Somatic Symptom and Related Disorders

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Diagnosis

Somatic symptom and related disorders (SSRD) represent a problem that is truly at the intersection of medicine and psychology. Somatic symptoms are defined broadly as physical symptoms in the absence of identifiable disease (Sharpe & Carson, 2001); they rise to the level of a disorder when a patient's concern about symptoms causes psychological distress and associated impairment. A hallmark feature of SSRD is that they seem related to an underlying medical condition, yet no disease is identified, or if there is a comorbid medical condition, the patient is more distressed and impaired than what would be expected based on the medical diagnosis alone (Silber, 2011). As such, children and adolescents with SSRD have a unique presentation that involves psychological *and* physical components, yet most are likely to present in a medical (rather than psychological) setting. As somatic symptoms are common among children and adolescents, a consultation-liaison (CL) psychologist is likely to come across patients with this presentation in practice. A collaborative, integrated medical psychological approach is needed for successful diagnosis and treatment of SSRD.

Children and adolescents with somatic symptoms represent a heterogeneous population in presentation, course, and outcome. Adolescents more commonly present with SSRD than young children, more females than males, and more from Caucasian, non-Hispanic backgrounds than other racial and ethnic groups (Campo & Fritsch, 1994). Among pediatric patients seeking medical consultation, up to 50% are estimated to have "medically unexplained" symptoms, and a subset have associated functional and emotional impairments (Andresen et al., 2011). A majority of youth with SSRD have comorbid organic medical diagnoses, history of psychiatric treatment, and primary symptoms of pain or neurologic symptoms (Bujoreanu, Randall, Thomson, & Ibeziako, 2014).

The fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) devotes a diagnostic category to somatic symptom and related disorders (SSRD) to classify patients with prominent somatic symptoms and related

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distress/impairment (American Psychiatric Association, 2013). The category includes seven diagnoses: somatic symptom disorder, illness anxiety disorder, conversion disorder (functional neurological symptom disorder), psychological factors affecting other medical conditions, factitious disorder, other specified somatic symptom and related disorder, and unspecified somatic symptom and related disorder. The conceptualization of SSRD diagnoses represents a significant revision compared to previous versions of the DSM in that it moves away from "medically unexplained" symptoms, a defining feature of former diagnoses of somatoform disorder or hypochondriasis (Rief & Martin, 2014). The new DSM classification, in contrast, makes clear that symptoms do *not* have to be medically unexplained for a patient to qualify for most SSRD diagnoses (except for conversion disorder and pseudocyesis, in the other specified SSRD category).

SSRD diagnoses require presence of abnormal distress and impairment related to the experience of somatic symptoms, lasting between 3 to 6 months. As such, it is possible for patients to have organic medical diagnoses *and* SSRD diagnoses if associated distress and impairment is excessive to that expected from disease progression. If normative concern is present and impairment is not excessive, the patient would *not* qualify for SSRD diagnoses. In a population based study, while 22.7% of adolescents reported somatic symptoms, fewer than half met criteria for SSRD (van Geelen, Rydelius, & Hagquist, 2015).

While the focus of this chapter is on the primary diagnosis in this category, somatic symptom disorder, there are several important notes regarding the other diagnoses. Brief somatic symptom disorders (fewer than 6 months) are captured in the other specific SSRD category. Illness anxiety was designed for individuals who have anxiety around health in general, beyond a specific symptom. The presence of psychological or behavioral factors negatively affecting physical health counts for psychological factors affecting other medical conditions. Finally, physical symptoms associated with SSRD are considered real and involuntary, such that patients are actually experiencing them, across all diagnostic categories *except* for factitious disorder. Overall, SSRD diagnoses in the DSM-5 more effectively account for the biological, psychological, and social factors that impact the symptom experience compared to similar diagnostic categories in prior iterations of the DSM, hopefully leading to more effective understanding and treatment of symptoms (Rief & Martin, 2014).

