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Lung Diseases

When you breathe, your lungs take in oxygen from the air and deliver it to the bloodstream. The cells in your body need oxygen to work and grow. During a normal day, you breathe nearly 25,000 times. People with lung disease have difficulty breathing. Millions of people in the U.S. have lung disease. If all types of lung disease are lumped together, it is the number three killer in the United States.

The term lung disease refers to many disorders affecting the lungs, such as asthma [<https://medlineplus.gov/asthma.html>] , COPD [<https://medlineplus.gov/copd.html>] , infections like influenza [<https://medlineplus.gov/flu.html>] , pneumonia [<https://medlineplus.gov/pneumonia.html>] and tuberculosis [<https://medlineplus.gov/tuberculosis.html>] , lung cancer [<https://medlineplus.gov/lungcancer.html>] , and many other breathing problems [<https://medlineplus.gov/breathingproblems.html>] . Some lung diseases can lead to respiratory failure [<https://medlineplus.gov/respiratoryfailure.html>] .

Dept. of Health and Human Services Office on Women's Health

Start Here

- Lung Disease [<https://womenshealth.gov/a-z-topics/lung-disease>]
(Department of Health and Human Services, Office on Women's Health)
- Lungs and Respiratory System [<https://kidshealth.org/en/parents/lungs.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/parents/lungs.html>]

Diagnosis and Tests

- Bronchoscopy and Bronchoalveolar Lavage (BAL) [<https://medlineplus.gov/lab-tests/bronchoscopy-and-bronchoalveolar-lavage-bal/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/broncoscopia-con-lavado-broncoalveolar/>]
- Lactate Dehydrogenase (LDH) Isoenzymes Test [<https://medlineplus.gov/lab-tests/lactate-dehydrogenase-ldh-isoenzymes-test/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/examen-de-isoenzimas-de-la-lactato-deshidrogenasa-ldh/>]
- Lung Function Tests [<https://medlineplus.gov/lab-tests/lung-function-tests/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/pruebas-de-funcion-pulmonar/>]
- Needle Biopsy of the Lung [<https://www.radiologyinfo.org/en/info/nlungbiop>]
(American College of Radiology; Radiological Society of North America)
Also in Spanish [<https://www.radiologyinfo.org/es/info/nlungbiop>]
- Pulse Oximetry [<https://medlineplus.gov/lab-tests/pulse-oximetry/>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/pulsioximetria/>]
- Spirometry [<https://www.mayoclinic.org/tests-procedures/spirometry/about/pac-20385201?p=1>]
(Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/tests-procedures/spirometry/about/pac-20385201?p=1>]
- Tests for Lung Disease [<https://www.nhlbi.nih.gov/health/lung-tests>]  (National Heart, Lung, and Blood Institute)



Also in Spanish [<https://www.nlm.nih.gov/es/salud/pruebas-pulmonares>]

- **Warning Signs of Lung Disease** [<https://www.lung.org/lung-health-diseases/warning-signs-of-lung-disease>] (American Lung Association)



Prevention and Risk Factors

- **Protect Yourself: Respirators** [<https://www.osha.gov/sites/default/files/publications/respirators.pdf>] (Occupational Safety and Health Administration) - **PDF**

Treatments and Therapies

- **Chest tube insertion - series** [https://medlineplus.gov/ency/presentations/100008_1.htm] (Medical Encyclopedia)
Also in Spanish [https://medlineplus.gov/spanish/ency/esp_presentations/100008_1.htm]
- **Chest Tube Thoracostomy** [<https://www.thoracic.org/patients/patient-resources/resources/chest-tube-thoracostomy.pdf>] (American Thoracic Society) - **PDF**
- **Long-Term Control Medications for Lung Diseases** [<https://www.nationaljewish.org/conditions/medications/asthma-medications/longterm?modal=1>] (National Jewish Health)
- **Lung Disease Treatments** [<https://www.nlm.nih.gov/health/lung-treatments>]  (National Heart, Lung, and Blood Institute)
- **Pulmonary lobectomy - series** [https://medlineplus.gov/ency/presentations/100094_1.htm] (Medical Encyclopedia)
Also in Spanish [https://medlineplus.gov/spanish/ency/esp_presentations/100094_1.htm]
- **Quick-Relief Medications for Lung Disease Symptoms** [<https://www.nationaljewish.org/conditions/medications/asthma-medications/quickrelief?modal=1>] (National Jewish Health)
- **What Is a Ventilator?** [<https://www.nlm.nih.gov/health/ventilator>]  (National Heart, Lung, and Blood Institute)
Also in Spanish [<https://www.nlm.nih.gov/es/salud/ventilador>]


