

On Alert For Long-Haul COVID-19: What Mental Health Providers Need To Know

Kevin T. Blake, Ph.D., P.L.C., ASDCS, CCSP-ADHD

Tucson, AZ

TPN.Health

New Orleans, LA

Announcements, Disclosures and Paperwork



2016 10 17

Disclaimer

“Materials that are included in this course may include interventions and modalities that are beyond the authorized practice of mental health professionals. As a licensed professional, you are responsible for reviewing the scope of practice, including activities that are defined in law as beyond the boundaries of practice in accordance with and in compliance with your profession’s standards.”

Disclaimer

- **None of the techniques described in this seminar will work for all people with COVID-19. Every person with COVID-19 is different.**
- **There are no absolutes.**
- **All treatments have negative side effects. Some more than others. The presenter will do his best to cover the most common ones.**
- **The theories described in this seminar do not have the same amount of empirical evidence supporting each one of them. The presenter will do his best to describe the pros and cons of each.**
- **If you are concerned about a treatment technique described in this seminar ask the presenter about it.**

Disclaimer

- **Speaker Disclosure:**
- **Financial:** Kevin Blake maintains a private practice. He is a stockholder in Johnson & Johnson, Inc. and Amgen, Inc. Dr. Blake receives royalty from PESI, Inc., and an honorarium from TPN.Health for speaking.
- **Non-financial:** Kevin Blake is a member of the Children and Adults with Attention Deficit Disorders (CHADD), International Dyslexia Association (Orton Oak), Learning Disabilities Association of America, and American Psychological Association.

Disclaimer

“DSM[®], DSM-IV-TR[®], DSM-5[®], and DSM-5 TR[®] are registered trademarks of the American Psychiatric Association. The American Psychiatric Association is not affiliated with nor endorses this webinar.”

Kingdoms of Life

- **Most of us were taught there are two Kingdoms of life when we were in elementary school:**
 - **Plants**
 - **Animals**

Domains and Kingdoms of Life

Three Domains of Life

- Eukarya
- Eubacteria
- Archaea

Voytek, M.A. (February 3, 2022). The Three Domains of Life. Astrobiology at NASA. From website: <https://astrobiology.nasa.gov/news/the-three-domains-of-life/>.

Five/Six Kingdoms of life:

- Bacteria
- Protista
- Fungi
- Plantae
- Animalia

Voytek, M.A. (February 3, 2022). The Three Domains of Life. Astrobiology at NASA. From website: <https://astrobiology.nasa.gov/news/the-three-domains-of-life/>.

Possible Sixth Kingdom of Life?

➤ Viruses?

“What does it mean to be ‘alive’? At a basic level, viruses are proteins and genetic material that survive and replicate within their environment, inside another life form. In the absence of their host, viruses are unable to replicate and many are unable to survive for long in the extracellular environment. Therefore, if they cannot survive independently, can they be defined as being ‘alive’.”

Brown, N. and Bhella, D. (May 10, 2016). Are viruses alive? Microbiology Today. From website: <https://microbiologysociety.org/publication/past-issues/what-is-life/article/are-viruses-alive-what-is-life.html>.

Discovery of Viruses

- In 1892 Dmitry Ivanovsky discovered the tobacco mosaic virus.
- In 1898 Martins Beijerinck discovered viruses were not bacteria and he thought they were a fluid that contained disease. He called them viruses.
- The first virus was seen in 1939 by Ernest Ruska and colleagues with first electron microscope.

Lecoq, H. (October, 2001). Discovery of the first virus, the tobacco Mosaic Virus: 1892 or 1898? Comptes Rendus de l'Académie des Sciences (English translation). DOI: [10.1016/s0764-4469\(01\)01368-3](https://doi.org/10.1016/s0764-4469(01)01368-3).

Van Kammen, A. (1999). Beijerinck's contribution to the virus concept--an introduction. Archives of Virology. DOI: [10.1007/978-3-7091-6425-9_1](https://doi.org/10.1007/978-3-7091-6425-9_1).

Goldsmith, C.S. et al. (October 22, 2009). Modern Uses of Electron Microscopy for Detection of Viruses. Clinical Microbiology Review. DOI: [10.1128/CMR.00027-09](https://doi.org/10.1128/CMR.00027-09).

The Discovery of Viruses that Infect Humans

In 1900 Walter Reed, M.D., a US Army Major, and his colleagues discovered that Yellow Fever (malaria) was caused by female Aedes Aegypti mosquitoes, which carried the virus from person to person with their bites. As a result there was a massive mosquito eradication effort in Cuba and Panama. This eventually allowed the USA to build the original Panama Canal.

Feng, P. (No Date). Major Walter Reed and the Eradication of Yellow Fever. National Museum of the United States Army. From website: <https://armyhistory.org/major-walter-reed-and-the-eradication-of-yellow-fever/>.

1918 Spanish Flu Pandemic

- **Infected 1/3 of world's population; 500,000,000**
- **Killed 20 to 50,000,000 world wide**
- **Killed 675,000 Americans**

Author (May 19, 2020). Spanish Flu. History. From website: <https://www.history.com/topics/world-war-i/1918-flu-pandemic>.

- **It was the 1918 H1N1 virus of avian origin.**
- **Children below 5 and adults 20-40 most at risk.**

Author (No Date). Influenza: 1918 Pandemic. Center for Disease Control and Prevention. From website: <https://www.cdc.gov/flu/pandemic-resources/1918-pandemic-h1n1.html>.

Symptoms of Spanish Flu

- **68% of the cases had acute catarrhal infections of the respiratory tract.**
- **2% of those with Spanish flu “only” died; however; if the patient contacted pneumonia along with the flu up to 52%**
- **Symptoms of Spanish flu:**
 - **Chills, headaches, profuse sweats, malaise and prostration, agonizing pain in legs and back, burning under the sternum, powerful painful cough.**
- **Additional symptoms if had comorbid pneumonia:**
 - **Overwhelming toxemia, delirium, stupor, intense bloating, gas, explosive diarrhea, intense cyanosis (Called “Purple Death”, strong prognosis that death was near).**

Geherman, E. (Spring, 2021). In the Grip of a Disease. Harvard Medicine. From website: <http://hms.harvard.edu/magazine/pandemic/grip-disease>.

1918 Spanish Flu Pandemic

“...the number of first-time hospitalized patients with mental disorders attributed to influenza increased by an average annual factor of 7.2 (times, sic.) in the 6 years following the pandemic. In addition, he pointed out that Spanish flu survivors reported sleep disturbances, depression, mental distraction, dizziness, and difficulties coping at work, and that influenza death rates in the United States during the years 1918-1920 significantly and positively related to suicide.”

Eghigian, G. (May 28, 2020). The Spanish Flu Pandemic and Mental Health: A Historical Perspective. *Psychiatric Times*, 37(5). From website: <https://www.psychiatrictimes.com/view/spanish-flu-pandemic-and-mental-health-historical-perspective>.

1918 Spanish Flu Pandemic

Karl Menninger, M.S., M.D. (January 25, 1919) wrote about, “One hundred cases of mental disease associated with influenza at the Boston Psychopathic Hospital...For convenience they are readily classifiable into four groups: delirium, dementia praecox, other psychoses and unclassified...There is in most cases an interval between the termination of the influenza and the first manifestation of the symptoms of psychosis, the average varying from two to eight days in all...Delusions, and hallucinations are the most common symptoms, and depression is relatively infrequent contrary to the case in mentally normal subjects” (p. 240). He went on to say that these symptoms were seen in 31% of the patients studied.

Menninger, K. (January 25, 1919). Psychosis Associated with Influenza. The Journal of the American Medical Association, 72(4), 235-241.