Medical Basics

Studies on the etiology of somatic symptoms point to contributions of biological, psychological, and social factors. Genetically, traits associated with alexithymia and anxiety are related to SSRD; there are also high rates of identical twin concordance (Ellenstein, Kranick, & Hallett, 2011; Silber, 2011). Neurologically, differences in white matter integrity in brain regions associated with body perception (e.g., somatosensory cortex), brain chemistry, and motor response are more pronounced in patients with SSRD compared to healthy controls (Aybek et al., 2015; Zhang et al., 2015). This "somatosensory amplification" in the brain may result from stress, early life trauma, and/or inflammation (Perez, Barsky, Vago, Baslet, & Silbersweig, 2015). Psychologically, although often causally implicated for somatic symptoms, rates of trauma are not significantly different between adolescents with SSRD and national norms (Thomson, Randall, Ibeziako, & Bujoreanu, 2014). Youth with SSRD demonstrate fewer adaptive coping strategies and more intense emotional responses to stress compared to healthy peers (Walker, Garber, & Greene, 1993). In addition, low self-worth, poor social competence, early onset mood disorder, as well as anxiety and depression are associated with SSRD; however, not all children with SSRD have mood disorders (Beck, 2007). Finally, social factors are associated with intergenerational transmission of illness; patients with SSRD are more likely to come from home environments where illness behavior is modeled and more healthcare utilization occurs (Van Tilburg et al., 2015).

Medicine has historically used nonspecific, symptom-based terminologies for symptoms in the absence of disease, which has resulted in variability and poorly described or validated diagnoses (Aaron & Buchwald, 2001). Recently, there has been a movement to create unified and descriptive diagnoses to improve identification and treatment of somatic symptoms. A largely agreed upon term is "functional disorder" to indicate that symptoms are the result of body system dysfunction rather than organic disease, which is better accepted by patients than previous terms that further propagated mind-body dualism, such as "all in the head," hysterical, psychosomatic, psychogenic, somatoform, medically unexplained, and depression or stress related (Stone et al., 2002). There are functional disorders in nearly every medical specialty, such as functional gait disorder and non-epileptic episodes in Neurology, irritable bowel syndrome and functional abdominal pain in Gastroenterology, and syncope and non-cardiac chest pain in Cardiology.

Medically, it is important to apply the same scientific rigor and clinical decision-making for diagnosing functional disorders as organic disease; it is not just a diagnosis of exclusion. Functional disorders are identified from a combination of positive signs (e.g., inconsistencies in presentation, presence of nonorganic symptoms) *and* the absence of disease markers (Stone, Carson, & Sharpe, 2005a). Less than 5% of patients with functional disorders later receive an organic diagnosis (Crimlisk et al., 1998). To ensure patients have an adequate understanding of their functional disorder, psychologists should be familiar with medical terminologies and teach patients about the diagnosis in collaboration with the medical team. For patients with comorbid organic disease, the medical provider should give patients a clear framework for when symptoms represent disease exacerbation versus functional disorders, as treatment response typically differs based on the cause of symptoms.

Engagement

The first step to engaging patients and families in biopsychosocial treatment for SSRD is establishing the diagnosis. The reassurance of the medical provider about the real but nonthreatening nature of symptoms is necessary for patients and families to buy into SSRD diagnoses and psychology treatment recommendations. Because most patients with SSRD present to a medical setting, medical questions must first be answered before psychological diagnoses and treatment are pursued. Ideally, a suspected SSRD diagnosis is communicated by the physician as being on the differential early in the medical workup. For a psychologist in a CL setting, collaborative communication with the medical team is essential to present a coordinated message to families to reduce confusion and increase adherence to treatment recommendations.

