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CLINICAL GUIDELINES FOR ADULTS EXPOSED TO THE WORLD TRADE CENTER DISASTER

- Seven years after the World Trade Center (WTC) attack, many New Yorkers continue to suffer disaster-associated physical and mental health conditions.
- Primary care providers should ask patients about WTC exposures, especially patients with respiratory symptoms, rhinosinusitis, reflux disease, mental health problems, and substance use disorders.
- Providers should know how to identify, evaluate, treat, and refer patients with conditions that could be associated with exposure to the disaster, and be alert to other WTC-associated illnesses that may be identified in the future.
- Because physical and mental health conditions are often intertwined, a coordinated approach to care usually works best and referral may be necessary.

The World Trade Center (WTC) terrorist attack and its aftermath exposed hundreds of thousands of people to debris, dust, smoke, and fumes. Studies conducted after September 11, 2001, among rescue and cleanup workers,¹⁻⁶ office workers,⁷ building evacuees,⁸ and residents of lower Manhattan⁹⁻¹¹ showed an increase in respiratory and other physical and mental health problems, including post-traumatic stress disorder (PTSD) and major depressive disorder (MDD).

Many New Yorkers have health problems that could be associated with—or made worse by—exposure to the

attack and its aftermath. Primary care physicians need to know how to identify, evaluate, treat, and, if necessary, refer these individuals to expert care.

The recommendations in this publication are targeted to adults, including young adults who were exposed as children. Although some principles and diagnostic methods may be applicable to children and adolescents today, please consult appropriate resources such as the American Academy of Pediatrics for general (non-WTC-specific) pediatric guidelines (**Resources**). Clinical guidelines for children and adolescents exposed to the WTC disaster are currently being developed. Providers should monitor the literature as more information about WTC-related diseases becomes available. The New York City Department of Health and Mental Hygiene (NYC DOHMH) maintains an updated WTC scientific bibliography at www.nyc.gov/html/doh/wtc/html/studies/bibliography.shtml.

WTC CENTERS OF EXCELLENCE

Free diagnostic and treatment services are available for people exposed to the WTC disaster and its aftermath.

- **World Trade Center Environmental Health Center** at Bellevue Hospital Center, Gouverneur Health Care Services, and Elmhurst Hospital Center: 877-982-0107
- **Mount Sinai Consortium:** The World Trade Center Medical Monitoring and Treatment Program (rescue and recovery workers and volunteers): 888-702-0630
- **The Fire Department of New York:** The World Trade Center Medical Monitoring and Treatment Program (FDNY and Emergency (EMS) workers): 718-999-1858

This publication does not instruct how to assess impairment or determine causation and should not be used to determine disability benefits.



EXPOSURES AND POTENTIAL HEALTH EFFECTS

Physical Exposures

The burning and collapse of the WTC and neighboring buildings released a complex mixture of irritant dust, smoke, and gaseous materials. Pulverized concrete, glass, plastic, paper, and wood produced alkaline dust.¹² The dust cloud also contained heavy metals, asbestos, and other carcinogenic substances. In addition, smoke released from the persistent fires in the following months contained hazardous and carcinogenic substances. Environmental test results showed that the composition of dust and smoke released into the air and deposited on indoor and outdoor surfaces varied by date and location.¹³⁻¹⁵ Chemical tests suggest that dust protected from moisture in indoor environments retained its alkalinity more than outdoor dust that was exposed to rain.¹⁵

Individual exposure to contaminants was determined by duration and intensity of exposure, including location, activities, cleanup methods, and use of appropriate personal protective equipment. Health effects related to a particular exposure may also vary, depending on underlying medical conditions and individual susceptibility.

Although heavy metals were detected in the air and dust, clinical tests performed on specimens from more than 10,000 firefighters showed no clinically significant concentrations of mercury or lead. Urine beryllium concentrations were also low in the firefighters, but the risk for beryllium sensitization is undetermined. There is no current need to perform blood or urine testing for heavy metals because heavy metals are usually cleared from the blood and urine within months of exposure.^{16,17}

Mental Health Exposures

Many of those in lower Manhattan on September 11 witnessed horrific events such as the deaths of friends and co-workers and other traumatic experiences, or they were exposed to the dust cloud. Thousands of New York-area residents lost family members in the attacks. In the wake of the disaster, residents, office workers, and students in downtown Manhattan, as well as rescue and recovery workers and volunteers, were subjected to daily stress for months.¹⁸⁻²⁰ For many New Yorkers, the trauma of September 11 triggered or exacerbated depression, PTSD, anxiety, or substance use disorders.^{8,21-26}

IDENTIFYING WTC-RELATED CHRONIC MEDICAL CONDITIONS

When assessing for WTC-related illnesses, clinicians should consider:

- Level of exposure to the immediate cloud of debris and dust released by the collapse of the WTC towers.^{2,8,27}
- Duration, type, and intensity of exposure to dust, smoke, and fumes after the disaster.^{2-5,8}
- Degree of occupational or residential exposure, such as work at the WTC site, Staten Island landfill, barge transfer operations, or morgues^{2-5,27,28} — or exposure to a contaminated home, workplace, or school.^{13,14}

While the dust, smoke, and fumes extended beyond lower Manhattan, the highest exposures occurred in the vicinity of the collapsed towers.

Most individuals who developed respiratory or mental illnesses did so soon after exposure to the disaster. A slower onset or recognition of symptoms is possible, and individuals continue to present to medical monitoring and treatment programs for initial evaluation. Because individuals have different levels of tolerance, the intensity of symptoms may not be proportional to exposure.²⁸

To date, few studies have been published on the health effects of indoor exposure on residents, office employees, students, or people who cleaned affected buildings. One study of residents found that longer duration of dust or odors in the home was associated with increased risk of respiratory symptoms.¹⁴ Other studies are currently ongoing.

Regarding smoking, one study suggests that exposed individuals with a current or previous history of cigarette smoking may be more likely to develop lower respiratory disease,²⁸ but other studies have not found an association between tobacco use and WTC-related symptoms.^{5,29} However, smoking is known to cause chronic respiratory disease and cancer,³⁰ and experts agree that tobacco cessation and avoidance of secondhand smoke are important for the prevention and treatment of many diseases, including WTC-related respiratory diseases.

PHYSICAL HEALTH CONDITIONS

Many of the physical health problems that are commonly seen in WTC-exposed individuals also affect individuals without WTC exposures and may not be WTC-related. The algorithm (**Figure 1**, foldout) and treatment options are applicable regardless of the cause of illness.

Table 1. Key WTC Occupational and Residential Exposure History Questions

Ask: "Were you exposed to the World Trade Center disaster?"

If patient answers yes, ask further questions regarding the nature and duration of exposure, such as:

- 1) Were you in Manhattan near the World Trade Center when the planes hit the towers? Were you showered by the cloud of debris and dust when the towers collapsed?
- 2) Did you work or volunteer at the World Trade Center site providing rescue and recovery, cleanup, construction, or support services, or at the World Trade Center Recovery Operation on Staten Island, the WTC morgues, or on a barge? What tasks did you perform and for how long? Did you consistently use a respirator? If so, describe what kind and whether it was fit-tested.
- 3) Did you live, work, or attend school in lower Manhattan in the months after September 11?
- 4) Did you clean or restore services to homes, schools, or office buildings that were affected by the disaster?
- 5) Are there other WTC-related exposures that concern you?