Encephalitis Lethargica

“Encephalitis lethargica is a disease characterized by high fever, headache, double vision, delayed physical and mental response, and lethargy. In acute cases, patients may enter coma. Patients may also experience abnormal eye movements, upper body weakness, muscular pains, tremors, neck rigidity, and behavioral changes including psychosis. The cause of encephalitis lethargica is unknown. Between 1917 to 1928, an epidemic of encephalitis lethargica spread throughout the world, but no recurrence of the epidemic has since been reported.”

Author (No Date). Encephalitis Lethargica Information Page. National Institute of Neurological Disorders and Stroke. From website: <https://www.ninds.nih.gov/Disorders/All-Disorders/Encephalitis-Lethargica-Information-Page>.

Association of Viruses with Schizophrenia and Bipolar Disorder

- **Neuroscientists have wondered for over 100 years if infections can cause schizophrenia and bipolar disorder.**
- **Heritability of these disorders appear high and there seems to be a genetic component to them, but no marker gene has been found for either.**
- **Being born in late winter/early spring has been shown to be linked somewhat to the two disorders.**
 - **It may raise ones risk of having one of them 10%.**
 - **This is the time of year when viral infections are at their highest.**

Contributing Factors

- **Retroviruses, influenza virus, herpesvirus, including Epstein Barr virus have been connected to bipolar disorder, ASD and schizophrenia.**
 - **The mechanism of cause is not currently known.**
 - **People with genetic susceptibility may have an immune response that pushes the person into neurological/psychiatric pathology.**
 - **Viruses have been found to alter myelination in the developing brain that can put the person more at risk for mental health disorders.**
 - **Viruses can cause brain neurotoxicity in the developing brain.**
 - **Viruses that cause meningitis and encephalitis can cause major neurological problems.**

Viruses

- **Inflammation from viruses can cause inflammation of the brain.**
 - **The malaise from such a response can be seen as simply depression, but there may be much more involved.**
- **Inflammation from viruses can effect the thyroid gland also causing depression-like, or manic symptoms.**

Hobbs, J.A. (September 16, 2016). The Virus Connection: How Viruses Affect Psychiatric Pathologies. Psychiatric Times, 33(9). From website: <https://www.psychiatrictimes.com/view/virus-connection-how-viruses-affect-psychiatric-pathologies>.

Autism Spectrum Disorder & Inflammation

- **Adults with ASD were found to have abnormalities in the neuroimmune processes and mitochondrial dysfunction probably caused by anomalies in the translocator protein (18 kDa).**
- **An overexpression of this is primarily a marker of inflammation.**
- **This may be found in other mental health disorders.**

Repprecht, R. et al. (December 1, 2010). Translocator protein (18 kDa) (TSPO) as a therapeutic target for neurological and psychiatric disorders. Nature: Reviews Drug Discovery. DOI: <https://doi.org/10.1038/nrd3295>.

Medical Disorders That Mimic Psychosis

- Endocrine Disease
- Metabolic Disease
 - Tay-Sacs Disease
 - Newman Pick Disease Type C
- Autoimmune Disease
- Infections
- Narcolepsy
- Seizures
- Space Occupying Lesions
- Strokes
- Head Injury
- Demyelinating Diseases
 - Multiple Sclerosis
- Basal Ganglia Disorders
 - Huntington Disease
- Nutritional Deficiencies
 - B-12
- Toxic Substances

Freudenrich, O. (October 3, 2012). Differential Diagnosis of Psychotic Symptoms: Medical “Mimics”. Psychiatric Times.
From website:
<https://www.psychiatrictimes.com/view/differential-diagnosis-psychotic-symptoms-medical-mimics>.

Autoimmune Encephalitis (AE)

“AE (Autoimmune Encephalitis) occurs when the body's immune system mistakenly attacks healthy brain cells, leading to inflammation of the brain. Symptoms may include impaired memory and cognition, abnormal movements, seizures, and/or problems with balance, speech, or vision”.

➤ **Common Disorders:**

- **PANDAS (Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcal Infections)**
- **PANS (Pediatric Acute-onset Neuropsychiatric Syndrome)**

Author (2018). About Pandas, PANS, and AE. PANDAS Network. From website: <https://pandasnetwork.org/medical-information/>.

PANDAS

A set of obsessive compulsive symptoms and tic disorders triggered by Streptococcus infections that attack the basal ganglia in children. It appears that a subset of children have immune systems that create antibodies that attack the Streptococcus infection and cross the blood brain barrier and attack the basal ganglia. Like adult Obsessive-Compulsive Disorder which is associated with basal ganglia dysfunction that is why children with PANDAS tend to develop Obsessive-Compulsive symptoms. The symptoms tended to abate with antibiotics, intravenous immunoglobulin, or plasma exchange. Reductions in symptoms matched changes in brain imagery.

Moretti, G. et al. (May 21, 2008). What Every Psychiatrist Should Know About PANDAS: A Review. Clinical Practice and Epidemiology in Mental Health. DOI: [10.1186/1745-0179-4-13](https://doi.org/10.1186/1745-0179-4-13).

Symptoms of PANDAS

- **Obsessive-Compulsive Disorder**
- **Tics**
- **ADHD-like symptoms**
 - **Hyperactivity, inattention, or fidgety**
- **Separation Anxiety**
- **Mood Changes**
 - **Emotional Lability, Sadness, or Irritability**
- **Reduction in Motor Skills: Hand Writing**
- **Sleep Difficulties**
- **Bed wetting, frequent urination**

Moretti, G. et al. (May 21, 2008). What Every Psychiatrist Should Know About PANDAS: A Review. Clinical Practice and Epidemiology in Mental Health. DOI: [10.1186/1745-0179-4-13](https://doi.org/10.1186/1745-0179-4-13).

Prion Diseases

- **Prions are proteins that cause normal proteins in the brain to fold abnormally.**
 - **They are not a living “substance”.**
 - **They affect humans and animals.**
 - **Sometimes humans can get these diseases by eating infected meat:**
 - **Bovine Spongiform Encephalopathy/Mad Cow Disease.**
 - **Kuru – eating infected human brains**
 - **Sometime people inherit these diseases.**
 - **You can get it from infected cornea transplants and infected medical equipment.**
 - **There is no cure, or treatment and it is always fatal.**
 - **These are very rare.**

Symptoms of Prion Disease

- **Difficulty speaking**
- **Changes in walking and gate**
- **Confusion**
- **Muscle stiffness**
- **Dementia**
- **Fatigue**
- **Hallucinations**

Author (No Date). Prion Diseases. Johns Hopkins Medicine. From Website:
[https://www.hopkinsmedicine.org/health/conditions-and-diseases/prion-diseases.](https://www.hopkinsmedicine.org/health/conditions-and-diseases/prion-diseases)

Dementia and Psychosis

- **Delirium is commonly checked for with any psychosis.**
- **Psychosis is found in 40% of people with Alzheimer's Disease.**
- **Patients with Lewy Body Dementia meet criteria for psychosis 78% of the time. Hence, they are often initially misdiagnosed.**

Freudenrich, O. (October 3, 2012). Differential Diagnosis of Psychotic Symptoms: Medical "Mimics". Psychiatric Times. From website: <https://www.psychiatrictimes.com/view/differential-diagnosis-psychotic-symptoms-medical-mimics>.

Types of Delirium

- **Sleep Deprivation**
- **Hypoglycemia, or Hyperglycemia**
- **Serum Electrolyte or Metabolic Abnormalities**
- **Sepsis**
- **Medication interactions or withdrawal**
- **Hypoxia**
- **“ICU psychosis”**

Griswold, K.S. et al. (June 15, 2015). Recognition and Differential Diagnosis of Psychosis in Primary Care. American Family Physician. From website: <https://www.aafp.org/afp/2015/0615/p856.html>.

