



# MOUNTAIN HEALTH

*Appalachian College of Pharmacy Residency*

## COPD heightens deadly lung cancer risk in smokers

Julie Large, PharmD

Researchers from a recent study, published in *EBioMedicine* on September 24, 2015, discovered that smokers who have Chronic Obstructive Pulmonary Disease (COPD) may be as twice as likely to get Small Cell Lung Cancer (SCLC) than smokers who do not have COPD.



Image Credit: <http://www.emedicinehealth.com/lung-disease-and-respiratory-health/center.htm>

COPD refers to a group of diseases that can cause airflow blockages and breathing-related problems making it difficult to breathe. Smoking is the leading cause of COPD and accounts for as many as 8 out of 10 of COPD-related deaths.

Although SCLC accounts for only 15–18% of lung cancers worldwide, it has a high relapse and mortality rate. Those with limited SCLC live, on average, 14–20 months after diagnosis; those with extensive disease live only 9–11 months after being diagnosed. Given SCLC's high relapse and mortality rate, researchers wanted to know more about possible ways to prevent it.



Image Credit:  
<https://www.google.com/search?q=lung+disease&biw=1366&bih=643&source=lnms&tbo=isch&sa=X&sqi=2&ved=0ahUKEwjnPi34obKAhWD7CYKHc0>

The recent study is the largest-ever epidemiologic study of SCLC. It is the first to look at how much COPD increases smokers' risk of getting SCLC. Although it's long been known that smoking is a major risk factor for lung cancer, the new study estimates the risk more precisely than before.

### THIS ISSUE...WEIGHT LOSS, MTM, INHALER SAFETY, DIABETES

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Researchers analyzed data from 24 case-control studies from the International Lung Cancer Consortium—conducted in North America, Europe, Asia and Oceania—that included 4,346 people with SCLC and 37,942 without the disease.

The studies included information on participants' health, gender, age, race, education level, and family history of lung cancer, as well as their smoking history, including how old they were when they started, how many years they smoked, how many cigarettes they smoked each day, and, for former smokers, how long it had been since they quit.

#### Results:

- Among those who smoked a pack of cigarettes each day, the risk of getting SCLC rose sharply through 50 years of smoking, then less sharply after that. Compared with nonsmokers, smokers' odds of getting the disease ranged from more than four times higher for those who smoked a daily pack for less than 20 years in a row, to nearly 70 times higher for those who did so for 80 years or more.
- Smokers with COPD had a 1.86-fold higher risk of SCLC than smokers without COPD.
- Among smokers, having COPD accounted for 8% of SCLC cases.

#### References:

- Huang R, Wei Y, Hung R et al. Associated Links Among Smoking, Chronic Obstructive Pulmonary Disease, and Small Cell Lung Cancer: A Pooled Analysis in the International Lung Cancer Consortium. *EBioMedicine*. 2015;2(11):1677-1685. doi:10.1016/j.ebiom.2015.09.031.
- Tips From Former Smokers. Smoking and COPD – Tips From Former Smokers. 2015. Available at: <http://www.cdc.gov/tobacco/campaign/tips/diseases/copd.html#what-is>. Accessed December 30, 2015

# Medication Synchronization

Ashley Bullard, PharmD

## DID YOU KNOW?

**Missed or skipped doses of medication cause 125,000 deaths every year and account for 10 to 25 percent of hospital and nursing home admissions.**

## Prescription Synchronization



Image <http://pridepharmacysd.com/content/prescription-synchronization-0>

### What is Medication Synchronization?

Medication synchronization is when the pharmacist coordinates the refill of your medications so you can pick them up on a single day each month. Many people miss doses of their regular medications and med sync can make you more likely to take them. Med Sync does the following:

- Eliminates the need to call in multiple prescription refills
- Allows you the convenience of fewer trips to the pharmacy
- Provides an opportunity to meet with your pharmacist on a monthly basis to discuss your medications

### Benefits of Medication Synchronization:

By participating in your pharmacy's medication synchronization program, there are many benefits to patients and caregivers.