When explaining functional disorders and SSRD from a medical perspective, several factors lead to acceptance and successful engagement in treatment by patients and families. Physicians providing good explanations for symptoms and diagnoses, clearly stating there is no organic disease, and empathizing with suffering are beneficial to patients (Ring, Dowrick, Humphris, Davies, & Salmon, 2005). Providing a positive diagnosis (e.g., "you have a functional disorder") and explanation of symptoms is associated with better patient outcomes compared to absence of a diagnosis (e.g., "we don't know what's wrong with you") (Stone et al., 2005a). Patients with SSRD show higher satisfaction, improved well-being, and reduced healthcare utilization when a positive diagnosis is received from a provider who helped them feel empowered, compared to providers who rejected the reality of symptoms or supported a dualistic mind versus body viewpoint (Salmon, Peters, & Stanley, 1999).

There are five basic tenets for medical providers and psychologists to follow when making a functional disorder or SSRD diagnosis: (1) explain what patients DO have based on symptom presentation (i.e., make a positive diagnosis versus stating the absence of a diagnosis); (2) tell them what they DON'T have based on diagnoses of exclusion (e.g., "the good news is that it's not epilepsy or cancer"); (3) show BELIEF in symptoms and disability, both in terms of showing empathy and explaining diagnoses (i.e., use metaphors like "it's a software problem, not a hardware problem" or "the fire is out but the alarm is still ringing"); (4) explain how COMMON functional symptoms are so patients know they are not alone; and (5) talk about treatments that DO work such as cognitive behavioral therapy (CBT), physical therapy (PT), and medical management (Stone, Carson, & Sharpe, 2005b). Overall, when everyone talks about symptoms and diagnoses in the same positive way, patients' outcomes improve (Sharpe & Carson, 2001).

Formulation

Once the diagnosis has been established and patients have been given a biopsychosocial understanding of symptoms from a medical standpoint, the psychologist can begin to conduct a psychological assessment. For many patients with somatic symptoms, the first time they encounter a psychologist is during a medical encounter. This puts the psychologist in a powerful position to provide patients and family with further education about the medical diagnosis in the context of the biopsychosocial model, conduct a medically sensitive psychological assessment, and set the stage for the importance of a functional approach to symptoms through CBT.

Building on the medical explanation for symptom onset, persistence, and impairment for patients with somatic symptoms, the psychologist's initial assessment and formulation should similarly focus on the patient's experience of, rather than causes for, symptoms. Depending on patients' status at the time of assessment, they may have been asked many times about what stressors caused their symptoms. Unfortunately, this common question emphasizes mind-body dualism and does not consider biological or social factors in the symptom experience. As these patients present with physical symptoms (not psychological complaints or social difficulties), it is important to tailor the assessment to the presenting problem—physical symptoms—first and then assess for other potentially contributing psychological and social factors. This validates the patients' concerns, reduces defensiveness about psychological factors that may be present, and increases the likelihood of formulating an accurate and effective case conceptualization and treatment plan. Biologically, focus questions on symptom pattern, frequency, duration, any alleviating/exacerbating factors, impact on sleep, and level of impairment. Psychologically, assess thoughts and feelings about symptoms (e.g., associated worries or sadness, changes in mood), in addition to historical symptoms of anxiety, depression, or other emotional/behavioral concerns. Although it is important to assess for trauma, as it is with any patient, it is also important to dispel the myth that SSRD are always, or even often, associated with trauma. Socially, assess functioning among family, peers, and school, and gain history into any preexisting learning or social challenges. Formal assessment measures may also be used to further investigate symptoms, disability, psychological comorbidities, and coping (Malas, Ortiz-Aguayo, Giles, & Ibeziako, 2017; Williams & Zahka, 2017).

