VA/DOD CLINICAL PRACTICE GUIDELINE FOR THE MANAGEMENT OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Department of Veterans Affairs
Department of Defense

Patient Summary

QUALIFYING STATEMENTS

The Department of Veterans Affairs and the Department of Defense guidelines use the best and most recent information that is available at the time they are published. Guidelines provide information that providers, healthcare team members and patients can use to provide better care for individuals with Chronic Obstructive Pulmonary Disease (COPD). They do not define a standard of care, and you should not use them in this way.

This clinical practice guideline is based on a complete and organized review of both clinical studies and studies about how different intervention approaches affect peoples' COPD treatment. A panel of experts from a number of clinical fields developed this guideline. The guideline clearly explains how different care options relate to health outcomes. To do this, the experts rated both the quality of the clinical studies and the strength of the recommendations.

It is normal for providers to vary in how they plan to treat individuals with COPD because they take into account the needs of each patient, the available resources, and the limits that are unique to their healthcare setting or type of practice. Healthcare professionals should assess how well these guidelines apply to each patient, and their clinical setting or situation. Patients can use the information in this guideline to understand the different ways that COPD can be treated.

These guidelines do not represent Department of Veterans Affairs or TRICARE policy. The guideline recommendations for specific treatments do not guarantee coverage of the patient's care by civilian providers or healthcare facilities. You can find more information on current TRICARE benefits at www.tricare.mil or by contacting your regional TRICARE Managed Care Support Contractor.

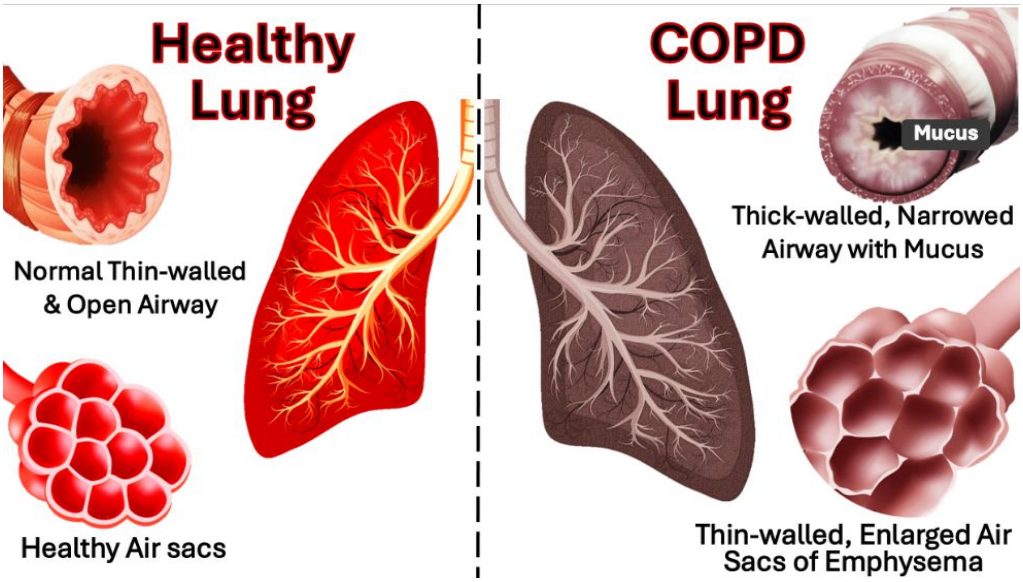
Version 4.0 – 2026

I. What is Chronic Obstructive Pulmonary Disease

Chronic obstructive pulmonary disease, or COPD, is a combination of ongoing conditions that affect your lungs and block (obstruct) airflow within the lungs. These conditions can include chronic bronchitis and emphysema.

COPD can be recognized by its key characteristic: shortness of breath or difficulty breathing. Other symptoms of COPD may include cough, mucus, wheezing, recurrent "cold" infections that go into the chest, fatigue, and reduced energy.

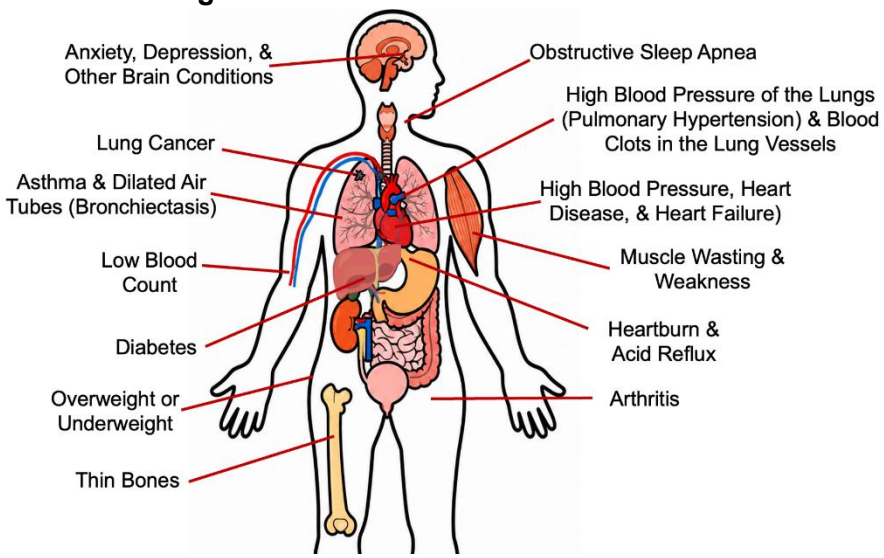
Figure 1: Images of healthy lungs and lungs affected by COPD



Alternative Text Description of Figure 1: This diagram presents a side-by-side comparison of healthy lungs and lungs affected by COPD. On the left, healthy lungs are shown with a healthy branching airway structure and a magnified view of a wide, open airway with thin walls, which makes it easy to breathe. Healthy alveoli are small, tightly clustered, elastic air sacs that support moving air in and out of the lungs. On the right, COPD lungs are shown with reduced airway branching. A magnified airway appears narrowed, with thickened walls and partial obstruction by mucus, making it difficult to move air. The alveoli (air sacs) are enlarged, less defined, and appear damaged, representing emphysema.

Roughly 94–96% of patients with COPD have at least one co-occurring condition that can affect the overall approach to the management of COPD.(1,2) Because COPD is sometimes accompanied by these co-occurring conditions, it is often best to manage COPD in collaboration with your other healthcare providers.

Figure 2: COPD Co-occurring Conditions



Alternative text: Diagram of the human body illustrating health conditions related to COPD. Red lines point to affected regions, including Brain (Anxiety, Depression, Cognitive Impairment, Neurological Conditions); Lungs (Lung Cancer, Asthma); Heart (Pulmonary Hypertension, Cardiovascular Disease); Muscles (Wasting, Weakness); Digestive System (Gastroesophageal Reflux); Bones (Osteoporosis, Osteoarthritis); and Metabolic Issues (Diabetes, Anemia).