- **Peace of Mind:** Your likelihood of missing doses because you forgot to refill your prescription decreases dramatically. Your pharmacy is responsible for proactively coordinating when your prescription needs to be refilled.
- **Convenience:** You will pick up all of your medications in one trip to the pharmacy per month. This will eliminate the need for you to make time in your busy schedule for multiple refill calls and visits to the pharmacy.
- **Improved medication management:** You will develop a closer relationship with your pharmacist during your monthly pick-up, leading to a better understanding of how your medication therapy works and how you can avoid side effects.

### What is the Cost of medication synchronization?

Medication Therapy Management is an affordable service available to everyone and in many cases is provided at low or no cost to you through most pharmacies. Many pharmacies provide this service to improve patient health outcomes.

***If you have any questions about medication synchronization, please ask your pharmacist today!***

#### References:

APhA Align My Meds APhA website. <http://www.pharmacist.com/mtm> Accessed 29 December 2015

# COPD: Lifestyle and Home Remedies

Julie Large, PharmD

If you have Chronic Obstructive Pulmonary Disease (COPD), you can take steps to feel better and slow the damage to your lungs:

## Control your breathing.

There are many techniques for breathing more efficiently throughout the day. Discuss breathing positions and relaxation techniques that you can use when you're short of breath with your doctor or respiratory therapist.

Image Credit: <http://www.askdoctork.com/how-do-breathing-exercises-work-to-relieve-stress-201211083638>



## Breathing Exercises:

There are two main exercises that are practiced in rehab to help people with COPD improve their breathing.

- **Pursed-lip breathing:** Some people with COPD have particular difficulty breathing out. When this occurs, air gets built up in the lungs and the lungs can't expand as well. Pursed-lip breathing helps regulate this problem. To perform this, sit comfortably and inhale deeply through the nose. Purse lips (as though whistling) and breathe out three times longer than the in breath, but don't force the air out. This technique can be used when shortness of breath occurs to regulate breathing patterns.
- **Diaphragm breathing.** This technique helps strengthen the diaphragm muscle so people use less energy when breathing. To perform the exercise, lie on the back with knees bent, one hand on the upper chest and another resting on the abdomen. When inhaling and exhaling, keep the chest as still as possible and use the stomach to breathe. This should be practiced for five to 10 minutes three times daily.

**Clear your airways.** With Chronic Obstructive Pulmonary Disease (COPD), mucus tends to collect in your air passages and can be difficult to clear. Controlled coughing, drinking plenty of water and using a humidifier may help.

**Exercise regularly.** It may seem difficult to exercise when you have trouble breathing, but regular exercise can improve your overall strength and endurance and strengthen your respiratory muscles.

**Eat healthy foods.** A healthy diet can help you maintain your strength. If you're underweight, your doctor may recommend nutritional supplements. If you're overweight, losing weight can significantly help your breathing, especially during times of exertion.

**Avoid smoke and air pollution.** In addition to quitting smoking, it's important to avoid places where others smoke. Secondhand smoke may contribute to further lung damage. Other types of air pollution also can irritate your lungs.

**Sleep well.** Many patients with COPD also have sleep disorders such as sleep apnea or hypoventilation (breathing too slow or shallow). This can be helped by using masks for continuous positive airway pressure (CPAP) therapy. Be aware of sleep problem symptoms including feeling unusually tired all day, falling asleep during the day, morning headaches and excessive snoring.

**See your doctor regularly.** Stick to your appointment schedule, even if you're feeling fine. It's important to steadily monitor your lung function. Don't forget to get your annual flu vaccine and pneumonia vaccines to help prevent infections that can worsen your COPD. Ask your doctor or pharmacist about your vaccination needs!