Living With

- **Breathing and Relaxation** [<https://www.nationaljewish.org/education/health-information/stress-and-relaxation/breathing-and-relaxation>] (National Jewish Health)
- **Oxygen Therapy: MedlinePlus Health Topic** [<https://medlineplus.gov/oxygentherapy.html>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/oxygentherapy.html>]
- **Pulmonary Rehabilitation: MedlinePlus Health Topic** [<https://medlineplus.gov/pulmonaryrehabilitation.html>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pulmonaryrehabilitation.html>]
- **Understanding Exercise, Diet and Lung Disease** [<https://www.nationaljewish.org/NJH/media/pdf/pdf-Understanding-ExerciseDietLungDisease.pdf?modal=1>] (National Jewish Health) - **PDF**


Related Issues

- **Air Pollutants** [<https://www.cdc.gov/air-quality/pollutants/>] (Centers for Disease Control and Prevention)
- **Inhaled Marijuana and the Lungs** [<https://www.thoracic.org/patients/patient-resources/resources/marijuana.pdf>] (American Thoracic Society) - **PDF**
Also in Spanish [<https://www.thoracic.org/patients/patient-resources/resources/spanish/marijuana.pdf>]
- **Mold Allergy: Proper Humidifier Care** [<https://www.nationaljewish.org/conditions/allergy/overview/allergens/mold-allergy/humidifier-care?modal=1>] (National Jewish Health)




Specifics

- **About Adenovirus** [<https://www.cdc.gov/adenovirus/about/>] (Centers for Disease Control and Prevention)
- **About Histoplasmosis** [<https://www.cdc.gov/histoplasmosis/about/>] (Centers for Disease Control and Prevention)
- **Anti-GBM (Goodpasture's) Disease** [<https://www.niddk.nih.gov/health-information/kidney-disease/glomerular-disease/anti-gbm-goodpastures-disease>]  (National Institute of Diabetes and Digestive and Kidney Diseases)




Coughing up Blood [<https://www.mayoclinic.org/symptoms/coughing-up-blood/basics/definition/SYM-20050934?p=1>] (Mayo Foundation for Medical Education and Research)

- **Hyperinflated Lungs: What Does It Mean?** [<https://www.mayoclinic.org/diseases-conditions/emphysema/expert-answers/hyperinflated-lungs/FAQ-20058169?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/emphysema/expert-answers/hyperinflated-lungs/faq-20058169?p=1>]
- **Lung Nodules: Overview** [<https://www.nationaljewish.org/conditions/lung-nodules?modal=1>] (National Jewish Health)
- **Pulmonary Edema** [<https://www.mayoclinic.org/diseases-conditions/pulmonary-edema/symptoms-causes/syc-20377009?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/pulmonary-edema/symptoms-causes/syc-20377009?p=1>]
- **What Is Primary Ciliary Dyskinesia?** [<https://www.nhlbi.nih.gov/health/primary-ciliary-dyskinesia>]
 (National Heart, Lung, and Blood Institute)


Genetics

- **Birt-Hogg-Dubé syndrome: MedlinePlus Genetics** [<https://medlineplus.gov/genetics/condition/birt-hogg-dube-syndrome>]
 (National Library of Medicine)
- **Lymphangioleiomyomatosis: MedlinePlus Genetics** [<https://medlineplus.gov/genetics/condition/lymphangioleiomyomatosis>]
 (National Library of Medicine)
- **Primary ciliary dyskinesia: MedlinePlus Genetics** [<https://medlineplus.gov/genetics/condition/primary-ciliary-dyskinesia>]
 (National Library of Medicine)



Videos and Tutorials

- **Breathing** [<https://medlineplus.gov/ency/anatomyvideos/000018.htm>]  (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/anatomyvideos/000018.htm>]
- **Gas exchange** [<https://medlineplus.gov/ency/anatomyvideos/000059.htm>]  (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/anatomyvideos/000059.htm>]
- **Your Lung Operation** [<https://www.facs.org/for-patients/the-day-of-your-surgery/lung/>]  (American College of Surgeons)