II. What Causes COPD?

The most common cause of COPD is smoking cigarettes, although inhalation of any irritants can contribute. Chronic inflammation as seen in poorly controlled asthma, Sarcoidosis, or other lung disease can also cause COPD. These exposures or conditions can cause parts of the lungs to stop working as they should. While the damage cannot be reversed, the symptoms can be treated to minimize the effects they have on your life. COPD may also run in families due to common exposures to tobacco smoke and due to genetic factors.(3)

Did you Know?
• Veterans are at higher risk of COPD than those in the general U.S. population.(4) • Some military duties or exposures may increase risks for COPD. • Military physical activity may uncover symptoms of COPD. • Active-duty military or Veterans may show signs of COPD earlier than their civilian counterparts.(5)

III. How is COPD Diagnosed

If you have exposure(s), symptoms, and/or test results suggesting COPD, a simple breathing test called spirometry may be ordered by a healthcare professional to determine if you have the disease.

IV. What are the Goals of COPD Treatment?

The overall goal of treating your COPD is to improve symptoms, overall health, and quality of

life. Well-treated COPD will allow you to be more physically active and improve your sleep, concentration, mood, and wellness. An important goal of treatment is to prevent and treat COPD "flares", also called exacerbations, which is when symptoms suddenly worsen over a few days or weeks (see Section VI).

V. What are Options to Manage COPD?

There are many treatment options for COPD that can help you reach your goals. Some of the most common and effective treatment options are described below (in the subheadings "a" through "i" below). Your healthcare professional can provide more information and work with you to develop your individual management plan.

a. What Medications will Help My COPD?

Inhaled medications are usually prescribed to help improve your symptoms, keep your airways open, and lower your chances of having a COPD flare (i.e., exacerbation). With instructions and practice, inhaled medications are effective and easy to use. There are many types of inhaled medications, which work in different parts of the lungs to help you breathe better. It is important to understand how to use these medications, so be sure to ask your healthcare team for assistance.

Some inhaled medications are long-acting and should be taken every day on a regular basis (i.e., maintenance), whether you are having a good day or bad day, to prevent COPD from getting worse. Other inhaled medications are short-acting and should be taken only when needed for symptoms, such as shortness of breath or cough. More information on medication types can be found in Table 1 below and Appendix A at the end of this document.

Table 1. Types of Inhaled Medications Used to Treat COPD

Type of Medicine	Usually Prescribed for…
Short-acting inhaled bronchodilators	Usually prescribed as needed for breathing symptoms and generally should not be taken for maintenance/prevention (i.e., regularly) use
Single long-acting inhaled bronchodilators	Usually prescribed for maintenance/prevention (i.e., regular) use when symptoms are not severe and when risk for flares is not high
Dual long-acting inhaled bronchodilators	Two medicines in one inhaler to open the airways. Prescribed for maintenance (i.e., regular) use when symptoms are more frequent or severe and/or when the risk for COPD flares is high
Triple inhaled therapy	Three medicines in one inhaler to open the airways and reduce airway swelling and inflammation. Prescribed for maintenance (i.e., regular) use when symptoms are more severe and/or if you've had one or more COPD flares
Inhaled corticosteroid	May be prescribed for maintenance (i.e., regular) use in some people with COPD, but only when combined with two long-acting bronchodilators
Nebulized long-acting medicines	May be prescribed for maintenance (i.e., regular) use select patients with very severe COPD, a lot of symptoms, and/or difficulty using inhalers

There are other medications to treat COPD that are taken by mouth or by a small injection under the skin (i.e., subcutaneously) in select patients. A pulmonologist, who is a doctor who treats diseases of the lungs, may help your medical team determine the best treatment options for you.

b. Am I Using My Inhalers Correctly?

Using your inhaled medications correctly is extremely important to allow the medication to reach deep into your lungs. You and your healthcare team should work together to make sure you are using your inhalers correctly. Reviewing your inhaler technique and proper storage of your inhalers frequently is recommended.

See Appendix B for examples of inhaled devices and scan the QR code for your device to see step-by-step videos for how to properly use your inhaler.

c. How Can I Prevent and Treat a COPD Exacerbation (Flare):

A COPD flare (exacerbation) is a sudden worsening of your usual breathing. You may notice more shortness of breath, cough with more or thicker mucus, or a change in mucus color. Common triggers include infections, air pollution, and irritants.

A flare is more than a “bad day”. It means your lungs need immediate care. Early treatment, with inhalers, steroids, or sometimes antibiotics, can help speed recovery and reduce the chance of getting worse. Waiting can increase the risk of an emergency visit or hospitalization and may lead to slower recovery.

If your breathing suddenly worsens, your usual medicines are not helping, or you feel unsure, contact your healthcare team promptly so they can help you get back on track.

Preventing COPD Flares: To help protect yourself, avoid people who are sick with respiratory infections (e.g., cold, flu, COVID-19, etc.). In addition, using your inhalers correctly every day is one of the best ways to prevent flares. Even small mistakes can keep medicine from reaching your lungs. Review your inhaler technique and proper inhaler storage regularly with your healthcare team to help keep your breathing stable.

d. Will Stopping Smoking Really Help My Lungs?

Quitting smoking is one of the most important steps you can take to slow down COPD and protect your lungs, but quitting can be hard. Nicotine addiction is ***not*** a personal failure. It is a real medical condition, like diabetes or high blood pressure.

Like other medical conditions, nicotine addiction requires ongoing care and support. In most cases, willpower alone is not enough. Many people need a combination of treatments, such as counseling, medications, and follow-up, to help improve success. Your healthcare team will partner with you to find a plan that fits your life, supports your goals, and helps you move forward at your own pace. It is never too late to quit smoking!! Resources are also available at http://smokefree.gov/. Once you have COPD, any smoking or other inhaled irritants will be detrimental. These include marijuana and vapes.

e. What Vaccinations Should I Get?

Illnesses such as a cold, the flu, or COVID affect people with COPD more than others. Make sure to get the flu and COVID-19 vaccinations routinely as recommended. A pneumonia vaccine is also important to help reduce complications of COPD. Talk to your healthcare team about these and other vaccines and when it is best for you to get them.

f. What is Pulmonary rehabilitation?

Pulmonary rehabilitation (or "pulmonary rehab") is a personalized program to help you breathe better, feel stronger, and improve your quality of life. Pulmonary rehab may be delivered in-person at a center or in the home using technology. Participating in a pulmonary rehab program is not just about exercising, it is also about learning breathing techniques, clearing airways**,** infection prevention**,** building strength, and helping you manage your COPD and make healthy lifestyle changes. Pulmonary rehab can help you learn additional ways to do everyday tasks, like showering, bending, or dressing, with less shortness of breath and feeling less tired. Your health care team may recommend pulmonary rehab if your symptoms are limiting your daily life or if you have had a COPD flare.

g. Do I need Oxygen?

