

NIH News in Health

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Breathe Better With COPD

Living With Chronic Obstructive Pulmonary Disease

Maybe you've noticed that you get out of breath doing light activities lately. Or have a cough that won't go away. You might think it's temporary, or just part of getting older.

But these issues can also be signs of chronic obstructive pulmonary disease, more commonly called COPD. With COPD, your lungs can no longer take in all the air you need.

More than 16 million people in the U.S. are living with COPD. Millions more likely have the disease but don't know it. Symptoms can be mild at first and get worse over time.

"Some people with COPD get very short of breath when they try to walk, or do any kind of physical activity," says Dr. Janet Larson, who studies COPD at the University of Michigan. "Some are bothered by persistent coughing."

People may also feel tightness in their chest, experience wheezing, or a whistling or squeaky sound when breathing. They can also feel extremely tired, or fatigued.

"But many people don't recognize the symptoms, or don't know they can be from a disease," says Dr. Prescott Woodruff, a lung specialist at the University of California, San Francisco.



expected, given the decrease in smoking," says Dr. Joel Kaufman, who studies how the environment impacts chronic diseases at the University of Washington.

Other factors can also play a role. Second-hand smoke—smoke in the air from other people smoking—is a risk factor. Others include your age, gender, and where you live and work.

COPD is more common in women and in people over the age of 40. People with a rare genetic disorder, called AAT deficiency, are also at increased risk.

COPD is also about twice as common in rural communities compared with urban ones. That's largely because these communities have higher smoking rates.

Long-term exposures to other substances, including some types of chemical fumes and dust, may also increase the risk of COPD.

In a recent study, Kaufman and his team found that people who lived in areas with high air pollution had more emphysema-like changes in their lungs over time. This highlights additional risk factors that can potentially be lowered for whole communities, Kaufman explains.

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COPD includes two main conditions. In one, called emphysema, tissue inside the lungs breaks down. In the other, called chronic bronchitis, the airways are irritated and show signs of **inflammation**. Many people with COPD have both.

"There are many things we can do for COPD," Woodruff says. "Most of them can improve your quality of life. And some of them can improve life expectancy. So we want people to recognize the symptoms and seek help."

Lessening Lung Irritation • Smoking is the main risk factor for the disease. But up to a quarter of people who develop COPD have never smoked.

The number of people in the U.S. who smoke has dropped over the last few decades. "But the amount of chronic lung disease has not declined as fast as we would have

Definitions

Inflammation

Heat, swelling, and redness caused by the body's protective response to injury or infection.

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“The more we understand about these risks, the more we can effectively target air quality improvements going forward,” says Kaufman.

Boosting Quality of Life • People who currently smoke or smoked in the past may feel stigmatized and embarrassed to talk with their doctor, when they shouldn’t, Woodruff says. “That’s a huge population that may not be getting the attention they need,” he says.

If you have symptoms of COPD, talk with your health care provider. They can refer you for testing. The main test used to diagnose COPD is called spirometry. In this test, you blow into a tube connected to a small machine. The machine measures how well your lungs are working.

Some people may also need imaging or blood tests. These tests can help determine whether their COPD is severe. They may also rule out other possible causes of symptoms.

Treatments for COPD can’t yet cure the disease. But they can slow the rate at which it gets worse, and make you feel better. Medications

can help some people breathe more easily. These include drugs that help open the airways or reduce inflammation.

People with severe COPD may need oxygen therapy. Some may eventually have surgery. But usually only as a last resort if they don’t improve from taking medicines.

Pulmonary rehabilitation can also be used to treat the condition. These programs help you learn new breathing strategies, improve your body’s endurance and strength, and move in ways that preserve your energy. They may also include mental health care and nutrition counseling.

“People with COPD tend to be some of the least physically active people,” says Larson. Many feel embarrassed that they can’t keep up with other people, she explains. This can lead them to avoid activities they used to enjoy.

Larson and her team are testing a program to build light physical activity into the daily lives of people with COPD. Light physical activity—such as walking and using bands for strength exercises—can improve their health and energy levels, she explains.

By making exercise more accessible, “we hope that if they have a flare-up of their disease, and have to quit being active for a while, that they’ll be able to get right back to it on their own,” Larson says.