Statistics and Research

- **Lung Diseases** [<https://www.niehs.nih.gov/health/topics/conditions/lung-disease>]
 (National Institute of Environmental Health Sciences)

Clinical Trials

- **ClinicalTrials.gov: Lung Diseases** [<https://clinicaltrials.gov/search?cond=%22Lung+Diseases%22&aggFilters=status:not%20rec>]  (National Institutes of Health)
- **ClinicalTrials.gov: Respiratory Distress Syndrome, Adult** [<https://clinicaltrials.gov/search?cond=%22Respiratory+Distress+Syndrome,+Adult%22&aggFilters=status:not%20rec>]  (National Institutes of Health)



Journal Articles

References and abstracts from MEDLINE/PubMed (National Library of Medicine)



- **Article: Risk Factors and Biomarkers for Pulmonary Toxicities Associated with Immune Checkpoint...** [<https://www.ncbi.nlm.nih.gov/pubmed/40731887>]
- **Article: Postoperative pulmonary complications in acute type A aortic dissection.** [<https://www.ncbi.nlm.nih.gov/pubmed/40722161>]
- **Article: Current Practices on Prescribing and Deprescribing for Patients on Long-Term Antibiotic...** [<https://www.ncbi.nlm.nih.gov/pubmed/40719419>]
- **Lung Diseases -- see more articles** [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Lung+Diseases%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22la>]

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Reference Desk

- How the Lungs Work [<https://www.nhlbi.nih.gov/health/lungs>]   (National Heart, Lung, and Blood Institute)
Also in Spanish [<https://www.nhlbi.nih.gov/es/salud/pulmones>]

Find an Expert

- American Lung Association [<https://www.lung.org/>]
- Lung HelpLine [<https://www.lung.org/help-support/lung-helpline>] (American Lung Association)
- National Heart, Lung, and Blood Institute [<https://www.nhlbi.nih.gov/>] 
- National Institute of Allergy and Infectious Diseases [<https://www.niaid.nih.gov/>] 


Children

- Adenovirus [<https://kidshealth.org/en/parents/adenovirus.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/parents/adenovirus.html>]
- Meconium Aspiration Syndrome (MAS) [<https://kidshealth.org/en/parents/meconium.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/parents/meconium.html>]
- Pulmonary Function Testing in Children [<https://www.thoracic.org/patients/patient-resources/resources/pulmonary-function-testing-children.pdf>] (American Thoracic Society) - **PDF**
- Respiratory Distress Syndrome (RDS) [<https://www.nhlbi.nih.gov/health/respiratory-distress-syndrome>]  (National Heart, Lung, and Blood Institute)
- Transient Tachypnea of the Newborn (TTN) [<https://kidshealth.org/en/parents/ttn.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/parents/ttn.html>]
- What Are Newborn Breathing Conditions? [<https://www.nhlbi.nih.gov/health/newborn-breathing-conditions>]  (National Heart, Lung, and Blood Institute)
- Your Lungs and Respiratory System [<https://kidshealth.org/en/kids/lungs.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/kids/lungs.html>]

Teenagers

- Lungs and Respiratory System [<https://kidshealth.org/en/teens/lungs.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/teens/lungs.html>]

Women

- What Is LAM (Lymphangiomyomatosis)? [<https://www.nhlbi.nih.gov/health/lam>]  (National Heart, Lung, and Blood Institute)
Also in Spanish [<https://www.nhlbi.nih.gov/es/salud/lam>]

Patient Handouts

- Alveolar abnormalities [<https://medlineplus.gov/ency/article/001093.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/001093.htm>]
- Blood gases [<https://medlineplus.gov/ency/article/003855.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003855.htm>]
- Breath sounds [<https://medlineplus.gov/ency/article/007535.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007535.htm>]
- Chemical pneumonitis [<https://medlineplus.gov/ency/article/000143.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000143.htm>]

Chest tube insertion [<https://medlineplus.gov/ency/article/002947.htm>] (Medical Encyclopedia)

Also in Spanish [<https://medlineplus.gov/spanish/ency/article/002947.htm>]