Upon completion of the assessment, the psychologist, alone or in tandem with the medical team, can share the findings, including delivering a SSRD diagnosis to patients and families in a way that furthers buy-in to the diagnosis through use of the biopsychosocial model. Specific points that may aid in this explanation include stating belief in the reality of the symptoms, validating the impairment and distress associated with symptoms that have been confusing and hard to understand, and summarizing this presentation as captured by the SSRD diagnosis. Defensiveness about the diagnosis may be encountered based on several factors (e.g., previous medical experiences, unclear provider communication, dismissed symptoms, length of time to diagnosis). Candid conversations about family concerns and confusion or misinformation about the diagnosis are powerful to help patients and families accept the diagnosis, engage in CBT, and ultimately focus on returning patients to function. Even saying "I wonder if you're worried about talking to a psychologist because that means you might be crazy" can have a positive effect; if the clinician is able to say out loud what everyone may be thinking, it diffuses tension and allows for open communication, which can move treatment forward productively. Children may qualify for other psychological disorders (e.g., generalized anxiety disorder) in addition to SSRD, in which case it is important to make those diagnoses and treatment recommendations too, as unidentified and untreated comorbid psychological conditions negatively affect SSRD.

To better understand SSRD and their treatment, patients and families benefit from learning about the cognitive model (i.e., relation between thoughts, feelings, body responses, and actions) with a specific focus on body responses and the biology of the autonomic nervous system, as it provides a relatable explanation for *how* the mind-body connection results in intensification and maintenance of somatic symptoms. A useful analogy for describing the autonomic nervous system (ANS) is a comparison to the engine in a car, controlling the body's speed. The ANS is the body's engine and communication system between the brain and body; it controls involuntary body responses like breathing, heart rate, muscle tension, and digestion. The ANS has two branches, the sympathetic nervous system, or the body's gas pedal, and the parasympathetic nervous system, or the body's brake pedal. In response to a stressor (physical or emotional), the brain sends a message via the sympathetic nervous system to "hit the gas," activating the fight-or-flight response which leads to physical changes like increased heart and breathing rates, blood vessel constriction, muscle tension, inhibited digestion, and sweat production, and emotional changes like anxiety or fear, all designed to get the person away from or deal with the stressor. When the "danger" has passed, the brain "hits the brakes," by activating the rest-and-digest response via the parasympathetic nervous system, leading to decreased heart and breathing rates, blood vessel dilation, relaxed muscles, promotion of digestion, reduced sweat production, and lower anxiety. Without voluntary direction, the brain and the body effectively work together in a coordinated set of responses to respond to stressors and keep a person safe. However, when a patient has somatic symptoms, the ANS is dysregulated, the sympathetic nervous system is overactive, and the brain and the body are not working together efficiently. In fact, among patients with SSRD, the ANS has been found to react more intensely to perceived threat and does not habituate over time to stressors (Chrousos, 2009). In other words, in the presence or *even just in anticipation* of a stressor, the patient's ANS puts the gas pedal to the floor and goes careening down the highway, missing all signals that the danger has passed or was never even there, and forgets all about the brakes. As a result, symptoms are intense and unpleasant, and it gets harder for the system to regulate itself, leading to chronic sympathetic nervous system activation, persistent symptoms, and increased impairment.

Even for patients without comorbid anxiety, it is natural for worries to crop up related to ever-present symptoms as part of the sympathetic activation process. The irony is that worry only further activates the sympathetic nervous system, and as a result, the same symptoms patients worry about are more likely to happen. An analogy for the role of anticipatory anxiety is the experience of food poisoning; almost everyone has eaten something that did not agree with them, and now the mere thought of eating that food again results in a queasy feeling. Similarly, just paying attention to an itch intensifies the physical discomfort associated with that signal. Over time, the more patients pay attention to and anticipate symptoms, the more intense the symptoms and the more function is impacted. For these reasons, education about the ANS and corresponding analogies to illustrate the mind-body connection help patients and families understand why symptoms are happening, how they are maintained in a negative feedback loop, and, most importantly, set the stage for how they can be treated.

Intervention

With medical and psychological conceptualizations in place, a description of CBT can follow naturally as a way to understand how maladaptive thoughts, feelings, and actions influence symptoms and biological processes and how changing those patterns can regulate the ANS, improve function, and reduce impairment. Another way of positively presenting CBT is: "Essentially…an extension of the [biopsychosocial] explanation, a way of helping the patient to become aware of, examine, and if appropriate revise the way they think, respond emotionally and behave in response to symptoms. The aim is to maximize function and reduce symptoms—but not necessarily to abolish them. In formal CBT the patient meets a therapist every 1 or 2 weeks and practices new ways of thinking about and responding to their symptoms between these sessions" (Stone et al., 2016, p. i15). In this way, patients and families understand *how* CBT works, to address the mind-body connection in an active way to improve function and manage symptoms.