In an early study of the program, people with COPD increased their activity levels by more than half an hour a day. Talk with your health care provider to learn more about rehab programs.

Personalizing Treatments • Better treatments are still needed for COPD. Scientists first need to learn more about how the disease differs between people.

“By identifying the different subtypes of COPD, we can then target



Wise Choices Managing COPD

- **Quit smoking and keep your home smoke-free.** Get free help at smokefree.gov, 1-800-QUIT-NOW (1-800-784-8669), or by texting QUIT to 47848.
- **Visit your doctor regularly.** Let them know if any of your symptoms change over time.
- **Protect yourself from germs that can affect the lungs.** Talk with your doctor about which vaccines to get, including for flu (influenza) and pneumonia.
- **Prepare for disease flare-ups.** Know when and where to seek help for your symptoms. Get emergency care if you have severe symptoms, such as trouble catching your breath or talking.

the specific underlying problems with new therapies,” Woodruff says.

In a recent study, Woodruff’s team identified one such subtype. They found that many current or former smokers had normal results on a spirometry test, but still had other symptoms of COPD, like a chronic cough or trouble breathing.

The researchers are now testing whether COPD drugs can help people with this subtype feel better and prevent them from developing full-blown COPD.

The team also found that some people with COPD have a type of inflammation in their lungs that looks like asthma. This may be another subtype of COPD. Now they’re testing whether asthma medications can help reduce symptoms in these patients.

For now, lifestyle changes and medications can help people with COPD manage symptoms. See the Wise Choices box for tips to help you breathe better. ■

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Web
Links

For more about COPD, see “Links” in the online article: newsinhealth.nih.gov/2020/11/breathe-better-copd

When Unwanted Thoughts Intrude

Understanding Obsessive-Compulsive Disorder

It's common to worry about things like germs or to double check that the stove is turned off. But for people with obsessive-compulsive disorder (OCD), these thoughts and behaviors are so severe that they interfere with daily life.

OCD is a mental health condition that causes repeated unwanted thoughts, called obsessions. This can trigger compulsions—the urge to do things over and over to deal with the troubling thoughts. You don't need to have both to have OCD.

Many people with OCD have a fear of germs or contamination. This can lead to obsessive thoughts about things being “dirty.” Some people may feel a need for things to be symmetrical or in a perfect order. Worries about harm to yourself or others are also common. In some cases, these unwanted thoughts can be violent or disturbing.

“An obsession is an intrusive, distressing thought that usually kids or adults with OCD are able to recognize as a fear that doesn't make a ton of sense,” explains Dr. Kate Fitzgerald, an OCD expert at the

University of Michigan. “But these intrusive thoughts tend to cause them much anxiety.”

People with OCD may develop rituals meant to relieve their anxiety from the thoughts. This could involve behaviors like excessive handwashing or cleaning, arranging things in a certain order, or compulsive counting.

Many of us are a little “obsessive.” So when is there cause for concern? The biggest sign is if these thoughts or habits are making it hard to function in your day-to-day life, explains Fitzgerald.

This can mean problems with family, work, or school. Spending more than one hour a day on thoughts or behaviors can indicate a problem. See the Wise Choices box for more signs and symptoms.

You may have heard someone say that they're “OCD” about cleaning or organizing. But OCD is a debilitating disorder.

“Those terms are just kind of out there in the popular culture without recognizing that true OCD can paralyze people,” notes Fitzgerald. “There are people who can't work, can't go to school, can't function because of the illness.”

People usually develop symptoms of OCD as a child or young adult. Most people are diagnosed by about age 19. But childhood onset of OCD often occurs as early as eight or nine years old.

Scientists aren't sure what causes OCD. But genetics are likely to play a



role. People with a parent or sibling with OCD are at a higher risk for developing the disorder themselves.

OCD is usually treated with antidepressant medication and psychotherapy. One of the most common forms of psychotherapy for OCD involves exposing people to their triggers. Therapists then help people overcome their compulsive thoughts or actions. This form of therapy is called exposure and response prevention.

Although psychotherapy helps many people with OCD, it isn't effective for everyone. Fitzgerald and her team are trying to learn more about who responds to psychotherapy. Her studies suggest that people with certain patterns of brain activity are more likely to benefit. One day, brain scans or other testing might help match people with OCD to the best treatment. ■



Wise Choices

Is it OCD?