Your healthcare provider can tell you if your oxygen levels are normal or low. For people with severe COPD who have documented low oxygen levels at rest, using supplemental oxygen for at least 16 hours a day will make a meaningful difference. Oxygen helps your body get the fuel it needs to keep your heart, brain, and other organs working properly. Over time, this can help you live longer, reduce the strain on your heart, and improve your energy. Even if you don't "feel" the oxygen is working right away, it is quietly supporting your body in important ways.

It is also important to understand that how short of breath you feel may not match your oxygen level. You can feel very breathless even when your oxygen levels are normal. If your oxygen levels are consistently normal, supplemental oxygen will not be helpful and may be harmful to your lungs over time. On the other hand, you can have a dangerously low oxygen level without feeling short of breath at all. This is why your healthcare team will check your oxygen level to give objective information that your symptoms alone cannot provide. In COPD, both how you feel and what your oxygen level shows matter, but they are not the same thing.

h. How Can I Improve My Sleep?

Sleep is key to your health and quality of life. Aim for enough good-quality sleep by keeping regular bed and wake times, winding down before bed, and avoiding large amounts of liquids or foods, screen time, caffeine, nicotine, and alcohol close to bedtime. People with COPD may have sleep problems like sleep apnea (stopping breathing while sleeping), insomnia, or restless legs. If you are having trouble sleeping, talk to your healthcare team about getting a referral to a sleep specialist.

i. Are There Any Other Options to Help My COPD?

For people with very severe COPD who still have a lot of shortness of breath despite properly using medications, oxygen, and pulmonary rehab, more advanced treatments may help in some cases.

Options include small valves placed in the airways to help healthier parts of the lungs work better, surgery to remove the most damaged lung areas, or a lung transplant. These treatments can improve breathing but have risks and are not right for everyone. A specialized team will carefully evaluate you to see if any of these options may be appropriate.

VI. What Else Can I Do to Manage My COPD?

When you have a chronic illness like COPD, it is important to work closely with your healthcare team. They can help you understand your condition, manage symptoms, and lower your risk of getting worse. Ask questions if anything is unclear. Together, you can create a personalized care plan tailored to your needs.

a. Develop Your Personalized Management Plan

A personalized management plan is your roadmap for managing your COPD. It is built with your healthcare team based on your symptoms, goals, needs, and daily life. Together you can choose treatments and habits that work best for you. Some things to consider include:

a. Medications: Do you take your inhaled medication regularly, even when you are not having trouble breathing? Do you know which one is to be taken “only as needed” to relieve worsening symptoms? Do you use your inhalers correctly? Do you know how to clean and store your inhalers correctly?
b. Housing (Is your environment safe, are there stairs/steps?)
c. Air quality (Does someone you live with smoke or vape? Do you check local air quality?)
d. Health Screening (Stay up-to-date on your health screenings to include screening for lung cancer.)
e. Sleep habits (Do you have sleep apnea or poor sleep?)
f. Nutrition or Diet (Do you have special dietary needs? Are you underweight or significantly overweight?)
g. Substance Use (Do you use other substances or alcohol that could affect your breathing?)
h. Smoking Cessation (It is never too late to quit. Your healthcare team can recommend a quitting plan that is right for you.)
i. Consider Complimentary Integrated Holistic (CIH) support (acupuncture, bi-feedback, massage therapy, meditation, yoga).
j. Modify your daily tasks or activities (Do you work or have other obligations impacted by COPD?)
k. Physical activity (Do you exercise regularly? Do you have hobbies?)
l. Vaccinations (Have you gotten the recommended vaccinations for lung patients?)

b. Involve your Family or Caregiver

Including your family, loved ones, and/or caregiver(s) in your COPD care plays an important

part in supporting your individualized management plan. Your family member or caregiver can:

a. Help you notice early changes in your breathing or symptoms, so you get care sooner.
b. Support you with daily tasks like managing medications and using inhalers correctly.
c. Attend appointments with you to be a "second set of ears" and help you remember your questions to ask.
d. Encourage healthy routines and help you follow your COPD action plan, especially during flares.

VII. Where to find More Information on COPD and Living with COPD Here

- National Heart Lung and Blood Institute: https://www.nhlbi.nih.gov/health/copd; 301-592-8573 (dial 7-1-1 for access to free Telecommunications Relay Services [TRS])
- The COPD Caregivers' Toolkit. National Heart Lung and Blood Institute. https://www.nhlbi.nih.gov/education/copd-learn-more-breathe-better/copd-caregivers-toolkit
- U.S. Centers for Disease Control and Prevention: https://www.cdc.gov/copd/index.html 800-CDC-INFO (800-232-4636); TTY: (888) 232-6348
- Veterans Health Library: https://www.veteranshealthlibrary.va.gov/Search/142,71752_VA; carefully evaluate to see if any of these options may be appropriate.

Appendix A: Types of Inhaled Medications Used to Treat COPD

Medication Type	Brand Name	Generic Name	Abbreviation	How It Works	How Long It Lasts
Short-acting broncho-dilators	ProAir Proventil Ventolin Xopenex	Albuterol Albuterol Albuterol Levalbuterol	SABA	Relaxes and opens airways to help you breathe easier during sudden symptoms	Works in <5 minutes Lasts 3-6 hours
	Atrovent*	Ipratropium	SAMA	Relaxes and opens large airways	Works in 15-20 minutes Lasts 6-8 hours
	Combivent	Ipratropium + Albuterol	SABA+ SAMA	Combines above	As above
Single long-acting broncho-dilators (inhalers)	Incruse Seebri Spiriva* Tudorza	Umeclidinium Glycopyrrolate Tiotropium Aclidinium	LAMA	**MAINTENANCE/Prevention:** Long-lasting treatment to relax and open large airways	Slower onset (starts working in 30 minutes to a few hours) Lasts 12-24 hours
	Arcapta Serevent Striverdi	Indacaterol Salmeterol Olodaterol	LABA		
Single Long-acting broncho-dilators (nebulizers)	Yupelri	Revefenacin	LAMA	**MAINTENANCE/Prevention:** Long-lasting treatment to relax and open large airways	Slower onset (starts working in 30 minutes to a few hours) Lasts 12-24 hours
	Brovana Perforomist	Arfomoterol Formoterol	LABA		
Dual Long-acting broncho-dilators (inhalers)	Anoro Bevespi Duaklir Stiolto Utibron	Vilanterol+Umeclidinium Glycopyrrolate+Formoterol Aclidinium+Formoterol Olodaterol+Tiotropium Indacaterol+Glycopyrrolate	LABA+ LAMA	**MAINTENANCE/Prevention:** Combines two airway opening medicines for stronger/longer control	Slower onset (starts working in 30 minutes to a few hours) Lasts 12-24 hours
Triple Therapy (inhalers)	Breztri Trelegy	Budesonide+Formoterol+ Glycopyrrolate Fluticosone+Vilanterol+ Umeclidinium	ICS+ LABA+ LAMA	**MAINTENANCE/Prevention:** Combines two airway opening medicines and one medicine to reduce airway swelling and inflammation	Slower onset (LABA+LAMA start working in 30 minutes to a few hours, ICS takes longer: days to weeks)