Clinically, there are a variety of ways in which CBT applies to patients with SSRD. A patient who presents with a functional abdominal pain and SSRD would likely work on thoughts and feelings related to and associated with pain episodes, with a focus on reduction of worry and anticipatory anxiety from the cognitive standpoint and learning relaxation strategies and distraction from a behavioral standpoint, while reinforcing functional participation in daily life. A patient who presents with a functional gait disorder and SSRD would likely work on thoughts and feelings related to disability, underlying stressors, and breaking the cycle of reinforcement of disability that has developed between the brain and the body by using reinforcement for behaviors that are desired (e.g., walking).

There is a strong evidence base for CBT in adults with SSRD and growing evidence in pediatric populations. A review of randomized control trials found CBT as the only and most effective treatment for adults with SSRD (Kroenke, 2007). Patients introduced to CBT through inpatient CL services are more motivated and likely to follow up with outpatient therapy after discharge from acute care (Schweickhardt, Larisch, Wirsching, & Fritzsche, 2007). Among children and adolescents with SSRD, PT alone was not successful in restoring functioning and reducing symptoms (FitzGerald, Southby, Haines, Hough, & Skinner, 2015). Several CBT protocols addressing unhelpful appraisals and distorted beliefs about symptoms were found to be feasible and efficacious among youth with SSRD (Carter, Kronenberger, Threlkeld, Townsend, & Pruitt, 2013; Whalley & Cane, 2017). Several mechanisms by which CBT works have been identified, including psychological changes (cognitive modification and improvements in perceptions of illness) and biological changes (improvements in gray matter and functional connectivity in somatically focused brain regions) (Christensen, Frostholm, Ørnbøl, & Schröder, 2015; Erpelding et al., 2016).

Adaptation

Evidence-based CBT for SSRD can and should be modified to fit the treatment setting, from a clinician having one point of contact during a medical clinic visit, to multiple visits during a hospitalization, to seeing patients on an ongoing outpatient basis. The core features of CBT for SSRD are psychoeducation, establishing a functional routine, behavioral strategies, and cognitive strategies. Psychoeducation is often provided during the diagnostic and assessment process for patients while in the hospital, during a clinic visit, or at the first outpatient session, as previously described in the formulation section. Functional, behavioral, and cognitive strategies should be taught to patients and families only *after* education is provided to ensure understanding and buy-in to the intervention. Strategies can be tailored to greatest area of need and delivered as time and treatment setting allows. This results in a flexible treatment approach that can be delivered in a sequence that makes the most sense for each patient. CBT techniques are used to improve function and build more adaptive coping with symptoms.

The first phase of CBT for SSRD is establishing a functional routine, including restoration of healthy habits. Information can be delivered in a one-time consult or it can be part of a multi-session intervention in an inpatient or outpatient setting. Symptoms and impairment that accompany SSRD often lead to significant disruption in patients' daily activities. They may have difficulty sleeping due to pain and difficulty walking due to a functional gait disorder or experience non-epileptic episodes that impact their ability to stay at school for a full day. Patients should adhere to a good sleep hygiene routine that allows for an adequate and consistent amount of sleep (about 8–10 h), as well as to be awake and out of bed during the day. They should eat on a regular schedule and remain well-hydrated (64–100 ounces of non-caffeinated beverages per day). Generally, an hour of physical activity is recommended, which can be a challenge for mobility-impaired patients to achieve. Psychologists should collaborate with other providers (e.g., physician, physical therapist) to achieve movement goals safely and realistically.