If the patient answers yes to any of the above questions, consider the possibility of WTC-associated conditions.

Evaluate the patient for WTC exposure (Table 1). Inhalation and ingestion of WTC dust and fumes may have caused new illness or exacerbated preexisting conditions (Table 2).

Respiratory symptoms may be due to multiple causes, and combination treatment may be useful. For respiratory illnesses, the mechanism may be an irritant-induced process in which symptoms persist due to subsequent chronic inflammation.^{28,31}

A brief review of the diagnosis and treatment of the most commonly associated conditions follows. Develop a diagnosis and treatment plan that covers upper airway, lower airway, and reflux diseases.³² Continue treatments even if only partially effective. Always evaluate the patient's adherence to the treatment regimen before altering it. Assess the patient's ongoing environmental and occupational exposures; ask whether the patient is exposed to fumes, gases, or dusts on an ongoing basis; these exposures can exacerbate WTC-associated conditions. If the answer is yes, discuss ways to limit future exposures.³³

Irritant-Induced Asthma/Reactive Airways Dysfunction Syndrome (RADS)

A number of studies have reported elevations of bronchial hyperreactivity or asthma among workers that increased with amount of exposure. One study conducted 6 months after 9/11 found that bronchial hyperreactivity was reported in 20% of firefighters present at the World Trade Center on the morning of the attack, and in 8% of those who reported to the site within 48 hours of the attack.³ In the first year post-9/11, 37% of patients evaluated at one major WTC treatment center were found to have irritant-induced asthma. A subset of people exposed to WTC contaminants have developed reactive airways dysfunction syndrome (RADS), which refers to asthma of very rapid onset (usually within 24-72 hours postexposure). Some people with previously mild or asymptomatic asthma or chronic obstructive pulmonary disease (COPD) have experienced exacerbations of their symptoms.²⁸

Symptoms: shortness of breath; chest tightness; wheezing; cough; sputum production; possible triggering of symptoms by upper respiratory infections, seasonal allergies, exercise, irritants (fragrances, detergents, secondhand smoke, particulates), or extremes of temperature or humidity; and recurrent episodes of respiratory infections requiring antibiotic treatment.

Signs: pulmonary examination may be normal or may show tachypnea, wheezing, prolonged expiratory phase of respiration, hyperresonance to chest percussion, use of accessory muscles.

Diagnostic Evaluation: history, physical examination, chest X-ray, and spirometry. In airways obstruction, pulmonary function tests typically show reduced forced expiratory volume at 1 second (FEV₁) along with reduced FEV₁/FVC (forced vital capacity) and positive bronchodilator response. However, the most common spirometric abnormality related to WTC exposure is decreased FVC with normal FEV₁/FVC

Table 2. Potentially WTC-Associated Conditions

Clinicians familiar with WTC-associated conditions have described a triad consisting of:

- Chronic rhinitis and rhinosinusitis
- Asthma/reactive airways dysfunction syndrome (RADS)
- Gastroesophageal reflux disease (GERD)/laryngopharyngeal reflux disease (LPRD)

Table 3. Treatment of Asthma/Reactive Airways Dysfunction Syndrome (RADS)

- For mild persistent asthma, use a combination of a daily inhaled corticosteroid (e.g., budesonide) and a short-acting inhaled bronchodilator (e.g., albuterol) as needed for the relief of symptoms.
 - It is usually necessary to monitor treatment closely for at least the first 3 months to show clinical improvement, particularly with comorbid rhinosinusitis and gastroesophageal reflux disease (GERD).
- For patients with more frequent symptoms, continue inhaled corticosteroids and consider adding long-acting inhaled beta agonists (e.g., salmeterol) or leukotriene modifiers (e.g., montelukast sodium) under careful monitoring.
 - If spirometry is normal, consider methacholine challenge test or referral for evaluation of distal airway function.
- For patients with refractory symptoms even after adherence to therapy, referral to a pulmonologist is recommended.

With all patients:

- Instruct them to avoid potentially irritating environmental or occupational triggers.
- For assistance with treatment management, follow the stepwise treatment guidelines based on symptom severity developed by the National Heart, Lung, and Blood Institute (www.nhlbi.nih.gov/guidelines/asthma/asthsumm.pdf).³⁶

ratio.^{27,34} Although this spirometry is not typical of asthma, the most common clinical presentation is consistent with asthma. Because asthma is a reversible airways disease, diagnostic evaluation, including objective tests of lung function, may be normal when the patient is not having symptoms, or because spirometry has a low sensitivity for detecting dysfunction in the distal airways.³⁵ Therefore, response to empiric treatment may be used as a diagnostic aid, or experts can provide additional testing such as challenge testing (usually with methacholine) to detect bronchial hyperreactivity or other tests to detect increased airways resistance or small airways dysfunction.

Treatment: See Table 3.

Chronic Rhinitis and Rhinosinusitis

Rhinitis can be allergic, nonallergic (e.g., irritant-induced), or mixed. It is often associated with sinusitis, as well as with pharyngitis and laryngitis. Chronic rhinitis has been reported in a triad with lower airway disease and gastroesophageal reflux disease as a common presentation.²⁸ Postnasal discharge, a common symptom of rhinosinusitis, is the leading cause of protracted, chronic dry cough in patients with normal chest radiographs, and symptomatic improvement or resolution in response to treatment lends support to the diagnosis.

Symptoms: nasal congestion, rhinorrhea and postnasal drip, cough, facial pressure/pain, epistaxis, reduced or altered sense of smell, maxillary dental pain, lacrimation, pruritus of the eyes, nose, and/or throat, ear pressure, and fatigue.

Signs: inflammation of the nasal and paranasal sinus mucosae for more than 3 months.

Treatment: See Table 4.³⁷⁻³⁹

Table 4. Treatment of Chronic Rhinitis and Rhinosinusitis*

- Initially, prescribe daily nasal saline spray or irrigation/lavage with or without both oral antihistamines (e.g., loratadine) and oral decongestants (e.g., phenylephrine) for 5-7 days.[†]
- If severe mucosal swelling is noted, prescribe topical decongestants (e.g., oxymetazoline) for a maximum of 3 days.
- If nasal and throat symptoms persist or increase after therapy with lavage and decongestants alone, prescribe nasal steroids (e.g., budesonide). The effects of nasal steroid therapy may not be seen for 2 weeks. If symptoms improve, therapy should be continued for 2-3 months.
- If the patient experiences fever and/or chills, persistent purulent nasal discharge with maxillary, tooth, or unilateral facial pain, sinus tenderness, or progressively worsening symptoms, be alert to bacterial superinfection of the sinuses. Sinus infections should be treated with antibiotics, and may require oral steroids.
- If symptoms are severe and persist after 3 months of treatment, sinus CT scan and referral for ENT consultation are recommended.