Medication Type	Brand Name	Generic Name	Abbreviation	How It Works	How Long It Lasts
					Lasts 12-24 hours
Inhaled cortico-steroid**	Alvesco Arnuity Asmanex Pulmicort QVAR	Ciclesonide Fluticasone Mometasone Budesonide Beclomethasone	ICS	**MAINTENANCE/Prevention:** ***Must*** be used with bronchodilators (preferably as triple therapy)	Slowest onset (starts working in days to weeks)
Other (nebulizer)	Ohtuvayre	Ensifentrine	PDE3/4 inhibitor	**MAINTENANCE/Prevention:** Helps open airways and reduces airway swelling and inflammation (different than other inhaled medicines)	Slower onset (starts working in 30 minutes to 1.5 hours) Lasts 12-24 hours

*Tiotropium (Spiriva) is better than ipratropium (Atrovent) for maintenance**/Prevention:** (i.e., long-term) use to open airways, help you feel better with fewer symptoms, and to prevent flares of COPD.

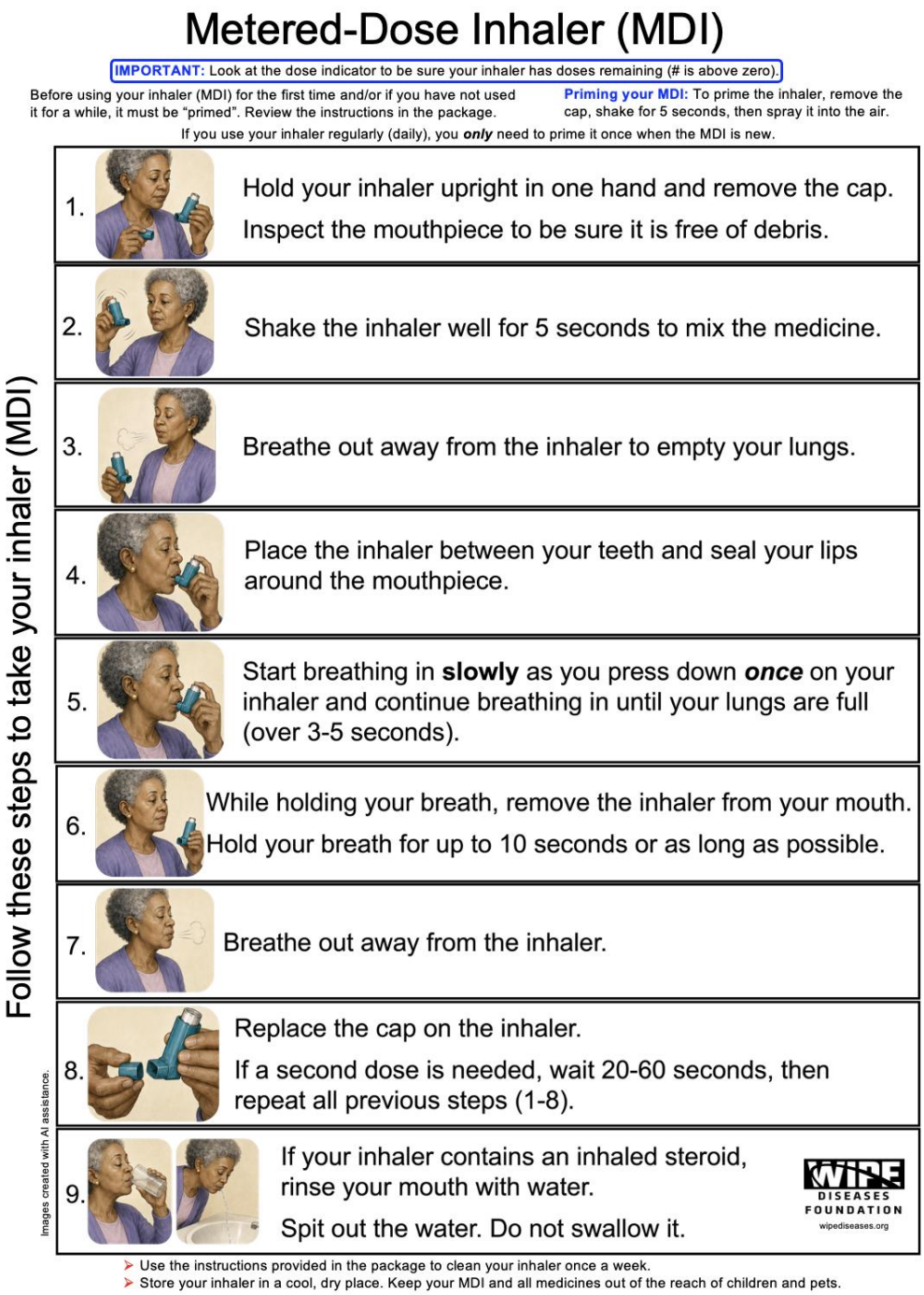
**An inhaled corticosteroid (ICS) may be helpful in some patients with COPD, but if used, the ICS should always be used in combination with both LABA+LAMA bronchodilators. Always rinse your mouth after each use of an inhaled corticosteroid.

