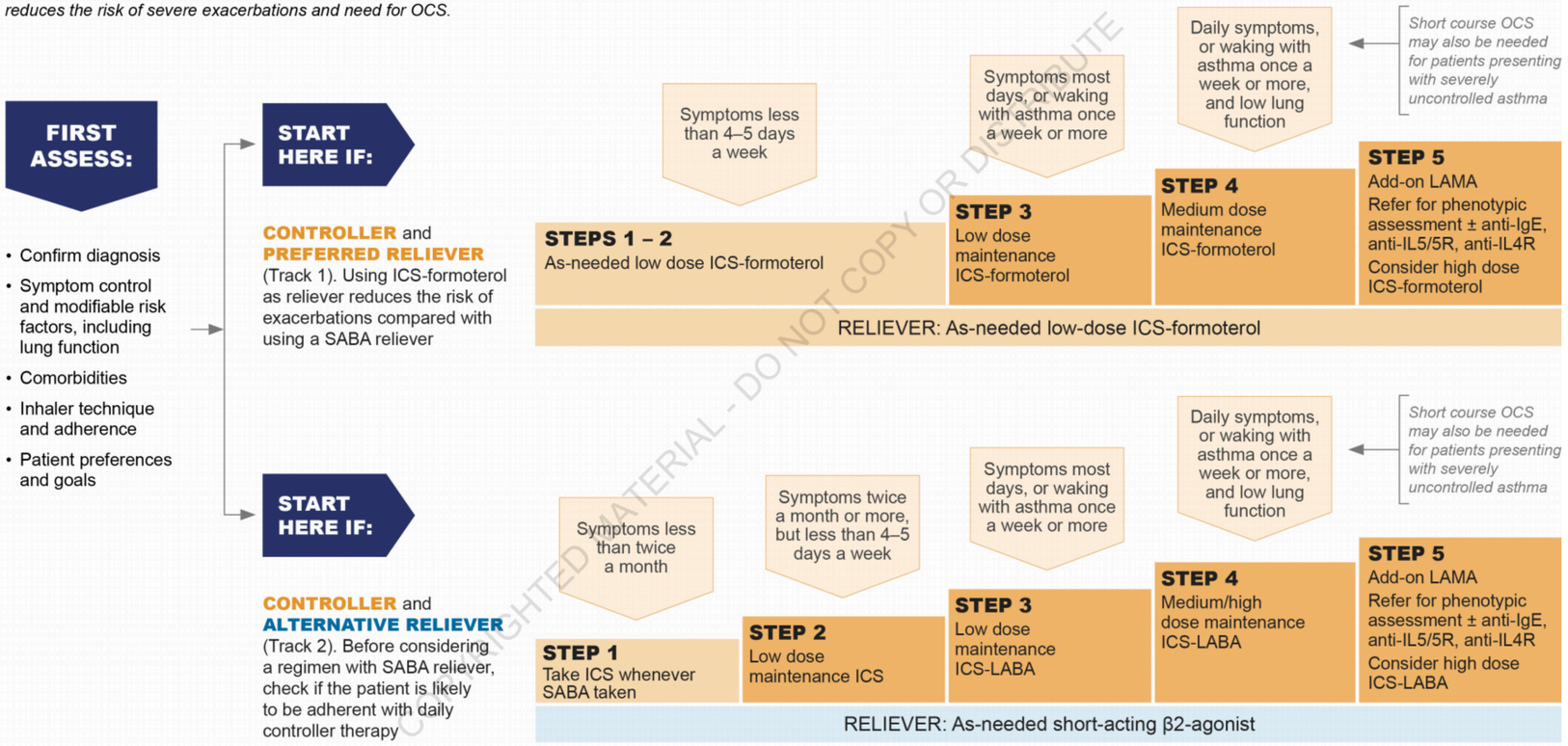


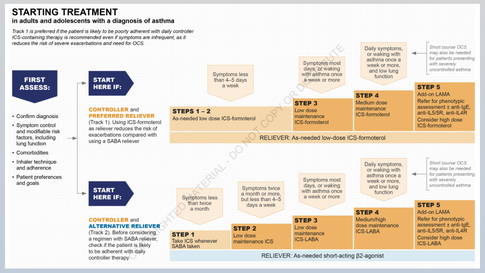
1-2 puffs QD or BID + 1-2 puffs PRN symptoms
Max # puffs = 12/day

STARTING TREATMENT

in adults and adolescents with a diagnosis of asthma

Track 1 is preferred if the patient is likely to be poorly adherent with daily controller ICS-containing therapy is recommended even if symptoms are infrequent, as it reduces the risk of severe exacerbations and need for OCS.