In addition, patients should keep a consistent daily schedule as an aid to functional restoration. This can be introduced in a clinic consultation or outpatient care for a family to follow at home or set up for patients during an inpatient admission. Once anchor points are established (e.g., sleep, school, meals), the rest of the schedule should be filled in with necessary activities (e.g., chores, exercise, homework) as well as pleasant or distracting activities that can also serve as rewards for positive function. A schedule provides a concrete structure for patients to begin the "how" of reducing their impairment by learning to say "it's time to…" rather than "do I feel like…" to shift attention away from symptoms and toward function.

Behavioral and cognitive strategies are best suited for patients who are seen more than just in consultation, either through short-term inpatient or longer-term outpatient intervention. Behavioral strategies for patients with SSRD act as coping tools to manage stressors, either external or internal (e.g., symptoms). It is important to note that for patients with SSRD, the word "stress" gets thrown around casually and often sends the wrong message, as "stress" is most commonly thought of as an emotional construct. Many patients with SSRD say they are not stressed due to the assumption of emotional stress, poor recognition of physical and emotional cues, or misattribution of cues (e.g., a queasy stomach before a big test represents food poisoning rather than anxiety). Because of variability in patients' understanding of "stress," it is necessary to both define and discuss it. Most patients admit to being overtired, overworked, and underhydrated which provides an opening to discuss the impact of different types of stressors on the brain, body, and ANS.

Behavioral strategies include distracting activities (i.e., directing attention away from symptoms through pleasant activities) and relaxation (e.g., diaphragmatic breathing, guided imagery, progressive muscle relaxation). Mindfulness and sensory grounding techniques share the goal of focusing attention purposefully *and* aiding in relaxation or "hitting the brakes." Biofeedback aids in delivery of behavioral strategies, as it empowers patients to see that they can change their body responses and visualize improved regulation of the ANS.

Finally, cognitive strategies are delivered and include emotion identification, reframing, attention bias, problem-solving, and goal setting. While a functional approach should drive intervention for SSRD, many a seasoned clinician has been sidelined by not paying enough attention to the emotional aspects of a patient's presentation. Sometimes in the effort to reassure patients that symptoms are not all in their heads, emotions may not get as much attention as they should. Functioning helps day-to-day management of symptoms and is an important first step; however, for all patients, especially those with more treatment-resistant presentations or strong emotions that may be contributing to or driving symptoms, emotions must also be addressed. Patients with SSRD sometimes have a hard time identifying even basic emotions and benefit from direct instruction about emotional constructs, including associated physical effects. Symptoms may be symbolic of psychological distress (e.g., a teenager who does not want to run track presents with leg paralysis). Asking patients "If you didn't have your symptoms, what would be the next biggest problem?" can help identify emotional challenges.

Whether or not patients have comorbid mood disorders, a natural increase in negative thinking and emotions occurs (and is necessary) in the experience of somatic symptoms. Or, negative thinking may not be related to symptoms but to something else entirely (e.g., falling behind in school), which still leads to increased symptoms and negative emotions. Cognitive reframing applies in both cases; teach patients to catch automatic negative thoughts and challenge them by generating more realistic or positive thoughts to improve emotions and symptom experiences. Standard cognitive reframing materials or worksheets can be modified to integrate body responses into the cognitive triad to show how thoughts, feelings, actions, and symptoms influence one another. Negative attention bias is a powerful concept to share with patients; when they anticipate a negative outcome related to symptoms, they are more likely to notice bodily cues and perceive threats as dangerous, rather than think adaptively about those cues, or notice positive/neutral cues. Finally, patients can be taught to problem-solve as a way of integrating their treatment knowledge to choose among the best functional, behavioral, and/or cognitive strategies when faced with stressors. It is useful to pull from the assessment to set goals for patients to work toward, such as returning to school, sports, or social activities.