WHAT TO DO?

- **There is no slam dunk psychological/medical test that can determine if one has one of these medically caused psychoses.**
 - **The most important thing to do is to initially take a complete history!**
 - **“Instead, clinicians have to rely on typicality (with regard to age at onset, symptoms, treatment response, and course) as well as temporality and biological plausibility to judge whether a medical condition is causally related to psychosis.”**
 - **“A thorough history and physical examination with emphasis on the neurological and cognitive parts are the cornerstones for the initial approach to psychosis. To detect fluctuations in mental status typical for a toxic psychosis, repeated visits with bedside testing of cognition may be necessary. The extent of the laboratory workup to complement the history and physical examination is a matter of debate, and there is no agreed-on workup.”**

WHAT TO DO?

- **Refer to a psychiatrist/neurologist**
 - **They may do**
 - **Blood tests**
 - **CT/MRI**
 - **Check blood chemistry**
 - **EEG**
 - **Lumbar puncture, urinalysis**
 - **Cortisol levels**
 - **Toxin tests**
 - **Genetic testing**
 - **Drug levels**

Freudenrich, O. (October 3, 2012). Differential Diagnosis of Psychotic Symptoms: Medical “Mimics”. Psychiatric Times. From website: <https://www.psychiatrictimes.com/view/differential-diagnosis-psychotic-symptoms-medical-mimics>.

What To Do

- **Although these patients have a medical cause of their psychosis they and their family need:**
 - **Psychoeducation regarding disorder**
 - **Counseling**
 - **Connection to community resources**
 - **Symptom monitoring**

Griswold, K.S. et al. (June 15, 2015). Recognition and Differential Diagnosis of Psychosis in Primary Care. American Family Physician. From website: <https://www.aafp.org/afp/2015/0615/p856.html>.

Neurotransmitters & Hormones

- **Hormone secretion from the hypothalamus creates the Circadian Rhythm.**
 - **If this is not working correctly it can cause Seasonal Affective Disorder (SAD).**
 - **Presenting artificial sun light to patient can cause them to produce more hormone and reduce SAD symptoms.**
- **Depression can also be linked to low thyroid levels. Often thyroid medication can relieve this.**
- **Heightened cortisol is often found in those with depression and/or anxiety. This can alter norepinephrine and serotonin levels.**
- **Low testosterone and estrogen levels can cause depressive symptoms, too.**

Author (2021). Biology of Depression – Neuroplasticity and Endocrinology. MentalHelp.Net. From website: <https://www.mentalhelp.net/depression/neuroplasticity-and-endocrinology/>.

Psychoneuroendocrinology

- **This is the combination of psychiatry, biochemistry, psychology and neurology.**
- **Anomalies in the hypothalamic-pituitary-adrenal (HPA) axis can cause a variety of behavioral symptoms; anxiety, etc.**
- **Some people with such disorders are chronically stressed and then an environmental stressor triggers the diagnosis of anxiety.**
- **Sometimes patients go to an endocrinologist while under mental health care. Ask the patient what support systems they have and what mental health symptoms cause them difficulty, when and where.**
- **Talk to the patient's medical health professionals and come up with a unique treatment plan for the individual.**

Basile, L.M. et al. (May 15, 2020). How Endocrinologists Can Better Support Patients' Mental Health. From website:

<https://www.endocrineweb.com/how-endocrinologists-can-better-support-patient-mental-health>.

Microbiome & Mental Health

- **People who are depressed have a diversity “narrowed microbiome”.**
- **Not the only reason for depression, but may play a role.**
 - **Low diet fiber puts people at risk.**
- **Only 43% of you is you the rest is microbiome, bacteria, viruses, fungi and single-celled archaea.**
 - **This can be connected to disorders like allergy, obesity, inflammatory bowel disease, Parkinson's, whether cancer drugs work and even depression and autism.**

Microbiome

- **The microbiome in people with Parkinson's disease is significantly different from controls.**
- **Stool “transplanted” from Parkinson’s patients to mice cause the mice to develop symptoms.**
- **Psychiatrists are starting to prescribe probiotics to boost mental health.**

Gallahger, J. (April 24, 2018). How Bacteria Are Changing Your Mood. BBC News. From website: <https://www.bbc.com/news/health-43815370>.

Microbiome Transplantation and Reversing Aging?

Irish scientists found that transplanting fecal microbiome material from young healthy mice into elderly frail mice reversed weakness in general immunity and in brain immunity as well as significantly improved cognitive function.

Boehme, M. et al. (August 2021). Microbiota from young mice counteracts selective age-associated behavioral deficits. Nature: Aging. DOI: [10.1038/s43587-021-00093-9](https://doi.org/10.1038/s43587-021-00093-9).

What's In a Name

➤ New “scientific” name for Long-Haul COVID-19:

❖ “Post-acute Sequelae of COVID-19 (PASC)”

Or

❖ “Post-Acute Sequelae of SARS CoV-2 infection (PASC)”

Or

❖ “Post Acute COVID Syndrome (PACS)”

Proal, A. and, VanElzaker, M.B. (June 23, 2021). Long COVID or Post-acute Sequelae of COVID-19 (PASC): An Overview of Biological Factors That May Contribute to Persistent Symptoms. Frontiers in Microbiology. DOI: [10.3389/fmicb.2021.698169](https://doi.org/10.3389/fmicb.2021.698169).

Author (No Date). Long COVID (Post-Acute Sequelae of SARS CoV-2 infection, PASC). Fact Sheets: Yale Medicine. From website: <https://www.yalemedicine.org/conditions/long-covid-post-acute-sequelae-of-sars-cov-2-infection-pasc>.

Chaudhry, A. et al. (September 2021). Long COVID: Learning Over The Last Year From Those with Lingering Symptoms. British International Doctors Association, 27(3). From website: <https://www.mountsinai.org/files/MSHealth/Assets/HS/Locations/Abilities-Research-Center/BJ-Sept2021-LongCovid.pdf>.

Mental Health Disorders and Coronavirus Infections

A meta-analysis study that estimated the number of psychiatric disorders after the Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome outbreaks suggested that coronavirus infections may cause depression, mania, delirium, insomnia, poor memory, and anxiety.

Rogers, J.P. et al. (2020). Psychiatric and neuropsychiatric presentations associated with severe coronavirus infections: a systematic review and meta-analysis with comparison to the COVID-19 pandemic. Lancet Psychiatry, 7: 611-627.

Psychosis & COVID-19

- **There have been reports that some patients with COVID-19 will experience their first psychotic episode while infected.**
 - **Symptoms: Suicidal ideation, paranoia, delusions, hallucinations (auditory and/or visual), disorganized speech, bizarre behavior.**
 - **Treatment?: Antipsychotic medication, Antidepressants, Immunotherapy all accompanied with Talk Therapy?**
 - **Some recover quickly, some don't.**

Varatharaja, A. et al. (October 1, 2020). Neurological and neuropsychiatric complications of COVID-19 in 153 patients: a UK-wide surveillance study. Lancet. DOI: [10.1016/S2215-0366\(20\)30287-X](https://doi.org/10.1016/S2215-0366(20)30287-X).

Parra, A. et al. (September 20, 2020). Psychotic symptoms in COVID-19 patients. A retrospective descriptive study. Psychiatry Research. DOI: [10.1016/j.psychres.2020.113254](https://doi.org/10.1016/j.psychres.2020.113254).

Bartley, C.M. et al. (October 25, 2021). Anti-SARS-CoV-2 and Autoantibody Profiles in the Cerebrospinal Fluid of 3 Teenaged Patients With COVID-19 and Subacute Neuropsychiatric Symptoms. JAMA Neurology. DOI: [10.1001/jamaneurol.2021.3821](https://doi.org/10.1001/jamaneurol.2021.3821).

