



MODULE 5

SPECIFIC COPD-RELATED RESEARCH INFORMATION

Overview of Module 5: Specific COPD-Related Research Information

This section will include information on:

- **Defining and Describing COPD Research**
- **COPD Treatment-Focused Research**
- **Molecular/Cellular Research**
- **Applying What Has Been Learned**
- **The Future of COPD Research**
- **Specific COPD Research Studies**

Estimated Time Commitment: *15-20 minutes*

Feel free to take breaks along the way – you can do this at your own pace!



Key Terms Used in this Module

- You will hear a lot of **new terms** during this module that you might not know
- We do **not expect you to know what these terms mean right away** or memorize them – just to familiarize yourself with the words
- Here is a link to the **key terms** used in this module that you can reference as you go through – click [here](#)

Understanding COPD

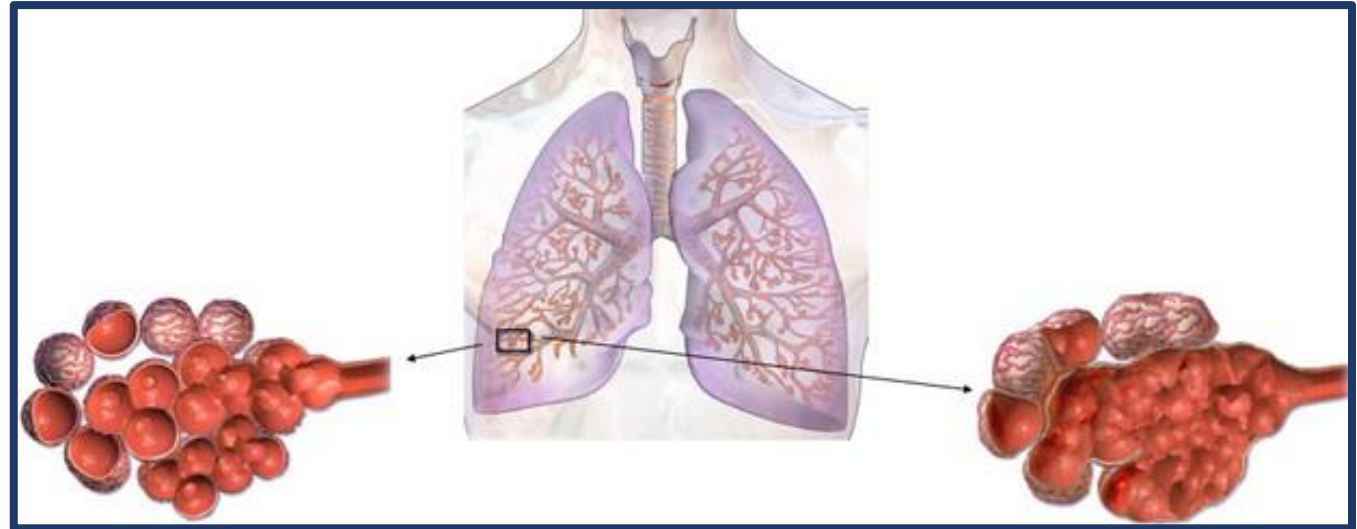
Before we talk about specific, COPD-related research, let's take a minute to review what a diagnosis of COPD means....

Chronic: the disease **lasts a long time** and is always present

Obstructive: the **ability to move air in and out of the lungs is obstructed** or blocked by excessive mucus and/or swelling of the airways (tubes) in the lungs.

Pulmonary: the disease is **in the lungs**

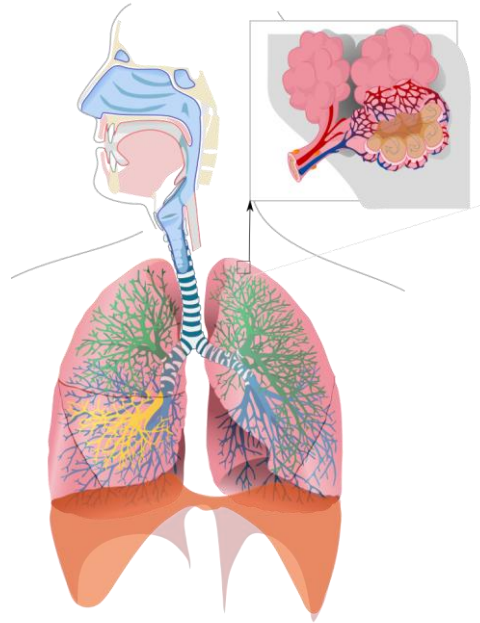
Disease: the **lungs** have been **damaged**



Understanding COPD continued...