Abbreviations: ICS: inhaled corticosteroid; LABA: long-acting beta agonist; LAMA: long-acting muscarinic antagonist; PDE: phosphodiesterase; SABA: short-acting beta agonist; SAMA: short-acting muscarinic antagonist

Appendix B: Inhaler Techniques

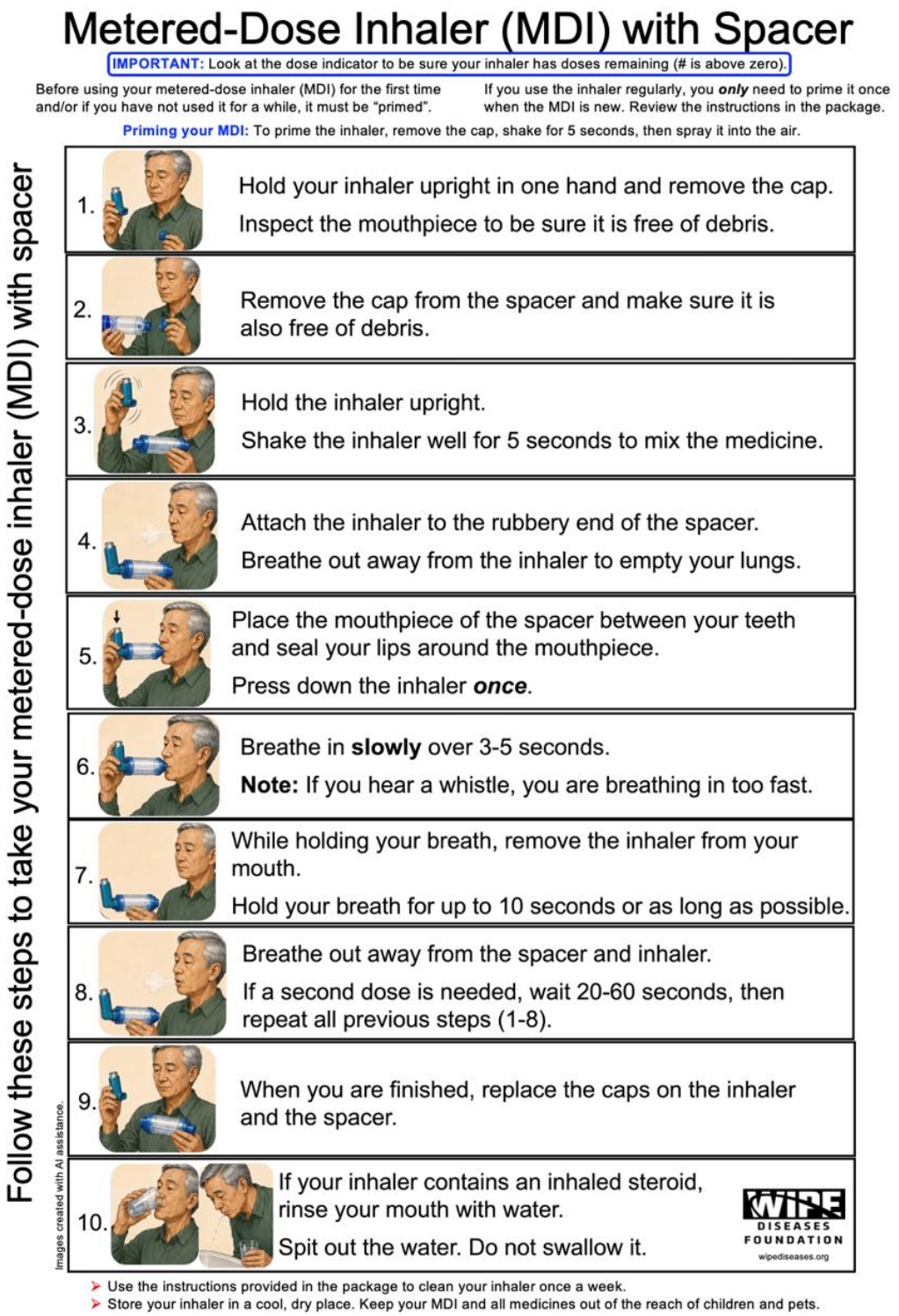
A. Metered-Dose Inhaler

Figure J-1. How to correctly use a metered-dose inhaler (MDI)(6)



Alternative Text: Figure J-1. Instructional graphic illustrating nine sequential steps for proper use of a metered-dose inhaler (MDI), featuring labeled boxes with photos of a person demonstrating each step. Key steps include priming instructions, slow-inhalation timing, breath-holding guidance, and cleanup after use.

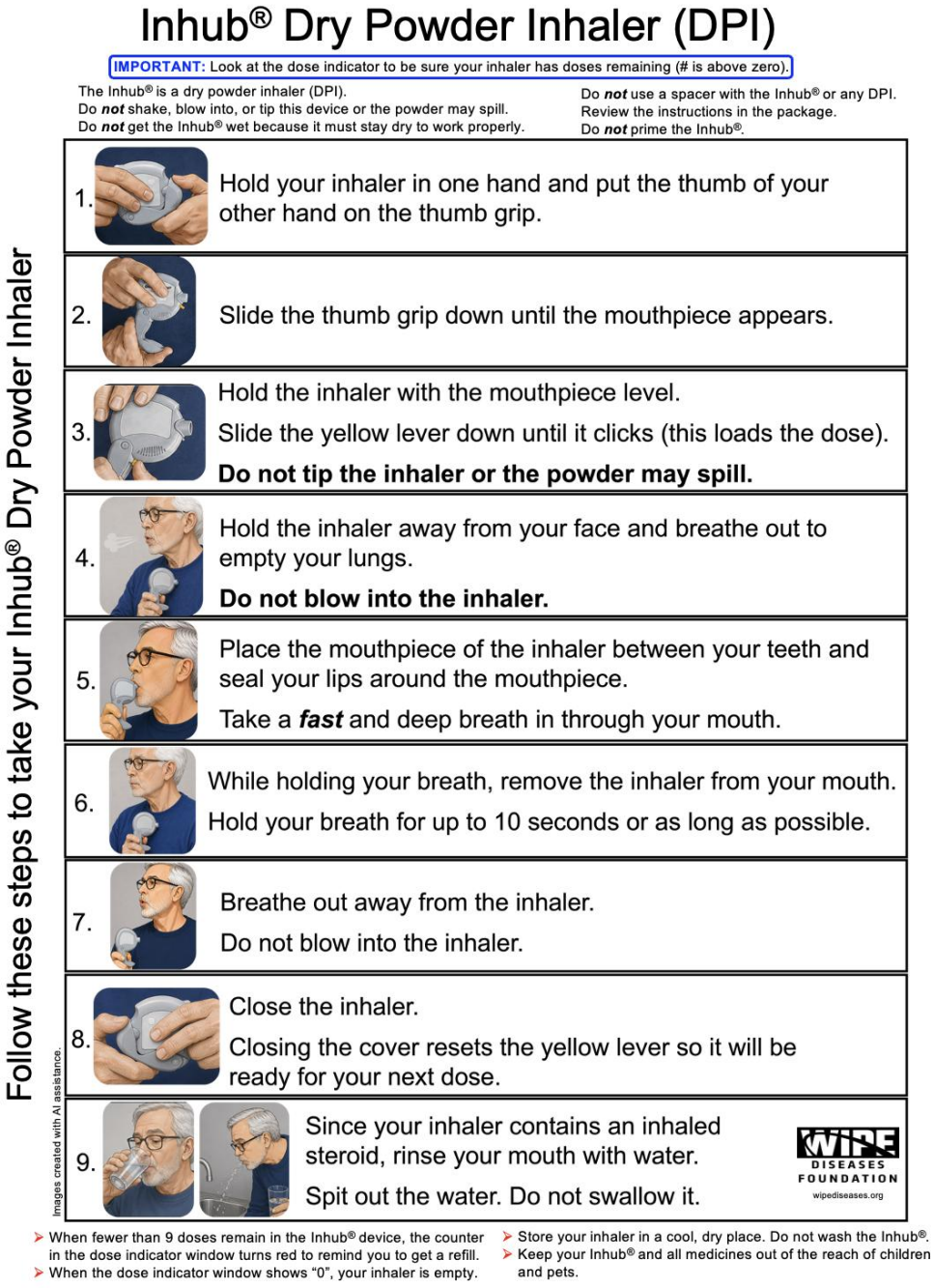
Figure J-2. How to correctly use an MDI with a spacer(6)