Lener, M.S. et al. (December 22, 2021). Can You Develop Psychosis After Having COVID-19? PsychCentral. From website: <https://psychcentral.com/coronavirus/covid-psychosis#is-it-temporary>.

When is Long-Haul COVID Diagnosed?

- **“Therefore reported symptoms consistent with previous Acute Covid infection and associated ongoing symptoms is enough to consider a diagnosis of long covid once other conditions have been excluded, even in the absence of a positive PCR test” (p. 7).**
- **Symptoms of COVID that persist 12 weeks or more after Acute COVID.**

Chaudhry, A. et al. (September 2021). Long COVID: Learning Over The Last Year From Those with Lingering Symptoms. British International Doctors Association, 27(3). From website: <https://www.mountsinai.org/files/MSHealth/Assets/HS/Locations/Abilities-Research-Center/BJ-Sept2021-LongCovid.pdf>.

When is Long-Haul COVID Diagnosed?

- **Symptoms can involve any system of the body and can change over time.**
- **Must rule out alternative causes. Can consider diagnosis prior to 12 weeks.**

Chaudhry, A. et al. (September 2021). Long COVID: Learning Over The Last Year From Those with Lingering Symptoms. British International Doctors Association, 27(3). From website: <https://www.mountsinai.org/files/MSHealth/Assets/HS/Locations/Abilities-Research-Center/BJ-Sept2021-LongCovid.pdf>.

Long-Haul COVID Percentages

- **Percent of COVID patients that continue and have Long-Haul COVID: 10-30%**
- **1 in 7 will be ill for 4 weeks**
- **1 in 20 for 8 weeks**
- **1 in 45 for 12 or more weeks**
- **6% will have one symptom after 12 weeks**
- **3% will have 3 or more symptoms after 12 weeks**

Chaudhry, A. et al. (September 2021). Long COVID: Learning Over The Last Year From Those with Lingering Symptoms. British International Doctors Association, 27(3). From website: <https://www.mountsinai.org/files/MSHealth/Assets/HS/Locations/Abilities-Research-Center/BJ-Sept2021-LongCovid.pdf>.

Other Long-Haul COVID Findings

- **Females are 1.5 time more likely to have Long-Haul COVID than males**
- **The risk appears to increase with every decade of life**
- **People who are obese, smoke and/or poor are more at risk of Long-Haul COVID.**

Chaudhry, A. et al. (September 2021). Long COVID: Learning Over The Last Year From Those with Lingering Symptoms. British International Doctors Association, 27(3). From website: <https://www.mountsinai.org/files/MSHealth/Assets/HS/Locations/Abilities-Research-Center/BJ-Sept2021-LongCovid.pdf>.

Long-Haul COVID Warning Signs

- In children evidence of Multisystem Inflammatory Syndrome (MIS)
- Suicidal ideation and Severe Psychiatric Symptoms
- Unexplained Chest Pain
- Recent low blood oxygen levels(< 94%), at rest and/or while exercising
- Confusion, weakness, dysphasia/new neurological problems
- Severe syncope/dizziness
- Heart palpitations or tachycardia at rest

Chaudhry, A. et al. (September 2021). Long COVID: Learning Over The Last Year From Those with Lingering Symptoms. British International Doctors Association, 27(3). From website: <https://www.mountsinai.org/files/MSHealth/Assets/HS/Locations/Abilities-Research-Center/BJ-Sept2021-LongCovid.pdf>.

- **Difficulty breathing or shortness of breath**
- **Tiredness or fatigue**
- **Symptoms that get worse after physical or mental activities**
- **Difficulty thinking or concentrating (sometimes referred to as “brain fog”)**
- **Cough**
- **Chest or stomach pain**
- **Headache**
- **Fast-beating or pounding heart (also known as heart palpitations)**
- **Joint or muscle pain**
- **Pins-and-needles feeling**
- **Diarrhea**
- **Sleep problems**
- **Fever**

Common Post-COVID-19 Conditions

- **Diarrhea**
- **Sleep problems**
- **Fever**
- **Dizziness on standing (lightheadedness)**
- **Rash**
- **Mood changes**
- **Change in smell or taste**
- **Changes in period cycles**
- **After 12 months serious Cardiovascular concerns**

Author (July 12, 2021). COVID-19: Long-Term Effects. Centers for Disease Control and Prevention. From website: <https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects.html>.

Yan, X. et al. (February 7, 2022). Long-term cardiovascular outcomes of COVID-19. Nature Medicine. DOI: 10.1038/s41591-022-01689-3.

Parosmia & Phantosmia

- **What is Parosmia?**

- **Reported strange alterations in how patients experience smells. Can be quite vile.**
 - **This can be seen in as many as of patients with acute COVID-19 and Long-Haul patients, too.**

Ohla, K et al. (September 8, 2021). Increasing incidence of parosmia and phantosmia in patients recovering from COVID-19 smell loss. MedRXIV-Yale. From website: <https://www.medrxiv.org/content/10.1101/2021.08.28.21262763v2>.

- **What is Phantosmia?**

- **Damage to the olfactory system that causes hallucinations of typically extremely vile smells.**
 - **This can be seen in a smaller but significant number of patients with acute COVID-19 and those with Long-Haul symptoms.**

Swanson, J.W. (July 10, 2020). Phantosmia: What Causes Olfactory Hallucinations? Mayo Clinic. From website: <https://www.mayoclinic.org/diseases-conditions/temporal-lobe-seizure/expert-answers/phantosmia/faq-20058131>.

Post-COVID-19 Conditions

- Hearing loss (7.6%), Tinnitus (14.8%) (pre-existing Tinnitus can become significantly worse), Vertigo (7.2%)
- Stuttering
- Memory problems
- Erectile dysfunction
- Overactive Bladder Syndrome
- 82% of COVID patients have neurological symptoms

Sutherland, S. (January 21, 2021). COVID Can Cause Forgetfulness, Psychosis, Mania or a Stutter. Scientific American Mind. From website: <https://www.scientificamerican.com/article/covid-can-cause-forgetfulness-psychosis-mania-or-a-stutter/>.

Sansone, A. et al. (March 20, 2021). “Mask up to keep it up”: Preliminary evidence of the association between erectile dysfunction and COVID-19. Andrology. DOI: 10.1111/andr.13003.

Almufarrij, I. et al. (March 22, 2021). One year on: an updated systematic review of SARS-CoV-2, COVID-19 and audio-vestibular symptoms. International Journal of Audiology. DOI: [10.1080/14992027.2021.1896793](https://doi.org/10.1080/14992027.2021.1896793) .

Liotta, E.E. et al. (November 2020). Frequent neurologic manifestations and encephalopathy-associated morbidity in Covid-19 patients. Annals of Clinical Translational Neurology. DOI: [10.1002/acn3.51210](https://doi.org/10.1002/acn3.51210).

Lamb, L.E., et al. (November 17, 2021). Long COVID and COVID-19-associated cystitis (CAC). Nature, Public Health Emergency. DOI: [10.1007/s11255-021-03030-2](https://doi.org/10.1007/s11255-021-03030-2).

Lingering Symptoms of COVID-19 Positive Non-Hospitalized Patients

- **Research from the University of Arizona indicates those who tested positive for COVID-19, but were not hospitalized due to their symptoms tended to experience the following long term symptoms:**
 - **Shortness of breath (37.5%)**
 - **Brain fog (30.8%): Fatigue, headache, attention problems, sleeping problems, loss of smell, etc.**
 - **Anxiety (30.8%)**
 - **Those with seasonal allergies had higher reported long-term symptoms**
 - **Higher prevalence in women**
 - **Findings 50% had 3 or more long-term symptoms after 60 days; 25% had 7 or more symptoms after 60 days**

Bell M.L. et al. (August 4, 2021) Post-acute sequelae of COVID-19 in a non-hospitalized cohort: Results from the Arizona CoVHORT. *PLoS ONE*, **16**(8): e0254347.
<https://doi.org/10.1371/journal.pone.0254347>.