What causes COPD?

- **Inhaling pollutants** including tobacco **smoking** (cigarettes, pipes, cigars, etc.), and second-hand smoke.
- **Fumes, chemicals and dust** found in many work environments can contribute to the development of COPD
- **Genetics** can also play a role - even if the person has never smoked or been exposed to strong lung irritants in the workplace.



Not ALL COPD is the Same

Here are 3 broad **types** of COPD:

- **Chronic Bronchitis COPD:** Damage to the bronchial tubes in the lungs. Causes mucus to be coughed up—considered chronic if it occurs on most days for at least three months in a period of at least two years.
- **Emphysema:** Damage to the lungs' air sacs (alveoli). The walls of the air sacs disappear creating larger sacs that do not exchange oxygen well.
- **Alpha-1 Antitrypsin Deficiency:** The genetic form of COPD.

Visit the COPD Foundation website, www.copdfoundation.org for more information

Types of COPD Research



Let's look at the **types of COPD research** that have been conducted or are currently being conducted to help the medical/scientific community continue to better understand all that is COPD...

Types of COPD Research: Defining and Describing COPD

Types of COPD Research: Defining and Describing COPD

Much COPD research has been focused on answering these questions:



- **Who is at risk of getting COPD?**
- What are the **different types** of COPD?
- **What happens** with COPD over time?

Types of COPD Research: Defining and Describing COPD

Who is at risk of getting COPD?

Epidemiology of COPD—Epidemiology studies the frequency, patterns, causes and risks of getting a disease. COPD-related epidemiology research has identified that the proportion of people with COPD (the “prevalence”) varies greatly from state to state and region to region in the United States



New Approaches to Diagnosis—Recent COPD Genetic Epidemiology (COPDGene) research has concluded that the current decades-old criteria used to diagnose COPD should be expanded with the hopes of diagnosing and treating individuals earlier. *(More about the COPDGene study is provided in future slides in this module).*

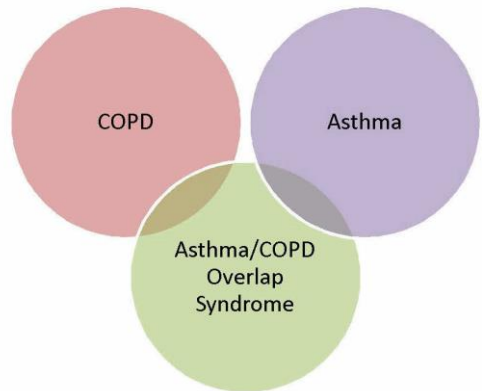
Non-smoking Causes of COPD—An estimated 25% of individuals with COPD in the United States have never smoked. Causes for this form of the disease are constantly being studied.



Types of COPD Research: Defining and Describing COPD

What are the different types of COPD?

COPD Phenotypes research—Groups of patients can share common characteristics and a similar disease progression—these different groups are sometimes called “COPD phenotypes” Examples are:
“emphysema-COPD with frequent exacerbations”
“chronic bronchitis with rapid disease progression,” etc.



Asthma and COPD research—Many COPD patients also have a diagnosis of asthma. Known as, “asthma-COPD overlap,” this condition often creates increased symptoms and severe episodes (exacerbations) leading to more hospital stays. Our understanding of this combo continues to evolve and much research has been devoted to further understanding it.

Types of COPD Research: Defining and Describing COPD

What happens with COPD over time?