Alternative Text: Figure J-2. Instructional graphic illustrating 10 sequential steps for proper use of a metered-dose inhaler (MDI) with spacer, featuring labeled boxes with photos of a person demonstrating each step. Key steps include priming instructions, slow-inhalation timing, breath-holding guidance, and cleanup after use.

B. Dry Powder Inhalers

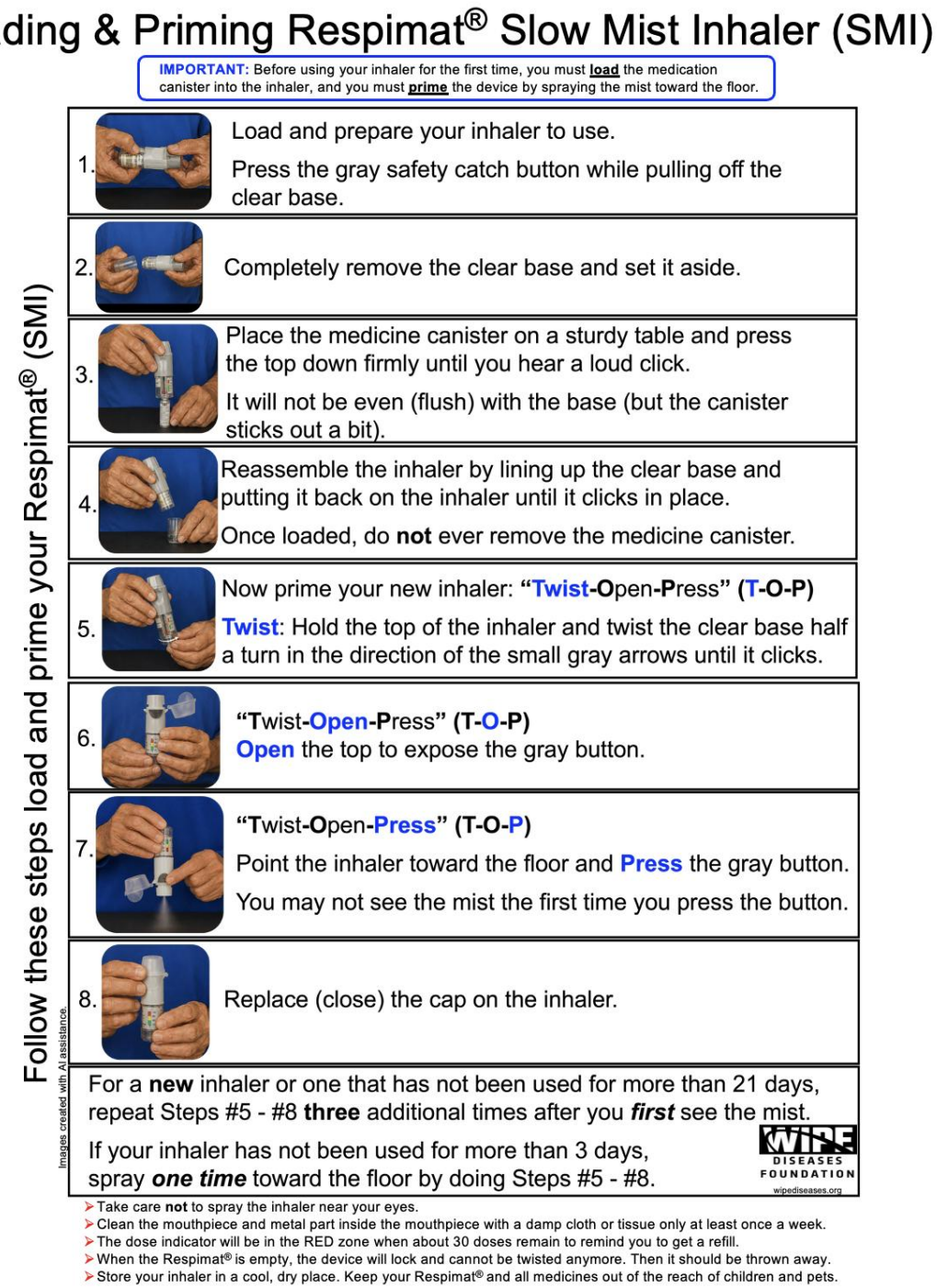
Figure J-3. How to correctly use an Inhub dry powder inhaler (DPI)(6)



Alternative Text: Figure J-3. Instructional graphic illustrating 9 sequential steps for proper use of an Inhub dry powder inhaler (DPI), featuring labeled boxes with photos of a person demonstrating each step. Key steps include gripping instructions, fast-inhalation timing, breath-holding guidance, and cleanup after use.

