AMERICAN COLLEGE OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE

Introduction to the Workplace Mental Health Guideline

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GUIDELINE MODULES

The guideline is constructed of modules, allowing us to release the guidance as each module is completed. The modules include:

- Post-traumatic Stress Disorder and Acute Stress Disorder
- Depressive Disorders
- Anxiety Disorders and Workplace Stress
- Somatizing

Each module addresses one or more specific conditions.

GUIDELINE CONVENTIONS

The mental health disorders covered within each module generally follow the conventions of categorizing diagnoses used by the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-5). There are exceptions and those include:

- The DSM-III, DSM-IV, DSM-5, ICD-9, ICD-10, and ICD-11 have substantial differences with regard to how mind-body disorders are conceptualized, categorized and diagnosed. As this guideline will review the existing research on the various conceptualizations of these disorders, one module was assigned a conceptually neutral label of "Somatizing." The Somatizing Module will include somatoform disorders, somatization, somatic symptom disorders, bodily distress disorders, factitious disorders/Munchhausen Syndrome, hypchrondriasis, conversion disorders, and related conditions.
- Although chronic pain can be diagnosed as a mental health disorder (e.g., pain/somatoform/somatic symptom/bodily distress disorder), treatments for this condition are reviewed in the separate Chronic Pain Guideline.
- Although opioid use disorder is a mental health diagnosis, treatments for this condition are reviewed in the separate Opioids Guideline.
- Workplace stress refers to a level of emotional distress that is common to everyday life. However, workplace stress may activate the "fight or flight" response. Even though this level of stress is not a diagnosable mental health condition and is not disabling, professionals are asked to address this routinely concern; thus, it is included in the Anxiety module.
- Although DSM-5 groups adjustment disorders with trauma-related disorders (e.g., PTSD), adjustment disorders with depression and adjustment disorders with anxiety are reviewed in the Depression and Anxiety modules, respectively.

- Although DSM-5 groups illness anxiety with somatic symptom disorders, treatment for illness anxiety was judged to be more closely related to anxiety treatment than treatment for somatizing conditions. Consequently, illness anxiety is covered in the Anxiety module.

The data and studies referenced in this guideline are often based on earlier, contemporaneous diagnostic criteria, such as the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Text Revision* (DSM- IV-TR), because the DSM-5 was released in May 2015. This has been noted in the evidence tables and throughout the text when available. Not every study denoted the DSM (or other) version.

This guideline assumes that the healthcare provider (HCP) performing various functions is often not the same throughout the processes of screening, testing, treatment, monitoring, and return to work. Transitions from and between one phase to the other must be coordinated, most often by the main treating provider and/or primary care provider. The provider needs to be specific in disclosing his or her role to the patient (i.e., a provider screening a patient for return to work may not be the treating provider with a primary fiduciary responsibility to the patient). Additionally, the provider for many psychological testing situations is likely a psychologist. However, other HCPs may be qualified to perform these functions based on training and/or experience.

GUIDELINE UPDATES

The literature on mental health topics is routinely monitored and evaluated for quality publications that would modify this guidance. This guideline is planned to be comprehensively updated at least every 5 years, or more frequently as new evidence requires.

In accordance with the IOM's Trustworthy Guidelines, detailed records are kept, including responses to external peer reviewers [1].

GUIDELINE INTRODUCTION

The Workplace Mental Health Guideline is designed to provide healthcare providers (the primary target users of this guideline) with evidence-based guidance on the evaluation and treatment of working-age adults who have mental and behavioral health disorders (hereafter mental health disorders) impacting on and/or arising from the workplace. This guideline addresses a general approach to the evaluation and management of patients with workplace mental health disorders, particularly including guidance for select disorders of relevance to the working population (e.g., major depressive disorder [MDD], anxiety disorders, bipolar disorder, post-traumatic stress disorder, insomnia, psychosis, stress, alcohol use disorder, and substance use disorder). This guideline focuses on mental health conditions that are either commonly associated with work-related injury or illness, highly prevalent among workers, and/or of significant concern in the occupational setting.

Some mental health disorders may be associated with or follow workplace events. For example, after a work-related injury or trauma, a patient may develop depression, anxiety, post-traumatic stress

disorder, or other psychological conditions. In other cases, a mental health disorder may be related to events or biological processes unrelated to work. In this case, even though these conditions are not due to workplace events, they may impact a patient's fitness for duty.

Despite the stigma that "mental health disorders" may carry, patients with serious mental illness may be highly functional in the workplace. For example, a mathematician with paranoid schizophrenia won the Nobel Prize, and a professor of animal science with autism performed such revolutionary work that she was named to Time's 100 most influential people in the world [2, 3]. Although conditions such as autism or schizophrenia cannot be caused by workplace events, they may impact workplace performance. Those who have these conditions may require accommodations to be successful.

It is recognized that there are significant differences between and among the various states' and federal systems, and these differences are often considerably more pronounced among mental health disorders than other disorders [4]. There also are regional differences in treatment approaches [5-7] [8-12]. This guideline does not attempt to address those differences.

The objectives of this guideline are to provide evaluations of diagnostic tools, screening tools, allied health interventions, medications, and psychotherapies. The comparative effectiveness of various treatment options is addressed where research is available:

- What evidence supports the initial assessment and diagnostic approach? Screening tools? Diagnostic tools?
- What red flags signify potentially serious underlying condition(s)?
- What initial treatment approaches have evidence of efficacy?
- What is the evidence of work-relatedness for various diagnoses?
- What modified duty, cognitive or psychotherapeutic homework activity prescriptions (e.g., problem solving games), and/or limitations are effective and recommended?
- When is it acceptable to return the individual to work?
- When initial treatment options fail, what evidence supports other interventions?
- When and for what conditions are invasive procedures recommended?
- When and for what conditions is surgery recommended?
- What management options are recommended for delayed recovery?
- What evidence of efficacy is available for psychological and behavioral interventions for workplace mental health conditions?

In accordance with the IOM's Trustworthy Guidelines, detailed records are kept, including responses to external peer reviewers [1]. Recommendations on assessing and treating adults with workplace mental health disorders are presented herein.

The Biopsychosocial Model

The ACOEM guidelines adopt the biopsychosocial model, which integrates the biological, psychological, and social aspects of a patient's condition into a unified whole (see Figure 1).

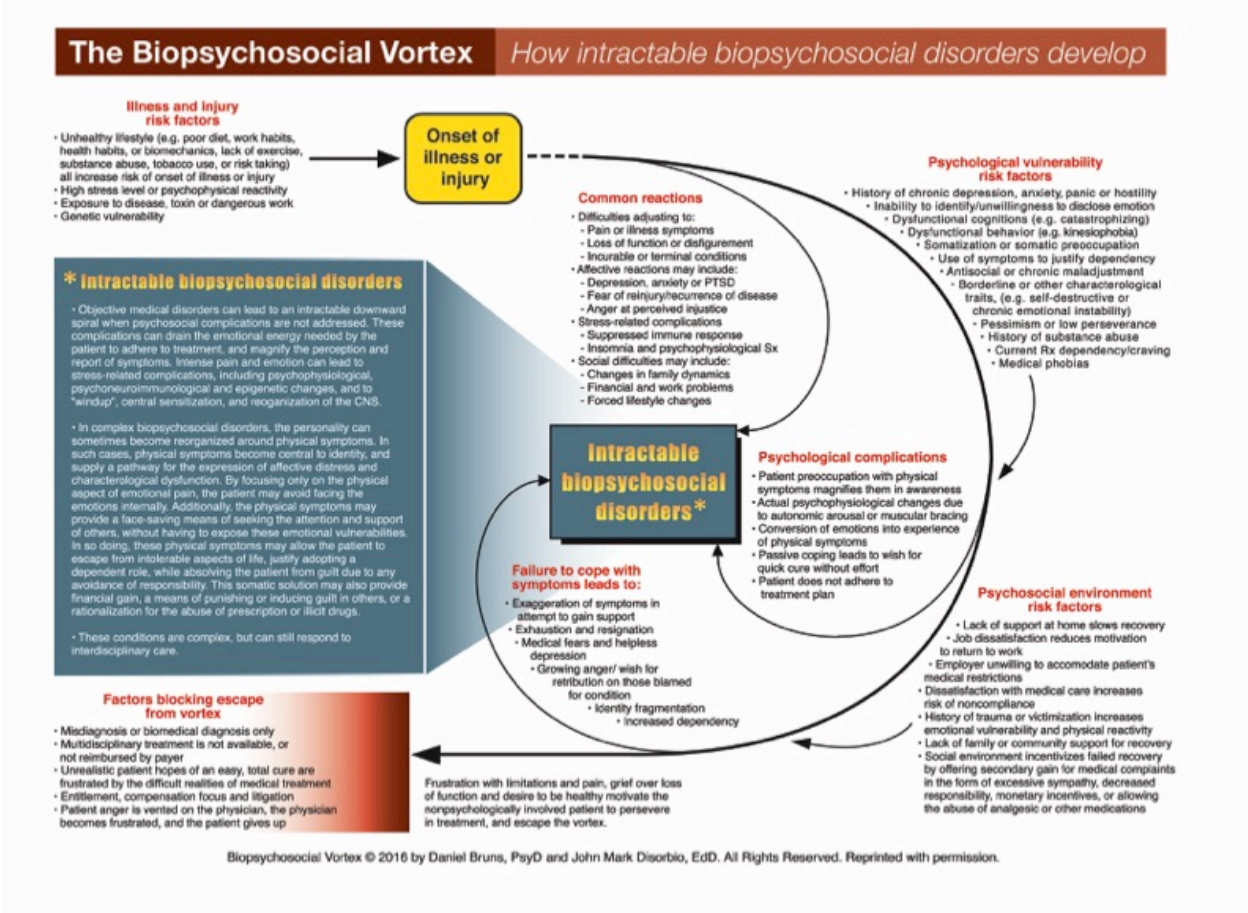

Figure 1. The biopsychosocial vortex: How intractable biopsychosocial disorders develop. Reprinted with permission from Daniel Bruns, PsyD, and John Mark Disorbio, EdD [13, 14].[1]

[1]The biopsychosocial model was initially conceived as a new model for medicine, which could provide a means of integrating the biological aspects disease and illness with its psychological and social aspects. It was hoped that this new model could provide, "…a blueprint for research, a framework for teaching, and a design for action in the real world of health care" [15](p 129). Since its inception, the biopsychosocial model has spawned a wealth of research and practice models, and is the model adapted into this guideline. At the same time, the biopsychosocial model itself is often presented as vague philosophical abstraction. One attempt to define the biopsychosocial model with greater specificity is the Vortex Paradigm [16-18]. This paradigm conceptualizes intractable medical conditions such as chronic pain as being precipitated by the cumulative effect of biological, psychological and social risk factors. The Vortex Paradigm suggests numerous falsifiable hypotheses that can be tested by multivariate methods. In a manner similar to the way heart disease can be predicted by a multivariate equation that includes cholesterol, age, blood pressure, diabetes, genetics etc., the Vortex Paradigm would predict that return to function following injury can be predicted by a multivariate equation that includes biological severity, MDD, catastrophizing, drug abuse, personality disorder, job dissatisfaction, childhood trauma, secondary gain, etc. In the clinical setting, the Vortex Paradigm would posit that biological, psychological and social variables may all contribute to the onset of an injury or illness. Once present, a significant biological condition may have direct psychological and social consequences, and these may interact with the patient's pre-existing biological, psychological and social strengths and vulnerabilities. As the level of biopsychosocial risk factors increases, the risk of decompensation (a "downward spiral") into an intractable chronic condition increases. When the patient presents to the physician, all of these variables are present, and a treatment plan should be developed regarding how to either actively treat or manage these concerns, to prevent them from delaying recovery.

Impact

More than 43.4 million adults (18.0% of U.S. adults) ages 18 or older in the United States have some form of mental illness, not including developmental or substance use disorders [19]. Of those, 33.7 million (13.9% of U.S. adults) have mild to moderate mental illness. Alcohol dependence is also high, with 7.7 million adults (3.2% of U.S. adults) reported as meeting the case definition in the past year [19].

According to the World Health Organization, mental health disorders are the most disabling of all global non-fatal diseases (injuries, musculoskeletal diseases, non-communicable diseases, and non-fatal communicable, maternal, perinatal and nutritional conditions), accounting for 31% of the world general population's disability [20, 21]. Among mental health disorders, MDD/depressive disorders are the most disabling single condition, accounting for 7.5% of the world's disability, while anxiety disorders account for 3.4% [21]. In 2009–2010, there were 63.3 million ambulatory care visits to physician offices and hospital outpatient and emergency departments in the U.S. with mental disorders as the primary diagnosis; this number increased to 66.4 million in 2013 [22].

There were 42,773 suicide deaths in the US in 2014, resulting in a rate of 13.4 suicide deaths per 100,000 population [23]. Men are 3.6 times more likely to commit suicide than are women [22]. Homicide-suicide accounts for only 1/50th to 1/10th of the US suicide rate [24]. One study reported a prevalence of homicide-suicide ideation of 4.4% in patients in treatment for chronic pain [25]. Another study compared the prevalence of five forms of suicidal ideation observed in acute pain patients, chronic pain patients vs healthy community controls. Compared to the community control group where suicidal ideation was reported by 1.66%, the relative risk of having a plan for suicide was 4.26 for patients undergoing medical treatment with acute pain (7.06%), 4.78 for patients in medical treatment with chronic pain (7.92%), and 7.06 for worker compensation patients in medical treatment with chronic pain (11.69%) [26].

The global costs of mental health were calculated at $2.5 trillion per year as of 2010, and are projected to reach $6.0 trillion by 2030 [27]. This cost is higher than diabetes mellitus, respiratory disorders, and cancers combined.

U.S. national expenditures for mental healthcare in 2009 were $147 billion [27]. When combined with lost earnings capacity and public disability insurance payments associated with mental illness, mental health disorders cost the U.S. $467 billion per year as of 2012 [27], which is approximately 3% of the US GDP of $16.155 trillion [28]. The direct and indirect costs of mental health disorders are thought to exceed 4% of GDP [29]. These figures are projected to grow based on CMS data [30].

Basic Principles and Definitions

Acute Mania

A period of abnormally euphoric, expansive, or irritable mood combined with increased energy and activity, lasting at least one week and present most of the day, nearly every day.

Other criteria, three or more of which must be met, include the following:

- grandiosity,
- decreased need for sleep,
- pressured speech or increased need to talk,
- racing thoughts, distractibility,
- motor activity, and
- excessive involvement in risky behaviors.

Criteria for "at least one manic episode" must be met for Bipolar I [31]. Onset and duration is influenced by many factors, such as medication [32]. Acute mania typically last from days to weeks [33].

Acute Pain

Pain of 1 month or less duration. Pain lasting >1 month but <3 months is termed "subacute."

Acute Stress Disorder

"The essential feature of acute stress disorder is the development of characteristic symptoms lasting from 3 days to 1 month following exposure to one or more traumatic events. Traumatic events that are experienced directly include, but are not limited to:

- exposure to war as a combatant or civilian,
- threatened or actual violent personal assault (e.g., sexual violence, physical attack, active combat, mugging, childhood physical and/or sexual violence, being kidnapped, being taken hostage, terrorist attack, torture),
- natural or humanmade disasters (e.g., earthquake, hurricane, airplane crash), and
- severe accident (e.g., severe motor vehicle, industrial accident)" [31].

The person meets the same criteria as Post Traumatic Stress Disorder, but the duration has been of at least three but less than 30 days. Like PTSD, there is presence of nine or more symptoms which may include:

- intrusive thoughts,
- inability to experience positive emotions or any emotion,
- out of body experiences,
- hyperarousal,
- difficulty concentrating,
- detachment from oneself, or
- dissociative amnesia.

"Approximately half of individuals who eventually develop PTSD initially present with acute stress disorder" [31].

Adverse Childhood Experience (ACE)

ACE is defined as incidents associated with mental health outcomes and numerous risk behaviors during the first 18 years of life [34, 35]. Incidents includes:

- parental separation or divorce,
- exposure to substance abuse,
- violent treatment of mother or stepmother [36],
- sexual abuse,
- physical abuse, [35] and
- verbal abuse [34].

ACE may affect a person's emotional, social, and cognitive function [37].

Advocagenesis

Influences that are conscious or unwitting influences of lawyers and/or litigation processes on patients, including injured workers, that make the clinical presentation foment, worse, prolonged, or in some other manner, worse than would otherwise be [38].

Examples of these influences include:

- pointing out to the patient the financial benefits of reporting symptoms such as pain or cognitive problems [39, 40],
- overt manufacture of symptoms,
- instructions from legal counsel to misstate facts, and
- instructions to not comply with treatment.

Advocagenesis is parallel to iatrogenesis.

Alexithymia

Alexithymia is a personality trait [41] that is a multi-dimensional concept [42]. Individuals with alexithymia tend to be operational thinkers and have difficulties in distinguishing, identifying, and/or describing emotions [41, 42]. Individuals also tend to lack in imagination and fantasy [43].

Alternative Therapy

This term is sometimes used to describe a specific type of treatment that emphasizes the interrelationship between mind, body, and spirit [44]. Often implemented to help patients cope with fatigue, insomnia, anxiety disorders, and stressors. Alternative therapies may or may not have an evidence base.