* Clinical practice guidelines have been published recently for chronic rhinosinusitis.^{37,38}

† A meta-analysis indicates that an antihistamine-decongestant combination is superior to antihistamine alone to reduce symptoms.³⁹

Gastroesophageal Reflux Disease (GERD), Laryngopharyngeal Reflux Disease (LPRD)

Reflux diseases such as GERD and LPRD should be treated aggressively to improve quality of life and because of their association with gastrointestinal disease (dysphagia, peptic stricture, Barrett's esophagus, and esophageal adenocarcinoma) and with respiratory disease (laryngitis, sinusitis, asthma, and chronic cough). A study of firefighters found that 87% of those with WTC-related cough had GERD.³ GERD and LPRD are closely related disorders. GERD results from the reflux of gastric contents into the esophagus. LPRD results from the reflux of gastric contents into the larynx/pharynx (with associated, and often unrecognized, inflammatory changes), sinuses, or lower airway.

GERD Symptoms: substernal/epigastric burning, acid regurgitation, dyspepsia, cough made worse with meals or at night.

LPRD Symptoms: hoarseness or other vocal changes, sore throat, cough, sensation of having a lump in the throat.

GERD Signs: may be absent if mild form of disease, may note erythema/esophagitis on endoscopy if symptoms are

severe or persistent among these patients. A negative endoscopy does not mean that the patient does not have a problem.

LPRD Signs: may be absent on regular physical exam, may note erythema/edema of larynx on laryngoscopy.

Diagnostic Evaluation: history, physical examination, and response to empiric treatment. Endoscopy is recommended if there is no response to therapy, there is recurrence after 2-3 months, or if symptoms suggest complicated or atypical disease.³²

Treatment: See **Table 5.**^{32,40-42}

Evaluation of Chronic Cough

In WTC-exposed individuals, chronic cough is frequently due to some combination of the 3 syndromes described above^{28,43} even when there are no clear symptoms suggestive of asthma, chronic rhinitis and rhinosinusitis, or GERD/LPRD.⁴³ Such patients frequently still respond to empiric treatment. However, lack of typical symptoms and/or lack of response to therapy should prompt consideration of other causes.

Table 5. Treatment of Gastroesophageal Reflux Disease (GERD) and Laryngopharyngeal Reflux Disease (LPRD)*

- If the patient's history is typical for uncomplicated GERD/LPRD, an initial trial of empiric therapy is appropriate. Empiric therapy includes both lifestyle modifications (e.g., dietary changes, weight loss, and smoking cessation) and acid suppression therapy.
- Try lifestyle modifications first; if the condition does not improve:
 - Proton pump inhibitors (PPIs), e.g., omeprazole, provide symptomatic relief and healing of esophagitis in the highest percentage of patients. Treatment consists of a PPI for 4-8 weeks, followed by on-demand or maintenance PPI. In some cases with partial response or acid breakthrough, BID doses may be necessary with the second dose given before the evening meal.⁴⁰ OR:
 - Histamine-2 receptor antagonists (e.g., ranitidine) may also be used. They are an effective treatment in many patients with less severe GERD/LPRD or as an adjunct with difficult to control GERD, particularly when taken at times known to trigger GERD symptoms (e.g., before exercise or a heavy meal, before bedtime). In most cases, response to PPI is superior to response to histamine-2 receptor antagonist treatment.
- Prokinetic agents (e.g., metoclopramide) may be used to augment treatment.⁴¹
- If empiric therapy is unsuccessful after 2 to 3 months or symptoms suggest complicated or atypical disease, referral to a gastroenterologist is recommended.

*A clinical practice guideline for evaluation and treatment of chronic cough due to GERD⁴² and updated clinical guidelines for the treatment of GERD have recently been published.³²

Evaluation of a WTC-exposed individual with chronic cough is addressed in **Figure 1** (foldout). Take a careful history. Before proceeding through the algorithm, do all of the following, if applicable: initiate smoking cessation, discontinue ACE inhibitor, and instruct the patient to avoid potentially irritating environmental or occupational triggers.

Perform a targeted physical examination. Next, determine whether the individual's symptoms and exam suggest a specific diagnosis (i.e., chronic rhinitis and rhinosinusitis, asthma, or GERD—all discussed above). If symptoms/signs are consistent with any of these conditions or their combination,²⁸ attempt empiric treatment for the suspected underlying disorder. When symptoms/signs are consistent with asthma/RADS, or cough alone is present, pursue a full workup beginning with a chest X-ray. Evaluate and treat abnormalities identified on the X-ray before continuing with the algorithm. Order spirometry if the chest X-ray is normal (or findings are determined to be unrelated to current symptoms). Initiate empiric treatment of asthma/RADS for individuals with obstructive pattern and/or bronchodilator response on spirometry, or in those patients with normal spirometry who provide a history of asthmatic symptoms during irritant or other environmental provocations. For the latter, a specialist might consider a methacholine challenge test. If the spirometry is abnormal, a complete pulmonary function test is usually necessary to characterize the abnormality.

Patients may require further workup, including, but not limited to, high-resolution chest CT scans (inspiratory and expiratory views)⁴⁴ and full pulmonary function testing to characterize their impairment. Refer to a pulmonologist as needed. Management should focus on diagnosing and treating the specific etiology of the cough, but symptomatic treatment (i.e., cough suppression) may also be helpful provided that a full evaluation takes place.

Workers' Compensation

To file a claim now or in the future, workers and volunteers must submit a WTC-12 registration form. Registering will preserve their right to file for 9/11-related compensation in the future even if they are not sick now. Some uniformed City employees are not eligible for Workers' Compensation, but are eligible for other programs (**Resources**).

Other Pulmonary Diseases

For some individuals, inflammatory airway reactions to WTC dust exposure may have reactivated or aggravated preexisting obstructive lung disease.

Among New York City (NYC) firefighters and emergency (EMS) workers exposed to WTC rescue work, a higher-than-expected incidence of sarcoid-like granulomatous lung disease was reported in the first 5 years post-WTC.⁶ Sarcoidosis is often asymptomatic and found through chest X-rays (bilateral hilar and mediastinal adenopathy); thus, some cases diagnosed after 9/11 may have resulted from increased screening. The clinical presentation of the FDNY cases was unusual, in that all had intrathoracic adenopathy, 65% had signs and symptoms consistent with new-onset asthma, and 23% had additional disease outside the chest.⁶ Only 3 of the 26 patients had total lung capacity or diffusion capacity below 80% of predicted.