## References:

- Mayoclinic.org. COPD Lifestyle and home remedies – Mayo Clinic. 2015. Available at: <http://www.mayoclinic.org/diseases-conditions/copd/basics/lifestyle-home-remedies/con-20032017>. Accessed December 30, 2015.  
11 Breathing Tips for People With COPD (WebMD) By: Feature, Tammy. <http://www.webmd.com/lung/copd/features/copd-breathing-tip>

# Safety Alert: Always Keep Your Medicine Organized

Ashley Bullard, PharmD

## An Unexpected Muscle Spasm

Do you take multiple medications? Do you also help someone else with their medications? Then keep this story in mind.

A woman packing for vacation put a week's supply of her various medicines in an empty prescription bottle. When she returned home, she then stored the last few doses of her father's medicine in the empty prescription bottle so she could take his current bottle to the pharmacy for a refill.



Image Credit: [http://www.consumermedsafety.org/report-a-medication-error/index.php?option=com\\_k2&view=item&layout=item&id=558](http://www.consumermedsafety.org/report-a-medication-error/index.php?option=com_k2&view=item&layout=item&id=558)



Image Credit: <http://www.consumermedsafety.org/medication-safety-articles/item/368-dont-store-different-medicines-in-the-same-bottle>

A few days later, the woman developed severe muscle spasms in her face, neck, and back. Her husband called 911. When the ambulance arrived, the driver asked for all of the woman's medicines so the emergency room doctor could see them. When the doctor looked in her prescription bottle, he discovered the problem. The label said Zocor (simvastatin), which the woman was taking to lower her cholesterol. But the bottle really contained Haldol (haloperidol), her father's medicine. The woman had accidentally taken Haldol, which can cause muscle spasms.

**What you can do:** To avoid errors keep medications in their original containers. You can also place medications in a weekly pill planner, however with this comes room for error. You can always ask the pharmacy to pack your medication or put together a planner box for you.

### Reference:

ConsumerMedSafety: Do not store different medications in the same bottle. ConsumerMedSafety website.

<http://www.consumermedsafety.org/medication-safety-articles/item/368-dont-store-different-medicines-in-the-same-bottle>, Created September 1, 2003 Accessed 29 December 2015

## What is COPD?

Ashley Bullard, PharmD

Chronic Obstructive Pulmonary Disease (COPD), is a term used to describe lung diseases which are progressive such as emphysema and chronic bronchitis. COPD affects 24 million people in the United States. Symptoms of COPD include increased breathlessness, frequent coughing, wheezing, and tightness in the chest. COPD can be diagnosed by taking a spirometry test. Risk factors for COPD include smoking, long-term contact with harmful lung irritants (certain chemicals, dust, or fumes), and certain genetic factor.



### Are you at risk for COPD? Take the COPD Assessment Test.

Place an X in the section that best describes your health.

Example: I am very happy	<input checked="" type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	I am very sad	
I never cough	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	I cough all the time	SCORE
I have no phlegm (mucus) in my chest at all	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	My chest is completely full of phlegm (mucus)	
My chest does not feel tight at all	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	My chest feels very tight	
When I walk up a hill or one flight of stairs I am not breathless	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	When I walk up a hill or one flight of stairs I am very breathless	
I am not limited doing any activities at home	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	I am very limited doing activities at home	
I am confident leaving my home despite my lung condition	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	I am not at all confident leaving my home because of my lung condition	
I sleep soundly	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	I don't sleep soundly because of my lung condition	
I have lots of energy	<input type="radio"/> 0 <input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5	I have no energy at all	
			TOTAL SCORE

COPD Assessment Test and the CAT logo are trademarks of the GlaxoSmithKline group of companies.  
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If you scored 10 or greater then you should talk to your doctor about your lung health.

#### References:

- Pinto LM, Gupta N, Tan W, et al. Derivation of normative data for the COPD assessment test (CAT). *Respir Res.* 2014;15(1):68.  
Available at: <http://www.copdfoundation.org/Learn-More/Educational-Materials/Downloads-Library.aspx>. Accessed December 29, 2015.