- Coughing up blood [<https://medlineplus.gov/ency/article/003073.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003073.htm>]

- Lung disease [<https://medlineplus.gov/ency/article/000066.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000066.htm>]

- Lung PET scan [<https://medlineplus.gov/ency/article/007342.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007342.htm>]

- Pulmonary edema [<https://medlineplus.gov/ency/article/000140.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000140.htm>]

- Pulmonary function tests [<https://medlineplus.gov/ency/article/003853.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003853.htm>]

- Solitary pulmonary nodule [<https://medlineplus.gov/ency/article/000071.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000071.htm>]



MEDICAL ENCYCLOPEDIA

Aging changes in the lungs [<https://medlineplus.gov/ency/article/004011.htm>]

Alveolar abnormalities [<https://medlineplus.gov/ency/article/001093.htm>]

Anti-glomerular basement membrane disease [<https://medlineplus.gov/ency/article/000142.htm>]

Arterial stick [<https://medlineplus.gov/ency/article/003422.htm>]

Blood gases [<https://medlineplus.gov/ency/article/003855.htm>]

Breath sounds [<https://medlineplus.gov/ency/article/007535.htm>]

Breathing [<https://medlineplus.gov/ency/anatomyvideos/000018.htm>]

Bronchoscopic culture [<https://medlineplus.gov/ency/article/003748.htm>]

Bronchoscopy [<https://medlineplus.gov/ency/article/003857.htm>]

Chemical pneumonitis [<https://medlineplus.gov/ency/article/000143.htm>]

Chest CT [<https://medlineplus.gov/ency/article/003788.htm>]

Chest tube insertion [<https://medlineplus.gov/ency/article/002947.htm>]

Chest tube insertion - series [https://medlineplus.gov/ency/presentations/100008_1.htm]

Chest x-ray [<https://medlineplus.gov/ency/article/003804.htm>]

CO2 blood test [<https://medlineplus.gov/ency/article/003469.htm>]

Coal worker's pneumoconiosis [<https://medlineplus.gov/ency/article/000130.htm>]

Coughing up blood [<https://medlineplus.gov/ency/article/003073.htm>]

Drug-induced pulmonary disease [<https://medlineplus.gov/ency/article/000104.htm>]

Empyema [<https://medlineplus.gov/ency/article/000123.htm>]

Gas exchange [<https://medlineplus.gov/ency/anatomyvideos/000059.htm>]

Histoplasmosis - acute (primary) pulmonary [<https://medlineplus.gov/ency/article/000098.htm>]

Lactic acidosis [<https://medlineplus.gov/ency/article/000391.htm>]

LDH isoenzyme blood test [<https://medlineplus.gov/ency/article/003499.htm>]

Lung diffusion testing [<https://medlineplus.gov/ency/article/003854.htm>]

Lung disease [<https://medlineplus.gov/ency/article/000066.htm>]

Lung gallium scan [<https://medlineplus.gov/ency/article/003824.htm>]

Lung needle biopsy [<https://medlineplus.gov/ency/article/003860.htm>]

Lung PET scan [<https://medlineplus.gov/ency/article/007342.htm>]

Lung surgery [<https://medlineplus.gov/ency/article/002956.htm>]

Lung surgery - discharge [<https://medlineplus.gov/ency/patientinstructions/000242.htm>]

Meconium aspiration syndrome [<https://medlineplus.gov/ency/article/001596.htm>]

Open lung biopsy [<https://medlineplus.gov/ency/article/003861.htm>]

Oxygen safety [<https://medlineplus.gov/ency/patientinstructions/000049.htm>]

Oxygen therapy in infants [<https://medlineplus.gov/ency/article/007242.htm>]

Pneumomediastinum [<https://medlineplus.gov/ency/article/000084.htm>]

Pulmonary actinomycosis [<https://medlineplus.gov/ency/article/000074.htm>]

Pulmonary alveolar proteinosis [<https://medlineplus.gov/ency/article/000114.htm>]

Pulmonary aspergilloma [<https://medlineplus.gov/ency/article/000127.htm>]

Pulmonary edema [<https://medlineplus.gov/ency/article/000140.htm>]

Pulmonary function tests [<https://medlineplus.gov/ency/article/003853.htm>]

Pulmonary lobectomy - series [https://medlineplus.gov/ency/presentations/100094_1.htm]