Anxiety

Anxiety is a common symptom that occurs when an individual worries about thoughts, events, or circumstances. Anxiety is not a diagnosis, but rather a common symptom; it becomes a disorder when symptoms become chronic and interfere with daily living and functions.

"Anxiety disorders differ from developmentally normative fear or anxiety by being excessive or persisting beyond developmentally appropriate periods" [31].

Anxiety disorders include:

- generalized anxiety disorder
- panic disorder
- social phobias
- other phobias[1]

While ICD-10 / DSM-IV also categorize obsessive-compulsive disorder and posttraumatic stress disorder as anxiety disorders, DSM-5 does not. DSM-5 categorizes PTSD as a trauma or stressor related disorder, while obsessive-compulsive disorder is in its own category.

Symptoms include:

- muscle tension,
- physical weakness,
- poor memory,
- sweaty hands,
- fear,
- palpitations,
- poor concentration, and
- upset stomach.[45]

Potential treatments include:

- cognitive-behavioral therapy,
- relaxation techniques,
- mindfulness-based stress reduction
- biofeedback to control muscle tension, and
- medication.[46]

[1] In some nomenclatures, including the DSM-5, post-traumatic stress disorder and obsessive-compulsive disorder are treated as being separate from anxiety disorder. Nevertheless, they share features sufficiently that treatments often overlap.

Behavioral Therapy

Focuses specifically on modifying problematic behaviors. Behavioral therapy uses specific techniques to modify behavior such as, positive and negative reinforcement; behavioral changes, thought and behavioral chain analysis, negative thought substitution, and daily affirmations. [46]

Bodily Distress Disorders

The diagnostic criteria for bodily stress disorder emphasize excessive attention and continued seeking of care despite reassurance. This is an ICD-11[2] construct which replaces DSM-IV Somatoform disorders, and offers an alternative to DSM-5's diagnostic conceptualization of mind-body disorders. By contrast, somatoform disorders are based on the professional's judgment that physical symptoms are medically unexplained, and somatic symptom disorders involve a real or perceived disease that is associated with distorted cognitions or excessive anxiety.

Bipolar Disorder

A type of mood disorder, bipolar disorders, sometimes disorder is also called "manic depression," and is characterized by mood swings that include manic or hypomanic episodes, and may or may not include major depressive episodes in excess of what is normal. The manic and depressive periods can be brief, or last several weeks or months. [47, 48] The manic episode will last "at least 1 week and present most of the day, nearly every day" (American Psychiatric Association, 2013).

Chronic Pain

Pain lasting more than 3 months.

Cognitive-Behavioral Therapy

Short-term, goal-oriented psychotherapy treatment that takes a hands-on, practical approach to problem solving. CBT works by attempting to change the patient's attitudes and his / her behavior by focusing on the thoughts being held [49].

Delayed Recovery

An increase in the period of time prior to returning to work or usual activities compared with the length of time expected based on reasonable expectations, severity of disorder, age, and treatments provided.

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[2] A pre-release of the ICD-11 code set occurred in June 2018. ICD-11 will be presented at the World Health Assembly in May 2019 for adoption by Member States, and will come into effect on 1 January 2022. The status for adoption and modification in the US is unknown. However, the federal government mandates use of the adopted ICD codes.

Depressive Disorders and Major Depressive Disorder (MDD)

A symptom category of low mood disorders in the DSM-5 that includes disorder classified as a type of depressive disorder. “The common feature of these disorders in the presence of sad, empty, or irritable mood, accompanied by somatic and cognitive changes that significantly affect the individual’s capacity to function” [31]. It has some overlap with the ICD10/DSM-IV category of (ICD10 / DSM-IV) which is characterized by sadness, isolation, or despair, more properly referred to as dysthymia.

As with anxiety, depression is not a psychiatric diagnosis but rather a symptom; it may become a disorder when symptoms become chronic and interfere with daily living and functions. Included in this group of psychiatric conditions are:

- Major Depressive Disorder,
- Persistent Depressive Disorder (Dysthymic Disorder), and
- other conditions characterized by dysphoria.

Electroconvulsive Therapy

The transcranial administration of an electrical stimulus to induce electrical evidence of seizure activity in the brain to treat severe psychiatric conditions.

Factitious Disorder (aka Munchhausen syndrome)

A mental disorder wherein the patient either falsifies or self-induces symptoms of illness. It is thought to involve both conscious and non-conscious factors. The primary drive is thought to be assuming the role of being a patient or being sick.

DSM-5 notes that patients with this disorder may seek medical tests or treatments out of a compulsion that resembles that seen in binge eating or kleptomania. “The deceptive behavior is evident even in the absence of obvious external rewards” [31].

By definition, factitious disorder is not occupational. If the falsification is driven by external reward or secondary gain, it is termed malingering.

Functional Improvement (especially Objective Evidence)

Functional improvement is the measurement and tracking of progress towards meeting treatment goals, both mental and behavioral health-related, that are functionally relevant. Examples include increases in, or resumption of normal mental functions, behavioral functions, job specific activities, return to work, return from off-duty-status to modified duty, participation in progressive behavioral therapy, cognitive therapy, and other activities of daily living. Validated tool(s) may also help track progress, although they are subjective. Objective improvements on cognitive function testing and attention tests may be physical examination correlates of improved function.

Functional Restoration

This term is often used for a variant of interdisciplinary pain alleviation or at least amelioration characterized by objective measurement of physical function, intensive graded exercise and multi-modal pain/disability management with both psychological and case management features [50-55]. The term is not generally used in mental health outside of chronic pain (see Chronic Pain Guideline.)

Hypomanic Episode

Like a manic episode, but less intense and usually of shorter duration, but must be at least 4 days in length. The combination of at least one hypomanic episode and at least one major depressive episode is required to make the diagnosis of Bipolar II disorder [DSM-5].

Magnetic Resonance Imaging (MRI)

Medical imaging technique used in radiology to visual internal structures using magnetic radiation and magnetic fields. MRI will provide a 3-dimensional view of internal body organs, allowing soft-tissue differentiation [56].

Major Depressive Disorder

Major depressive disorder is a psychiatric condition classified as a a depressive disorder in the DSM-5, and as type of mood disorder in the ICD10/DSM-IV. "The diagnostic code for major depressive disorder is based on whether this is a single or recurrent episode, current severity, presence of psychotic features, and remission status" [31].

Major Depressive Episode

"The essential feature of a major depressive episode is a period of at least 2 weeks during which there is either depressed mood or the loss of interest or pleasure in nearly all activities…" [31].

Additional criteria may include, among others:

- changes in appetite
- changes in sleep patterns
- guilt
- suicidal ideation

Malingering

The conscious feigning, manufacturing, or exaggeration of symptoms for purposes of secondary gain (e.g., monetary, avoidance of work, obtaining drugs). Malingering is likely substantially more prevalent in occupational settings than other contexts due to monetary and other incentives. It is usually suggested, in part, through atypical clinical presentations, mental health evaluation, and/or discrepancies with surveillance or videotaping [57]. Malingering is not considered a mental disorder and is fraudulent behavior.

Medicalization

The process by which a symptom, condition and/or finding becomes defined and the subject of treatment. The term medicalization is commonly used to describe the processes increasing and/or contributing to excessive medical treatment (e.g., x-ray evidence of minor ubiquitous degenerative findings is translated into a patient's excessive somatic focus for more treatment to 'fix' the problem and/or the provision of excessive provider treatments).

An example of mental health medicalization is when a psychosocial issue such as job dissatisfaction is noted by a professional as being a "condition" and then is used as a cause for the individual to be absent from the workplace.

Psychosocial issues are subjective in nature. They vary one person to another. Typically, psychosocial issues are not conditions. They lack diagnostic criteria. When psychosocial issues are inaccurately noted by a professional as being equivalent to a mental health condition, then, the psychosocial issue has been inappropriately medicalized.

Neurological Disorder

A disease of the central and peripheral nervous system, including epilepsy, Alzheimer disease, dementia, stroke, migraine, multiple sclerosis, Parkinson's Disease, brain tumors, and traumatic disorders [58].

Nocebo Effect

The opposite of placebo effect, occurring when the patient believes that exposure to treatment, activity, or event may be harmful and leads to adverse effects or results in less benefit than expected.

Outcome Measure

Outcomes measures include assessments of quality of life, physical, mental, occupational, and social health. Measures may be obtained from self-rating scales, and questionnaires which are then compared with objective measures. They may be used to track progress and/or assess function compared with others.

Pain Disorder

An ICD-10-CM (clinically modified version for the U.S.) diagnosis that is assigned to patients with chronic pain. Pain Disorder has two subtypes:

> The first, F45.41 "Pain disorder exclusively related to psychological factors" is a psychological or stress-related condition that is neither precipitated by nor associated with any objective pathophysiology (e.g. chronic tension headache).
>
> The second, F45.42 "Pain disorder with related psychological factors" is a biopsychosocial diagnosis where pain is believed to be associated with both medical and psychological diagnoses (e.g. herniated lumbar disc and depression).

Note that the ICD-10-CM diagnosis of Pain Disorder is more closely associated with DSM-IV-TR concepts than it is with DSM-5, and that the DSM-5 diagnosis of "Somatic Symptom Disorder, Pain Predominant" has no equivalent in ICD-10-CM. While the DSM-IV-TR diagnosis of Pain Disorder was diagnosed in part by "medically unexplained symptoms," this is now believed to be a misleading criterion.

When F45.42 is diagnosed, the code for the associated medical diagnosis should also be provided.

Panic Disorder

Panic disorder is a type of anxiety disorder in which a patient will experience "recurrent unexpected panic attacks" [31]. "The term unexpected refers to a panic attack for which there is no obvious cut or trigger at the time of occurrence" [31].

"A panic attack is an abrupt surge of intense fear or intense discomfort that reaches a peak within minutes, and during which time four or more of a list of 13 physical and cognitive symptoms occur" [31]. Symptoms can include the following:

- "palpitations, pounding heart, or accelerated heart rate",
- "sweating",
- "trembling or shaking",
- "feelings of choking",
- "chest pain or discomfort", or
- "derealization (feelings of unreality) or depersonalization (being detached from one-self)" [31].

Placebo Effect

A placebo effect is a beneficial effect that is not attributable to the "intervention" itself. This effect may be based on patient and provider belief(s) and/or expectation(s). This includes clinical improvement or benefit (which can be objective or purely subjective) seen when a patient's belief that a "sugar pill" or sham medication or treatment will help him or her get well, even when there is no reason to believe that any "true" or specific therapeutic effect has occurred.

Post-Traumatic Stress Disorder (PTSD)

PTSD is generally classified as a trauma and stress related disorder (DSM-5). The diagnosis is given only when the individual has experienced a significant exposure to a life-threatening event, or a threat to physical or psychological integrity (e.g., torture).

The individual with PTSD will develop, in response to the experience of trauma, symptoms of:

- "recurrent, involuntary, and intrusive distressing memories of the traumatic event(s)",
- "dissociative reactions (e.g., flashbacks)",
- "persistent avoidance of stimuli associated with the traumatic event(s)",
- "negative alterations in cognitions and mood associated with the traumatic event(s)", and

- “marked alterations in arousal and reactivity associated with the traumatic event(s)” [59] [31].

Psychosis

Psychosis is a manifestation of disorganized thinking. Psychosis may be associated with auditory hallucinations and loss of contact with real events. Patient with psychosis may experience “delusions”, “hallucinations”, “disorganized speech”, agitation, affective flattening, alogia (poverty of speech), and/or avolition [31] [60].

Psychological Tests

Psychological tests are part of the standard for assessing cognitive or emotional functioning, psychological conditions. Performance of psychological tests is often indicated by a prior positive result to a psychological screening tool (see “Screening Tools” below) or by behavioral observations that raise the index of suspicion for psychopathology.

Psychological tests are usually multidimensional and have multiple validity scales. These tests are typically standardized with test results compared to norms which produce a percentile rank or other standard score.

Standardized tests are protected by test security (not posted on the internet, requiring a credentials check to obtain), have studies of validity and reliability, and typically have a published peer review. These are typically interpreted by a psychologist, neuropsychologist, or other mental / behavioral health professional with appropriate training.

Psychosocial Issues

Psychosocial issues are a combination of attitudes, beliefs, and perceptions [61]. Beliefs come from different sources, such as cultural, familial, coworkers, and the media. The derived information may not necessarily be accurate.

Beliefs and perceptions shape an individual’s attitude towards life experiences, including injury, illness, and ability to work and may result in distorted thoughts [62].

Screening Tools

A screening tool is generally succinct, and may be as short as one or two questions. It is usually administered to either an entire population, or an entire cohort of patients with a given condition. The frequency is usually at least in the initial exam and/or once a year. The objective of most screening tools is high sensitivity, but not specificity. A screening tool may be often administered by persons with minimal training.

In contrast, brief non-standardized psychological screening tools may be freely available (e.g., The Pain Catastrophizing Scale, the CES-D, the Pain Anxiety Symptom Scale, the Pain Self Efficacy Scale) and scoring keys for these scales are publicly available. The public nature of these scales increases the ease of manipulating the results if financial incentives are present.

With few exceptions, screening tools do not have validity measures, and typically use cutoff scores rather than standardized scores with percentile ranks. These measures require less training to administer.

Sleep-Wake Disorders

Patients with these types of disorders are unable to obtain a sufficient amount of sleep. Problems occur with either tiredness upon waking up and/or difficulty in falling or remaining asleep, or inability to remain awake.

These conditions can be a direct effect from another primary condition such as asthma, stress, or arthritis. These issues can be acute or chronic. Included in this group of disorders are:

- "insomnia disorder",
- "hypersomnolence disorder",
- "narcolepsy",
- "breathing-related sleep disorders" including:
    - "obstructive sleep apnea hypopnea",
    - "central sleep apnea", and
    - "sleep-related hypoventilation",
- "circadian rhythm sleep-wake disorders",
- "parasomnias",
- "nightmare disorder",
- "non-rapid eye movement sleep arousal disorders",
- "rapid eye movement sleep behavior disorder",
- "restless legs syndrome", and
- "substance/medication-induced sleep disorder" [31]

Somatic Symptom Disorders

"Somatic symptom disorder and other disorders with prominent somatic symptoms constitute a new category in DSM-5 called *somatic symptom and related disorders*" [31]. This was offered as an alternative to the ICD-10 / DSM-IV category of somatoform disorders.

Somatic symptom disorders consist of:

- somatic symptom disorder (confusingly the same name as the category),
- illness anxiety disorders,
- conversion disorder,
- psychological factors affecting other medical conditions and
- factitious disorder.

Unlike somatoform disorders where unexplained medical symptoms were a central construct, "some other mental disorders may initially manifest with primarily somatic symptoms (e.g., major depressive

disorder, panic disorder). Such diagnoses may account for the somatic symptoms, or they may occur alongside one of the somatic symptom and related disorders" [31].

Somatic symptom disorder can be diagnosed whether or not an objective medical condition is present or not, and refers to a state where a patient has a high level of anxiety or inaccurate beliefs about the medical condition in question.

Somatoform Disorders

A category of related mental disorders found in the ICD-10 / DSM-IV in which there are symptoms and concerns which are not medically explained. This group of disorders includes:

- pain disorder,
- conversion disorder,
- somatization disorder,
- hypochondriasis, and
- body dysmorphic disorder.

Pain disorder, which falls into this category, may or may not be associated with a medical condition.

Except for pain disorder, the somatoform disorders are infrequently encountered in association with a work injury and are normally not considered occupational disorders. However, they are prominent in the differential diagnosis for patients with chronic pain, and symptoms of somatization are commonly seen in patients with chronic pain.

Body dysmorphic disorder is sometimes found in chronic non-malignant pain patients with burn injuries or amputations. These diagnoses are important diagnostic considerations in the chronic pain population and are often difficult to detect without formal psychological evaluation and testing [31].

Due to the difficulty of determining whether a symptom was "medically unexplained," and the questionable assumption that a physician's inability to explain symptoms was a sign of psychopathology in the patient, DSM-5 and ICD-11 replaced this construct with Somatic Symptom Disorder and Bodily Distress Disorders, respectively.

Subacute Pain

Pain lasting 1 to 3 months.

Substance Use Disorder and Dependence

These issues result from maladaptive patterns of alcohol or substance use leading to significant impairment or distress, such as recurrent use resulting in failure to fulfill major role obligations, use in potentially hazardous situations, and legal problems. The use of alcohol, psychoactive drugs and/or other substances may increase the symptoms of many mental illnesses [63]. ICD 10/DSM-IV, and DSM5 definitionally differ [31, 64].

Symptom Magnification

This is a term that commonly denotes conscious or unconscious increases in reported pain or other symptoms levels beyond those the patient is experiencing. Examples include pain behaviors such as exaggerated impacts on gait, range of motion, strength and other functions.

Visual Analog Scale (VAS)

Measures a patient's reported level of pain, ranging from "no pain" to "worst pain" by indicating a mark on a line, frequently 10 cm long. The distance from the low end of the line to the patient's "x" is the pain score.