Risk Factor for Developing Lon-Haul COVID

- **Type 2 Diabetes**
- **Having had active Epstein-Barr Virus during lifetime**
- **Not being able to have a sufficient antibody response to acute COVID-19**
- **Not having sufficient T cell antibody memory & viral load**

Su, Y. et al. (March 3, 2022). Multiple early factors anticipate post-acute COVID-19 sequelae. Cell. DOI: [10.1016/j.cell.2022.01.014](https://doi.org/10.1016/j.cell.2022.01.014).

Mental Health Disorders and COVID-19 Infection

- Those who had COVID-19 were significantly more likely to have mental and neurological health difficulties after infection and at greater rates than after the flu.
 - Mood and Anxiety Disorders occurrences were significantly higher than baseline after infection, but the severity of those disorders abated somewhat after 6 months.
 - 13% of COVID-19 patients had their first mental health diagnosis after infection.
 - 17% anxiety disorders, 14% mood disorders, 2.1% had a stroke, 0.7% developed dementia, 0.6% a brain bleed.
 - However, it was much higher in those who required hospitalization, needed to be ventilated, developed encephalopathy, CNS invasion, abnormal autoimmune responses, and those with CNS cardiovascular events.

Taquet, M. et al. (April 6, 2020). 6-Month Neurological and Psychiatric Outcomes in 236,279 Survivors of COVID-19: A retrospective Cohort Study Using Electronic Health Records. The Lancet: Psychiatry. DOI: [https://doi.org/10.1016/S2215-0366\(21\)00084-5](https://doi.org/10.1016/S2215-0366(21)00084-5).

Mental Health Disorders and COVID-19 Infection

- **First time psychiatric illness 14 to 90 days after COVID-19 infection 5 to 8%.**
- **This is double the risk of the general population.**
- **Those infected with COVID-19 show significant increases in all anxiety disorders, including PTSD.**
- **Insomnia rates increased due to circadian rhythm changes in those with COVID-19.**
- **There appears to be a two to three times increase of dementia.**
 - **That may be due to missed delirium and transient cognitive impairments.**

Taquet, M. et al. (November 9, 2020). Bidirectional associations between COVID-19 and psychiatric disorder: retrospective cohort studies of 62 354 COVID-19 cases in the USA. *The Lancet: Psychiatry*. DOI: [https://doi.org/10.1016/S2215-0366\(20\)30462-4](https://doi.org/10.1016/S2215-0366(20)30462-4).

Long-Haul COVID-19

- The Centers for Disease Control and Prevention estimates 146,000,000 Americans have been infected with COVID-19 (As of October 2, 2021).
- It estimates there were 124,000,000 “Symptomatic” cases, 7,500,000 hospitalizations and 921,000 deaths (As of October 2, 2021).
- Greg Vanichkachorn MD, MPH told the Minnesota legislature The Mayo Clinic’s estimate of cases of Long Haul COVID in the USA was 7.4 million with 2.2 Million not being able to return to work.
- **The highest estimate of the number of Long-Haul COVID-19 patients is 30% of those infected with the disease. That would equal 43,800,000 people!**

Author (November 16, 2021). Estimated COVID-19 Burden. Centers for Disease Control and Prevention. From website: <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/burden.html#est-infections>.

Kamp J. et al. (January 31, 2022). One Million Deaths: The Hole The Pandemic Made in U.S. Society. The Wall Street Journal. From website: <https://www.wsj.com/articles/one-million-deaths-the-hole-the-pandemic-made-in-u-s-society-11643662159>.

Vanichkachorn, G. (February, 2022). Long-Haul COVID – 2022 Update. Paper Presented to the Minnesota House of Representatives. From website: https://www.house.leg.state.mn.us/comm/docs/maX66GGGTUqEYg3AhJ_fVw.pdf.

Phillips, S. and Williams, M.A. (June 30, 2021). Confronting Our Next National Health Disaster — Long-Haul Covid. New England Journal of Medicine. DOI: 10.1056/NEJMp2109285.

“Mild” Acute COVID Infection Brain Changes

On Monday British researchers reported of conducting Pre and Post Brain MRI images and neuropsychological tests of 401 patients who tested positive for acute COVID after the first scan. On average there were 141 days between examinations. There were 384 controls. Hospitalized patients were not included. The COVID cases included were considered “Mild.” Patients Post-COVID were found as group to have lost significant gray matter thickness in the parahippicampal gyrus and the orbitofrontal cortex, damage to the olfactory cortex, and significant reduction in total brain size (.03%) as well as a significant cognitive decline (Trails A & B). This was also true when compared to controls. It is not known if these changes can be reversed with treatment, and/or time.

Douaud, G. et al. (March 7, 2022). SARS CoV-2 is Associated with Changes in Brain Structure in UK Biobank. Nature. DOI: [10.1038/s41586-022-04569-5](https://doi.org/10.1038/s41586-022-04569-5).

COVID-19 & Encephalitis Lethargica

- **Could those who survive COVID-19 get Encephalitis Lethargica?**
 - **There is some indication that such patients could be at risk of developing Parkinsonism later in life and a 6 month follow up COVID-19 survivors may show this.**
- **There does appear to be a higher potential of developing dementia after COVID-19 infection.**

Taquet, M. et al. (April 6, 2020). 6-Month Neurological and Psychiatric Outcomes in 236,279 Survivors of COVID-19: A retrospective Cohort Study Using Electronic Health Records. *The Lancet: Psychiatry*. DOI: [https://doi.org/10.1016/S2215-0366\(21\)00084-5](https://doi.org/10.1016/S2215-0366(21)00084-5).

COVID-19 & Dementia

Stix (November 10, 2021) quoted that Dr. Allison B. Sekuler of the Rotman Research Institute as saying, “The direct effect COVID seems to have on EEG power is analogous to effects that we see when people are diagnosed with mild cognitive impairment, which can develop into Alzheimer’s disease and related dementias.” She went on that not everyone will develop dementia after contracting COVID, but it appears it is significantly more likely.

Stix, G. (November 10, 2021). How COVID Might Sow Chaos in the Brain: SARS-CoV-2 appears to travel widely across the cerebral cortex. Scientific American Mind. From website:
https://www.scientificamerican.com/article/how-covid-might-sow-chaos-in-the-brain/?utm_source=newsletter&utm_medium=email&utm_campaign=mind&utm_content=link&utm_term=20211117_topstories&spMailingID=70883414&spUserID=NTA3NjgyMjU5MzUyS0&spJobID=2224696559&spReportId=MjlyNDY5NjU1OQS2.

AD/HD Caused by COVID-19?

- **Joel Nigg (April 14, 2021) reported James Swanson (April 8, 2021) stated at the biennial meetings of the Society for Research in Child Development that records of the 1918 Flu Pandemic indicated a high prevalence of neuro-inflammation in those infected and that may have led to a significant increase in children labeled as “hyperkinetic”. He urged watching for the same “syndrome” (Acquired AD/HD?) during the current pandemic.**

Nigg, J. (April 14, 2021). Mental Health, ADHD, COVID-19. In General News (Newsletter). From website: <https://joelniggphd.com/mental-health-adhd-covid-19/>.

Swanson, J. (April 8, 2021). What is the history of the evolving concept of ADHD? In the symposium, Conceptual and methodological challenges in ADHD research: Understanding risk factors and optimizing outcomes (Chair, J Cotton). Presented at the biennial meetings of the Society for Research in Child Development.