There have been rare case reports of other lung diseases such as eosinophilic pneumonia,⁴⁵ bronchiolitis obliterans,^{28,34,44} interstitial fibrosis with predominant peribronchiolar changes,²⁸ and granulomatous pneumonitis.⁴⁶ Compared to asthma, pulmonary function testing in interstitial lung disease shows reduced lung volumes rather than air-trapping or hyperinflation and reduced rather than normal diffusion capacity.⁴⁷ Chest X-rays can be helpful, but a high-resolution chest CT scan without contrast may be either diagnostic or allow for targeted surgical sampling of the pathologically affected tissue. Treatment requires systemic high-dose anti-inflammatory regimens and therefore should only be instituted after the diagnosis is confirmed. When pulmonary fibrosis is extensive, lung transplantation may be the only option.⁴⁷ Referral to a WTC treatment program or a pulmonologist is recommended for all patients with suspected interstitial lung disease.

Other Medical Conditions

Patients may also present with other conditions that may or may not be linked to WTC exposure. Cancers generally have a long latency period. Substances released by the collapse of the towers included carcinogenic substances, and studies are currently underway to detect whether rates of any cancers, including both hematologic malignancies (which have shorter latency periods) and solid tumors, are elevated. Another condition being investigated is

myositis. Findings have not yet linked these cases to WTC exposure, but patients with illnesses possibly related to WTC exposure may benefit from free evaluation and treatment from specialists at one of the Centers of Excellence medical monitoring and treatment programs (see page 1). These programs offer updated information about conditions under investigation; they do not provide general primary care services and therefore complement rather than supplant the role of the primary care physician.

Disease Reporting

Accurate, timely, and complete reporting is essential to monitoring and understanding the extent of WTC-related disease.

Under New York State Public Health Law, physicians, health care facilities, and clinical laboratories are legally mandated to report:

- Any cancer that is diagnosed or treated; please contact the New York State Cancer Registry (**Resources**).
- Clinical evidence of occupational lung disease within 10 days of diagnosis; please contact the New York State Occupational Lung Disease Registry (**Resources**).

The New York State Department of Health (NYSDOH) also maintains a registry of deaths among rescue and recovery workers (**Resources**).

MENTAL HEALTH CONDITIONS

People who were injured in the collapse of buildings, who witnessed the injury or death of others during the attack, who fled the collapse of the towers, or who were involved in rescue and recovery efforts experienced considerable psychological stress and direct trauma. Trauma may also have resulted from the loss of a loved one or from constant exposure to graphic media coverage of the attacks. WTC-related physical illness or economic hardship may also have caused psychological stress. For most individuals, acute stress symptoms abated quickly. However, some individuals developed disorders such as PTSD, depression, Generalized Anxiety Disorder (GAD), or a substance use disorder.^{19,48-50}

Primary care providers can serve an important role in the identification, evaluation, treatment, and referral of these mental health disorders.^{19,51}

- Be alert to risk factors and signs that may indicate one of these disorders.
- Establish a trauma history and screen for mental health disorder risk factors (**Table 6**).

- Assess for symptoms of PTSD (**Table 7**), depression (**Table 8, Table 9**), GAD (**Table 10**), and substance use disorders (**Table 11**).
- Educate patients about normal stress reactions.
- Diagnose/manage these conditions consistent with treatment guidelines and refer patients when appropriate.⁵²

Physicians should probe for psychiatric symptoms because some patients may be reluctant to discuss their symptoms. Primary care providers can either make a diagnosis based on their assessment and treat accordingly, or refer patients to a mental health professional. Patients with multiple mental health conditions are more difficult to diagnose and treat, and should be referred to a mental health professional.

Post-Traumatic Stress Disorder

PTSD may develop in individuals exposed to traumatic events involving the threat of serious injury or death to self or others, and when the individual's response involves intense fear, helplessness, or horror. PTSD is characterized by all of the following symptoms that arise immediately or after a lag time, and cause significant distress or impaired functioning for more than a month.^{55,56}

- Re-experiencing the traumatic event, such as experiencing distressing memories, nightmares, or flashbacks; and
- Avoiding reminders of the event, such as thoughts, feelings, conversations; activities, places, or people; inability to recall an important aspect of the trauma; feeling emotionally detached or numb; and
- Chronically increased arousal symptoms such as insomnia, irritability, poor concentration, hypervigilance, or an exaggerated startle reaction.

Recognizing PTSD and Differential Diagnosis

Diagnosing PTSD (**Table 7**) can be difficult because many patients may also suffer from other psychiatric disorders, such as MDD or another anxiety disorder, and may also initially report somatic complaints.^{56,57} These disorders and their physical manifestations increase functional impairment and may also increase the risk of suicidal thoughts and behaviors.⁵⁶⁻⁵⁹ In addition, many patients are reluctant to disclose traumatic experiences unless a professional inquires about them.⁵⁷

Major Depressive Disorder

Major depressive disorder is a disabling condition that affects many aspects of a person's life and overall functioning. People who directly witnessed the WTC attacks and those who participated in the rescue and recovery efforts

Table 6. Factors That Increase the Likelihood of Developing Mental Health Disorders Related to the WTC Disaster^{19,21,24,53,54}

WTC-Specific

- Personally witnessing events on 9/11 that induced horror, including:
 - Airplanes hitting the towers
 - Buildings collapsing
 - Friends, relatives, or colleagues getting injured or killed
 - People falling or jumping from the towers
- Exposure to the dust cloud
- Sustaining an injury
- Experiencing a panic attack at the time of the WTC disaster
- Working as part of the 9/11 rescue, recovery, restoration, or clean-up operation
- Experiencing WTC-related physical health problems
- Loss of job and/or benefits, and/or financial difficulties as a result of WTC-related trauma or health problems
- Experiencing WTC-related exposures at home, work, or school

General

- Young age
- Female gender
- Family history of psychiatric disorder
- Previous exposure to trauma
- Personal history of a psychiatric or medical disorder
- Lack of social support
- Financial difficulties

may be at increased risk for developing depression, with or without PTSD.⁵⁹ Depression is typically characterized by many or all of the following: feelings of extreme sadness, anhedonia, guilt, helplessness, hopelessness, insomnia, inability to concentrate, loss of appetite, and thoughts of suicide and/or death. Depression may occur only once, but is more commonly a recurring condition.^{60,61}

A physician can simply and quickly screen for depression by using a 2-question tool, the Patient Health Questionnaire-2 (PHQ-2) (Table 8).⁶² If the patient responds “yes” to either question, consider using the Patient Health Questionnaire-9 (PHQ-9) (Table 8). This 9-item questionnaire can reliably detect and quantify the severity of depression, and can be used to help monitor response to treatment.⁶³ If the response to question 9 on the PHQ-9 is positive, evaluate the patient’s suicide risk (Table 9).

The comprehensive management of depression includes pharmacological treatment and nonpharmacological approaches such as psychotherapy, patient education, increased physical activity,⁶⁴ and other self-management techniques, referral if required, and ongoing monitoring. Factors affecting choice of treatment include severity of symptoms, psychosocial stressors, comorbid conditions, patient preference, and availability of resources.

Patients should be monitored frequently for treatment effectiveness, suicidality, and adverse effects common with

Table 7. Post-Traumatic Stress Disorder (PTSD) Screening and Treatment

Screening

Patients who answer yes to 3 of the 4 questions below may be suffering from PTSD.⁶⁷

In your life, have you ever had any experience that was so frightening, horrible, or upsetting that in the past month you:

1. Have had nightmares about it or thought about it when you did not want to?
2. Tried hard not to think about it or went out of your way to avoid situations that reminded you of it?
3. Were constantly on guard, watchful, or easily startled?
4. Felt numb or detached from others, activities, or your surroundings?