INITIAL ASSESSMENT

The initial assessment of patients presenting with workplace mental health concerns, regardless of where they present, seeks to screen for potentially serious psychiatric disorders, to assess the patient's physical and psychosocial situation, and to establish an effective treatment plan (see Figure 2).

It is important to adequately evaluate and document the presenting concerns, any prior mental or medical illness, and immediate safety concerns. Attributing symptoms to mental health often indicates a diagnosis of exclusion and requires a more thorough assessment, which can be achieved through a short-term plan that includes initial counseling and education, followed by or including reassessment.

A quality initial assessment for workplace mental health requires strong communication skills, and is essential to obtain the information for correct diagnosis and establish a basis for treatment. Components of the requisite communication skills are the ability to establish rapport, the ability to listen and attend to meaning, and the ability to observe behavior carefully.

The initial assessment is a critical tool for detecting potential emotional problems that requires the attention of a mental health professional to assure safe and optimal treatment. The initial screening in the primary care or occupational contexts should typically be focused on recognizing indications for urgent mental health referral (red flags), rather than on specific psychological or psychiatric diagnosis (see Table 1).

Psychological and psychiatric assessments may be performed for a variety of purposes. These have been described as including:

a) describing a patient's psychological condition, traits, attitudes or abilities;
b) making determinations about a patient's diagnosis and the cause of that condition;
c) making predictions regarding treatment outcome or future behavior;
d) developing treatment intervention plans; and/or
e) tracking treatment outcome or patient behavior [65] [66-68].

Additionally, in the worker's compensation or other disability systems, the mental health assessment may be performed to render opinions regarding a patient's level of impairment, apportion between

mental health and physical factors, apportion between occupational- and non-occupational factors, describe any functional limitations and/or clinically necessary workplace restrictions.

In motor vehicle and other crash/accident events, these assessments may be used to assist in the determination of the degree of subjective *pain and suffering* experienced as a result of an injury [69] [70] [14].

Red Flags

Red flags are indicators of potentially more severe and/or urgent problems. These are sought earlier in the evaluation process, and upon identification, should result in a more detailed evaluation and potentially referral(s) as needed to address.

Red-flag indicators include:

- severe impairment of mental functions,
- overwhelming symptoms (e.g., decompensating),
- suicidality,
- homicidality, and/or
- signs of substance(s) use disorders
- signs of physical or mental abuse

It is advised to keep a high index of suspicion for symptoms of a depressive disorder/MDD, which is a prevalent component of medical disorders.

In the absence of red flag indicators, the need for urgent referral or inpatient care is less likely. Further evaluation of the patient with workplace mental health concerns, but no red flags, may progress as noted below.

Figure 2. Flow Diagram for Patients with Medical and/or Mental Health Condition

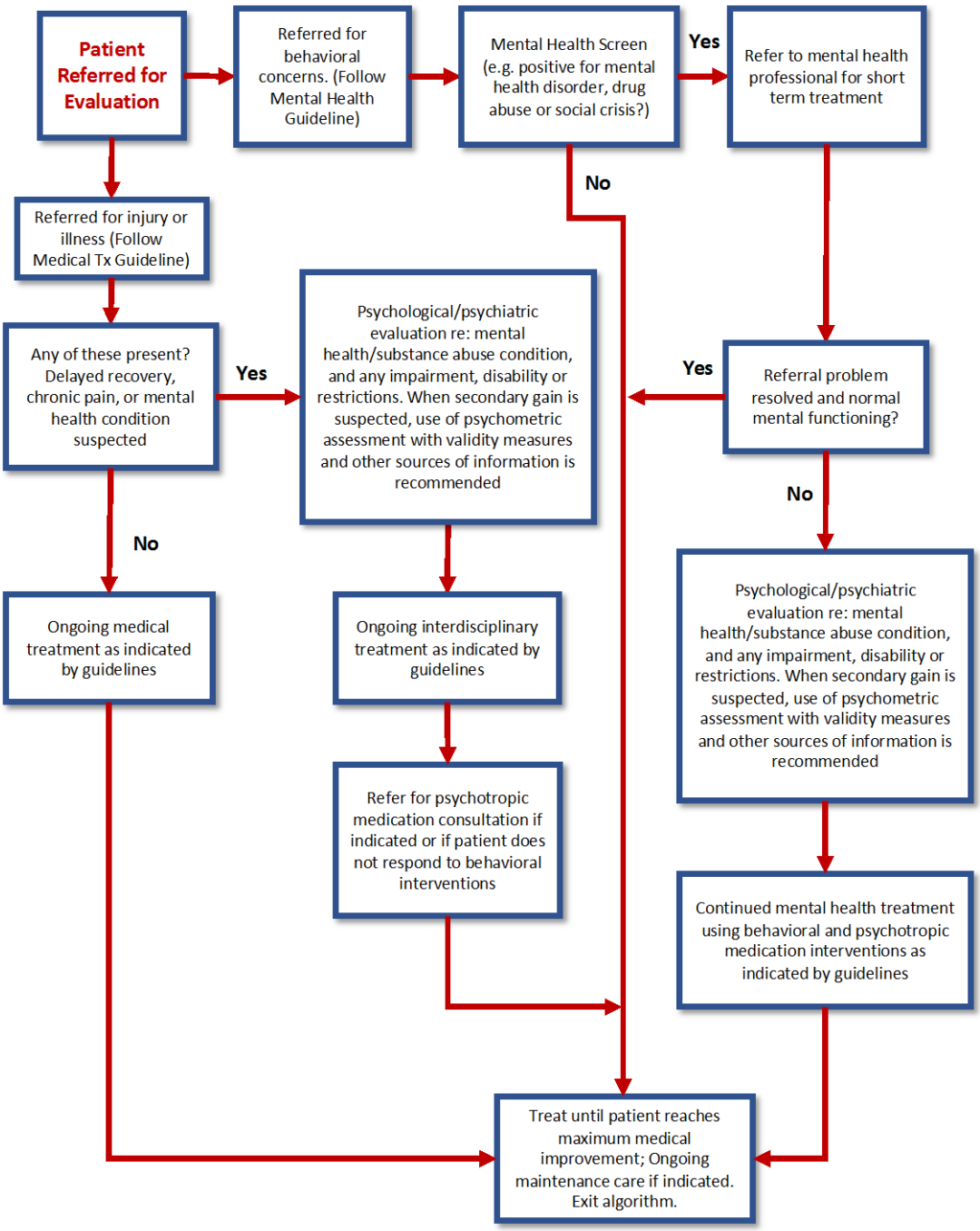

Table 1. Red Flags for Potentially Serious Mental Health Conditions

Disorder	Medical History	Physical and Mental Status Examination
Psychosis	Pronounced suspiciousness and paranoia Hallucinations Delusions	Disorganized behavior Circumstantial, illogical speech "Clangs" or bizarre associations in speech
Mood Disorder-Depressive conditions	Chronic or acute change in mood Marked loss of interest or pleasure Disrupted sleep, appetite disturbance Change in libido Low self-esteem Suicidal ideation	Tearfulness Flat, constricted, or blunted affect Psychomotor retardation Sad or irritable mood Suicidal statements Unreasonable expressions of guilt
Post-traumatic Stress Disorder	History of traumatic event(s) Flashbacks or nightmares of the event(s) Avoidance Hypervigilance	Increased arousal Agitation or other alteration when describing a traumatic event "Blanking out" or other indicator of dissociation when discussing trauma
Possible Harm to Self or Others	Suicidal or homicidal ideation or attempts Threats of violence to self or others Describes a suicidal/homicidal plan and has the means to carry it out History of child, spouse, or elder abuse	Verbal threats Extreme guardedness in response to questions Describing being "tired of it all" Expressions of rage or extreme shame
Cognitive Disorganization or Dysfunction	Change in memory, memory loss Becoming lost in usual surroundings Change in social judgment; disinhibition Feeling of losing one's mind	Disoriented to time, place, person, or circumstance Inability to comprehend or follow directions Subnormal performance on a mental status screen
Substance Use Disorder (especially among safety critical workers)	Increased daily alcohol or drug intake Problematic use (e.g., driving while drunk) Preoccupation with obtaining and using substance Impairment of social or work role Desire for detoxification Other's describe problematic use	Intoxication Withdrawal symptoms Agitation or CNS activation Abnormal liver function studies consistent with substance use Hallucinations Diaphoresis temporally associated with drug withdrawal Flushing, dilated or constricted pupils
Overwhelming Emotional State	Overwhelming emotions; feeling overwhelmed Inability to make decisions Impaired functioning (activities of daily living) related to emotions Extreme agitation	Emotional lability Disorganized speech or behavior Agitation Exaggerated startle response

*This list is not meant to be comprehensive; it is a review of the most common suggestive historical and examination findings.

Patient History

The mental health history is fundamental to assessment, triage, and counseling patients with mental health related conditions. Presenting concerns may include diffuse, vague symptom(s) or multi-system symptoms without a physical basis. The history should include mental, emotional and physical symptoms, perceived level of function, perceived causes of stress and their meaning to the patient, and coping mechanisms. Noted changes of behavior or functioning are important indicators.

Active listening skills are of paramount importance to help the patient identify symptoms, psychosocial stressors, coping mechanisms, and other resources. Open-ended questions are helpful to elicit information, whereas closed ended questions are useful to quantify symptoms. It is helpful to obtain history in a semi-structured interview format, to ensure that all areas are covered.

Rapport building is an important part of obtaining a good history. By asking open-ended direct questions and remaining nonjudgmental, the practitioner helps engender trust, which is critical to the patient's revealing important information. Sometimes, the patient may be embarrassed to divulge the most disturbing symptoms and stressors. Asking direct, detailed questions about difficult situations (e.g., thoughts of suicide, childhood abuse, domestic abuse) and specific areas of functioning indicates the practitioner's comfort with the subject, gives the patient permission to discuss this information, and helps him or her trust that it will be received in a nonjudgmental way. Only by attempting to identify all principal areas of mental health symptoms and dysfunction can the clinician formulate specific diagnosis and treatment recommendations.

Symptoms

The history includes the patient's description of current symptoms, their duration, and perceived causes or triggers, as well as, a recounting of any previous episodes. This includes prior episodes for which the patient did not seek treatment. The patient's, family member's, and others' estimates of functional impairment is(are) a means to assess the severity of the problem and may guide treatment and the timing of other interventions. When a patient presents with a mental health problem, in the absence of urgent circumstances it is important to evaluate his or her needs, risks, and strengths before dealing with external factors.

Not all individuals with workplace mental health issues will seek help even if they are having trouble with work, or difficulty adapting. It is helpful to know why, or at whose direction, the patient is seeking help. Besides self-initiating evaluation, the patient may be referred for a mental health evaluation / treatment by a supervisor, human resources manager, employer's medical department, primary care provider, union, family member, and/or a representative of the employer's employee assistance program (EAP). The provider may need to enlist the help of these individuals to gather information and develop a treatment plan after evaluating the patient.

Stressors and Psychosocial Issues

Effective treatment in the context of a psychological evaluation rests on clearly eliciting biopsychosocial stressors and understanding what they mean to the patient. Stressors may be:

- internal (e.g., perfectionism),
- situational (e.g., changes in family circumstances, or financial standing),
- health-related (e.g., sudden illness of self or a family member),
- a change in mental or emotional functioning (e.g., sudden onset of mood change, anxiety, or a change in cognitive capacity).

Stressors also can be external, such as:

- a job-related change (e.g., being written up or suspended),
- the result of a natural event (e.g., flooding, storms),
- or circumstantial (e.g., a change in life circumstances, a new manager).

While it is important to recognize and acknowledge organizational and situational factors, it is not always possible to quickly or easily modify or eliminate an external stimulus, whereas internal stressors are more amenable to short-term adaptation in coping skills.

Moreover, stressors themselves are not psychological conditions. Instead, they are psychosocial issues. Psychosocial issues are known to complicate the treatment process and may lead to poor treatment outcomes. Thus, it is important to identify stressors in the evaluation process so that those can be addressed in treatment, e.g., teaching an individual a means to manage a situation differently.

Empirical research has consistently demonstrated that psychosocial issues are the most significant predictors of returning to work [71]. Mental health symptoms are frequently reported by individuals and professionals as reasons of perceived illness and inability to work. However, when individuals are assessed with standardized psychological testing, psychosocial issues instead of mental health conditions are frequently found.

The psychosocial issues that were most strongly associated with lengthy workplaces absences, poor treatment outcomes, and lack of return to work are:

(i) the individuals' expectations about returning to work including, emotional symptoms, perceived barriers to return to work, and
(ii) misperceptions regarding ability to work while being treated for a mental health condition [9, 71-75].

While some mental health conditions may cause significant impairment in functioning, psychosocial issues do not cause any impairment to function. This is because psychosocial issues are subjective in nature and vary from one to person to another. While valid mental health conditions have diagnostic criteria, psychosocial issues have no diagnostic criteria.

It is imperative to both identify potential psychosocial issues as part of the evaluation and treatment processes as well as separate psychosocial issues from any actual mental health conditions. The

identification of psychosocial issues begins with the evaluation process and is typically later confirmed with standardized psychological testing [9, 75].

Once identified, education of the differences of psychosocial issues versus psychological conditions may begin so that the individual's misperceptions may be addressed to reduce potential impact on the treatment and return to work processes.

Coping Mechanisms

Before a clinician can help the patient enhance his or her coping skills, it is important to understand how the patient has characteristically coped with mental health situations or past stressors. Cultural influences should also be considered. Asking questions about the patient's means of coping with stressors, adverse circumstances, and mental health situations will usually be highly revealing and helpful.

Coping mechanisms can be active or passive. Examples of active coping skills include proactively confronting issues and requesting assistance from family, friends, healthcare providers, coworkers, unions, supervisors, and/or others (e.g., EAP personnel).

Passive coping mechanisms are escape behaviors, such as denying or avoiding issues or focusing on escape mechanisms (e.g., excessive focus on weekend activities, reckless non-occupational activities used as an escape, drug use, frequenting taverns, retirement), or engaging in maladaptive or avoidant behaviors that provide short term symptom relief but which make the person less functional (e.g. managing social anxiety by not leaving the house). However, changing one's focus may be either a maladaptive escape or a constructive way to develop new adaptations. Good judgment and careful self-evaluation are part of making any change to deal effectively with a problem.

Maladaptive coping, such as using alcohol and drugs, are dysfunctional ways to cope with mental health issues and may contribute to unrealistic self-evaluation; therefore, specific queries into the frequency and amount of alcohol, tobacco, marijuana, or other drug use are important.

The NIAAA question screener, "How many times in the past year have you had X or more drinks in a day?", where X is 5 for men and 4 for women is helpful [76, 77]. Alternately, the CAGE questions ("have you ever tried to cut down," "ever been angry when confronted," "ever felt guilty about your drinking," or "needed an eye-opener") can be useful in screening for alcohol dependency.

Additional lines of query include eating habits; weight changes; and changes in cooking, and shopping behaviors, as these also may reveal maladaptive coping mechanisms.

Other Resources

It is often helpful to ask the patient direct questions in identifying resources. It is also frequently helpful to ask what other resources are available for support. Some patients may effectively manage their problems alone, while others may not, particularly those who avoid asking others for help due to a belief that needing help is a sign of extreme personal weakness or failure. The process of identifying

to whom or where the patient may turn for additional support, and what that means to the patient, will help develop those aspects of a treatment plan.

Privacy and HIPAA

Disclosing the limits of privacy of mental health medical records is ideally accomplished during the initial evaluation.

The Health Insurance Portability and Accountability Act (HIPAA) relates to three ***covered entities***: (1) A treating physician or other health care provider [e.g., psychologist] who engages in electronic transactions; (2) a health care clearinghouse; or (3) a health plan. 45 C.F.R. § 160.103 (2013). A "business associate" (*e.g.,* a law firm representing a "covered entity") acting on behalf of or for a covered entity or organized health care arrangement is obligated to abide by HIPAA regulations if its actions involve the disclosure of protected health information. *Id.* A subcontractor may be treated like a business associate if dealing in the creation, receipt, maintenance, or transmission of protected health information on behalf a business associate. *Id.*

Practitioners should be mindful of the HIPAA *Minimum Necessary Standard*, concerning the release of personal health information related to a mental health evaluation. The Minimum Necessary Standard, 45 CFR 164.502(b), 164.514(d), is based on best current practices that *protected health information* should not be disclosed if it is not necessary to satisfy a particular purpose or function. The minimum necessary standard requires *covered entities* to evaluate their practices and enhance safeguards as necessary to limit unnecessary or inappropriate access to and disclosure of protected health information. As a practical matter, the practitioner may view these provisions as a "for your eyes only" and "need to know" preclusion against the disclosure of protected health information.

Uses and disclosures of and requests for protected health information: A covered entity's policies and procedures must identify the persons or classes of persons within the covered entity who need access to the information to carry out their responsibilities, the categories of protected health information required, and appropriate limitations on access. If the **entire** medical record is necessary, the covered entity's policies and procedures must state so explicitly and include a justification.