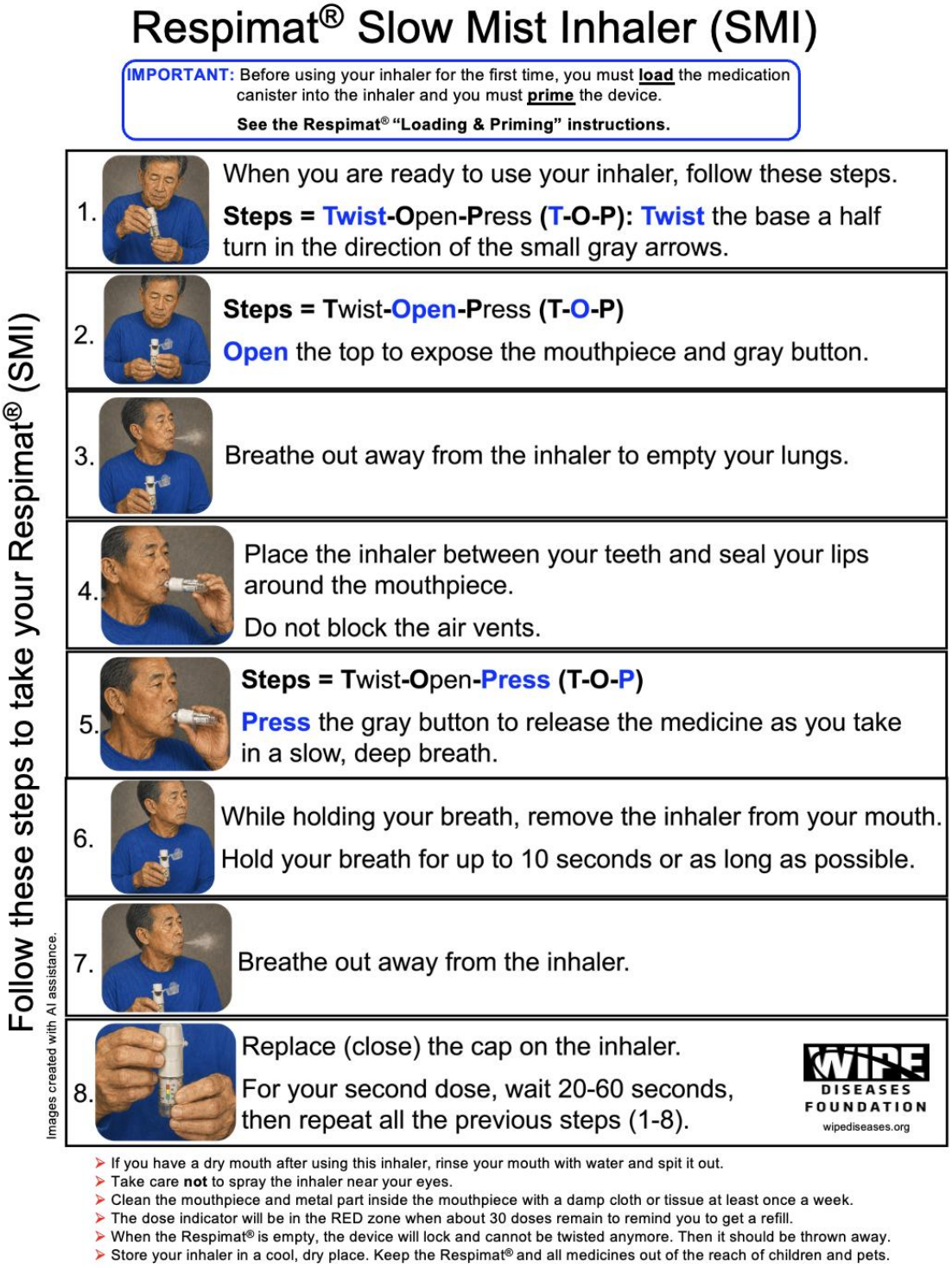
C. Respimat Inhalers

Figure J-4. How to correctly load and prime a Respimat Slow Mist Inhaler (SMI)(6)



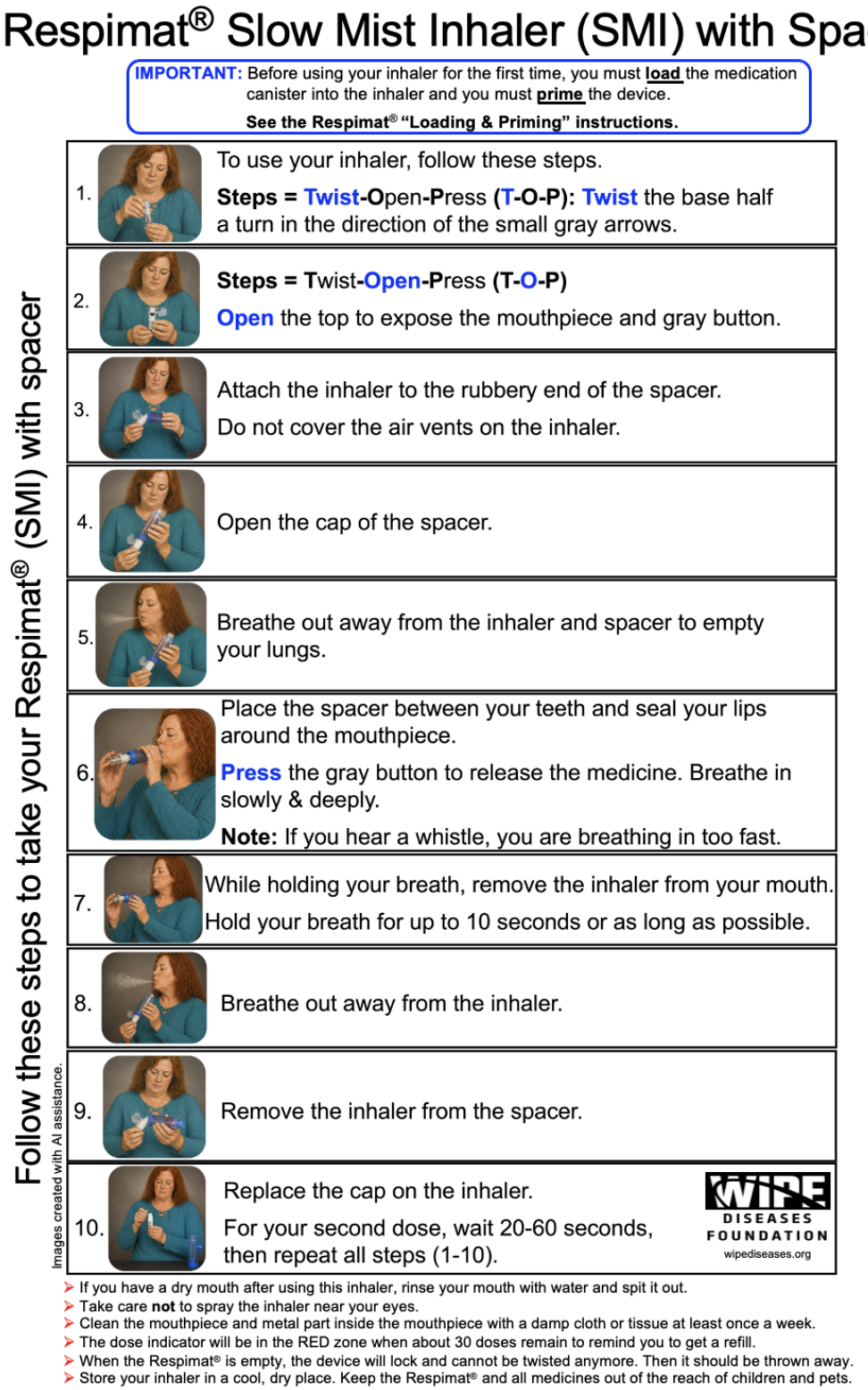
Alternative Text: Figure J-4. Instructional graphic illustrating 8 sequential steps for proper loading and priming of a Respimat slow mist inhaler (SMI), featuring labeled boxes with photos of a person demonstrating each step. Key steps include removing the base, inserting the medication, and twisting to prime the inhaler.