LABA/ICS Combination Inhalers

Long-Acting Beta$_2$ Agonists (LABA) + Inhaled Corticosteroid (ICS)

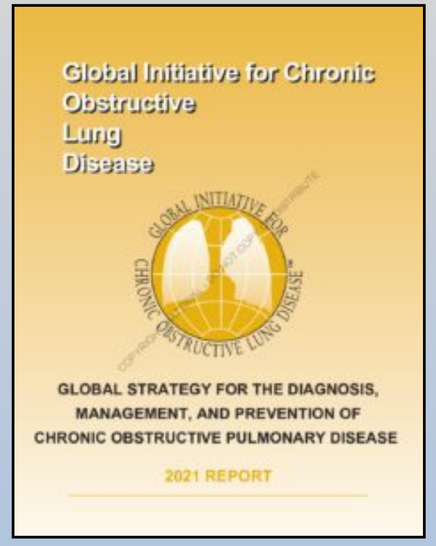
Commonly used in Asthma

ICS	LABA	Brand	Device	Dosing
Fluticasone	Salmeterol	Advair	HFA	2 BID
			DPI	1 BID
		AirDuo Respiclick (or Generic)	DPI	1 BID
Fluticasone	Vilanterol	Breo Ellipta	DPI	1 daily
Mometasone	Formoterol	Dulera	HFA	2 BID
Budesonide	Formoterol	Symbicort	HFA	2 BID

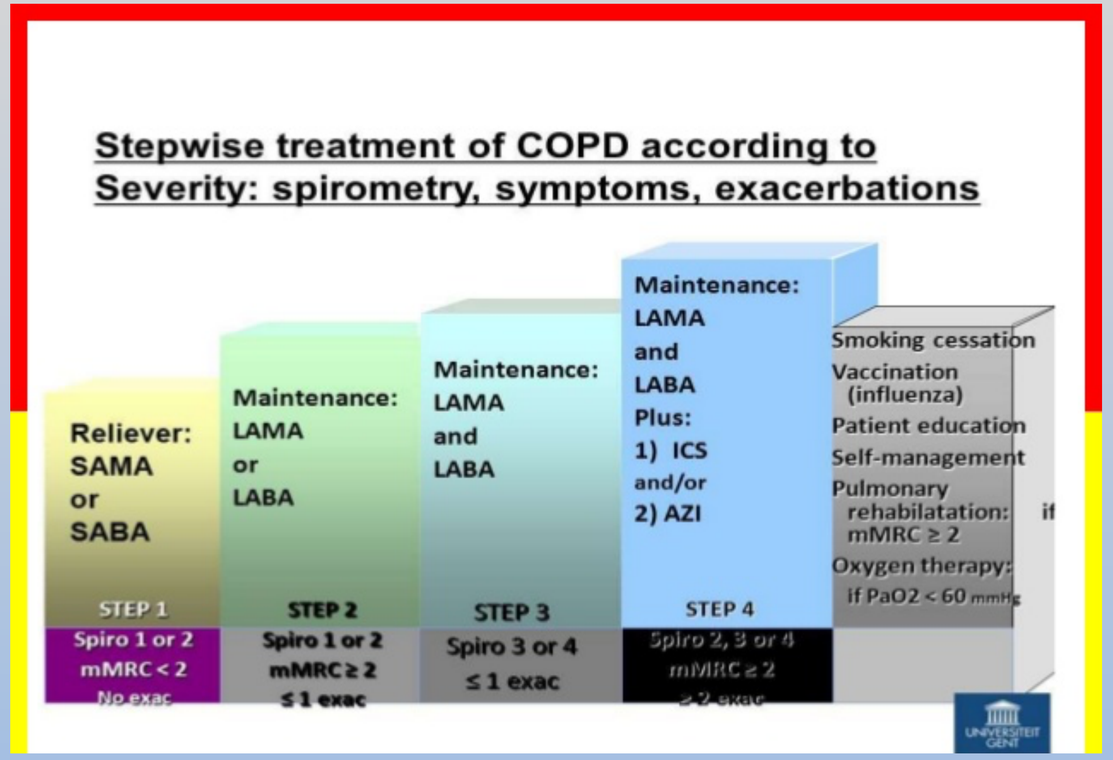
HFA Tips:
-Priming needed
-May use with spacer