Treatment

Psychotherapy^{55,56,70}

- Exposure therapy helps to reduce the arousal and distress associated with memories of trauma and has proven efficacy in treating PTSD. Exposure therapy is often combined with relaxation and breathing techniques that help patients manage anxiety and cope with stress.⁷¹
- Other psychotherapy interventions, including cognitive and behavioral therapies, may be effective, but further research is needed to determine efficacy.⁷¹

Pharmacotherapy^{52,55,56,70,72}

- First-line treatment: selective serotonin reuptake inhibitors (SSRIs)—sertraline (Zoloft®) and paroxetine (Paxil®)—are FDA-approved for treatment of PTSD. If there is no response to an SSRI, venlafaxine (Effexor®) or other antidepressants such as mirtazepine (Remeron®), duloxetine (Cymbalta®), and bupropion (Wellbutrin®) can be tried.
- For treatment-resistant PTSD: tricyclic antidepressants (TCAs) and monoamine oxidase inhibitors (MAOIs) may be considered. Due to their side effects, these antidepressants should not be considered as a first line of treatment.
- For partial response: combining antidepressants with other psychotropic medications (mood stabilizers, antiadrenergic medications, antianxiety agents, and atypical antipsychotics) may be helpful.
- A combination of psychotherapy and pharmacotherapy may be indicated for some patients. Treatment selection should always account for other co-occurring psychiatric comorbidities.
- For patients with complex psychopharmacological needs, consulting a psychiatrist is recommended.

Use of brand names is for informational purposes only and does not imply endorsement by the New York City Department of Health and Mental Hygiene.

Table 8. Depression Screening and Treatment

Screening

Observe, listen, and ask questions about the patient’s mood, level of functioning, energy, motivation, and any work-related or social problems.

Begin with the **Patient Health Questionnaire-2 (PHQ-2)**⁶²

During the past 2 weeks, have you experienced:

1. Little interest or pleasure in doing things?
2. Feelings of hopelessness?

If the answers to either of the two PHQ-2 questions is positive, administer the **Patient Health Questionnaire-9 (PHQ-9)**.⁶³

PHQ-9*

Over the last 2 weeks, how often have you been bothered by any of the following problems? (use “✓” to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself in some way	0	1	2	3

Add columns: **+** **+** **+**

TOTAL: _____

(Health care professional: For interpretation of TOTAL please refer to scoring card on page 50.)

- 10.** If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?
- Not difficult at all _____ Somewhat difficult _____
- Very difficult _____ Extremely difficult _____

*PHQ-9 QUICK DEPRESSION ASSESSMENT For initial diagnosis:

1. Patient completes PHQ-9 Quick Depression Assessment.
2. Add score to determine severity.
3. **Consider Major Depressive Disorder** if there are at least 5 ✓s in the shaded section (1 of which corresponds to Question #1 or #2).

Consider Other Depressive Disorder if there are 2–4 ✓s in the shaded section (1 of which corresponds to Question #1 or #2).

Note: Since the questionnaire relies on patient self-report, all responses should be verified by the clinician. A definitive diagnosis is made on clinical grounds, taking into account how well the patient understood the

questionnaire, as well as other relevant information from the patient. Diagnoses of major depressive disorder or other depressive disorder also require impairment of social, occupational, or other important areas of functioning (Question #10) and ruling out normal bereavement, a history of a manic episode (bipolar disorder), and a physical disorder, medication, or other drug as the biological causes of the depressive symptoms.

To monitor severity over time for newly diagnosed patients or patients in current treatment for depression:

1. Patients may complete questionnaires at baseline and at regular intervals (e.g., every 2 weeks) at home and bring them in at their next appointment for scoring, or they may complete the questionnaire during each scheduled appointment.

2. Add up ✓s by column. For every ✓: “Several days” = 1; “More than half the days” = 2; “Nearly every day” = 3.
3. Add together column scores to get a TOTAL score.
4. Refer to the PHQ-9 Scoring Card (see page 50) to interpret the TOTAL score.
5. Results may be included in patients’ files to assist you in setting up a treatment goal and determining degree of response, as well as guiding treatment intervention.

This PHQ-9 questionnaire is also available at www.depression-primarycare.org/clinicians/toolkits/materials/forms/phq9/

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Depression Screening and Treatment (Table 8 continued)

PHQ-9 Scoring Card for Severity Determination

for health professional use only

Scoring — add up all checked boxes on PHQ-9

For every ✓ Not at all = 0; Several days = 1; More than half the days = 2; Nearly every day = 3.

Interpretation of Total Score

Total Score	Depression Severity	Total Score	Depression Severity
1–4	None	15–19	Moderately severe depression
5–9	Mild depression	20–27	Severe depression
10–14	Moderate depression		

Psychotherapy

Psychotherapy and pharmacotherapy can be used either alone or in combination for patients presenting with mild episodes of major depressive disorder (MDD). Patients with moderate to severe MDD should generally be prescribed antidepressant medications, and may also benefit from psychotherapy.⁶⁰

Exercise⁶⁴

Aerobic exercise is an effective treatment for mild to moderate depression and is also effective as an adjunct to the treatment modalities for moderate to severe depression.⁶⁴ Exercise also has many other health benefits.⁶⁰

Pharmacotherapy⁶⁰

SSRIs or other new agents are generally preferable to tricyclic antidepressants. It is easier to titrate the dose of the newer antidepressant medications (SSRIs, bupropion, mirtazapine, and venlafaxine) and they have less severe side effects, allowing for a quicker response, better adherence, fewer office visits, and lower cost. During treatment with an SSRI, patients may complain of feeling jittery, an increase in anxiety, nausea or gastrointestinal upset, or sexual problems such as delayed ejaculation in men and anorgasmia in women. Other adverse effects seen with many of the antidepressants include insomnia or sedation, headaches, or weight changes. Patients should be advised that while benefits may be delayed or appear slowly, adverse effects can occur immediately. However, adverse effects are usually mild and improve with time or can be managed by adjusting or changing medications.

SSRIs: citalopram (Celexa®); escitalopram (Lexapro®); fluoxetine (Prozac®, Prozac® Weekly™); paroxetine (Paxil®, Paxil CR®); sertraline (Zoloft®)

Other New Agents: bupropion (Wellbutrin®, Wellbutrin SR®, Wellbutrin XL®); duloxetine (Cymbalta®); mirtazapine (Remeron®, RemeronSolTab®); venlafaxine (Effexor®, Effexor XR®)

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antidepressant medication. When psychosis, suicidal ideation, or severe functional impairment is present, medication is usually needed and hospitalization may be required.