## Upcoming Events

**January 5 6:00PM – 7:30PM**

Kingsport Autism Support Group  
301 Louis St., Kingsport, TN

**January 9**

Bettye LaVette Concert  
Barter Theatre, Abingdon, VA

**January 14 6:00PM – 7:00PM**

Sibling Class  
Johnston Memorial Hospital, Abingdon, VA

**January 16 9:00AM – 4:00PM**

Marathon Childbirth Class  
Johnston Memorial Hospital, Abingdon, VA

**January 16-17**

7<sup>th</sup> Annual Sandman x4x Half Marathon or 9 mile run  
Wytheville, VA

**January 25 6:00PM – 8:00PM**

Infant Care Basics  
Johnston Memorial Hospital, Abingdon, VA

**January 27 1:00PM**

Creating a Healthier Community: One Home at a Time  
Niswonger Children's Hospital, Johnson City, TN

**January 28 6:00PM – 8:00PM**

Breastfeeding Basics Class  
Johnston Memorial Hospital, Abingdon, VA

**February 20 11:00AM – 3:00PM**

The Great Winter Soup Cook Off  
SWVA Higher Education Center, Abingdon, VA

**February 20-21**

VPhA Midyear Conference  
Hotel Roanoke & Convention Center, Roanoke, VA

**February 28**

UVA Wise Basketball Homecoming  
David J. Prior Convocation Center

**Wise County (January – February)**

Every Thursday night (7:00PM–10:30PM)

Pick'n in the Pound – Town Hall, Pound, VA

Every Friday night (7:00PM – 10:30PM)

Traditional and Bluegrass Music – Coeburn, VA

Every Saturday night (8:00PM – 11:00PM)

Traditional and Bluegrass Music – Norton, VA

### Awareness:

**January:**

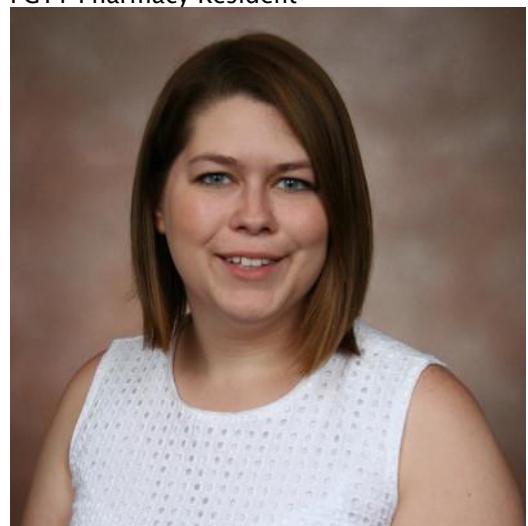
- Cervical Cancer Screening Month
- National Birth Defects Awareness Month
- National Glaucoma Awareness Month
- Thyroid Disease Awareness Month
- National Blood Donor Month

**February:**

- Heart Disease Awareness Month
- Prenatal Infection Prevention Month
- National Cancer Prevention Month
- National Wise Mental Health Consumer Month
- Black History Month
- Teen Dating Violence Awareness Month

## Featuring : Ashley Sanders Bullard, PharmD

Appalachian College of Pharmacy  
PGY1 Pharmacy Resident



Dr. Ashley Bullard is a PGY-1 Community Pharmacy Resident and an Instructor of Pharmacy Practice at Appalachian College of Pharmacy. Her primary practice site is TigeRx Pharmacy in Honaker, VA. Dr. Bullard earned a Doctor of Pharmacy degree from the University of Louisiana at Monroe in Monroe, Louisiana in 2015.

Dr. Bullard is a member of National Community Pharmacist Association (NCPA), Virginia Pharmacy Association (VPhA), American Society of Health Systems Pharmacists (ASHP), and Louisiana Pharmacist Association (LPA). Her professional interests include, diabetes, women's health, medication therapy management, compounding, and educating her patients.

Outside of pharmacy, Dr. Bullard is an avid reader and active supporter of the FFA. She considers Urania, LA home, but is enjoying her new life in Lebanon, VA