Post-Encephalitic ADHD?

Levy, S. (June, 1959). Post-Encephalitic Behavior Disorder – A Forgotten Entity: A Report of 100 Cases. American Journal of Psychiatry, 115(12), 1062-1067.

From website:

<http://ajp.psychiatryonline.org/doi/abs/10.1176/ajp.115.12.1062>

Does “COVID Fog” = “Acquired AD/HD”?

Russell Barkley (No Date) stated:

- **He believes it may be possible for a “blip” in the prevalence of ADHD due to COVID-19.**
- **He does not believe the Post COVID-19 “virus fog” has symptomatology like AD/HD.**
 - **COVID Fog: Is difficulty, ...with the power of your attention...given your alertness.”**
 - **AD/HD: “...is a disorder of sustaining attention to especially boring tasks over time.” it is not a problem with attention.**
 - **COVID Fog may start to look like Sluggish Cognitive Temp (SCT) over time.**

Author (No Date). HCP Live. From website: <https://www.hcplive.com/view/adhd-focus-concerns-covid-19-infection>.

Post-COVID Brain Fog Treatment?

German scientists, recently found using “non-invasive brain microcurrent stimulation therapy” with alternating current through the skull between the eyes and brain appeared to reduce “brain fog” in two female adult Post-COVID patients. Visual and cognitive symptoms were significantly reduced. Major side effect was a visual field cut that lasted about 48 hours. Treatment lasted up to 13 days. They hypothesized this caused blood vessels in the frontal lobe that were constricted to dilate and allow more oxygenated blood into them, allowing more oxygen in the brain and to neural recovery. **MORE RESEARCH IS NEEDED BEFORE THIS TREATMENT IS SUGGESTED!**

Sabel, B.A. et al. (December 28, 2021). Non-invasive brain microcurrent stimulation therapy of long-COVID-19 reduces vascular dysregulation and improves visual and cognitive impairment. Restorative Neurology and Neuroscience. DOI: [10.3233/RNN-211249](https://doi.org/10.3233/RNN-211249).

COVID-19 and Epstein Barr Virus Reactivation

American and Turkish scientists found 70% of those with “Long Haul COVID-19” actually had a reactivation of their Epstein Barr Virus that had been in remission. The inflammation of the COVID-19 reactivated their Epstein Barr and the “Long Haul” symptoms they were experiencing were symptoms from their Epstein Barr. The scientists suggested the possibility of using anti-viral medications to reduce viral load in such patient, even though such treatment has not been found to be of much help for those with Epstein Barr Virus.

Gold, J.E. et al. (June 17, 2021). Investigation of Long COVID Prevalence and Its Relationship to Epstein-Barr Virus Reactivation. Pathogens. DOI: [10.3390/pathogens10060763](https://doi.org/10.3390/pathogens10060763).

Symptoms of Epstein Barr Virus (EBV) – Human Herpes Virus 4

- Extreme fatigue
- Fever
- Sore throat
- Head and body aches
- Swollen lymph nodes
- Swollen liver, or spleen, or both
- Rashes
- This can last 2 to 4 weeks and occasionally over 6 months

Author (No Date). Epstein-Bar Virus and Infectious Mononucleosis. Centers for Disease Control and Prevention. From website:

<https://www.cdc.gov/epstein-barr/about-ebv.html>.

Epstein-Barr Virus (EBV) Can Recur

- Most people will have EBV once.
- In some it can recur after a few months, or years later.
- Once you have EBV it can go dormant and you will carry it for the rest of your life.
- EBV can reactivate, but will not often cause symptoms. A weakened immune system can cause a reactivation with symptoms.
- That leads to a chronic serious condition called Chronic EBV.
- You will have the same symptoms of and EBV infection, but they will last a long, long time.
- In such cases hepatitis and toxoplasmosis needs to be ruled out.

Tosh, P.K. (December 29, 2020). Mononucleosis: Can it Recur? Mayo Clinic. From website: <https://www.mayoclinic.org/diseases-conditions/mononucleosis/expert-answers/mononucleosis/faq-20058564>.

Myalgic Encephalomyelitis (ME)

➤ Symptoms:

- Fatigue
- Problems with memory or concentration
- Sore throat
- Headaches
- Enlarged lymph nodes in your neck or armpits
- Unexplained muscle or joint pain
- Dizziness that worsens with moving from lying down or sitting to standing
- Unrefreshing sleep
- Extreme exhaustion after physical or mental exercise

Author (No Date). Chronic Fatigue Syndrome. Mayo Clinic: <https://www.mayoclinic.org/diseases-conditions/chronic-fatigue-syndrome/symptoms-causes/syc-20360490>.

Myalgic Encephalomyelitis (ME)

- **Viral infections: Suspect Epstein Bar Virus and Human Herpesvirus 6**
- **Immune system problems**
- **Hormonal imbalances**
- **Physical, or emotional trauma**
- **Medical science is not sure...**

Author (No date). Chronic Fatigue Syndrome. Mayo Clinic. From website:

<https://www.mayoclinic.org/diseases-conditions/chronic-fatigue-syndrome/diagnosis-treatment/drc-20360510>.

Postural Orthostatic Tachycardia Syndrome (POTS) and Long-Haul COVID-19

- **Both represent dysautonomias**
- **POTS symptoms: chest pain, palpitations, exercise intolerance, orthostatic intolerance, brain fog, chronic pain, sleep problems**

Goldstein, D.S. (April, 2021). The possible association between COVID-19 and postural tachycardia syndrome. Hearth Rhythm Society. DOI: [10.1016/j.hrthm.2020.12.007](https://doi.org/10.1016/j.hrthm.2020.12.007)

Mental Health Support for Those with Chronic Illnesses

- **Major Depression Disorder (MDD) has been found to be 20 to 40% higher, or 3 times higher than the general population.**
- **People with chronic medical illnesses have a lower quality of life, less medical compliance, more functional impairment and higher morbidity and mortality.**
- **Research has indicated a multidisciplinary approach works best in helping patients with the above difficulties and to have better outcomes.**

Almeida, S.S. et al. (September 24, 2020). Management and Treatment of Patients With Major Depressive Disorder and Chronic Diseases: A Multidisciplinary Approach. Frontiers in Psychology. DOI: <https://doi.org/10.3389/fpsyg.2020.542444>.

Illnesses that are Commonly Comorbid with Depression: The Rates Of Depression That Can Occur with Other Illnesses is Quite High

- **Heart attack: 40% to 65%.**
- **Coronary artery disease (without heart attack): 18% to 20%.**
- **Parkinson's Disease: 40%.**
- **Multiple sclerosis: 40%.**
- **Stroke: 10% to 27%.**
- **Cancer: 25%.**
- **Diabetes: 25%.**

Author (March 9, 2021). Chronic Illness and Depression. Cleveland Clinic. From website:
[https://my.clevelandclinic.org/health/articles/9288-chronic-illness-and-depression.](https://my.clevelandclinic.org/health/articles/9288-chronic-illness-and-depression)

Mental Health Support for Those with Chronic Illnesses

- **Patients with diabetes, rheumatoid arthritis, cancer, Parkinson's disease and other chronic illnesses are often not referred for mental health treatments because medical personnel are often under trained regarding when to make such referrals.**
- **Persistent inflammation has been found with many chronic illnesses and Major Depressive Disorder.**
- **Major Depressive Disorder has been linked to long-term inflammation which one would typically be subjected to whom had a chronic medical condition.**

Almeida, S.S. et al. (September 24, 2020). Management and Treatment of Patients With Major Depressive Disorder and Chronic Diseases: A Multidisciplinary Approach. *Frontiers in Psychology*. DOI: <https://doi.org/10.3389/fpsyg.2020.542444>.