Generalized Anxiety Disorder

Generalized anxiety disorder (GAD) is characterized by persistent, excessive, and uncontrollable worry and anxiety about daily life and routine activities.⁶⁵ Diagnosis of GAD is based on all of the following⁶⁶:

- Excessive, uncontrolled anxiety and worrying more days than not for at least 6 months.
- At least 3 of the following symptoms: restlessness; irritability; sleep disturbance; fatigue; difficulty concentrating; muscle tension; anxiety or worry; physical symptoms that cause clinically significant distress or functional impairment.

- Symptoms that are not caused by substance or medication use or abuse or by a general medical condition (**Table 10**).

Other symptoms of GAD include myalgias, trembling, jumpiness, headache, dysphagia, gastrointestinal discomfort, diarrhea, sweating, hot flashes, and feeling lightheaded and breathless.^{67,68}

Patients suffering from GAD may feel chronically tense, anxious, and/or be disproportionately consumed with worry⁶⁶; expect the worst on a consistent basis; and experience physical symptoms of anxiety,⁶⁷ chronic anxiety symptoms with short-term exacerbations,⁶⁶ and anxiety to a degree that it adversely affects daily functioning.⁶⁵

The short-term treatment goal is to rapidly reduce somatic symptoms and overwhelming anxiety; long-term

Table 9. Assess for Risk of Suicide

If the response to question 9 on the PHQ-9 is positive, you must evaluate the patient's risk for suicide by assessing his or her thoughts and plans. Detecting suicidal ideation can be lifesaving. Asking patients about suicidal thoughts or plans will not initiate suicidal thoughts, planning, or action.⁶⁰

Assess for suicidal thoughts and plans:

"Have you ever felt that life is not worth living?"

"Did you ever wish you could go to sleep and just not wake up?"

"Are you imagining that others would be better off without you?"

"Are you having thoughts about killing yourself?"

Assess for suicide risks including:

- Prior suicide attempts (best indicator of future attempts)
- Psychiatric comorbidity and substance use disorders
- Access to firearms
- Living alone
- Poor social support
- Male and elderly
- Recent loss or separation
- Hopelessness

If the patient is actively thinking of suicide, has made an attempt in the past, or has a plan for another attempt, arrange for mental health consultation as soon as possible or call 911 for emergency intervention.^{60,61}

goals include full recovery, preventing relapses, and treating any comorbid disorder.⁶⁸

Substance Use Disorders

Exposure to stress and trauma may increase the risk of substance use, substance use disorders, or relapse. Substance use disorders involve extended overuse of a substance marked by persistent cravings, increased tolerance, and withdrawal symptoms. Use characteristically continues despite resulting serious, persistent, and recurring psychological, physical, and social problems.^{73,74} During the weeks and months following the WTC attack, cigarette and marijuana use increased in NYC adults,²² and there was a correlation between exposure to the attacks and alcohol dependence.^{26,75}

Substance abuse

Substance abuse is a pattern of use that leads to clinically significant impairment or distress but without the physical

dependence or loss of control over intake that characterize addiction. It is manifested by 1 or more of the following in the same 12-month period:

- Failure to fulfill obligations at work, school, or home as a result of the abuse.
- Use in physically hazardous situations (such as driving).
- Recurrent legal problems as a consequence of the abuse.
- Continued use despite persistent or recurring social problems.

Substance dependence (addiction)

Dependence involves a preoccupation with a substance and diminished control over its consumption. The hallmarks of dependence are tolerance and withdrawal, and dependence is manifested by 3 or more of the following in a 12-month period:

- Symptoms of tolerance—using increased amount with the same or diminished effect.
- Symptoms of withdrawal after stopping substance use.
- Desire and unsuccessful attempts to cut down or control use.
- A great deal of time spent engaged in activities needed to obtain the substance.
- Neglect or abandonment of work, social, or recreational activities as a result of the use.
- Continued use despite health problems and negative social consequences.

Screen patients for problem drinking and substance use with the CAGE-Adapted to Include Drugs (CAGE-AID) Test (**Table 11**).

For patients with unhealthy drinking levels or drug abuse, clinicians should use the brief intervention technique.^{76,77} Brief intervention is a 5-step counseling technique that primary care practitioners can use to help their patients reduce unhealthy drinking:

- Provide clear, personalized advice about cutting down or abstaining.
- Listen reflectively—summarize and repeat what your patient says. Show concern and avoid confrontation—be on your patient's side. When possible, link alcohol/drug use to a specific medical condition.
- Set mutually acceptable goals—involve your patient.
- Patients may be unwilling to abstain from drinking/drug use completely, but may agree to reduce consumption.

Table 10. Generalized Anxiety Disorder (GAD) Screening and Treatment^{67,68}

Assess symptoms of GAD, level of functional impairment, and the presence of comorbid psychiatric conditions. The newly developed GAD-7 assessment tool can help confirm the diagnosis of GAD.

GAD-7

Over the past 2 weeks, how often have you been bothered by the following problems?

	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or to control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

Total Score _____ = Add Columns _____ + _____ + _____ + _____

Add all scores checked by the patient: 5–9 Mild anxiety 10–14 Moderate anxiety 15 and above Severe anxiety

Treatment

Rule out other possible causes for the symptoms before beginning any form of treatment for GAD.

- Organic causes for anxiety include undiagnosed medical disorders such as hyperthyroidism, arrhythmias, chronic obstructive pulmonary disorders, coronary insufficiency, and pheochromocytoma.
- Medication, as well as drugs and alcohol, caffeine, nicotine and cocaine (whether during intoxication or withdrawal), can cause or exacerbate anxiety symptoms.

Psychotherapy^{66,67}

Most effective when used in combination with pharmacotherapy, but can be used as the initial treatment for patients with mild GAD.

- Behavioral therapy: to modify the patient's behavior.
- Cognitive therapy: to change unproductive and harmful thought patterns.

- Cognitive-behavioral therapy.

- Relaxation therapy: to develop techniques to effectively deal with stress.

Pharmacotherapy^{47,50,52,60}

The aim of pharmacotherapy is the management of the anxiety symptoms.

Antidepressants are effective for GAD (see Pharmacotherapy in Table 8). Escitalopram (Lexapro[®]), paroxetine (Paxil[®]), and venlafaxine (Effexor[®]) are approved by the FDA for the treatment of GAD.

If needed, anxiolytics (benzodiazepines)* for prompt relief of symptoms:

- | | |
|---|------------------------------------|
| • Alprazolam (Xanax [®]) | • Diazepam (Valium [®]) |
| • Chlorazepate (Tranxene [®]) | • Lorazepam (Ativan [®]) |
| • Clonazepam (Klonopin [®]) | • Oxazepam (Serax [®]) |

*Benzodiazepines have the potential for abuse and dependence when used for more than several weeks.

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- Offer practical advice, information, and treatment referrals.
- Help patients identify drinking/drug use triggers and practical ways to cope. Common triggers include job stress, money worries, chronic illness, family problems, depression, anxiety, and social isolation.
- Prescribe medication if indicated.
- Three medications—naltrexone, acamprosate, and disulfiram—have been approved for the treatment of alcohol dependence. Buprenorphine, methadone, and naltrexone are effective treatments for opioid dependence.
- Provide regular follow-up to support efforts to reduce or stop drinking or abusing drugs.