Figure J-5. How to correctly use a Respimat Slow Mist Inhaler (SMI)(6)



Alternative Text: Figure J-5. Instructional graphic illustrating 8 sequential steps for proper use of Respimat Slow Mist Inhaler (SMI), featuring labeled boxes with photos of a person demonstrating each step. Key steps include opening the SMI and inhalation instructions, breath-holding guidance, and instructions for using a second dose.

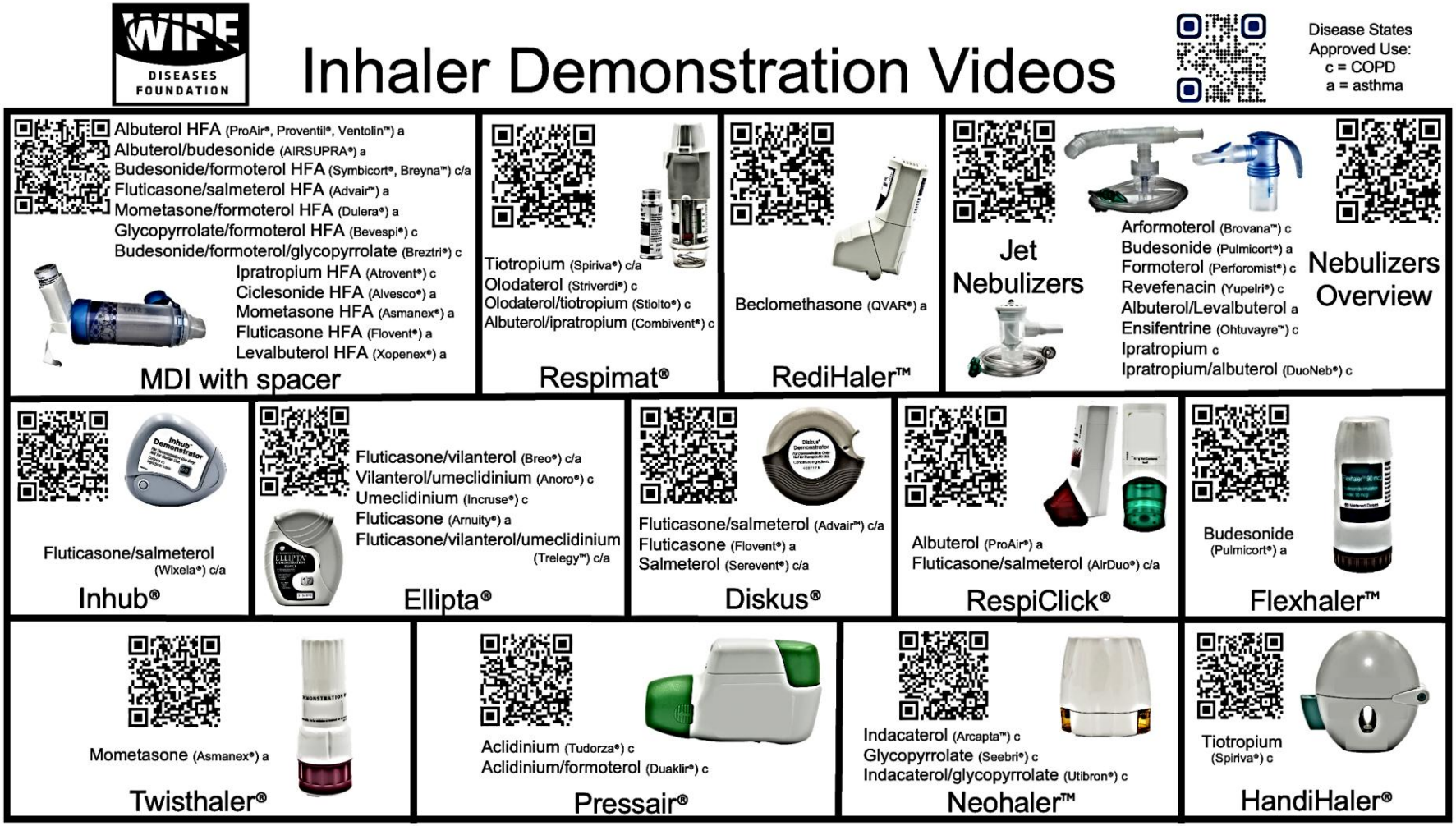
Figure J-6. How to correctly use a Respimat Slow Mist Inhaler (SMI) with spacer(6)



Alternative Text: Figure J-6. Instructional graphic illustrating 10 sequential steps for proper use of Respimat Slow Mist Inhaler (SMI) with spacer, featuring labeled boxes with photos of a person demonstrating each step. Key steps include opening the SMI and attaching the spacer, breath-holding guidance, and second-dose use instructions.

D. Inhaler Demonstration Videos

Figure J-8. QR codes for WipeDiseases Foundation Demonstration Videos(7)



Alternative Text: Figure J-8. A diagram displaying images of various respiratory inhaler devices, including MDI with spacer, Respimat, RediHaler, Jet Nebulizers, and multiple branded inhalers like Inhub, Ellipta, Diskus, RespiClick, Flexhaler, Twisthaler, Pressair, Neohaler, and HandiHaler. Each inhaler lists its active ingredients and includes QR codes linking directly to instructional videos.

VHA Links to Inhaler Demonstration Videos

English Versions

- HOW TO USE NEBULIZER: https://youtu.be/UKUClmyRC2Q
- HOW TO USE MDI: https://youtu.be/yQiGzELcMg4
- HOW TO USE RESCUE: Proper Inhaler Use - Albuterol - YouTube
- HOW TO USE RESPIMAT: https://youtu.be/In6zmUHVdfE
- HOW TO USE TWISTHALER: https://youtu.be/-VBAvheKvM0
- HOW TO USE HANDIHALER: https://youtu.be/8TYU73CZvi0
- HOW TO USE DISK: How to use your Fluticasone/Salmeterol Inhaler (Wixela Inhub) - YouTube

Spanish Versions

- HOW TO USE NEBULIZER: Cómo Utilizar su Nebulizador - YouTube
- HOW TO USE MDI: https://youtu.be/yQiGzELcMg4
- HOW TO USE RESPIMAT: Cómo Utilizar su Inhalador Respimat - YouTube
- HOW TO USE TWISTHALER: Cómo utilizar su Twisthaler - YouTube
- HOW TO USE HANDIHALER: Cómo Utilizar su Handihaler - YouTube

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