Mental Health Support for those with Long-Haul COVID

It is common for those with serious chronic illnesses to experience depression, anxiety and PTSD due to the psychological difficulties such medical illnesses can cause. Often Long-Haul COVID patients are passed off by medical professionals as having “only mental health difficulties.” This is due to the general lack of knowledge about COVID. Other patients with Long-Haul COVID are afraid to speak up because they may feel they will be seen as a “mental case” and not have legitimate medical concerns. This can cause additional anxiety, depression and PTSD.

Almeida, S.S. et al. (September 24, 2020). Management and Treatment of Patients With Major Depressive Disorder and Chronic Diseases: A Multidisciplinary Approach. Frontiers in Psychology. DOI: <https://doi.org/10.3389/fpsyg.2020.542444>.

Mental Health Difficulties After Long-Haul COVID-19

American researchers recently found in a follow-up study of over 150,000 people with COVID-19 30 days after their last positive test indicated they were significantly more at risk of having, “...anxiety disorders, depressive disorders, stress and adjustment disorders, opioid use disorder, other (non-opioid) substance use disorders, neurocognitive decline, and sleep disorders...,” when compared to those without COVID-19 during the same time and those with the flu. The researcher concluded that mental health concerns patients Post-COVID should be watched for and addressed.

Xie, Y. et al. (February 16, 2022). Risks of mental health outcomes in people with covid-19: cohort study. BMJ. DOI: [10.1136/bmj-2021-068993](https://doi.org/10.1136/bmj-2021-068993).

Long-Haul COVID Medical Clinics

- **Several large hospitals in the United States offer Long-Haul COVID Clinics.**
- **These offer multidisciplinary treatment and medical experts in every body system as well as mental health, social work and pharmacological experts.**
- **They also keep up with the latest in identifying and treating Long-Haul COVID.**
- **They use a holistic approach with physical and occupational therapy as well as individual and group therapy.**

Author (2021). Center for Post-COVID Care. Mount Sinai Hospital, New York, NY. From website: <https://www.mountsinai.org/about/covid19/center-post-covid-care>.

Where to Find Such Clinics Where You Are

➤ **SURVIVOR CORPS:**
<https://www.survivorcorps.com>

Good Book and Podcast on Chronic Diseases

- **O'Rourke, M. (March 1, 2022). The Invisible Kingdom: Reimagining Chronic Illness. New York, NY: Penguin Random House.**
- **Gross, T. (February 28, 2022). How Long COVID Sheds Light on Other Mysterious (and Lonely) Chronic Illnesses. Fresh Air. National Public Radio.**

Case Manager

- **When working with a person who has a chronic illness and possible comorbid Major Depressive Disorder a multidisciplinary team treatment approach is best practice.**
- **The team should be coordinated by a case manager.**
 - **This person can help the person follow-up with treatments, provide communication between medical staff and help insure medical staff follow through, provide patient and family education, referrals for mental health therapy and medications as needed.**
- **Such approaches show significant increase in patient treatment compliance.**

Almeida, S.S. et al. (September 24, 2020). Management and Treatment of Patients With Major Depressive Disorder and Chronic Diseases: A Multidisciplinary Approach. *Frontiers in Psychology*. DOI: <https://doi.org/10.3389/fpsyg.2020.542444>.

Cognitive Behavioral Therapy for Chronic Illness and Depression

- **Negative view of self: Dwell on past failings and blame self for illness.**
- **Negative view of personal world: Everyone is bad and no one cares.**
- **Negative view of the future: Your loss is permanent. Nothing you can do will change your outcome. Hopelessness.**

Cotterell, N. (May 1, 2017). Depression and Chronic Illness: CBT for Medical Conditions. From website: <https://beckinstitute.org/depression-chronic-illness/>.

Goals

- **People with chronic illness tend to take less care of themselves than the general population.**
- **They can become preoccupied with their illness and forget they have other aspects of themselves.**
 - **Have them focus on strengths, skills and competencies.**
 - **Ask them, “What would you do if things got better?”**
 - **Some may say, “reconnect with their friends’, or, “accept more help from my family”, etc.**
 - **Have them set a goal to do so. Goal setting can be a good first step to regain control of one’s life.**
 - **Focus on what they can do to reconnect with friends, recreation, entertainment, fitness and self-care.**

Cotterell, N. (May 1, 2017). Depression and Chronic Illness: CBT for Medical Conditions. From website: <https://beckinstitute.org/depression-chronic-illness/>.

Cost Benefit Analysis: Empowerment

- They can be thinking so negatively they have no motivation to change.
- Have them start out by listing all the negatives that could happen if they tried to change (that should be easy).
- Then encourage them to list the possible positives of working to change. Have them note the benefits of making change.
- Have them weigh the benefits of positive change against the negatives of no motivations.
- Actively have them think of how their lives have improved by taking action and change.
- Teach them how to know and when to get help (depression, etc.).

Cotterell, N. (May 1, 2017). Depression and Chronic Illness: CBT for Medical Conditions. From website: <https://beckinstitute.org/depression-chronic-illness/>.

Acceptance and Commitment Therapy (ACT)

ACT forms its bases on Relational Frame Therapy (RFT) which examines the context of relations and what rational behavioral change can be made with Behavioral Analysis. It also understands the power internalized speech has on people hence it has a component of Cognitive Behavioral Therapy (CBT). Clients learn to neutralize their negative self-talk, develop clarity for their values and what they want, and commit to the needed changes in behavior. There is also a component of mindfulness that instills the concept of being in the moment and not using avoidance behavior. Finally, the client is encouraged to change the things within their power and accept that they cannot change.

Dewane, C. (September/October 2008). The ABCs of ACT — Acceptance and Commitment Therapy. Social Work Today. From website: <https://www.socialworktoday.com/archive/090208p36.shtml> .

Acceptance and Commitment Therapy (ACT)

“Acceptance and commitment therapy has been associated with improved outcomes in patients with chronic pain (comparable to cognitive behaviour therapy) and several studies suggest that it may be useful in patients with mild to moderate depression. Preliminary evidence of benefit has also been shown in the setting of obsessive-compulsive disorder, psychosis, smoking, tinnitus, epilepsy and emotionally disordered eating after gastric band surgery.”

Smout, M. (September, 2012). Acceptance and commitment therapy: Pathways for general practitioners. Australian Family Physician. From website: <https://www.racgp.org.au/afp/2012/september/acceptance-and-commitment-therapy> .

Improving Self-Care and Advocacy

- **People with chronic illness tend to be isolated and have poor self-care. Just getting them to take a bath, and brush their teeth can help them feel better about themselves.**
- **They can join support groups for people with their chronic illness (investigate the group first).**
- **Teach them to advocate for themselves and others with the medical professionals.**
- **This will help the feel more in control of their lives, more competent and functional as a human being.**

Cotterell, N. (May 1, 2017). Depression and Chronic Illness: CBT for Medical Conditions. From website: <https://beckinstitute.org/depression-chronic-illness/>.

Other Suggestions

- Eating a healthy diet.
- Getting as much physical activity as you can.
- Avoiding negative coping mechanisms like alcohol and substance abuse.
- Exploring stress-relief activities like meditation.
- Letting go of obligations that you don't really need to do or want to do.
- Asking for help when you need it.
- Staying in touch with family and friends.

Author (March 9, 2021). Chronic Illness and Depression. Cleveland Clinic. From website: <https://my.clevelandclinic.org/health/articles/9288-chronic-illness-and-depression>.

Telephone Based Counseling

“This trial demonstrates that a simple, time-limited intervention for cardiac patients at a critical point in the course of their illness produces a significant decrease in symptoms of mood disorders accompanied by improvement in home function. The finding of increased home function suggests that improved mood is associated with desirable functional outcomes...”