The privacy rule generally requires covered entities to take reasonable steps to limit the use, disclosure, and requests for *protected health information* to the *minimum necessary* to accomplish the intended purpose. The minimum necessary standard does **not** apply to the following:

1. Disclosures to the individual who is the subject of the information;

2. Uses or disclosures made pursuant to an individual's authorization;

3. Uses or disclosures **required for compliance with** the HIPAA *Administrative Simplification Rules*;

4. Disclosures to the Department of Health and Human Services ("DHHS"), when disclosure of information is required under the *privacy rule* for enforcement purposes; and
5. Uses or disclosures that are required by other law: In Worker's Compensation or Disability Insurance settings, the results of a psychological assessment are usually available to insurance

carriers and *may* be available to the employer, especially if the patient has instigated a worker's compensation claim or other litigation. Regardless, most mental health professionals require patients to sign an informed consent authorizing the release of mental health records. Under HIPAA, certain information, such as name, dates of treatment, diagnosis, nature of treatment, and treatment plan can be disclosed without permission from the individual. In summary, the privacy rule permits *covered entities* to disclose *protected health information* without an individual's authorization to worker's compensation insurers, state workers' compensation administrators, employers, and other persons or entities involved in worker's compensation systems;

6. Uses or disclosures required for compliance with the Health Insurance Portability and Accountability Act (HIPAA) Administrative Simplification Rules; and

7. Disclosures to the Department of Health and Human Services (HHS) when disclosure of information is required under the Privacy Rule for enforcement purposes.

Mental health confidentiality differs from medical records confidentiality because two levels of mental health confidentiality are legally defined: (1) Psychological (neuropsychological) records; and (2) Psychotherapy notes.

Psychotherapy notes are accorded a higher level of confidentiality, and generally require a specific authorization for release of information. The *Minimum Necessary Standard* suggests that release of the more intimate information contained in psychotherapy notes is unnecessary for most purposes because the release of psychotherapy notes can potentially cause humiliation or harm to a patient.

The implementation specifications for this provision require a *covered entity* to develop and implement policies and procedures appropriate for its organization. The covered entity's policies and procedures must identify the persons or classes of persons within the covered entity who require access to the information to accomplish their responsibilities, the categories or types of *protected health information* absolutely required, and conditions appropriate to access.

For *routine* requests for information, the policies and procedures may be standardized protocols that limit the disclosure of protected health information to the *minimum necessary*. Individual review of each disclosure or request is not required; however, *covered entities* must develop *reasonable criteria for determining and limiting the disclosure or request* to the *minimum amount of protected health information necessary* to accomplish the purpose of a *non-routine* disclosure or request. Non-routine disclosures and requests **must be reviewed on an individual basis** in accordance with these criteria.

Generally, an extra measure of care should be taken to obtain and document informed consent for the release of psychiatric and psychological records, and to obtain informed consent for the release of mental health-related information.

Standardized Test Security

The release of "raw" psychological and neuropsychological data is frequently requested in legal proceedings. However, the release of these materials is subject to legal and ethical constraints, sometimes referred to as "test security". The term "raw data" here is defined as the examinee's specific answers, whether oral or written, drawings generated, or responses recorded by computers or other devices. Raw data are different than "test materials." "Test materials" refer to test instruments, test questions or stimuli, and test manuals relating to administration, interpretation, and scoring of subject responses.

Because the outcome of forensic psychological and neuropsychological assessment can influence the distribution of substantial amounts of money damages, "professionals involved in the adversarial judicial process, including attorneys and psychologists, might be tempted to 'educate' examinees regarding these tests before they are administered" [78, 79].

The US Supreme Court ruling *Detroit Edison Co. v. National Labor Relations Board,* 440 U.S. 301 (1979) is the seminal case on the production of psychological and neuropsychological data and test materials. Based on this ruling and pursuant to an informed client/patient release, psychologists may provide test data to the client/patient or other persons identified in the release. In the absence of a client/patient release, psychologists should provide test data only as required by law or court order. Those portions of test materials that include client/patient responses are included in the definition of test data. HIPPA is relevant to test data, but **not** test materials [80].

HIPAA provisions that permit patients access to their own medical records and consent and authorization to release their medical records to third parties does not facilitate access to test materials protected by copyright and trade secrets acts. A subpoena is not sufficient to allow the release of these legally protected materials. These materials can only be released to a qualified, licensed psychologist or pursuant to a protective order of court that specifies how these materials will be protected, who has access, and imposes provisions for the return or destruction of such materials at the conclusion of legal proceedings. These legal and ethical constraints also affect psychologists to whom such materials are released, who cannot disseminate these materials to non-psychologists except under the specific conditions imposed by the protective order.

Consequently, psychologists are required to exercise reasonable efforts to maintain the integrity and security of test materials and other assessment techniques according to law and the APA ethics code. Because patient responses may be recorded on test materials, whether handwritten or entered on a computer, legal and ethical standards dictate that that portion of a patient's record cannot be released except to a qualified, licensed psychologist or protective order. This is not an issue of confidentiality, which is waived in legal proceedings when a litigant places one's psychological status at issue.

WC and disability insurers are not covered entities. They are allowed to have limited information for claims adjudication. However, most insurers are unlikely to authorize or pay claims without a full release of a treatment record (not raw psychological test data, such as test answer sheets). Psychological testing reports are not considered raw test data because neither the test answer sheet

forms or copyrighted psychological testing materials are utilized within the testing report. However, WC and disability insurers should take steps to protect PHI despite not being covered entities.

Workplace Mental Health History Questionnaire

Asking the patient open-ended questions such as those below allows the provider to gauge the need for further discussion or specific inquiries to obtain more detailed information.

- What do you hope to accomplish during this visit?
- Functions on the Job:
- What is your job?
- What are your specific job duties?
- How often do you perform them, and for how long during the day?
- Do you rotate jobs?
- Does your job require working with coworkers or the public?
- Are others available to help you?
- What is the mentally hardest part of the job for you? Why is it hard?
- What is the physically hardest part of the job for you? What makes it hard?
- How much mental effort is required to do your job?
- Are there parts of your job you cannot do mentally? If so, can you do them with help from others?
- Are you making mental mistakes on the job? How often? Has that changed over the past month? Year? Several years?
- Do you get along with your family? Friends? Union? Co-workers? Supervisor?

Functions for off-work Activities:

- What other activities (hobbies, workouts, sports) do you engage in, at home or elsewhere?
- How well are you able to do those activities?
- Describe your current daily activities from awakening to bedtime. Do you go grocery shopping, prepare your own meals, and do yard work or laundry?
- Do you engage in any mentally challenging activities away from work? What are they? How often? Has that changed over the past month? Year? Several years?

3. What are your symptoms?

(*How the patient acts when describing their symptoms may help ascertain the expression and meaning of the symptoms to the patient. In particular, does she or he appear concerned or unconcerned relative to the signs of injury or illness? How much time does the patient spend describing the pain and in what detail – validating or acknowledging these symptoms or problems may reduce these behaviors and facilitate interventions.)*

- What do you think causes your symptoms?
- When did your symptoms begin?

- Were your symptoms gradual or acute in onset? If acute, was there a specific precipitating event?
- Are there physical symptoms that accompany the mental changes?
- What makes you worse or better?
- Do you have pain or other symptoms? Do they seem worse with stress?
- Do you have any medical conditions? What? Where? How severe? How treated?
- Are your symptoms constant or intermittent? What makes the problem worse or better?
- Is there a pattern of your symptoms during a typical day? Better first getting out of bed in the morning, during the morning, mid-day, evening or while asleep? When is(are) it(they) worst?
- Do you feel rested in the morning after sleeping?
- How well do you sleep? How many hours of sleep do you get each night? Do you have any problems falling asleep? Do you have any problems staying asleep? Do you wake up early? Is this a change from the quality of sleep that you usually obtain?
- Have your symptoms changed since the time they began? How?
- How do your symptoms affect your life?

4. How did the mental health problem develop?

Past:

- Have you had similar episodes? If different, how is this episode different?
- Have you had previous testing or treatment? What treatment? What were the results? With whom? How long did it take to get back to work? To light(modified) duty? (Was recovery similarly delayed?)
- Did you receive a disability or impairment rating?
- Was recovery complete? (Did you receive a disability award?)

Cause:

- What do you think caused the symptoms or problem?
- Do you think it is related to work? How?
- Were you doing anything at that time when your symptoms began? (It is important to obtain all information necessary to document the circumstances and factors of the mental health illness to assist the patient and system in ascertaining appropriateness of compensation. Knowing and addressing required elements for a condition to be considered (not)work-related in the relevant jurisdiction is critical.)
- Did your symptoms begin gradually or suddenly? Did you notice the symptoms the day after, or soon after, an event? Exactly what was the event and timing of the symptoms onset.

5. Discuss symptom limitations.

- How do these symptoms limit you? What can you not do because of your symptoms?
- How long have your activities been limited?
- How long can you work, read, think about a problem you need to solve?
- How long can you work without a break?
- Are you working on your regular job? Modified duty?
- What mental and physical activities do you perform in a typical day? Begin with waking in the morning and proceed to bedtime. What activities are you now unable to do? Why?
- Do you feel the need to lie down or rest during the day? How often, and how much?
- What activities at home do you need help with?

6. Assess treatments and how the responses may or may not have differed from expected outcomes.

- What treatments have you had for this or other similar conditions?
- Did anything help decrease your symptoms? What and for how long?
- Exactly what treatment did you receive in cognitive therapy, cognitive behavioral therapy, psychological treatment, substances use disorder treatment and/or other mental health related treatments (detailed descriptions of all modalities and specific treatments used)? Did it(they) help? How?
- Are you doing mental health exercises such as cognitive behavioral journaling or workbook activities at home now? How often do you perform them? When? Do you feel that they help? Please describe exactly what you are doing.

7. Are there other medical problems? Taking a clear and detailed medical history is important. In particular, ask about conditions that are frequently linked with responses to stress (e.g., irritable bowel syndrome, chronic fatigue syndrome, sick building syndrome, muscle tension syndrome, and multiple chemical sensitivity).

8. What, if any, prior psychosocial disorders or factors are present?

- Have you ever had anxiety disorders?[3] Major depressive disorder?[4]

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[3] Clinical presentations of anxiety disorders vary widely. Common symptoms of anxiety disorders include feeling nervous, tense, restless; trouble sleeping; early awakening and worrying about things; avoiding things that trigger nervous feelings; sensing impending danger, panic, or doom; fatigue; trouble concentrating; inexplicable gastrointestinal problems including nausea, constipation, diarrhea, abdominal pain, and irritable bowel syndrome. Physical manifestations may also occur and include palpitations, hyperventilation, sweating, trembling.

[4] Clinical presentations of MDD vary. Common symptoms of MDD include feeling down, sad, blue, hopeless, tearful; loss of interest in normally pleasurable activities; social withdrawal; sleep disturbance; fatigue; lack of energy; irritability; frustration; difficulty thinking and concentrating; memory problems; appetite changes, with weight gain or loss. Particularly with more severe presentations, other symptoms commonly occur,

- Have you ever had other psychological, psychiatric or mental health evaluations, treatment or counseling not described above? When? Concerning what issue(s)? For how long were you treated?
- Do you experience any memory or concentration problems?
- If not described above, have you used illicit substances? What substance(s)? Do you think you had a substance use problem?
- Has your appetite changed recently? Has your weight changed recently?
- Have you ever had DUI? Blackouts? Detoxification? Have you ever been told to, or thought you should, cut back on your use of alcohol?
- Have you ever used or are you now using marijuana? How often? How much?
- Tobacco use? Prior use? (packs a day for how many years)
- Do you take any legal or street other drugs? (current and prior use)

9. What is the occupational psychosocial context?

- If you had to take a job again, would you go back to your current job?
- Do you like your job?
- What kind of relationship do you have with your manager? What kind of relationship do you have with your co-workers?
- Do you believe your employer is concerned about you?
- What kinds of successes and difficulties were you having on the job before leaving?
- Are you facing any disciplinary or performance action?
- What are the barriers to you continuing to work?

10. Assess whether there are problems at home/social life. Does the patient feel in control of most situations? Is there support?

- How do your family members get along with each other?
- How do they help and support you?
- Does your family treat you differently now that you have these symptoms? Have your roles at home changed because of your symptoms?
- Do your friends treat you differently?

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including feeling worthless; focusing on past problems and failures; suicidal thoughts; slowed thinking, speaking and body movements. Some patients experience symptoms of as well as depression. Depression is a symptom, and not a diagnosis. However, depressed mood is a risk factor for delayed recovery and often is a barrier to RTW.

- Do you get increased symptoms when you are dealing with problems with your family and friends? How often? When? Why?

11. Are there advocagenic (litigious) influences?

- Do you have a claim for this injury or mental health problem? If so, is it accepted or in dispute?
- Have you consulted anyone (e.g., lawyer, union representative, etc.) about problems you may have experienced with your claim (e.g., not receiving benefits, etc.)?
- Have you retained a lawyer? Have you ever been involved in a lawsuit?
- Did you talk with your lawyer about what you should say at the clinic?
- Do you have additional insurance coverages such as short- or long-term disability?
- Have you taken sick time for this problem?

12. What are your expectations regarding your return to work and disability from this health problem? How likely is it that you will be back working in a month? 6 months? 1 year?

13. What are your concerns about the potential for further problems as you recover?

CLINICAL EXAMINATION

A clinical and psychological examination is included for those with mental health concerns. There may or may not be a physical examination, depending on the type of mental health provider.

The focus of the clinical examination will be based on the presenting symptoms. However, it includes a general assessment of the patient's current mental and physical state. An examination may discover new diagnoses (e.g., depressed mood in undiagnosed Parkinson's disease) or confounding conditions (e.g., substance(s) use disorder and/or withdrawal); and evidence of domestic violence.

A standardized mental status examination helps detect clues to an underlying mental health disorder, assess the impact of the condition, assess impacts of stress, and document a baseline of functioning. All aspects of a mental status examination can be routinely incorporated into an informal interview rather than having a set list of questions, but formal and structured mental status examination will ensure that all critical areas of function are addressed and documented.

Queries into inconsistencies between the patient's presenting concerns or answers to questions and observed behaviors are often essential; addressing those inconsistencies in a curious, positive manner is suggested. Table 2 presents the major areas to cover in a mental status examination.

Table 2. Mental Status Examination

General Observations	Appearance and demeanor Attire Timeliness Unusual behaviors (tics, extraneous gestures) Eye contact Motor behavior (psychomotor retardation or excitement) Speech Behavior Cooperativeness
Cognitive Functions	Memory: Recall of 3 words or objects, immediate and at 5 minutes Attention: Serial 7 subtractions, spell "WORLD" backwards Confrontation naming: Ask patient to name 2 common objects shown to them Ability to follow directions: Ask patient to perform a 3-step command Language construction: Read and write a sentence Dysarthria: Repeat "No ifs, ands, or buts" Construction: Copy intersecting pentangles or diamonds
Thought Processes	Quality & fluency of speech Speech coherence and relevance Concrete thinking Neologisms, clangs, echolalia, or other bizarre speech patterns Evasiveness Anhedonia, loneliness, euphoria Mood swings
Thought Content	Delusions, including type Phobias Guilt, self-reproach Obsessions Thoughts of death, suicide, or self-harm Thoughts of extreme anger, harming others Loose associations Concrete thinking Neologisms, echolalia, etc.
Perceptions	Hallucinations, including type and sensory mechanism Illusions Depersonalization Derealization Dissociation (e.g., derealization, depersonalization, blunting of affect, or compartmentalization of mental processes)
Mood and Affect	MDD, Anxiety disorders Mood: Anger, dysphoria, euphoria, anxious/fearful (Mad, sad, glad, scared) Anhedonia (loss of interest or pleasure), loneliness, tearfulness Mood swings, labile affect Range of affect Inappropriate affect Sensory impairment Somatic symptoms

Somatic Functioning	Appetite, changes in appetite vegetative depression Energy levels functioning (for insomnia note onset, middle, terminal) vegetative depression Libido, changes in libido vegetative depression Somatic concerns somatization involves somatic preoccupation
Orientation	Time: Date, month, year, day of the week, time of day, season Place: State, county, city, building, floor Person: Name, date of birth, marital status, children Circumstance: Reason for being here, self-awareness
Memory	Ability to recall remote events Short-term recall Processing to convert short-term to intermediate memory
Insight	Estimate degree of awareness of self, contribution to problems, and solutions Does the patient recognize his / her own role in problems?
Judgment	Estimate judgment in areas of family and other social relations, work situation, and future plans Evaluate with practical scenarios (if you smell smoke in a crowded theater, what would you do?) Intelligence
Potential for Harm	Ask about thoughts and plans for self-injury, suicide, violence towards others

Screening Tools

A provider may use screening tools either before an appointment or during an evaluation to further explore the possibility of a patient having a mental disorder. Screening tools are generally simple, take little time to complete, may be administered by non-trained personnel and emphasize high sensitivity. They are also commonly used to screen the entire population at increased risk (e.g., MDD screening). If there is concern that a patient may not be candid on a screening measure, or may be motivated to bias the information that is presented, screening tools may be omitted in favor of in-depth diagnostic testing, as the screening tool will be of minimal or no utility.