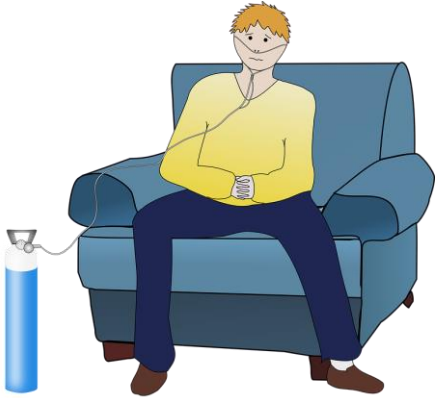
The Progression or Natural History of COPD—Much research has focused on how COPD changes from “moderate” to “severe.” What causes this progression or worsening? What slows it?



Types of COPD Research: COPD Treatment-Focused

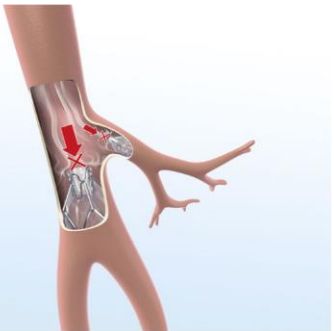
Types of COPD Research: COPD Treatment-Focused Research

Much COPD research has been focused on COPD treatments



Oxygen Issues—Some COPD-related research has focused on individuals with COPD using oxygen **just at night or continuously**. Important clinical studies showed that use of oxygen for at least 15 hours/day greatly reduced the participants' risk of death.

New Therapies—New medications or improved medications for both daily, maintenance and “rescue” treatments for severe disease episodes (exacerbations) are constantly being studied and evaluated.



New Devices—Research has led to the development of “devices” such as tiny valves inserted into the lungs' bronchial tubes to help release trapped air and fluids to improve breathing.

Types of COPD Research: Molecular/Cellular

Types of COPD Research: Molecular/Cellular

This research focuses on **looking at COPD at the molecular and cellular levels**, using research on animals and in labs, to better understand COPD processes, causes and effects on the lungs.



**Types of COPD Research:
Applying What Has Been Learned
(Implementation Research)**

Types of COPD Research: Applying What Has Been Learned

Applying what we have learned, to help individuals in the *real world*— is sometimes called implementation research

Screening for COPD in Primary Care—Some COPD research has focused on how do we identify *undiagnosed COPD individuals*—focusing on patient experiences with primary care physicians and staff.



Readmission Issues—Hospitals are now penalized from the Centers for Medicare and Medicaid if COPD patients are *re-admitted* to the hospital within 30 days of a previous hospital stay. Much research has been focused on programs and interventions designed to reduce COPD hospital *readmissions*.

Types of COPD Research: Applying What Has Been Learned

Patient and Caregiver Perspective—An important recent development in COPD research is the recognition of **the need to hear from patients and their caregivers** on not only what is being studied, but how clinical trials are being planned, implemented, communicated and shared. As we've said before: **Your voice needs to be heard.**



COPD Research: Future Research

Future COPD research will most likely be focused on:

- **Molecular/Cellular Work**—looking at the disease at the molecular level in the laboratory
- **Women and COPD**—does the disease affect women differently? Are there elements of the disease that are unique to women?
- **Minorities and COPD** – does the disease affect different ethnic/racial groups differently? Are there elements that are unique to these different groups?
- **New Approaches to Treatment**—there has not been much change in how the disease is treated for decades—more options are needed.
- **New Approaches to Diagnosis and Monitoring**—research has already suggested that our current diagnosis criteria may be too narrow.
- **A Cure**—the ultimate goal for researchers, patients and their families, the COPD Foundation and the entire COPD community.