Everyone double checks things sometimes. But a person with OCD generally:

- can't control his or her thoughts or behaviors, even after recognizing that they're excessive.
- spends at least one hour a day on these thoughts or behaviors.
- doesn't get pleasure when performing the behaviors or rituals, although they may bring brief relief from anxiety.
- experiences significant problems in his or her daily life due to these thoughts or behaviors.



Web Links

For more about OCD, see “Links” in the online article: newsinhealth.nih.gov/2020/11/unwanted-thoughts-intrude



Health Capsules

For links to more information, please visit our website and see these stories online.

Is Your Blood Pressure Too High?

A new study found that awareness, control, and treatment of high blood pressure has dropped among U.S. adults.

Nearly half of adults live with high blood pressure, also called hypertension. It's defined as a blood pressure reading of 130/80 mm Hg or higher, or by taking medication for the condition. High blood pressure increases your risk of having a heart attack or stroke.

Many people don't know they have the condition. Symptoms usually appear only after damage to your heart

and blood vessels. By identifying high blood pressure early, you can work with your doctor to control it.

Researchers examined how many people with high blood pressure knew they had it and how many were receiving treatment. They looked at data from a large national health survey on high blood pressure.

More than 50,000 adults were surveyed from 1999 to 2018. Researchers found that high blood pressure affected 30% of adults in 1999 and 32% in 2017.

Twenty years ago, about 70% of

adults with high blood pressure were aware they had the condition. This increased to almost 85% in 2013. But by 2017, awareness dropped to 77%.

Treatment declined, too. Almost 54% of those with hypertension had their blood pressure under control in 2013. By 2017, that had dropped to 44%.

"The reversal in hypertension awareness is a real setback in the fight to reduce heart disease and stroke," says study author Dr. Paul Muntner from the University of Alabama at Birmingham. ■

Long-Distance Caregiving

Caring for a friend, parent, or other relative who lives far away? If you live an hour or more away, you're a long-distance caregiver.

You may be arranging care or helping with bills and paperwork. You could be communicating with health care providers. And you're probably an important source of emotional support for your friend or relative. Doing all this from afar can be challenging.

There are things you can do to make long-distance caregiving more manageable. Start by learning as

much as you can about your loved one's health and treatments. This can help you understand his or her health needs and anticipate those in the future.

Organize important paperwork. That way it's all in one place and up to date. Also, make sure at least one caregiver has written permission to receive medical and financial information. If possible, one person should handle conversations with all health care providers.

Staying connected is vital. You may want to schedule calls with health

care providers and facility staff to discuss the person's well-being. Update trusted family members on your loved one's health and needs.

You might also consider caregiving training. Some local chapters of the American Red Cross and other not-for-profit organizations offer caregiving courses.

For more tips on long-distance caregiving visit: www.nia.nih.gov/health/8-tips-long-distance-caregiving. ■



Featured Website

COVID-19 and Addiction

www.drugabuse.gov/drug-topics/comorbidity/covid-19-resources

Coping with a substance use disorder during the COVID-19 pandemic may be particularly challenging. NIH has resources to help. Find important information

on addiction and COVID-19. This includes tips on how to support a friend or family member with a substance use disorder during this stressful time.

COVID-19 Resources

The COVID-19 pandemic presents unique challenges for people with substance use disorders and in recovery. The following resources may help.

From Dr. Nora Volkow, NIDA Director

- Why Testing is the Key to Getting Back to Normal. Guest Blog, September 4, 2020
- NIDA Researchers Adapt Their Projects to Study COVID-19. Nora's Blog, June 17, 2020
- Coping with the Collision of Public Health Crises: COVID-19 and Substance Use Disorders. NIH Director's Blog with Dr. Volkow, April 21, 2020
- COVID-19: Potential Implications for Individuals With Substance Use Disorders. Nora's Blog, April 6, 2020 (En Español)
- Collision of the COVID-19 and Addiction Epidemics. *Annals of Internal Medicine*, April 2, 2020





The illustration created at the Centers for Disease Control and Prevention (CDC) reveals ultrastructural morphology exhibited by coronaviruses.

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