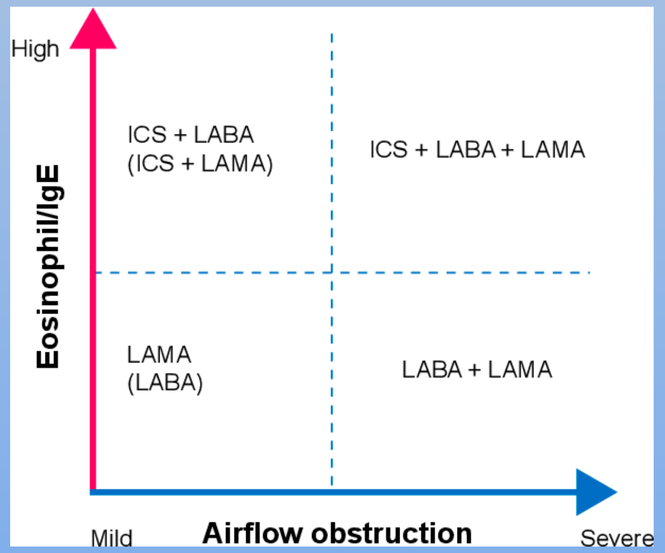
DPI Tips:
-Breath-activated
(take deep/fast breath)

NO LABA Alone in Asthma



LAMA+/- LABA+/-ICS





"Summary for Clinicians: Clinical Practice Guideline on Pharmacologic Management of Chronic Obstructive Pulmonary Disease."
Annals of the American Thoracic Society, 2021;18(1):11–16

ASTHMA DRUG THERAPY

RELIEVERS

1. Short-acting β_2-agonists

Asthavent® MDI / DP-Haler® / Revolizer® (Salbutamol)

Bereloc® MDI (Fenoterol)

Ventaze® MDI (Salbutamol)

Ventolin® MDI / Accuhaler® (Salbutamol)

2. Anticholinerg

Atrovent® MDI (Ipratropium Brom

Ipvent-40® MDI (Ipratropium Bromide)

Spiriva Handihaler® (Tiotropium)

CONTROLLERS

Long-acting β_2-agonists

Foradil® DP-Haler® / Revolizer® (Formoterol)

Symbicord Turbuhaler® (Budesonide + Formoterol)

PREVENTERS

1. Inhaled Corticosteroids

Alvesco® MDI (Ciclesonide)

(Beclomethasone)

2. Leukotriene receptor antagonist

Singulair® tablets (Montelukast)

® The following products are registered trademarks of Cipla Medpro: Asthavent, Ipvent, Foradil, Bereloc, Budelhale, Revolizer, DP-Haler, Gentle-Haler
The following products are registered trademarks of Boehringer Ingelheim: Bereloc, Atrovent, Spiriva, Inflammide, Novolizer, Handihaler
The following products are registered trademarks of Astra Zeneca: Oxis, Symbicord, Pulmicort, Turbuhaler
The following products are registered trademarks of GSK: Ventolin, Serevent, Seretide, Flixotide, Accuhaler
The following product is a registered trademark of Aspen Pharmacare/Sabex: Ventaze
The following product is a registered trademark of Pfizer: Zithromax
The following product is a registered trademark of MSD: Singulair
The following product is a registered trademark of Altana Nucleus: Alvesco

PROVIDED IN THE INTEREST OF ASTHMA EDUCATION BY

Cipla

COPD LAMA LABA ICS Asthma

ium ol one

COPD Inhaler Guide

Respiratory Nurse Team

Royal Surrey County Hospital NHS
NHS Foundation Trust

SABA	LABA	LAMA	LABA/LAMA	LABA/ICS
Ventolin MDI 2 puff prn/qds (£1.50) *(Salbutamol 100mcg)*	**Formoterol Easyhaler** 1 puff bd (£11.88) *(Formoterol 12mcg)*	**Seebri Breezhaler** 1 puff od (£27.50) *(Glycopyrronium 44mcg)*	**Ultibro Breezhaler** 1 puff od(£32.50) *(Indacaterol/Glycopyrronium 110/50mcg)*	**Fostair MDI / Nexthaler** 2 puff bd (£29.32) *(Formoterol/Beclometasone 6/100mcg)*
				sp Spiromax 320/9 puff bd (£29.97) *rmoterol 12mcg/ sonide 400mcg)*
				ar Ellipta 22/92 puff od (£22.00) *lanterol 22 mcg/ ticasone 92mcg)*
				icort Turbohaler puff bd (£38.00) *oterol/Budesonide 6 – 400/12mcg)*
	Serevent Evohaler 2 puff bd (£29.26) *(Salmeterol 25mcg)*	**Spiriva Handihaler** 1 puff od (£33.50) *(Tiotropium 18mcg)*		**Airflusal Forspiro** 1 puff bd (£32.74) *(Fluticasone/Salmeterol 500/50ug)*

*Costings for 30 day treatment from The Surrey Prescribing Advisory Database (PAD) July 2016

*This may not be a complete list of inhalers for COPD.