It is important to recognize that screening tools are self-descriptive, do not address symptom validity, and are readily transparent, making it easy to under- or over-report symptoms or traits. As a result, they are useful for screening symptoms in a patient, but are not definitive diagnostic tools and should not be employed in a medicolegal setting. Table 3 lists and describes some commonly used screening measures for depression, anxiety, and substance use disorder.

Note that, for all screening measures, a positive screen is *not* diagnostic, but rather indicates that referral for more comprehensive testing and assessment is indicated.

Table 3. Common Screening Measures

Assessment Task	Test Name*	Description
Depression	BDI II	**Beck Depression Inventory II (Pearson Clinical)*** **Measures:** Assesses cognitive, affective, and physical symptoms known to be associated with depressive disorders. **Validity Scales:** none **Norms:** Not normed, but uses cut-off scores **Comments:** Widely used in clinical practice and research to screen for depression.
	CES-D	**Center for Epidemiological Studies Depression Scale** **Measures:** Symptoms of depression **Validity Scales:** none **Norms:** None, uses cutoff scores **Comments:** Not copyrighted, freely available, widely used in research.
	HAM-D	**Hamilton Rating Scale for Depression** **Measures:** A brief rating scale for depressive symptoms, completed by the clinician based on observations **Validity Scales:** none **Norms:** none, uses cutoff scores **Comments:** Results may be impacted by interviewer bias, but less affected by patient response set
	PHQ-9 (or 2)	**Patient Health Questionnaire (9 question and 2 question)** **Measures:** Depressed mood **Validity Scales:** None **Norms:** None, uses cutoff scores **Comments:** Widely used screen for common symptoms of depressive disorders, free available and not copyrighted.
Anxiety	BAI	**Beck Anxiety Inventory (Pearson Clinical)*** **Measures:** symptoms commonly associated with anxiety disorders

		Validity Scales: none **Norms:** none, uses cutoff scores **Comments:** Commonly used in clinical care and research to screen for anxiety symptoms and disorders
	STAI-AD	**State-Trait Anxiety Inventory for Adults** **Measures:** Anxious states and traits without relying on physical symptoms **Validity Measures:** none **Norms:** none, uses cutoff scores **Comments:** Widely used in research
	GAD-7	**Generalized Anxiety Disorder (7 Questions)** **Measures:** symptoms associated with generalized anxiety disorder **Validity Scales:** none **Norms:** none, uses cutoff scores **Comments:** rapid administration, can also indicated other symptoms of anxiety
	PDrugHQ-4	**Patient Health Questionnaire (4 question)** **Measures:** combines the PHQ2 with 2 additional questions to rapidly screen for symptoms associated with anxiety and anxiety disorders **Validity Scales:** none **Norms:** none, uses cutoffs **Comments:** Commonly used in clinical practice, can be used for nearly universal simultaneous screening for symptoms of depression and anxiety
Alcohol/Substance Use Disorder(s)	**AUDIT**	**Alcohol Use Disorders Identification Test** **Measures:** screens for risk of alcohol use disorders **Validity Scales:** none **Norms:** none, uses cutoffs **Comments:** 10-question scale to assess risk factors, common use in clinical practice
	CAGE & CAGE-AID	**CAGE (acronym derived from the questions)** **Measures:** screen for alcohol (CAGE) and drug abuse (CAGE-AID)

		Validity Scales: none **Norms:** none, uses cutoffs **Comments:** Four questions, which in the case of the CAGE-AID combines screening for substance use disorder. Common clinical use, rapid screening
	DAST	**Drug Abuse Screening Test** **Measures:** Drug Abuse screen **Validity Scales:** none **Norms:** none, uses cutoffs **Comments:** 28 questions
	NIAAA	**Measures:** Alcohol screen **Validity Scales:** none **Norms:** none, uses cutoffs **Comments:** One question

Standardized Psychological Tests

Standardized psychological tests involve an "assessment device that usually consists of a series of statements covering various characteristics and behavioral patterns to which the participant responds by fixed answers, such as True, False, Always, Often, Seldom, or Never, as applied to himself or herself. The scoring of such tests is objective, and the results are interpreted according to standardized norms" [81].

It should be noted that in the occupational mental health setting, patients who present for mental health services will commonly have a co-occurring medical condition and be referred due to exhibiting delayed recovery and/or chronic pain (see Figure 2). If the patient is referred purely for mental health services, traditional mental health measures are indicated. However, the psychological assessment of mental health conditions becomes more complex when a medical condition is also present.

Standardized psychological tests are constructed for the assessment of physically health persons who have mental health conditions, and assume that the report of certain physical symptoms are indications of the presence of a psychological disorder. In the case of a physically healthy person, this assumption is valid. However, this seemingly innocuous presumption becomes problematic when mental health tests are administered to medical patients, and creates a psychometric problem called "the psychological fallacy." This fallacy is said to occur when physical symptoms endorsed on "mental health" type psychological test are presumed to be indications of a psychological condition as opposed to a medical condition [82].

For example, suppose a patient with pain secondary to colon cancer is being treated with chemotherapy. If this patient is administered a questionnaire designed for mental health patients, these illness symptoms could create false positive findings for somatization, hypochondriasis or other mental health conditions. Similarly, if a patient with chronic pain was assessed for depression, and reported low mood, fatigue, sleep disturbance and weight gain, that patient may appear to have effects of depression. However, these symptoms are listed as common side effects of gabapentin. Thus, the presence of medical conditions increases the risk of false positive findings for psychological diagnosis on mental health tests. Consistent with this, in one study, medical disease severity accounted for up to 31% of the variance in mental health test scores [83].

The purpose of standardized psychological tests includes integrating information from the clinical evaluation to help determine whether a patient has a classifiable mental disorder or not (see also Chronic Pain Guideline Appendix). Many providers rely on multiple standardized psychological tests to assist in formulating a comprehensive evaluation and diagnosis of a patient's disorder.

In contrast to psychological tests which were developed using traditional mental health constructs to assess the mental health population, other psychological tests were developed for assessing mental health conditions occurring in patients with known medical conditions. These latter tests are sometimes referred to as "biopsychosocial," "health psychology" or chronic pain measures. Biopsychosocial measures were developed using different methods, sometimes excluding items about physical symptoms altogether to avoid the psychological fallacy, or by handling items about physical complaints differently [17]. These measures may also assess areas of concern unique to medical patients, and are normed on medical as opposed to mental health populations.

Consequently, if a patient has been referred for a mental health assessment due to chronic pain or delayed recovery, the reader is referred to Appendix 1 of the ACOEM Chronic Pain guideline. As mental health tests provide information that tends to focus on ICD / DSM constructs, and biopsychosocial tests provide information about how a patient's medical condition is impacted by psychosocial factors, a comprehensive psychological evaluation of the medical patient often involves administering both types of measures.

A referral for psychological assessment is triggered by a positive mental health finding from a screening tool or clinical interview, and this can be completed by a primary care or other provider. A referral for psychological assessment of a medical patient can also be triggered when delayed recovery or chronic pain is present, or when required prior to certain invasive medical procedures. A provider, most often a psychologist, may then order standardized psychological testing in the course of a clinical evaluation based upon the positive screening tool and clinical evaluation targeting various symptoms of a certain mental health disorder.

Standardized psychological testing may help focus on clinical syndromes, personality disorders, neurocognitive assessment, intellectual functioning, or a combination. The standard for most mental health diagnostic tests is to focus on the behaviors and physical symptoms of the individual. Another purpose of standardized psychological testing is for the detection of malingering.

A comprehensive discussion of standardized psychological testing is beyond the scope of these guidelines. However, general guidance for the practicing clinician follows:

- If a screening measure is positive and/or clinical observations and symptoms are suggestive of a psychiatric diagnosis, further evaluation to determine a specific diagnosis, refine a differential diagnosis, and/or generate treatment recommendations is indicated. These evaluative processes include: detailed history exploration of the potential for a diagnosis, referral to a psychologist, and/or diagnostic testing.

- When making a referral for diagnostic testing, determine in advance the type of testing that will be most helpful. If the index of suspicion is for a psychiatric/psychological condition, standardized psychological testing will generally be more helpful. On the other hand, if there is reason to evaluate cognitive changes, such as memory deficits or problems with concentration and attention, memory testing and/or neuropsychological testing with assessment of intellectual function may be helpful. It is also appropriate to request neurocognitive screening to assess for the need for a more comprehensive battery.

- Generate a clear referral question that is as specific to workplace-related clinical and health concerns as possible. For example, a request to "assess for psychopathology" is less helpful than "evaluate for psychiatric condition with a differential for adjustment disorder, depressive disorder, and anxiety disorder," or other similar, specific questions.

- If treatment recommendations are of interest, include the request in the referral question.

- Ensure that the patient signs a release of information form to allow for discussion with the evaluating psychologist.

- When the report is received, ask for clarification if there is uncertainty, and clarify any jargon that might not be understood by a non-psychologist.

Table 4 presents some of the most commonly used diagnostic assessment measures for personality, and their applicability. The list is not comprehensive. See also Appendix 1 of the ACOEM Chronic Pain guideline for health psychology tests intended for patients with mental health conditions associated with chronic pain or adjustment to illness, injury, or disability. When conducting a psychological assessment of a complex patient, it is not uncommon to administer pain/health psychology meaures to assess psychological variables associated with pain, injury, illness or disability, and also more traditional mental health measures to assess personality traits or DSM-type psychological conditions. Examples of personality measures, a brief neurocognitive battery, and measures of intellectual functioning, memory, and academic achievement are included in Table 4. A comprehensive treatment of these types of assessment is outside the scope of this guideline.

Table 4. Common Psychometric Tests for Personality Functioning

Assessment Task	Test Name	Description
Personality Assessment, Psychopathology	**MCMI-IV**	**Millon Clinical Multiaxial Inventory-IV** *Measures:* 24 standardized scales keyed to the DSM-5 diagnoses, including affective disorders, psychosis, and substance use, with separate scales for each type of personality disorder. *Validity measures:* One scale measures exaggerating, one minimizing; one bidirectional scale measures both exaggerating and minimizing, and one assesses random responding. *Norms and Validation:* Inpatient and outpatient psychiatric patients. *Comments:* Base rate scoring attempts to adjust test findings to approximate the actual base rates of psychological disorders in the psychiatric population. Computer scored. *Languages:* English and Spanish.
	MMPI-2, **MMPI-2-RF**	**Minnesota Multiphasic Personality Inventory-2, and Revised Form** *Measures:* Multiple standardized scales, measuring a wide range of psychopathology. Assesses somatic/cognitive dysfunction, emotional dysfunction, thought dysfunction, behavioral dysfunction, interpersonal functioning, and interests. *Validity measures:* Multiple validity measures assess patient responding, with measures of both over- and under-reporting. *Norms and Validation:* Norms on 20 groups are available, including chronic pain and spine surgery candidates. *Comments:* Computer scored. The MMPI-2-RF is substantially shorter than the MMPI-2, but still longer than all other tests reviewed here. While it has many psychometric improvements over the MMPI, the MMPI-2-RF has been critiqued as having more of a psychiatric focus than the MMPI-2, and thus less capable of assessing medical patients. *Languages:* English, Spanish and French versions.
	PAI	**Personality Assessment Inventory** *Measures:* Standardized assessment of a broad cross-section of affective, characterological and psychotic conditions with 18 major scales and 31 subscales. *Validity measures:* One scale measures exaggerating, one minimizing, one random responding, and one assesses contradictory responses. *Norms and Validation:* Community and psychiatric norms. *Comments:* A comprehensive personality test that is significantly shorter than MMPI-2. Some scales, and in particular the somatization scale, include physical symptoms that could be attributable to injury or medication side effects. This increases the risk of false positive psychological scores when medical patients report their symptoms.

Neurocognitive Function	**RBANS-update**	**Repeatable Battery for the Assessment of Neuropsychological Status – Update** *Measures:* Cognitive decline in individuals who have experienced stroke, head injury, dementia, or neurological injury or disease. Measures neuropsychological status in format and content like Wechsler tests. It measures attention, language, memory, and visuospatial/constructional abilities. *Validity:* Concurrent, criterion, construct *Norms and Validation:* Age, genders norms, uses *Comments:* The RBANS is a standardized test which assesses a variety of types of cognitive functioning. It has two forms of the test: A and B. The RBANS-Update can provide a measure of daily functioning.
Intellectual Assessment	**WAIS-IV**	**Wechsler Adult Intelligence Scale-IV** *Measures:* Adult intellectual ability and cognitive strengths and weaknesses. WAIS-IV and WMS-IV are the only co-normed ability-memory instruments. *Validity:* Criterion, construct, concurrent, predictive, convergent, and divergent. *Norms and Validation measures:* Co-normed with the WMS-IV. Age norms *Comments:* The WAIS-IV is a standardized test that evaluates cognitive and performance functioning. It has high internal consistency and re-test reliability. It can provide an estimate of premorbid intellectual functioning.
Memory Assessment	**WMS-IV**	**Wechsler Memory Scale-IV** *Measures:* Assessment of learning and memory functioning of older adolescents and adults. Measures visual and auditory memory, immediate vs. delayed memory, and free recall vs. cued recall as well as recognition. *Validity:* Criterion, construct, concurrent, predictive, convergent, and divergent. *Norms and Validation:* Co-normed with the WAIS-IV. Age norms. *Comments:* The WMS-IV is a standardized test that evaluates cognitive and performance functioning. It has excellent internal consistency and re-test reliability. It can provide an estimate of premorbid intellectual functioning.
Academic Achievement	**WRAT-5**	**Wide Range Achievement Test-5** *Measures:* Basic academic skills of reading, spelling, and math computation. This edition has a new measurement of reading achievement. Age-based norms have been extended into age 94. Has excellent internal consistency and reliability. Has been validated against multiple other cognitive psychological tests.

Mental Health Diagnostic Systems

Unlike medical conditions, for the most part there are no commonly used biological tests for mental health disorders [84]. Even though many mental health disorders are known to have biological aspects, these disorders are defined more by behavioral principles than they are by biology. For example, the "fight or flight" response is well known, and represents the physiological reactivity component of anger (fight) and anxiety (flight). Even if the physiological arousal associated with anger and anxiety closely associates the two biologically, the expression of this arousal is shaped by cognition, culture and behavioral principles into two distinct emotions. In other cases, many psychological disorders (e.g. personality disorders or adjustment disorders) are defined as being closely associated with learned dysfunctional coping strategies or stressful life events, making the possibility of developing biological tests for such diagnoses seem implausible.

The standard methods used for diagnosing mental health disorder are contained in two diagnostic systems, the ICD and the DSM. The DSM has been traditionally used for psychiatric diagnoses in the U.S. Elsewhere in the world, the ICD has been the dominant diagnostic system. The challenges associated with their use has been described as follows:

> *As the standardized classification systems have been constantly revised (from ICD-6 to ICD-10 and from DSM-I to DSM-IV), they have remained a descriptive taxonomy based on expressed feelings and observed behavior… without a priori biological validity… Even if one acknowledges the primacy of biological factors in some psychiatric disorders, it does not inevitably follow that a biological test would be necessarily most informative or effective in identifying them [84].*

Overall,

1) the diagnostic systems currently in use list disorders which have an uncertain relationship to biology, and over the course of time since 1950 the ICD (six versions) and the DSM (seven versions) have defined mental health disorders in a multitude of ways leading to considerable ambiguity in the research literature;

2) It seems unlikely that a biological test could identify the dysfunctional behavioral patterns described by the ICD / DSM, and

3) A biological abnormality such as heightened physiological reactivity, even when present, may not express itself in a pattern of emotion or behavior judged to be dysfunctional within a culture, and thus cannot replace ICD / DSM type taxonomies.

The ambiguity associated with mental health diagnoses creates challenges for research. As definitions of disorders has changed, in some cases considerably, over the years, research findings regarding effective treatments for a disorder may change when the definition of the disorder changes. These sorts of complexities may limit the generalizability or usability of diagnostic and/or treatment articles using a prior classification system(s). Additionally, various jurisdictions may require the use different classification systems during treatment.

Within the U.S. mental health community, DSM-5 is the dominant mental health conceptual system. However, HIPAA mandates the use of ICD-10 for electronic medical records, and as a result DSM-5 diagnosis codes are "cross-walked" into the closest ICD-10 equivalent. Although DSM-5 and ICD-10 are largely parallel, they have significant differences. The single largest discrepancy is that the DSM-5 re-conceptualized the somatoform category of diagnoses, omitting the concept altogether and replacing it with a new diagnostic concept called somatic symptom disorders. However, the ICD-10-CM corresponds more closely with DSM-IV, as they were developed concurrently.

In some cases, diagnostic information may be lost or distorted in a crosswalk translation. For example, when a DSM-5 diagnostic construct is not contained in ICD-10, that diagnosis is often cross-walked to an "undifferentiated" version of the closest ICD-10 diagnosis. Thus, if a patient's medical records contain the diagnosis DSM-5 F45.1 Somatic Symptom Disorder (based on "excessive thoughts, feelings or behaviors" about a medical condition), HIPAA requires that this diagnosis be cross-walked to the closest ICD-10 diagnosis, which is F45.1 Undifferentiated somatoform disorder (vague and ill-defined symptoms without clear medical explanation), which is a distinctly different condition. Regardless of what is stated in the text of the medical records, undifferentiated somatoform disorder becomes the "official" diagnosis as far as payers are concerned, and is the diagnosis that is most easily accessed by others or by "big data" systems. Later, if a patient is applying for a loan, life insurance, security clearance etc., this ICD-10 diagnostic finding is the most likely information to be available. Consequently, it is important to be aware of the implications of ICD-10 crosswalks when assigning DSM-5 diagnoses. Additionally, it is also important to remember that under Federal law ICD-10-CM psychiatric diagnoses are valid, even if they are not contained in DSM-IV or DSM-5. While many non-DSM-5/ ICD-10 diagnoses are closely parallel to DSM-IV, some ICD-10 diagnoses are not contained in either DSM system, but nevertheless are recognized diagnostic constructs under HIPAA [85].