Pulmonary nocardiosis [<https://medlineplus.gov/ency/article/000083.htm>]

Pulmonary ventilation/perfusion scan [<https://medlineplus.gov/ency/article/003828.htm>]

Rapid shallow breathing [<https://medlineplus.gov/ency/article/007198.htm>]

Respiratory acidosis [<https://medlineplus.gov/ency/article/000092.htm>]

Respiratory alkalosis [<https://medlineplus.gov/ency/article/000111.htm>]

Rheumatoid lung disease [<https://medlineplus.gov/ency/article/000113.htm>]

Simple pulmonary eosinophilia [<https://medlineplus.gov/ency/article/000105.htm>]

Solitary pulmonary nodule [<https://medlineplus.gov/ency/article/000071.htm>]

Sputum fungal smear [<https://medlineplus.gov/ency/article/003736.htm>]

Sputum Gram stain [<https://medlineplus.gov/ency/article/003765.htm>]

Swan-Ganz - right heart catheterization [<https://medlineplus.gov/ency/article/003870.htm>]

[Transient tachypnea - newborn \[https://medlineplus.gov/ency/article/007233.htm\]](https://medlineplus.gov/ency/article/007233.htm)

[Using oxygen at home \[https://medlineplus.gov/ency/patientinstructions/000048.htm\]](https://medlineplus.gov/ency/patientinstructions/000048.htm)

[Using oxygen at home - what to ask your doctor \[https://medlineplus.gov/ency/patientinstructions/000251.htm\]](https://medlineplus.gov/ency/patientinstructions/000251.htm)

[Wheezing \[https://medlineplus.gov/ency/article/003070.htm\]](https://medlineplus.gov/ency/article/003070.htm)

Related Health Topics

[Breathing Problems \[https://medlineplus.gov/breathingproblems.html\]](https://medlineplus.gov/breathingproblems.html)

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[Collapsed Lung \[https://medlineplus.gov/collapsedlung.html\]](https://medlineplus.gov/collapsedlung.html)

[COPD \[https://medlineplus.gov/copd.html\]](https://medlineplus.gov/copd.html)

[Interstitial Lung Diseases \[https://medlineplus.gov/interstitiallungdiseases.html\]](https://medlineplus.gov/interstitiallungdiseases.html)

[Oxygen Therapy \[https://medlineplus.gov/oxygentherapy.html\]](https://medlineplus.gov/oxygentherapy.html)

[Pleural Disorders \[https://medlineplus.gov/pleuraldisorders.html\]](https://medlineplus.gov/pleuraldisorders.html)

[Pneumonia \[https://medlineplus.gov/pneumonia.html\]](https://medlineplus.gov/pneumonia.html)

[Pulmonary Embolism \[https://medlineplus.gov/pulmonaryembolism.html\]](https://medlineplus.gov/pulmonaryembolism.html)

[Pulmonary Fibrosis \[https://medlineplus.gov/pulmonaryfibrosis.html\]](https://medlineplus.gov/pulmonaryfibrosis.html)

[Pulmonary Hypertension \[https://medlineplus.gov/pulmonaryhypertension.html\]](https://medlineplus.gov/pulmonaryhypertension.html)

[Respiratory Failure \[https://medlineplus.gov/respiratoryfailure.html\]](https://medlineplus.gov/respiratoryfailure.html)

[Respiratory Syncytial Virus Infections \[https://medlineplus.gov/respiratorysyncytialvirusinfections.html\]](https://medlineplus.gov/respiratorysyncytialvirusinfections.html)

National Institutes of Health

The primary NIH organization for research on *Lung Diseases* is the National Heart, Lung, and Blood Institute
[\[http://www.nhlbi.nih.gov/\]](http://www.nhlbi.nih.gov/)

Other Languages

Find health information in languages other than English [\[https://medlineplus.gov/languages/lungdiseases.html\]](https://medlineplus.gov/languages/lungdiseases.html) on *Lung Diseases*

NIH MedlinePlus Magazine

[Getting an Accurate Read on Pulse Oximeters \[https://magazine.medlineplus.gov/article/getting-an-accurate-read-on-pulse-oximeters\]](https://magazine.medlineplus.gov/article/getting-an-accurate-read-on-pulse-oximeters)

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