*Refer to BNF when prescribing, prescribe by Brand name.

AEROCHAMBER	VOLUMATIC
Aerochamber plus (£4.79) (MDI/Adult)	**Volumatic Spacer** (£3.80) (MDI/Adult)

Serevent Accuhaler
1 puff bd (£29.26)
(Salmeterol 50mcg)

Seretide Accuhaler
1 puff bd (£40.92)
(Salmeterol/Fluticasone 500mcg)

Role of Vitamin D

- **Vitamin D deficiency implicated in the pathophysiology of COPD**
- **GOLD:** Vitamin D supplementation in subjects with severe deficiency (<10 ng/ml or <25 nmol/L) result in a 50% reduction in episodes and hospital admission
- **GOLD:** All patients hospitalized for COPD exacerbations should be assessed and investigated for severe Vitamin D deficiency followed by supplementation if required

Jolliffe DA. Vitamin D to prevent exacerbations of COPD: systematic review and meta- analysis of individual participant data from randomised controlled trials. *Thorax* 2019; 74(4): 337-45.

Burkes RM.Associations Among 25-Hydroxyvitamin D Levels, Lung Function, and Exacerbation Outcomes in COPD. An Analysis of the SPIROMICS Cohort. *Chest 2020;157(4):P856-865*.

Covid-19

At present, based on the benefits and risks, and with the above caution, GINA recommends COVID-19 vaccination for people with asthma.

Where possible, avoid use of nebulizers due to the risk of transmitting infection to other patients and to healthcare workers

- GOLD strongly encourages people with COPD to follow public health recommendations to minimize the chance of becoming infected and be aware of when/how to seek help if they show symptoms of the infection.
- COPD patients should maintain their regular therapy - including inhaled steroids.
- Oxygen therapy should be provided if needed following standard recommendations.
- Be aware of controller & rescue inhaler medication shortages.
- Recent FDA approval of generic albuterol inhaler (April).

Our ED/CDU COPD Covid Protocol

- *When ordering MDI, put in Special Instructions “COVID’ so RT aware.
- Steroids: Decadron 4mg IV or PO (preferred) [Others: Solumedrol 40mg IVPB or Prednisone 40 PO]
- If no significant improvement with above measures, put in negative pressure room if available for nebulized B2 agonist therapy.
- Admit with COVID isolation precautions.
- ALL NEBS on PUI should be done using the following mask that has filters on the expiratory ports (see picture)
- RT should be wearing an N95 when they are giving nebs

COPD

1. B2 Agonist Therapy (To preserve #MDIs available)

***MDI available**

Or Contraindication to Parenteral B2 Agonist

4 puffs q15-30 min for total of 12 puffs

Consider adding Terbutaline or Epi as appropriate

NO MDI available

Caution in pts with Cardiac condition/PVD

Tertbutaline 0.25 mg SQ

q20- 30 min PRN for total of 3 doses

Our ED/CDU ASTHMA Covid Protocol

- *When ordering MDI, put in Special Instructions “COVID’ so RT aware.
- Steroids: Decadron 4mg IV or PO (preferred) [Others: Solumedrol 40mg IVPB or Prednisone 40 PO]
- Add Magnesium sulfate 2g IVPB
- If no significant improvement with above measures, put in negative pressure room if available for nebulized B2 agonist therapy.
- Admit with COVID isolation precautions.
- ALL NEBS on PUI should be done using the following mask that has filters on the expiratory ports (see picture)
- RT should be wearing an N95 when they are giving nebs

ASTHMA

1. B2 Agonist Therapy (To preserve #MDIs available)

***MDI available**

Or Contraindication to Parenteral B2 Agonist

4 puffs q15-30 min for total of 12 puffs

NO MDI available

< 50yo

No Cardiac condition or PVD

Epinephrine (1/1000) 0.3 mg IM

q15-30 min PRN for total of 3 doses

> 50 yo

(caution in pts with Cardiac condition/PVD

Tertbutaline 0.25 mg SQ

q20- 30 min PRN for total of 3 doses

- ★ EDOU Effective and Efficient for COPD/Asthma & Decreases Hospital Admissions
- ★ *'Walk 'em'* to Assess Treatment Efficacy and Assist in Disposition Decisions
- ★ Consider Use of Higher-Dosed Neb Treatments ATC
- ★ COPD Care Bundles May Aid in Reducing Recidivism
- ★ SMART for Asthma Care
- ★ A Resting BORG score May Aid in Predicting Safe Discharge
- ★Covid: Encourage Vaccination, Avoid Nebs >>Use MDIs, Usual Maintenance Therapy

Margarita.Pena@ascension.org