Primary care providers play an important role in creating a treatment plan and supporting the patient in locating the appropriate program, support service, or network. Comprehensive care is critical, including addressing medical needs, monitoring progress, referring or consulting specialists, motivating the patient to change his/her lifestyle, maintaining remission and reducing the risk of relapse.^{74,76} Three or 4 follow-up visits (or a combination of visits and phone support) increase the effectiveness of brief intervention.⁷⁸

Table 11. Substance Use Screening and Treatment

Screening⁷⁶

Ask the patient about current and past nicotine, alcohol, or other substance use.

CAGE-AID (Adapted to Include Drugs) Test⁷⁸

Have you ever:

- Thought you should... **C**ut down your drinking or drug use?
- Become... **A**nnoyed when people criticized your drinking or drug use?
- Felt bad or... **G**uilty about your drinking or drug use?
- Taken an... **E**ye-opener drink or used a drug to feel better in the morning?

YES to 1 or 2 questions = Possible alcohol/drug use problem

YES to 3 or 4 questions = Probable alcohol/drug dependence

Preventive health measures recommended for people with a history of WTC-related illnesses

- Tobacco cessation and elimination of exposure to secondhand smoke are essential to control asthma/RADS and GERD/LPRD, and to prevent some cancers and other diseases.
- Counsel the patient to avoid occupational or recreational exposures that are known to exacerbate the illnesses.
- Annual influenza vaccination is advised to reduce the risk of complications of influenza infection.
- Pneumococcal vaccination is recommended for those with pulmonary disease.
- Diet modification and weight control are integral to the control of GERD.
- Screening for depression and substance use disorders is recommended during routine visits. If patients screen positive, appropriate counseling and referral should be provided.

Brief counseling may be further reinforced by visits with or phone calls from health care professionals or alcohol counselors. Patients with substance use disorders require ongoing care: monitoring, intervention, relapse-prevention, and referrals to improve treatment outcome. Relapse is common. Exposure to stress increases cravings and therefore the likelihood of a relapse.⁷⁹ Treatment planning should support the patient by addressing acute medical needs, monitoring progress, consulting specialists or referring the patient to specialists, and motivating the patient to make lifestyle changes.

SUMMARY

Seven years after the terrorist attacks, New Yorkers and others throughout the country still experience WTC-associated physical and mental illnesses. All providers can play an important role in evaluating and treating these illnesses. Primary care providers can also address mental health problems when evaluating patients for respiratory ailments and other health problems.

These guidelines supply information on how to diagnose, treat, and, if necessary, refer patients for additional evaluation and treatment. However, the guidelines do not consider all WTC-associated illnesses, and providers should monitor the literature as more information on WTC-associated disease becomes available. ◆

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For updated WTC resources and information: www.nyc.gov/9-11healthinfo

References Available Online: www.nyc.gov/html/doh/downloads/pdf/chi/chi27-6.pdf



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Continuing Education Activity

Clinical Guidelines for Adults Exposed to the World Trade Center Disaster

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JUNE 2008 VOL 27(6):41-54

Objectives

At the conclusion of this activity, participants should:

1. Understand the role of primary care clinicians in the evaluation and treatment of 9/11-related physical and mental illnesses.
2. List 3 common medical and 3 common mental health conditions associated with 9/11-related exposure.
3. Describe treatment recommendations for chronic cough and 9/11-related exposure.

Accreditation

The New York City Department of Health and Mental Hygiene (NYC DOHMH) is accredited by the Medical Society of the State of New York to sponsor continuing medical education for physicians. The NYC DOHMH designates this continuing medical education activity for a maximum of 2.00 AMA PRA Category 1 credit(s)TM. Each physician should only claim credit commensurate with the extent of his/her participation in the activity.

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Participants must submit the accompanying exam by June 30, 2009.

CME Faculty:

Jim Cone, MD, MPH
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All faculty are affiliated with the NYC DOHMH. The faculty does not have any financial arrangements or affiliations with any commercial entities whose products, research, or services may be discussed in this issue.

CME Activity Clinical Guidelines for Adults Exposed to the World Trade Center Disaster

1. Physical health signs and symptoms that have thus far been frequently found in those exposed to the World Trade Center disaster include all of the following EXCEPT:

- A. Chronic cough.
- B. Heartburn.
- C. Shortness of breath.
- D. Metabolic abnormalities.

2. All are true about treatment of chronic rhinitis and rhinosinusitis EXCEPT:

- A. Start with daily nasal saline spray or irrigation/lavage with or without antihistamines and oral decongestants for 5-7 days.
- B. Initial evaluation should include CT scan of sinuses.
- C. Consider intranasal steroids if nose and/or throat symptoms persist or worsen despite lavage and decongestants.
- D. Fever, chills, purulent discharge, maxillary pain, or sinus tenderness are all indications of possible bacterial superinfection of the sinuses and should trigger consideration of antibiotic treatment.

3. Initial evaluation and treatment of chronic cough and history of 9/11-related WTC exposure should NOT include:

- A. Smoking cessation and avoidance of second-hand smoke and other respiratory irritants.
- B. Methacholine challenge test.
- C. Chest X-ray and spirometry with bronchodilator.
- D. Inhaled corticosteroids and bronchodilators.

4. Common mental health consequences of 9/11 WTC exposure include:

- A. Major depressive disorder.
- B. Substance abuse.
- C. Post-traumatic stress disorder.
- D. All of the above.

5. While specific health conditions attributable to the collapse of the World Trade Center are still being defined, health care providers should employ the following measures to reduce health conditions that may be WTC-related EXCEPT:

- A. Tobacco cessation programs to ease respiratory symptoms and other illnesses.
- B. Weight control to decrease GERD.
- C. Screening for depression and substance use disorder.
- D. Annual prostate-specific antigen screening in men.

6. How well did this continuing education activity achieve its educational objectives?

- A. Very well.
- B. Adequately.
- C. Poorly.