Specific COPD-Focused Research Studies and Registries

Specific COPD Research Studies



One of the ***largest and longest studies*** devoted to examining the ***underlying genetic factors*** that cause some smokers to get COPD while others do not

- Enrolled ***10,000 participants*** (all smokers) across ***21 clinical centers*** in the United States
- Participants have provided ***computed tomography scans, blood work and clinical information***
- Study is ***10 years old and still continuing***

RELIANCE Study

Comparing 2 COPD drugs used to prevent episodes and hospitalization:
Azithromycin and Roflumilast



- ***First study*** to compare these 2 drugs
- Uses the ***COPD Patient-Powered Research Network (PPRN)***





COPD Assessment in Primary Care to Identify Undiagnosed Respiratory Disease and Exacerbation Risk

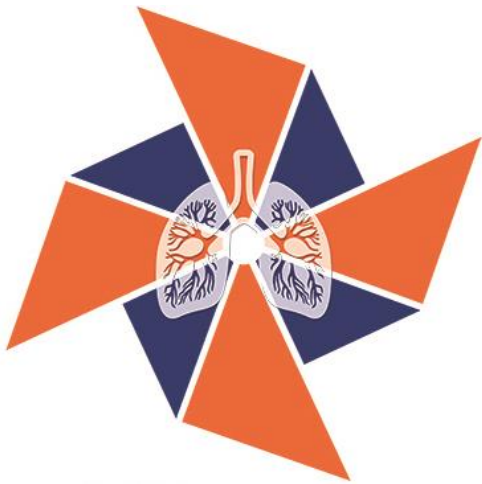
CAPTURE Screening Tool for Primary Care is a 5-item questionnaire that looks at exposure history (for example, pollution, smoking and workplace irritants), breathing problems, level of tiredness and respiratory illness to diagnose COPD

- CAPTURE study is ***validating this screening tool***
- ***150 physicians at 10 primary care centers*** across the United States
- ***200 participants***

A Unique COPD Network Devoted to Connecting Patients to Researchers

COPD Patient-Powered Research Network (PPRN)

Striving to be *one of the largest networks* of COPD patients and those at risk who have agreed to *share their health information*



- *Connects researchers with individuals* with COPD
- Created and *managed by the COPD Foundation*
- Focuses on research *questions* and *issues important* to people with COPD
- Collects and stores *information provided by patients that can be used in studies*

MODULE 5: REVIEW QUESTIONS

- The next few slides have some questions to help you review and remember what we have presented in this Module.
- This is not a graded test and is meant to only help you retain the information from this Module. There is an answer key at the end.
- Here is a link to the key terms that might help as you go through the review questions: click [here](#)
- If you have any questions, please email BRIDGE@copdfoundation.org



MODULE 5: REVIEW QUESTIONS

Match the type of COPD research with its correct description

1. Defining/Describing COPD	a. Research focused on moving results from studies and trials into daily practice
2. Treatment-Focused	b. Research focused on what happens with COPD at the molecular/cellular level
3. Molecular/Cellular Research	c. Research that asks, “Who is at risk of getting COPD?” What are the types of COPD? and “What happens with COPD overtime?”
4. Implementation	d. Research focused on COPD oxygen issues, new medications, improved medications and new lung-based devices for treating COPD.

MODULE 5: REVIEW QUESTIONS CONTINUED...

5. Which of the answers below is an example of possible future COPD research study topics?

- a) Basic science studies—looking at COPD and the lungs at the molecular level in the laboratory.
- b) Women and COPD—studies examining whether the disease affects women differently.
- c) New approaches to COPD treatment as there has not been much change in how the disease is treated for decades.
- d) New approaches to COPD diagnosis and monitoring
- e) A cure for COPD
- f) All of the above

MODULE 5: REVIEW QUESTIONS ANSWER KEY

1. c

2. d

3. b

4. a

Explanation: Review slides 6-17 for more explanation

5. f-all of the above.

Explanation: All of the topics listed will likely be COPD research topics in the future. Review slide 19 for more explanation

LINKS TO KEY RESOURCES FOR MODULE 5

Below is a table with links to key resources and information that you might find useful

Takeaway Documents	<ul style="list-style-type: none">• Glossary of Key Terms: click here• Module 5 Review Questions with Answer Key and Explanations: click here• Module 5 Summary Document: click here
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**Congratulations! You have
completed Module 5!**

When you are ready, you can go on to
***Module 6 – Key Types of Study
Documents***

You don't have to do this right away –
you can do it when you have time.