RETURN TO WORK

Return to work is a critical aspect of the evaluation and treatment of many workers with mental health disorders. It is helpful to evaluate these workers from a biopsychosocial perspective. Integration of suitability to perform safety critical work functions is frequently required. Often, the interaction between physical and psychological conditions plays a role in the individual's development of significant impairment in functioning; thus, it is helpful for attention to be paid to the individual's medical and psychological history.

Additional factors, such as psychosocial issues, may also be present. Psychosocial issues can impede treatment progress or negatively impact on treatment outcomes. The most frequent psychosocial issues that have negatively impact on mental health workplace leave frequently are often: conflict with supervisor and co-workers, heavy job demands with little control over workload, company size > 100 employees, negative workplace attitudes and perceptions, poor life-work balance, poor personal coping strategies, dysfunctional personality style and traits, sense of reduced self-efficacy and poor problem-solving ability. Psychosocial issues commonly occur with physical, mental, and co-morbid conditions.

Identification of psychosocial issues early in the evaluation process may help to avoid or reduce needless medicalization, which may occur by either the individual and/or treating professional.

Unlike mental health conditions, psychosocial issues tend to be perceptual in purported impairment. Moreover, psychosocial issues do not have diagnostic criteria as mental health conditions do. Psychosocial issues do not result in impairment in functioning, whereas severe mental health conditions may result in considerable impairment in functioning temporarily. Therefore, when a professional indicates that a person is unable to work due to a psychosocial issue, the psychosocial issue is inappropriately noted to be the same as a mental health condition. Psychosocial issues are a leading cause of poor treatment outcomes for medical and psychological conditions, and thus efforts should be made to address these issues.

Suitability for Employment and Return to Work

Multiple factors affect suitability for, and decisions regarding, return to work (see Table 5). The greatest concern is naturally accorded to those jobs that involve safety critical work. Regardless of the presence of safety critical job functions, the domains for consideration include:

- suitability for return to any work among those with mental health disorders is the diagnosis and the disorder-specific factors, including efficacy and durability of management by mental health and/or other provider(s);
- the potential for workplace violence, including whether the past history of violence and whether the diagnosis suggests an increased risk for violence;
- assessment of job tasks, including the performance of a safety critical position;
- essential job tasks such as cognition and judgment, are also necessary which affect the accurate performance of essential job functions; and
- substances use and/or substance-related and addictive disorders and their associated comorbidities may be factors, especially for safety critical jobs.

These factors are integrated in a matrix (see Table 5).

Table 5. Factors Affecting Suitability and Decisions Regarding Return to Work among Workers with Mental Health Disorder(s)

1. Consideration of disorder-specific factors:
a. Diagnosis(es)
b. Diagnostic features of the disorder(s)
c. Duration of diagnosis(es)[5]
d. Presence of associated features (e.g., co-morbidities) supporting diagnosis
e. Functional consequences of the disorder

[5] Reed Group Duration Tables, https://www.mdguidelines.com

f. Efficacious management of the disorder
g. Risk and prognostic factors (e.g., environmental, genetic, gender-related, psychosocial, course modifiers)
2. Duration of management
3. Stability of management
4. Consideration of adverse effects of pharmacotherapy
5. Consideration of associated comorbidities
6. Potential for workplace violence
7. Assessment of work demands:
a. Safety critical position*
b. Non-safety critical position
8. Accurate performance of essential job functions (e.g., cognition, judgment, distractibility, impulsivity, irritability, risk-taking behavior, associated sleep disruption disorders)
9. Consideration of associated substance use and/or substance-related disorder(s)

*A *safety-critical position* is one that is so physically and/or mentally demanding that an employee's medical status is necessarily an important consideration in determining his or her ability to perform safely without presenting a direct threat to the safety of the employee, co-workers, public safety, significant property damage or destruction, or significant environment harm [86].

An initial assessment of the potential for workplace violence is essential prior to return to work. Workers should not be returned to work unless there is reasonable assurance that there is low propensity for workplace violence. Factors to be considered include:

- prior acts of workplace violence
- past history of acts of non-workplace violence, particularly domestic violence
- prior planning, with greater risk accorded to evidence of a specific plan (e.g., verbalization of intent to harm another)
- diagnostic features of the mental health disorder
- resolution or removal of any inciting factors (e.g., absence from that worksite of a specific person who was the focus)
- success and durability of treatment
- time since past episode of violence or evidence of a specific plan

Workers with a prior history of homicidal ideation, attempt, or a history of violence and/or workers who have a prior history of suicidal and/or homicidal ideations or attempt require cautious and critical evaluation. A worker who has expressed suicidal ideation or attempt and/or homicidal ideation and/or engaged in a prior act of workplace violence should be permanently excluded from all but supervised employment. Similarly, a worker who has expressed suicidal and/or homicidal ideations or specific plan involving an intent to utilize workplace tools, equipment, vehicles, etc. should be permanently disqualified from jobs requiring the use of such instrumentalities. For example, previously expressed specific plan to use a mode of transportation to commit suicide, even it not actually attempted, should nevertheless result in a preclusion of return to safety critical positions involving motor vehicle or aircraft operation.

Mental health, psychological, psychiatric and medical management factors include the diagnosis, duration of treatment, efficacy of treatment, and complications of psychotropic medications. For example, anxiety disorders are not generally major risks for safety critical positions; however, anxiety disorders are often treated with benzodiazepines, which present major risks for motor vehicle accidents. Such complications may preclude the performance of safety critical tasks. An adjustment disorder with depressed mood may not require any limitations, but a major depressive disorder with recurring suicidal ideation in a safety critical worker may result in a lifelong disqualification from motor vehicle operation. All things being equal, the duration of treatment with the same provider affords some measure of reliability in the determination of return to work as it should follow that the provider has greater knowledge of the worker, associated risks, and predictability of future events.

The last domain for consideration is substances use and substance-related and addictive disorders. The greater the degree of safety critical work tasks, the more concern is accorded to risks of impairments from substances use. These impacts also affect non-safety critical jobs with considerable cognitive demands.

Assessment and Restrictions

The existence of a mental health diagnosis alone does not indicate that the person cannot work. Many individuals with diagnosed and undiagnosed mental health conditions, such as major depressive disorder, continue to work without reduced functioning. In some instances, individuals with a mental health condition may experience diminished work capacity. If the individual continues to work, this is a common example of "*presenteeism*".

A comprehensive evaluation of the individual may identify whether reduced workplace productivity is related to psychosocial issues, or if it is related to a more severe mental health condition, such as severe major depressive disorder or co-morbid conditions. Psychological and neuropsychological tests with validity measures may be informative in these determinations.

While initially, a severely depressed, suicidal or psychotic worker is often removed from work without evaluation or testing, subsequent evaluation and testing is often mandatory to properly diagnose, treat, and support a disability determination. If a worker has reduced capacity that is related to a severe mental health condition, then the person may be placed on short-term workplace leave to allow for treatment(s) to become effective. A decision matrix for return to work and removal from work incorporating the added elements of safety critical work is presented in Table 6.

Table 6. Return to Work/Medical Removal Considerations*

Safety Critical Work Requirements	Severe Mental/Behavioral Health Condition	Moderately Severe Mental/Behavioral Health Condition	Mild Mental / Behavioral Health Condition
Low	Low threshold to remove until controlled. Removal particularly indicated if incapacitation, inability to perform essential job functions and/or inability to accommodate limitations	Intermediate threshold to remove until controlled. Removal particularly indicated if incapacitation, inability to perform essential job functions and/or inability to accommodate limitations	Removal rarely indicated.
Medium	Remove from safety critical functions. See box above for ability to work for non-safety critical functions.	Generally, remove from safety critical functions. See box above for ability to work for non-safety critical functions.	Removal is rarely indicated. Removal may be selectively indicated, e.g., when there are administrative rules for removal. If requires removal from safety critical function, almost never requires removal from non-safety critical functions.
High	Remove. See box above for ability to perform non-safety critical functions	Remove from safety critical functions. See box above for ability to work for non-critical functions.	Removal is generally not indicated, but is selectively indicated for high demand critical safety functions. If requires removal from safety critical function, almost never requires removal from non-safety critical functions.

*Danger to self and/or others may override any of these matrix recommendations. Immanency of the dangers further increases the risks and needs for definitive actions.

Severity of workplace safety-critical work [87-90] is defined as follows:

- **Low safety-critical work functions**: includes most occupations where actions or errors due to distractibility, poor concentration, poor judgment, impulsiveness, phobic avoidance, or distorted perceptions of reality may compromise work performance, but are quite unlikely to jeopardize the welfare of the worker, co-workers, general public, and/or environment. Most clerical workers, and many production workers are in this category.
- **Moderate safety-critical work functions**: includes some occupations where actions or errors due to distractibility, poor concentration, poor judgment, impulsiveness, phobic avoidance, or distorted perceptions of reality may compromise work performance and may infrequently jeopardize the welfare of the worker, co-workers, general public, and/or environment. Many laboratory workers, some construction workers, and some production workers are in this category.
- **High safety-critical work functions**: includes select occupations where actions or errors due to distractibility, poor concentration, poor judgment, impulsiveness, phobic avoidance, or distorted

perceptions of reality may compromise work performance and may have severe to catastrophic effects on the welfare of the worker, co-workers, general public, and/or environment. Most transportation sector jobs, financial services, firefighting, police, security, military, and direct healthcare providers are in this category.

Severity is defined by mental health controls adapted from NICE [91].

- **Severe**: many symptoms that make life extremely difficult. Major disruptions in social and/or occupational functioning.

- **Moderately Severe**: intermediate degree of symptoms which impact daily life and make it more difficult than usual. Intermediate disruptions in social and/or occupational functioning.

- **Mild Severity**: small number of symptoms with limited effects on daily life. Minor disruptions in social and/or occupational functioning.

Continued Employment and Return to Work

Most individuals with mental health conditions continue to work, despite having an identified psychological condition. Typically, after a positive mental health screen is obtained, the individual is referred for psychological evaluation and standardized psychological testing. A minimum of two psychological tests specific to the reported concerns is generally required to confirm or rule out a mental health condition. Moreover, this type of testing can more objectively discern the severity of a reported concern. If the individual's standardized psychological testing confirms a mental health condition with significant impairment in functioning, it may be necessary to place the individual on temporary, short-term workplace leave. Otherwise, if there is not significant impairment, then treatment may ensue without a workplace leave.

In most cases where a leave of absence is indicated, short-term workplace leave is sufficient to help stabilize the individual's condition. There are four main instances where a temporary short-term workplace leave may be necessary:

a) there is considerable impairment of function due to the severity of the mental health condition;
b) the person is found to have a positive mental health screen, the employer reports significant decline in the individual's workplace performance and the person is waiting to be evaluated for a serious mental health condition;
c) there are concerns about workplace safety; and/or
d) the person is awaiting the treatment to ameliorate serious impairment in functioning.

Most individuals with a mental health condition and significant impairment in functioning may be absent 4-6 weeks. It is unusual for a workplace leave to be necessary beyond this time-frame. Extended leaves past 2 months may be suggestive of an inaccurate mental health diagnosis, inappropriate treatment, such as treatment that lacks empirical support or does not have all components administered, or an over-reliance on subjective information, such as an individual's self-

report of symptoms continuing versus the periodic assessment of treatment progression and symptom improvement.

Prolonged work absence may naturally be due to factors such as illness severity, ongoing inability to perform essential job functions, and/or resistance to treatment. However, excessive lost time unrelated to clinical severity may be due to numerous reason(s), including:

- poor adherence to empirically-supported treatment standards and guidelines,
- insufficient treatment and/or medication titration, return to work motivation,
- the lack of or inaccurate workplace communication(s),
- premature opining of disorder permanency, and reliance on subjective information versus objective assessment of functioning by treating professionals.

Ergo, it is important to give strong consideration to continue working safely, or modified duty, or a reduced schedule, as preferable alternatives to long-term leave of absence.

Leaves of absence should be reserved for those with severe impairments and/or significant disparity between worker abilities and job demands, with most empirical literature not supporting workplace leaves past 60 days. Typically, this provides adequate time for the condition to become stabilized and to start working on teaching different methods to address workplace and life concerns. This does not mean the person will necessarily be entirely symptom-free. However, treatment can often occur concurrently with the person's employment, once stabilized.

It is common for most individuals who have been on workplace leave to experience anticipatory anxiety before returning to work, yet this is not a reason for continued work absence. This problem may also be confounded by concerns about financial/insurance ramifications, if the worker is unable to function upon return. Thus, it is important not to confuse anticipatory anxiety symptoms with a relapse of a mental health condition.

Empirical research consistently demonstrates that work has strong beneficial effects [92], including:

- improved physical function,
- mental health,
- financial status, and
- social support.

Conversely, unemployment has been associated with a considerable decline in physical and mental health, as well as an increased risk of dying from any cause. The risk of suicide also increases sharply. Thus, although workplace absence is frequently utilized for mental health conditions, this type of action is at odds with problematic issues consequent from not working. Therefore, evidence suggests it is helpful to keep employees with mental health conditions working and use workplace leaves only when a person is determined to have severe functional impairment through more objective assessment.

The longer a person is not working, the greater risks of physically and mental deconditioning. As well, the person becomes increasingly accustomed to not working and may accept and adopt a disability role. Consequently, this is addressable by setting return to work goals as part of both the evaluation and treatment processes. This helps to set the individual's expectations and emphasizes the anticipated treatment outcome.

For those off work, there are several components in the return to work (RTW) process. The first step in RTW begins with establishing return to work as an expectation, generally from the initial appointment. This allows questions to be answered about why the return to work process will soon be initiated, how the process will proceed, who will be involved in the process, as well as the anticipated timeline for the process. The RTW plan is then enacted when the individual's functioning has improved and the mental health condition is stabilized.

In discussing RTW, it is common for the patient to raise concerns, such as not feeling ready and worrying about being able to adequately do one's job. Acknowledging these concerns is helpful, as well as then discussing demonstrable benefits and improvements in regaining function. Moreover, the RTW process does not mean the treatment process will end. Instead, it continues as a support while the person works. Typically, it is important to educate the individual about the importance of workplace cooperation and involvement. This allows the treating professional to communicate with the employer about the employee's RTW and to discuss a graduated RTW plan, if needed. This plan may include suggestions for appropriate workplace restrictions given the patient's mental health condition, and steps that be taken to facilitate rejoining the workplace team.

If a graduated RTW plan is in place for a brief period, typically it covers up to approximately two months into RTW. To facilitate the RTW, the individual works either a gradually increasing number of hours and/or an increasing span or complexity of job task(s) (e.g., (i) a generic graduated RTW plan may start with 4 hours/day for 2 weeks, 5 hours for weeks 3 to 4, 6 hours for week 5, 7 hours for weeks 6 to 7, and then 8 hours and (ii) if the challenge is numbers of job tasks, then the limitations may gradually increase this number). For example, a generic graduated RTW plan may start with 4 hours/day for 2 weeks, 5 hours for weeks 3 to 4, 6 hours for week 5, 7 hours for weeks 6 to 7, and then 8 hours [9, 10, 12]. However, in other cases the RTW process for mental health disorders may not be contingent on the number of hours worked, but on graduated exposure to certain workplace activities. For example, a patient who is recovering from a mental health disorder may be able to work normal hours in a cubical, but be unable to tolerate public speaking without decompensating emotionally. It may be necessary in some jurisdictions to have the patient sign a release to facilitate communications with the employer. Because some individuals may experience recurrence of the condition, it is often best to continue treatment for at least 6 months after RTW. Treatment continuation helps ensure arising issues are promptly addressed, provides sustained support, and fosters learning of new strategies to cope with the normal issues that arise in the workplace.

The approach for RTW as soon as possible is based on the SPICE model [93], which includes five components:

1) Simplicity (refraining from medicalization) [93, 94]
2) Proximity (based at the workplace, if possible)

3) Immediacy (treatment begins at the outset of the reported condition)
4) Centrality (all parties work towards a RTW goal)
5) Expectancy (all parties' expectations regarding RTW are set appropriately and all parties work towards that goal)

While the SPICE model addressed workplace physical injuries, recently the SPICE has been adapted to address behavioral health workplace concerns. This adaptation addresses the management of psychological conditions as well as the identification of psychosocial issues from start of treatment. The RTW goal is emphasized at each stage so that the individual's expectations of RTW are set at the outset. Table 7 demonstrates the SPICE model modified for employees with mental health conditions.