➤ Telephone based counseling.

Mclaughlin, T.J. et al. (December, 2005). Improving Psychologic Adjustment to Chronic Illness in Cardiac Patients: The Role of Depression and Anxiety. Journal of General Internal Medicine. DOI: [10.1111/j.1525-1497.2005.00256.x](https://doi.org/10.1111/j.1525-1497.2005.00256.x)

“Zoom Therapy”

A literature review of 11 studies investigating the efficacy of “Video Teleconference” therapy indicated that it can be a good way to break barriers to receiving therapy for depression, anxiety and PTSD and effective treatment modality.

Varker, T. et al. (2019). Efficacy of Synchronous Telepsychology Interventions for People with Anxiety, Depression, Posttraumatic Stress Disorder, and Adjustment Disorder: A Rapid Evidence Assessment. Psychological Services. DOI: [10.1037/ser0000239](https://doi.org/10.1037/ser0000239) .

“Digital Therapy”

Swedish researchers tested an online brief Cognitive Behavioral Therapy (CBT) self-guided intervention to help the general population cope with worry about the pandemic and found it significantly reduced worry, insomnia and “intolerance of uncertainty” as well as improved mood and daily functioning. It was well tolerated, popular and had no serious side effects.

Wahlund, T. et al. (2021). Brief Online Cognitive Behavioural Intervention for Dysfunctional Worry Related to the COVID-19 Pandemic: A Randomised Controlled Trial. Psychotherapy and Psychosomatics. DOI: [10.1159/000512843](https://doi.org/10.1159/000512843).

Self-Education

- **Become “educated” about your illness.**
 - **Write down questions you have for doctor.**
 - **Ask medical providers to explain it in lay peoples’ words. Record what they say. Have someone with you as a second set of ears.**
 - **Check “legitimate” internet sites (i.e., Mayo Clinic, Cleveland Clinic, National Institutes of Health, National Center for Complementary and Integrative Health, etc.).**
 - **Contact National Association related to your disorder and join a support group, if available.**
 - **Learn to speak the medical language related to your disorder.**

Author (March 9, 2021). Chronic Illness and Depression. Cleveland Clinic. From website: <https://my.clevelandclinic.org/health/articles/9288-chronic-illness-and-depression>.

Other Suggestions

- **Have them focus on the things you can change, not the things they cannot (i.e., the A.A. Serenity Prayer).**
- **Learn mindfulness, relaxation techniques, self-hypnosis, etc.**
- **A recent meta-analysis demonstrated that both Cognitive Behavioral Therapy (CBT) and Mindfulness-Based Stress Reduction can be helpful in chronic pain management.**

Greene, P. (May 25, 2019). Living with Chronic Illness. Anxiety & Depression Association of America. From website: <https://adaa.org/learn-from-us/from-the-experts/blog-posts/consumer/living-chronic-illness>.

Khoo, E-L. et al. (February 2019). Comparative evaluation of group-based mindfulness-based stress reduction and cognitive behavioural therapy for the treatment and management of chronic pain: A systematic review and network meta-analysis. Evidence-Based Mental Health. DOI: [10.1136/ebmental-2018-300062](https://doi.org/10.1136/ebmental-2018-300062).

What The Employee Needs to do with Acute COVID

- **In acute COVID stage stay home from work and isolate (Follow CDC guidelines for isolation time)**
- **Contact boss and/or HR and tell them you have COVID and/or have been exposed and ask if you need a medical note.**
- **Rest until you feel good again. Remember, some Post COVID symptoms can arise after the acute phase.**
- **Keep in contact with boss/HR to inform them of your health and learn about their requirements to return to work.**
- **Keep in close contact with your physician regarding your symptoms and release them to speak to boss/HR if needed.**

Suggestions for Employers

- **Keep in regular contact with your ill employee.**
 - **Ask if they need help.**
 - **Tell them what is happening at work – helps them keep track of their coworkers and the work routine- helps with morale at work and for sick employee.**
 - **Ask employee is there something you can do that will help them return to work.**
 - **Can the business help the gain access to treatments, help, etc.**
 - **Employers need to know someone can have full blown COVID with a negative test and they can infect others.**

What The Employee Should Do When Contemplating Returning to Work

- **Get clearance from your physician.**
- **Ask for a referral to an Occupational Health Center (Most large hospitals have these). Your boss may make the referral for you.**
 - **This will help determine if you are fit enough for work even though you have no COVID symptoms at the time.**
 - **It will help the employer know it is safe for your to return to work and it will help insure your coworkers you are no longer infectious.**
- **Contact your boss to discuss the process to return to work.**
 - **Make sure you have a work review shortly after returning to work.**
 - **Make sure you can ease back into work and will not be put under immediate pressure.**
 - **HR and unions can help with this.**

What The Employee Should Do When Contemplating Returning to Work

- **Make sure if you have any health restrictions that accommodations can be made.**
 - **Make suggestions based on your knowledge of the job and your current health condition.**
 - **Ask for, if need, a phased return to work.**
 - **An Occupational Health Physician can help with this.**
 - **Will you need new training to return to work? COVID safety training?**
 - **Discuss “reasonable accommodations” under the ADDAA.**
 - **Both sides should acknowledge that temporary accommodations could become permanent.**

Rayner, C. (2021). COVID-19 Return To Work Guide. The Society of Occupational Medicine, Scotland. From website: <https://www.mountsinai.org/files/MSHealth/Assets/HS/Locations/Abilities-Research-Center/COVID-19-return-to-work-guide-for-recovering-workers.pdf> .

Work Accommodations Resources

- **Job Accommodations Network (JAN) (Part of the Department of Labor):**
 - <https://askjan.org/>.
- **Occupational Health and Safety Administration (OSHA) (Part of the Department of Labor):**
 - <https://www.osha.gov/coronavirus/faqs#return-to-work>
- **OSHA Employers' Emergency Temporary Standards for COVID-19:**
 - <https://www.osha.gov/coronavirus/faqs#return-to-work>

Elder Law Attorneys

- **Attorneys who are members of the National Academy of Elder Law Attorneys (NAELA).**
 - **Experts in estate, trust, guardianship and disability law**
 - **Help with “alternative decision making” documents and plans**
 - **Finding recourses to finance care**
 - **Finding and monitoring quality care for disabled/elder person**
 - **National Academy of Elder Care Attorneys (NAELA):**
<https://www.naela.org/>

Author (2021). Consumer Resources. National Academy of Elder Care Attorneys. From website: https://www.naela.org/ImportTemp/Consumer_Resources_Landing_New.aspx?hkey=1e07503a-588d-4e61-98c0-a975d05fb4a6.

Social Security and COVID-19

- **“Yes, long COVID can be a disability under the ADA, Section 504, and Section 1557 if it substantially limits one or more major life activities.”**

Author (July 26, 2021). Guidance on “Long COVID” as a Disability Under the ADA, Section 504, and Section 1557. U.S. Department of Health and Human Services, Office of Civil Rights. From website: <https://www.hhs.gov/civil-rights/for-providers/civil-rights-covid19/guidance-long-covid-disability/index.html>.

- **National Disability Rights Network:** www.ndrn.org
- **Disabilities Rights Law Association:** <http://disabilityrights-law.org/>
- **National Association of Disability Representatives:** www.nadr.org
- **The National Organization of Social Security Claimants' Representatives:** <https://nosscr.org/>

Thank You!



- **Kevin T. Blake, Ph.D., P.L.C.**
- **Office: 520-327-7002**
- **E-mail:**
kblake@drkevintblake.com
- **Website: www.drkevintblake.com**
- **Mail: 5210 East Pima, Suite 200,
Tucson, AZ 85712**