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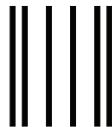
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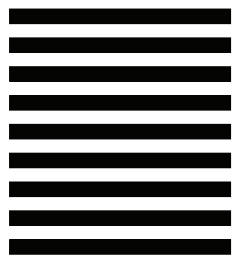
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CLINICAL GUIDELINES FOR ADULTS EXPOSED TO THE WORLD TRADE CENTER DISASTER

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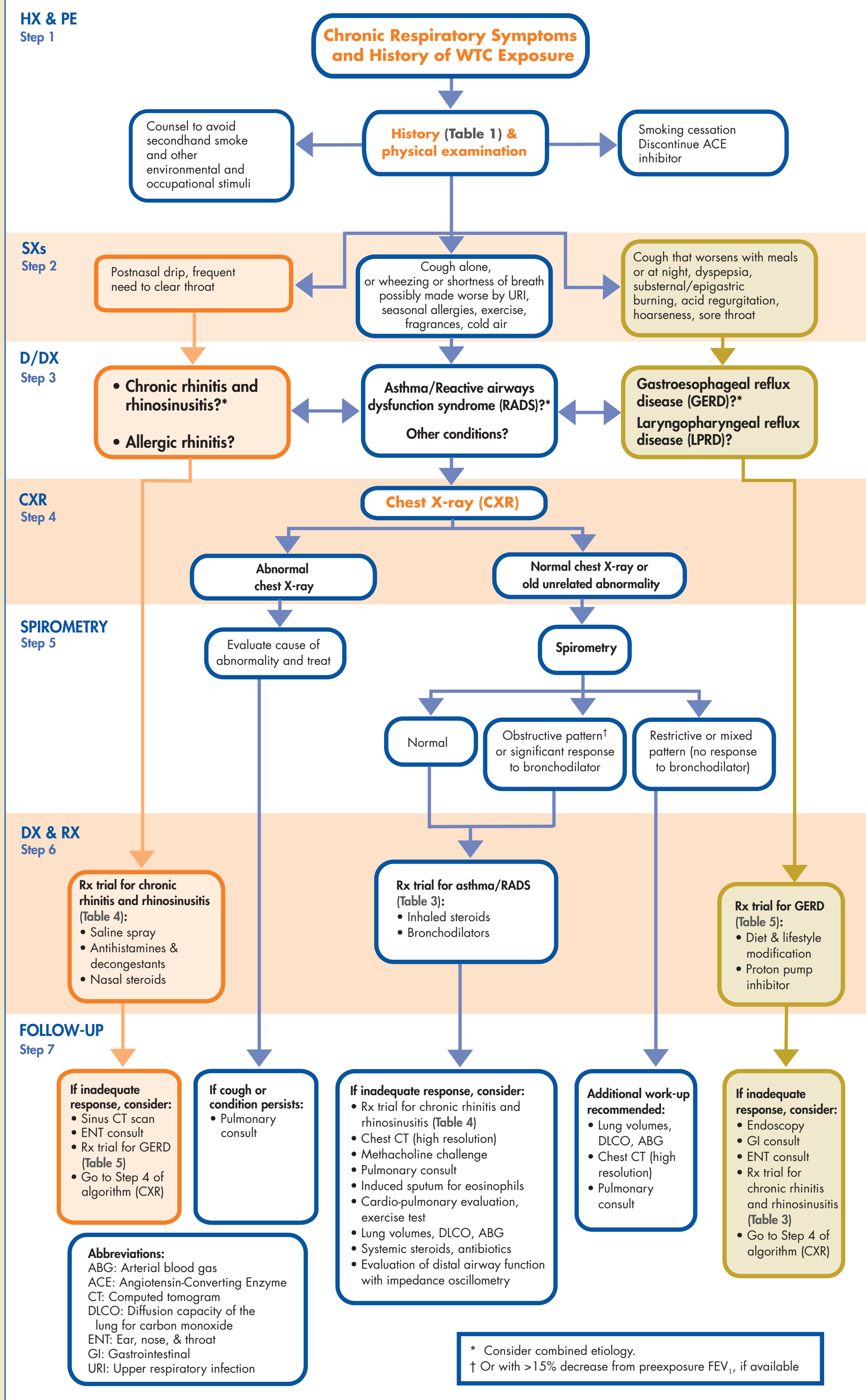
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FIGURE 1

The algorithm provides guidance for diagnosis, treatment, management, and referral to a World Trade Center monitoring or treatment program, or to another specialist (e.g. otolaryngologist, pulmonologist, cardiologist, radiologist, or gastroenterologist). Often, two or more conditions coexist, and these conditions must be treated simultaneously to improve or resolve the respiratory symptoms.⁸⁰

APPROACH TO THE PATIENT WITH CHRONIC RESPIRATORY SYMPTOMS AND A HISTORY OF WTC-RELATED EXPOSURE



MEDICAL RESOURCES

NEW YORK CITY 9/11 HEALTH INFORMATION
www.nyc.gov/9-11healthinfo

TREATMENT PROGRAM

Offering free services and medications for people with WTC-related symptoms

For residents, area workers, and students:

WTC Environmental Health Center at Bellevue Hospital Center, Gouverneur Health Care Services and Elmhurst Hospital Center 877-982-0107

MEDICAL MONITORING AND TREATMENT PROGRAMS

For rescue and recovery workers and volunteers:

Mount Sinai Consortium: WTC Medical Monitoring and Treatment Program 888-702-0630

For active and retired FDNY and EMS members who participated in the 9/11 rescue and recovery effort:

FDNY WTC Medical Monitoring and Treatment Program: 718-999-1858

PEDIATRICS

For pediatric (but not WTC-specific) guidelines:

American Academy of Pediatrics

www.aap.org/topics.html

WORKERS' COMPENSATION

www.wcb.state.ny.us

• Call 877-632-4996 to request a WTC-12 form or verify your registration.

REGISTRIES

NY State Cancer Registry

The New York State Department of Health is phasing in physician reporting of cancers diagnosed and/or treated in ambulatory settings. Call 518-474-2255.

NY State Occupational Lung Disease Registry

For occupational lung disease reporting forms, call 866-807-2130 or go to: www.health.state.ny.us/nysdoh/lung/lung.htm.

NY State Mortality Registry

The New York State Department of Health is collecting data on all WTC responder deaths (people who worked on the WTC site from 9/11 to 6/30/02, including Staten Island/barge and morgue workers). Contact Kitty Gelberg, Ph.D., Flanigan Square Room 230, 547 River Street, Troy, NY 12180, 518-402-7900.

ANNUAL 9/11 RESOURCE GUIDE

Visit www.nyc.gov/9-11healthinfo or call 311.

MENTAL HEALTH RESOURCES

LIFENET

• NYC DOHMH 24-hour, 7-days-a-week crisis hotline and information and referral network
English: 800-Lifenet/800-543-3638
Spanish: 877-Ayudese/877-298-3373
Chinese (Asian Lifenet): 877-990-8585
Other Languages: 800-Lifenet/800-543-3638
TTY hard of hearing: 212-982-5284
www.mhaofnyc.org

NYC 9/11 Benefit Program for Mental Health & Substance Use Services

• An insurance-like benefit to help cover September 11 mental health and substance use treatment costs for NYC residents 877-737-1164
www.nyc.gov/9-11mentalhealth

American Psychiatric Association, APA Answer Center

• Referral to a local psychiatrist 888-357-7924
www.healthyminds.org/locateapsychiatrist.cfm

American Psychological Association

• Telephone and online psychologist locator service 800-964-2000
www.apahelpcenter.org

New York State Office of Alcoholism and Substance Abuse Services (OASAS)

800-522-5353 or 518-485-1768
www.oasas.state.ny.us

Substance Abuse and Mental Health Services Administration

• National Drug and Alcohol Treatment Referral Routing Service 800-662-4357
www.findtreatment.samhsa.gov

Alcoholics Anonymous (AA) World Services, Inc.

212-870-3400
www.aa.org

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

301-443-3860
www.niaaa.nih.gov