Table 7. SPICE model components to address Behavioral Health Workplace Concerns

Simplicity – When a psychological condition is diagnosed, the most efficacious treatment is provided to restore the individual's health to the pre-morbid level of functioning. The treatment is explained in everyday language to facilitate understanding of the treatment process. When psychosocial issues are objectively identified, they are openly separated from the psychological condition, so that the psychological condition alone is being treated and why.
Proximity – The worker and employer keep in close contact during the treatment process. When the individual has already been off work for an extended time, a gradual return to work process, involving slowly increasing the hours at work over a brief period of time occurs. This is a closed period, ending at 8 weeks after the return to work.
Immediacy – **(1)** When a worker or individual has experienced a physical injury, the initial treating professional will evaluate with appropriate screening tools whether a psychological condition and/or psychosocial issue is also present. **(2)** When a potential behavioral health issue is reported, the treating psychological or psychiatric professional completes a comprehensive evaluation, objectively assesses to confirm or rule out whether a psychological condition exists and whether any psychosocial issues are present. In addition, the behavioral health professional *may* administer objective, standardized neuropsychological testing to confirm or rule out psychological conditions as well as psychosocial issues. The tests employed will meet the American Psychological Association's current testing standards and will be specific to the concern reported. By doing each of these steps, it normalizes that psychological conditions and psychosocial issues can occur. Moreover, it identifies the physical and psychosocial aspects of a condition from the beginning to develop a more effective treatment process
Centrality –The focus of any treatment is to establish and work towards a common RTW goal with all involved parties. Psychosocial issues are discussed openly with the worker and framed as issues that do not prevent the individual from returning to work. While recognizing that it's common for individuals to experience anxiety when returning to work, the professional normalizes that anxiety

typically occurs for all individuals, but does not signify that the worker should not return to work. This is to provide guidance throughout the treatment process. Therefore, the approach is comprehensive with the focus on recovery to shape the worker's expectations.
Expectancy – All treating professionals must normalize an individual's feelings and concerns that. However, treating professionals refrain from telling a worker that s/he is psychologically disabled because this is a rare occurrence and improbable in most instances. Instead, the focus remains on the anticipated outcome that most individuals with psychological conditions recover. This will help the worker to internalize this expectation.

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Treatment Recommendation

Return-to-Work Programs for Mental Health Disorders

Recommended.

Return-to-work programs have been used in the treatment of patients with mental health disorders. The use of early return-to-work programs is recommended. There is no recommendation for the use of European-style return-to-work programs.

Strength of Evidence – **Recommended, Insufficient Evidence, (I)**—*Early Return to Work*

Level of Confidence – **High**

Strength of Evidence – **No Recommendation, Insufficient Evidence (I)**—*European-style RTW programs*

Level of Confidence – **Low**

Indications:	Workers on leaves of absence, especially if there is extended lost time, a trend towards delayed return and/or barriers to return to work are candidates for early RTW interventions.
Benefits:	Earlier RTW, less productivity loss, potentially faster recovery.
Harms:	Negligible provided safety critical work, essential job functions, and similar workplace issues are addressed.
Rationale:	All moderate quality studies are from European countries with socialized medical systems that are considerably different from the US, especially with respect to lost time (e.g., Netherlands, Sweden, Norway, Denmark) [95-105]. Thus, there are no quality studies in systems similar to the United States. While early return to work is advised with high confidence, the utility these specific types of programs is ill-defined in the United States; thus, there is no recommendation for these specific types of programs.

Author Year (Score):	Category:	Study type:	Conflict of Interest:	Sample size:	Age/Sex:	Comparison:	Follow-up:	Results:	Conclusion:	Comments:
Hees 2012 (score=6.5)	Return to Work	RCT	Sponsored by the Netherlands Foundation for Mental Health (grant no. 20035713) and the National Institute for Employee Benefit Schemes (grant no. 5002002). No COI.	N = 117 employees with MDD according to DMS-4 criteria, who were sick listed for a median time of 4.5 months	Mean age: 43.1 years; 57 males, 60 females	TAU group: Treatment followed the APA guidelines that included clinical management. (n=39) vs adjuvant Occupational therapy group: 18 sessions (9 individual, 8 group) performed by two occupational therapists. It was mandatory for employees to work a minimum of 2 hrs per week. (n=78)	Follow up at 6, 12, and 18 months.	The TAU+OT group had greater improvement in depressive symptoms (−2.8, −5.5 to −0.2), a greater probability of long-term symptom remission (+18%, +7% to +30%), and a greater probability of long-term RTW in good health (GH) (+24%, 12% to 36%).	"In a highly impaired population, we could not demonstrate significant benefit of adjuvant OT for improving overall work participation. However, adjuvant OT did increase long-term depression recovery and longterm RTW in GH (i.e., full RTW while being remitted, and with better work and role functioning)."	TAU bias. Data suggest lack of efficacy of adjuvant occupational therapy in improving long-term depression recovery and RTW in sick listed employees with MD.
Schene 2007 (score=6.5)	Return to Work	RCT	No mention of sponsorship. No COI. Study in Netherlands.	N = 62 subjects with major depression on the DSM-4 scale.	Mean age: 45.9 years; 30 males, 32 females.	TAU: clinical management according to APA 2002 guideline and antidepressants. 2-3 weekly 30 minute sessions – symptoms assessment, psycho-education, general support and cognitive behavioral techniques and	Follow up at 3, 6, 12, and 42 months.	In the TAU group, depression fell from 100% to 29% at baseline to month 12. Meanwhile in the OT+TAU group, depression fell from 100% to 44%, although it had a probability of being %75.5 more cost effective than just TAU.	"Addition of OT to good clinical practice does not improve depression outcome, improves productivity without increasing work stress and is superior to TAU in terms of	TAU bias. Data suggest adding OT to TAU does not improve depression but improves productivity and appears to be cost effective

						medication prescription if needed. (n=32) vs TAU+OT group: same as TAU group but also attended occupational therapy. Three phases: diagnostic phase (4 wks), therapeutic phase (24 wks), and follow up phase (20 weeks). (n=30)		Return to work for TAU group was 299 days and 207 days for OT+TAU group.	cost-effectiveness. ”	
Salomonsson 2017 (Score=6.0)	Return to Work	RCT	Sponsored by Karolinska Institute and by grants from Stockholm Country Council. No COI.	N = 211 patients with Common Mental Disorders (CMD) such as anxiety, depression, stress, etc.	Mean Age: 41.5; 13 males; 67 females	Standard Cognitive-behavioral therapy, 8-20 sessions dependent on each disorder (n=64) vs. Return-to-work interventions (n=67) vs. COMBO Return-to-work interventions PLUS CBT (n=80)	Follow up at 6 and 12 months	There was no difference in the results between the different treatment groups, (χ2 =3.94; df=2; p=0.174). At 1YFU, 141 patients (67%) did not fulfil criteria for their principal disorder; 44 (69%) after CBT, 39 (65%) after RTW-I and 54 (68%) after COMBO. There were no differences between treatments (χ2 =0.02; df=2; p=0.991).	“No treatment was superior to the other regarding reducing sick leave. All treatments effectively reduced symptoms, CBT in a faster pace than RTW-I, but at 1-year follow-up, all groups had similar symptom levels. Further research is needed regarding how CBT and RTW-I can be combined more efficiently to produce a larger effect on sick leave while maintaining	Data suggest combo treatment not superior to either RTW-I or CBT as all had comparable outcomes with similar symptoms at 1 year.

									effective symptom reduction."	
Stenlund 2009 (score=5.5)	Return to Work	RCT	Sponsored by Swedish Council for Working Life and Social Research. No mention of COI.	N = 136 participant on sick leave for burnout ≥ 25% of their working hours during the previous 3-24 months, and scored ≥ 4.6 on the Shirom-Melamed Burnout Questionnaire	Mean age: 41.61 ± 7.46 years; 40 males, 96 females	Rehabilitation Group A: receive 30 sessions (3 hours each) spread over 1 year. 20 meeting in first 6 months. In parallel patients performed Qigong in 1-hour sessions once a week (n = 67). Vs Rehabilitation Group B: Performed Qigong and work rehabilitation support (n = 69)	3, 6, 12 months	No significant difference between groups in psychological variable. Both groups improved significantly over time on levels of burnout [F (3.0, 244.5) = 51.4, p < 0.001]	"This study showed no differences in effect between CBR and Qigong compared with Qigong only in a per-protocol analysis."	Comparable efficacy between groups. Data suggest CBT + Qigong is no better than Qigong alone.
Nystuen 2006 (score=5.5)	Return to Work	RCT	Sponsored by Royal Ministry of Health and Social Affairs. No COI.	N = 103 employees sick listed for more than seven weeks due to non-severe psychological problem or muscle skeletal pain	Mean age: 37.58 ± 10.20 years; 40 males, 63 females	Intervention group: Offered solution-focused follow-up in a group or individual setting (n = 53) vs Control group: received treatment as usual (n = 50)	6 months	No significant difference we found between intervention group and control group in perceived health status (measured by SF-36, Effect size 0.35, p = 0.17)	"The main conclusions from this study indicate that the intervention is no more effective than standard follow-up in either improving return to work or increasing perceived health."	TAU Bias. Data suggest each of efficacy
Chen 2015 (score=5.5)	Return to Work	RCT	Sponsored by Ministry of Science and Technology of Taiwan	N = 68 subjects with major depressive	Mean age: 48.9 years; 18 males,	Intervention group: Consist of four waves with 24 LAST group	Follow up at 3 and 6	There was a significant increase in anxiety (-5.45, p<0.05; ηp^2=0.083,	"The occupation-based LAST program, which focuses on lifestyle	TAU bias, small sample size, intervention group with high dropout rate,

			and National Taiwan University. No COI.	disorder (single or recurrent) or dysthymia via DMS-4-TR criteria	50 females.	sessions. Offered twice a week, with each being 1-1.5h, for a total of 12 weeks (average of 13 sessions). Topics were related to occupational performance and skills (n=33) or control group: No intervention (n=35). Both groups contacted and given a 10-min call biweekly asking about their day (daily routines, quality of sleep, mood, social participation, etc.)	month s.	95% CI [0.0418, 0.1487]) and suicidal ideations (-3.09, p<0.01; ηp^2 = 0.157, 95% CI [0.0824, 0.2642]) in the intervention group. Both groups had significant improvements in overall quality of life (0.29, p<0.05), and decrease in depression (-3.65, p<0.05) from baseline to month 3.	rearrangement and coping skills enhancement, could significantly improve the level of anxiety and suicidal ideations for persons with depression."	dissimilarities in baseline categories between group
Reberge n, 2009 (Score= 5.5)	Retur n to Work	RCT	Sponsored by Zaanstreek-Waterland and Hollands Midden police departments, the OHSs Commit and KLM Health services. No COI.	N=240 police workers on sick leave due to mental health problems determined by OHS	Mean age: 39.4 years; 134 males; 106 females	Usual Care, referrals to psychiatrists and standard treatment (n=115) vs. Guideline-Based Care, treatment with a train occupational physician for return to work guidelines (n=125)	1 year follow up	More workers partially returned to work in GBC (69%) before the full RTW than UC (54%), however there were more recurrences of sick leave in GBC than UC.	"GBC did not differ in RTW compared with UC, but may be beneficial for the majority of workers with minor stress-related disorders."	Usual Care bias. Data suggest GBC not superior to usual care.
Beck 2015 (score=5 .0)	Retur n to Work	RCT	No mention of sponsorship or COI.	N = 20 adults with work related	Mean age: 44.75 ± 8.7 year; 4 males,	Intervention Group: Received a modified form of	9 weeks and 6	Participants in the GIM group showed improvements in the scores	"The use of Guided Imagery and Music in the rehabilitation	Wait list control bias small sample. Data suggest improved well-

			Study in Denmark.	stress as a primary diagnosis.	16 females	Bonny Method of Guided Imagery and Music (BMGIM) in 2-hour sessions, included discussion, guided relaxation and 30-45 minutes of music listing in an altered state of consciousness, followed by verbal integration of experience (n = 13) vs Wait list Group: received standard care (n = 7)	months.	for well-being (ES = 1.37), mood disturbance (ES = 0.90), anxiety (ES = 0.88), and physical distress symptoms (ES = 0.78) compared to wait List controls.	of workers on long-term sick leave with stress has been shown to be a promising short-term intervention that significantly decreased cortisol, physical distress, and anxiety and improved mood and wellbeing."	being, mood, depression and anxiety after 9 weeks of GIM.
Vlasveld 2013 (score=5.0)	Return to Work	RCT	Sponsored by the Foundation for Innovation of Health Insurers in the Netherlands. COI: some authors received payments for presentations, royalties, and fees.	N = 126 workers with MDD of a score of at least 10 on the PHQ-9 scale and met DMS-4 criteria who have been missing 4-12 weeks of work.	Mean age: 42.6 years; 58 males, 68 females	Usual care group: Occupational care performed under the Occupational Physician guidelines of the Dutch Board for Occupational Medicine (n=61) or Collaborative care group: 6-12 sessions of problem solving therapy, manual-guided self-help, a workplace intervention, and a prescription of antidepressants based on	Follow up at 3, 6, 9, and 12 months	There was not a difference between two groups regarding remission response ($p>0.05$; CI −0.281 to 1.353), however, time to response did differ (collaborative care to usual care $p<0.05$; 95% CI −1.684 to −0.027). At year 1, 64.4% of workers in collaborative care had achieved full RTW, while it was 59.0% of the workers in the usual care.	"These results do not justify a widespread implementation of collaborative care in occupational healthcare, as it was operationalised in this study."	Usual care bias. Data suggest collaborative care reduced time to response but intervention adherence in the collaborative care group was poor.

						the individual. (n=65)				
Hellström 2017 (score=5.0)	Return to Work	RCT	Sponsored by Obel Family Foundation, the Tryg Foundation and the Danish Agency for Labour Market and Recruitment. No COI.	N = 326 participants with affective disorder or anxiety (ICD-10 criteria)	Mean age: 35.0 years; 105 males, 221 females	IPS-MA Group: received mentor support and career counseling intervention (n=162) vs SAU Group: received service as usual from job centers (n=164)	12, 24 months	Return to work was achieved by 44.4% of IPS-MA group compared to 37.8% of SAU group (OR=1.34, 95% CI 0.86-2.10; p=0.2).	"The modified version of IPS, IPS-MA, was not superior to SAU in supporting people with mood or anxiety disorders in return to work at 24 months."	TAU bias. Data suggest the IPS-MA is not superior to the SAU for RTW in those with anxiety disorders.
Bejerholm 2016 (score=5.0)	Return to Work	RCT	No mention of sponsorship or COI. Study in Sweden.	N = 63 patients with recurrent depression or a depressive episode or bipolar disorder (ICD-10)	Mean age: 41 years; 17 males, 44 females	IES Group: received individual enabling and support intervention including counseling by an employment specialist (n=38) vs TVR Group: received traditional vocational rehabilitation including reducing symptoms and increasing work ability at a mental health service (n=44)	6, 12 months	Return to work was achieved by 42.4% of IES group compared to 4% of TVR group (p=0.001).	"The IES model was more effective than traditional vocational rehabilitation for achieving employment at 12 months among people with affective disorder. IES helps them find and keep employment, earn a higher income, and feel less depressed."	Data suggest IES is more effective than TVR for improving symptoms of depression and attainment of employment.
Brouwers, 2006 (score=5.0)	Return to Work	RCT	Sponsored by a grant from The Netherlands Organization for Health Research and Developmen	N=194 patients with minor mental disorders, mostly emotion	Mean age: 39.75 years; 79 males,	Experimental treatment from social workers aimed to reduce time on sick leave (n=98) vs standard	Follow up at 3, 6, and 18 months	3 months after baseline, 37.1% of the control group had fully resumed work, versus	"Although the intervention has benefits, it was not successful at its primary goal (i.e., to reduce sick leave	Usual Care bias. Data suggest the primary outcome to decrease sick leave duration did not occur, there appears

			t; COI: Bea Tiemens played an important role in the developmen t of the intervention under study and received a fee for speaking at a symposium of social workers specialized in occupational care.	al distress	115 females	general practitioners usual care for patients with mental disorders (n=96)		39.8% of the intervention group. Six and 18 months after baseline, these values were 58.2% and 85.1% for the intervention group, respectively. Control group had 62.4% and 78.9% returned to work at the 6 and 18 months, respectively.	duration in patients with emotional distress or minor mental disorders). Programs aimed at the reduction of sick leave duration may yield better results if targeted at patients with more severe emotional problems than at those with exclusively emotional distress or minor mental disorders, or if delivered by caregivers who are closer to the work environment than are social workers, such as occupational physicians"	to be a lack of efficacy with experimental intervention.
Van Oostrom 2016 (score=4 .5)	Retur n to Work	RCT	Sponsored by Dutch Ministry of Social Affairs and Employment and the participating occupational health services. No COI.	N = 145 participa nts who met the stress and sick leave criteria and passed the Four-Dimensi onal Sympto	Mean age: 48.90 ± 8.15 years; 114 males and 31 females	Intervention group: received usual care from their occupational physicians and were referred to a return to work coordinator (n=73) vs Usual care	12 month s	No overall effect of the intervention group when compared to the usual care group. [HR 0.99 (95% CI 0.70-1.39) employees who at baseline intended to RTW was 2.05	"No overall effect of the participatory workplace intervention on lasting RTW was found."	Usual care bias. Data suggest each of efficacy.

				m questionnaire (4DSQ)		Group: received care as usual (n=72)		(95% CI 1.22-3.45)]		
Lammerts, 2016 (score=4.5)	Return to Work	RCT	Sponsored by The Dutch Institute for Employee Benefit Schemes. COI: One or more of the authors have received or will receive benefits for personal or professional use.	N=186 patients on sick leave due to common mental disorders (OHS)	Mean age: 46.0 years; 94 males, 92 females	Control group allocated to standard Occupational Healthcare (n=92) vs. Intervention group allocated to participatory supportive Return to Work program and standard occupational healthcare (n=94)	Follow-up at 1 year	Those who were employed during follow up between the two groups worked on average respectively 26.3 [(SD) 12.6] and 25.6 (SD 14.1) hours per week, which did not differ significantly (adjusted B -0.62, 95% CI -10.83–9.59, P=0.90). Also, the per-protocol analysis revealed no significant differences between groups.	"Compared to usual care, the new program did not result in a significant shorter duration until first sustainable RTW. However, due to low protocol adherence, it remains unclear what the results would have been if the program had been executed according to protocol."	Usual care bias. Data suggest lack of efficacy as the primary outcome was not demonstrated. However, there was low adherence to the intervention (co-work) study.
Noordik, 2013 (score=4.5)	Return to Work	RCT	Sponsored by a grant from the STECR Aladdin program; No COI. Study in Netherlands.	N=158 patients with common mental disorders such as anxiety, depression, adjustment disorder, etc.	Mean age: 45.4 years; 46 males, 112 females	Control group of Care-as-Usual, guideline-directed and consists of problem-solving strategies and graded activities (n=85) vs Intervention group with exposure-based return	1 year follow up	The average return to work full time differed significantly between groups [hazard ratio (HR) 0.55; 95% confidence interval (95% CI) 0.33-0.89]. The workers receiving RTW-E (209 days; 95% CI 62-256) had a prolonged time	"Workers on sick leave due to CMD treated with RTW-E showed a prolonged time-to-full RTW compared to those treated with CAU. We recommend that OP do not apply RTW-E but continue counseling	CAU bias. Data suggest counseling workers on sick leave due to CMD with an in-vivo work exposure resulted in a longer time to RTW.

						to work guideline (n=75)		to full RTW compared to workers receiving CAU (153 days; 95% CI 128-178).	workers on sick leave due to CMD according to CAU."	
Bakker 2007 (score=4.0)	Return to Work	RCT	Sponsored by the Health Research and Development Council (ZONMW) in the Netherlands. No COI.	N = 433 patients of primary care physicians who suffered from Stress-related mental disorder (SMD)	Mean age: 45.64 ± 10.20 year; 146 males, 287 females	Intervention group (MISS): received two sessions of 3.5 hours and two regular follow- up 2-hour sessions. Sessions led by primary care physicians trained to diagnose SMD's, to education patients, and to actively monitor progress (n = 227) vs Usual Care (UC): received care as usual (n = 206)	12 months	No superior effect of the MISS during sick leave [Hazard Ratio, 95% CI (1.06 (0.87 -1.29)]	"We found no evidence that the MISS is more effective than UC in our study sample of distressed patients."	Usual care bias. Data suggest MISS is no better than UC.
Lytsy 2017 (score=4.0)	Return to Work	RCT	Sponsored by REHSAM, a research programme financed by the Swedish Ministry of Health and Social Affairs, the National Insurance Office, the Swedish Association of Local Authorities and Regions and Vårdalstiftelsen. No COI.	N=308 participants with a mental disorder and/or pain syndromes	Mean age: 48.5±6.3 years; 0 males, 273 females.	ACT Group: received cognitive behavioral therapy using acceptance and mindfulness strategies to increase function and quality of life (1 hour sessions) (n=102) vs TEAM Group: received multidisciplinary assessments and individual rehabilitation intervention	Baseline and 12-months	Return to health insurance system was observed in 51.5% of control group compared to 43.5% in ACT group (OR=0.72, 95% CI 0.41-1.24, p=0.23) and compared to 39.2% in the TEAM group (OR=0.61, 95% CI 0.35-1.06, p=0.079). ACT group showed an OR=0.95 (95% CI 0.46-1.95, p=0.9) for	"This randomized controlled study of vocational rehabilitation in women with long-term sick leave due to pain condition and/or non-psychotic mental illness found preliminary evidence that multidisciplinary assessments and individual rehabilitation	Data suggest both interventional groups reported significant improvement in total hours worked per week and work-related engagement compared to controls.

						consisting of 1-2 hour weekly meetings with a physician, psychologist, occupational therapist, and a social worker (n=102) vs Control Group: (n=104)		increasing work time compared with control group and TEAM group was OR=2.20 (95% 1.09-4.44, p=0.028).	interventions increase the possibility of coming off health insurance and returning to work."	
Martin 2013 (score=4.0)	Return to Work	RCT	Sponsored by grants from Danish Prevention Fund and the Danish Working Environment Research Fund. No mention of COI.	N=196 participants with mood disorders, neurotic, stress-related or somatoform disorders (ICD-10)	Mean age: 41 years; 39 males, 161 females	CTWR Group: received coordinated and tailored work rehabilitation (CTWR) consisting of 12 weeks of screening, action plan for RTW, and implementation of plan (n=106) vs CCM Group: received conventional case management (CCM) of unlimited access to a general practitioner, psychiatric treatment in hospitals (n=90)	1 year	CTWR group returned to work slower compared to CCM group (HR=0.58, 95% CI 0.39-0.85). Patients receiving sickness benefits were 35% of CTWR group compared to 21% of CCM group (p=0.031).	"The CTWR-intervention did not lead to faster RTW among sickness absence beneficiaries with mental health problems when compared to CCM. On the contrary, the intervention appeared to prolong participants' time on sickness absence benefits."	Usual care bias, quasi randomization. Data suggest the CTWR intervention did not lead to a quicker RTW than did usual care.
Volker 2015 (score=4.0)	Return to Work	RCT	Sponsored by the Netherlands Organization for Health Research and Development (ZonMw) and by Achmea, a	N=220 employees screened positive with depression or somatization	Mean age: 44.2 years; 90 males, 130 females	CAU Group: received care as usual involving occupational physician support (n=66) vs ECO Group: received psychoeducat	3, 6, 9, 12 months	Full or partial return to work was achieved in 84% of CAU group compared to 87.7% in the ECO group. Mean duration until RTW was 77.0 day in	"The results of this study showed that in a group of sick-listed employees with common mental disorders, applying the blended	Usual care bias, pseudo randomization design. Data suggest ECO intervention led to a faster first RTW and increased remission in sick listed

			Netherlands insurance company. COI: One or more of the authors have received or will receive benefits for personal or professional use.	(PHQ-15, GAD-7)		ion, 4 sessions of cognitive behavioral therapy, 4 pain and fatigue management sessions, 4 session of problem solving skills (2 sessions involving work), and 1 relapse prevention session (n=91)		CAU group compared to 50.0 days in ECO group. Full RTW was achieved at follow-up by 61% of CAU group compared to 67.7% of ECO group.	eHealth ECO intervention led to faster first RTW and more remission of common mental disorder symptoms than CAU."	employees with common mental disorders.
Reme 2015 (score=4.0)	Return to Work	RCT	Sponsored by the Norwegian Ministry of Health and Ministry of Labour, National Strategy on Work and Mental Health. No COI.	N=1193 participants with anxiety or depression disorders	Mean age: 40.4 years; 391 males, 802 females	AWaC Group: received cognitive behavioral therapy and job support involving therapy and monitoring by physicians and specialists (n=630) vs Control Group: received standard treatment from the general practitioner (n=563)	6, 12, 18 months	Work participation was increased in AWaC group with 44.2% compared to 37.2% in the control group (p=0.015). Similarly, results were maintained at 18 months (p=0.018).	"A work-focused CBT and individual job support was more effective than usual care in increasing or maintaining work participation for people with CMDs. The effects were profound for people on long-term benefits."	Usual care bias. Data suggest CBT and individualized job support was more effective than UC in maintaining work participation.
Fleten 2006 (score=3.5)										Data suggest a trend (non-statistically significant) in decreased sick days via intervention group. However, there were some significant differences in

										subgroups but younger people with low back pain showed a negative (adverse) effect from the intervention.
Willlert 2011 (score=3.5)										Waitlist control bias. Data suggest stress management group decreased self-reported absenteeism.
Netterstrøm 2013 (score=3.5)										Treatment-as-usual (TAU) control group bias, waitlist control (WLC) bias. Data suggest the stress treatment program (MBSR and psychotherapy) significantly stress symptoms and increased RTW rate compared with treatment-as-usual control group and waitlisted control group.
Netterstrøm 2012 (score=3.5)										TAU bias. WLC bias. Data suggest the group based stress reduction technique (Kalmia) significantly decreased stress levels while

										increasing RTW over both the TAU and WLC groups.
de Weerd 2016 (score=3.5)										Data suggest CDM showed a trend towards reducing RTW time.
de Vente 2008 (score=3.0)										Care as usual (CAU) bias. Sparse methods. Data suggest CBT methods as currently practiced in the workplace are unsuccessful for treating workplace stress.
Momsen 2016 (score=2.5)										Low response rate. Data suggest lack of efficacy of intervention in terms of RTW.
Van der Klink 2003 (score=2.5)										TAU bias. Data suggest at 3 months a significant number of persons in the intervention group had returned to work. At 1 year, these differences equalized such that both groups had all patients returning to work.

Blonk 2006 (score=1 .5)										Data suggest a brief intervention founded on CBT conducted by labor experts appears to promote work resumption in self-employed individuals.

RISK AND CAUSATION

A risk factor is an exposure that is known to increase the probability that a given condition will occur. By contrast, an associated factor is a factor that runs in parallel with the disease, but either does not actually cause the condition to occur or has not been proven in prospective studies. The critical distinction is that an intervention that addresses an associated but non-causal factor will not change the occurrence of disease [106, 107].

An example of an associated factor is serum uric acid in relationship to risk of heart attack. Uric acid levels have been known to be higher in those with heart attacks than those without. However, uric acid levels rise across the population in parallel with increasing age, obesity, and dietary factors. While higher uric acid levels occur in those with heart attacks, uric acid does not cause heart attacks. Thus, an intervention to lower the uric acid level will not lower the risk of heart attack (unless it also modifies a true risk factor, such as weight loss). Accordingly, this text attempts to use the term risk factor cautiously. From an epidemiological perspective, most of the literature misuses the term “risk factor” and instead, should be using the term “associated factor.”

The assessment of true risk factors for mental health conditions is quite challenging, particularly as the disorders, exposures (e.g., reliance on questionnaire-based symptoms especially in occupational studies), outcomes, and confounders are generally difficult to measure in large-sized prospective cohort studies. Regardless, some prospective cohort studies are being reported which measured several factors. Increasingly, it is apparent that prior assumptions of “risk factors” and outcomes were incomplete and/or inaccurate, and instead, many outcomes are now also shown to be risk factors. For example, instead of being outcomes, psychiatric conditions are now reportedly risks for depressive conditions [108, 109], anxiety disorders [109], bipolar disorder [110], PTSD [111-116], and somatization disorders [117, 118]. Thus, research efforts may need to turn to analyze Interactions, e.g., whether, and under what circumstances, an occupational factor may modify the risk of a mental health disorder (re)occurring in a susceptible individual.

Another area of weakness in the available literature is the nearly complete absence of objective data in large cohorts. Thus, there also is need for sizable prospective cohort studies which incorporate objective measures (e.g., numbers of co-workers, shift lengths, salary, work organizational factors) and

surveys of co-workers and supervisors (e.g., measuring other's interpretations of co-worker or supervisor support). As the current body of evidence almost entirely relies on the individual's interpretations, which may or may not be accurate, it is critically important to have objective data included, otherwise, it is possible that erroneous conclusions may be drawn. For example, if the worker's interpretation is that their supervisor is not supportive (perhaps a problem related to their prior upbringing), but other coworkers think the supervisor is supportive, and factually that supervisor is engaged and supportive, then expensing funds on supervisor support training instead of, e.g., developing the worker's coping skills, would result in no change in risk for a disorder. Another example can be a reverse of this prior example, with the supervisor not being supportive and coworkers corroborating a mobbing atmosphere [119-122].

The determination of causation is a medicolegal process. Before a professional opines whether an individual received injury that was related to the workplace, it is imperative that the professional understand the complexities involved in the process to determine causation, how legal determination differs from professional treatment, and the different administrative rules involved in each jurisdiction and/or system (see also ACOEM Work-Relatedness Guideline) [4, 123].

Condition-specific risk, causation, and prevalence information (when available) is addressed in the individual guideline modules.

WORK-RELATEDNESS

A method for determining work-relatedness is discussed in detail in the ACOEM Work-Relatedness Guideline. The condition-specific literature on risk factors is reviewed in individual modules.

Mental health disorders may be occupational. A particular case of a workplace mental health disorder may or may not be considered occupational based, in part, on the specific jurisdictional requirements [4, 11]. The type of inciting event is of particular importance in many jurisdictions. In practice, most cases are usually considered not work-related. It may or may not be considered medically occupational depending on jurisdictional definitions and case law, often including whether there is, for example, a clear occupational inciting event that caused the mental disorder.

Workers' compensation claims for mental health disorders are commonly classified into one of three categories [124]: physical/mental, mental/physical, and mental/mental. Various jurisdictions may or may not recognize or accept claims in these categories. These are explained in Table 8. Mental/mental claims vary from state to state, which are detailed in Table 9 [11].

Table 8. Types of Workers' compensation Mental health-related Injuries

Physical/Mental	A physical injury causes a psychological injury
Mental/Physical	A work-related stressor or stimulus causes a physical injury
Mental/Mental	A work-related trigger, such as stress, causes a psychological injury

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Table 9. Mental-mental Claims by State [11]

Allow mental-mental claims	***Allow mental-mental claims that occur under unusual circumstances beyond what is normally encountered by the typical employee in this occupation****	***Allow mental-mental claims, but only if the impetus for the claimed concern occurred suddenly within the scope of the job****	***Allow mental-mental claims, but with specific limitations***	***Allow mental-mental claims without concern to the impetus being unusual or sudden***
Alabama	Arizona	Colorado	Connecticut[2]	Alaska
Arkansas	Colorado[1]	Louisiana	Massachusetts[3]	California
Connecticut	Illinois	Maryland	Minnesota[4]	Hawaii
Florida	Iowa	Tennessee		
Georgia	Louisiana[1]	Virginia		
Idaho	Maine			
Kentucky	Mississippi			
Montana	Missouri			
Nebraska	New Jersey			
Nevada	New York			
New Hampshire	North Carolina			
Ohio	Oregon			
Oklahoma	Pennsylvania			
South Dakota	Rhode Island			
Wyoming	South Carolina			

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**Cannot file a psychological injury claim that arises from workplace disciplinary actions, job changes, or termination*

[1] Some overlap between groups 2 and 3 based on case law

[2] Police and firefighters only

[3] Limited to events occurring within the workplace, except claims resulting from job changes, workplace disciplinary actions, or termination, except if the claimant can prove that harm was intended

[4]Limited to PTSD only if related to work activities, but not if it results from a disciplinary action, work evaluation, job transfer, layoff, demotion, promotion, termination, retirement, or similar action taken in good faith by the employer. No stress claims are allowed.

FOLLOW-UP VISITS

It is recommended that most patients with workplace mental health conditions should initially follow-up within one to two weeks for work status, evaluation and treatment [125], with more frequent follow-ups for those with more severe conditions and/or those who are not at full function (e.g., not working, on part time work or modified duty). Less frequent follow-up visits may be needed for those who have mild illnesses, are compliant, are fully functional and/or are at a stable plateau.

The purpose of these follow-up visits includes:

- re-assessing diagnosis(es),
- monitoring progress,
- treatment compliance,
- adjusting treatment,
- evaluating psychosocial factors and evaluating work limitations.

Follow-up visits also may help to further develop linkage(s) between:

- mental health and medical illness treatment plans;
- inpatient and outpatient psychiatric care plans; and
- between various types of providers.

Lack of timely and adequate follow up visits increases the risk of patient disengagement from treatment, which can potentially result in treatment non-compliance, medication non-compliance, readmission, and self-harm [126-128]. For example, patients who complied with follow up appointments had a 1 in 10 chance of being hospitalized, whereas patient who did not attend follow up appointments had a 1 in 4 chance of hospital readmission [126, 129]. In addition, patients who are offered follow-up appointments visit the emergency department less frequently for self-harm than those who are not [129].

Many patients with a mental conditions have co-morbid, chronic medical condition(s), such as hypertension, cardiovascular disease, hyperlipidemia, or diabetes [130, 131]. These conditions may be more serious in patients with mental illness than those patients with the condition alone [132]. Preventable medical conditions are a leading cause of premature death in patients with mental illness [133]. Therefore, patients should attend follow up appointments to determine whether their treatment is affecting these health issues along with their mental illness.

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