Resources/Support

Guidelines for adults and schools supporting children with SSRD are helpful resources to provide during treatment. The desired support from adults is a *decreased* focus on symptoms and an *increased* focus on function so as not to further medicalize the condition and promote the child's functional return to all realms of life. For most adults, school personnel, and community members, this feels counterintuitive, as a typical response to children struggling with symptoms is to inquire about health, allow rest, and excuse from activities. Because of this, it is critical for clinicians working with patients with SSRD to provide education and support to families, school, and community so that the interventions children receive in treatment are supported in and outside of the home to reach true overall success.

Parents are typically the most accessible group to include in intervention, as they often accompany children to treatment. In a consult setting, it is important to provide at least basic reassurance for parents to allow children to function normally; in inpatient and outpatient intervention, consider devoting a full session to parent intervention. Children with SSRD are likely to have parents with histories of anxiety and somatic symptoms, which may make parents more sensitive and reactive to children's symptoms (Garber, Zeman, & Walker, 1990). Caregivers benefit from concrete tips on how to interact with children around symptoms, including five general concepts: (1) encourage normal activity with no special treatment if activity reduction is needed; (2) tolerate distress, both the child's and adult's; (3) do not ask about symptoms, and instead encourage use of coping skills when the child is struggling; (4) praise effort rather than outcome for functioning, and focus on what children *can* do; and (5) respond flexibly, because there is no one best solution to any problem (Williams & Zahka, 2017). In addition to a parent-focused session, when possible, include parents at the end of child-focused sessions to discuss how the family will support the child in practicing coping skills, such as asking "what will make it hard to do?" and "what might make it easier?"

School attendance is often challenging for children with SSRD, which makes it necessary to create a plan for school reentry as well as communicate with school personal to address any apprehension or uncertainty about supporting students in the school setting. Without the right information and plan, schools may unintentionally undo progress made in treatment by responding to symptoms as if they are a dangerous, acute medical event (e.g., call parents, call 911, not allow the child back), thereby reinforcing the cycle of symptoms and disability. It can be helpful for the clinician to create a template that describes SSRD generally (with space for specific information about a patient's specific presentation) and outlines that school attendance is expected as part of functional restoration, along with a list of suggested accommodations (Williams & Zahka, 2017). Common accommodations include: being allowed to carry a water bottle, have access to snacks, elevator pass if not able to use the stairs safely, self-modified activity in gym class, unlimited access to the bathroom, quiet place to engage in relaxation, extended time on tests, modified assignments, and extra time to make up missed work. It is important to communicate with the school that the child may show some variability in symptoms; they may be better able to distract themselves from their symptoms during less stressful times, such as during a favorite class, and may focus more on their symptoms and experience greater impairment during stressful times, such as during a test; however, this does not mean that the symptoms are voluntary or that the child is making them up. When possible, the clinician may attend a school planning meeting in person or by phone to address any concerns of the staff. Parents can request a 504 Plan or Individualized Education Program (IEP) to address accommodations more formally as necessary.

The Inpatient Setting

In the inpatient CL setting, there is a delicate balance between conducting a thorough biopsychosocial evaluation while taking care not to inadvertently reinforce an organic illness conceptualization via a lengthy medical admission with potentially low-yield medical interventions. As such, time is of the essence and the sooner that all relevant consultants (e.g., psychology, psychiatry, physical therapist, occupational therapist, subspecialists) can evaluate the patient, the better. Generally, psychology and/or psychiatry be consulted as soon as SSRD is on the differential, rather than waiting until the medical evaluation is complete. Ultimately, the best course to recovery takes place as an outpatient where return to typical function is the primary treatment goal, which cannot be met fully in the hospital. For patients where a safe return home is of concern (e.g., unable to ambulate) a targeted inpatient admission may be warranted (see case example). Otherwise, the goals of the inpatient admission are as follows: (1) complete a thorough biopsychosocial workup; (2) inform the family of the diagnosis, conceptualization, and treatment plan; (3) offer one or two brief intervention sessions for symptom management as a bridge to outpatient care (e.g., diaphragmatic breathing, return to school plan, daily schedule); and (4) facilitate outpatient care. As illustrated in the case example presented below, the CL psychologist plays a powerful role in setting the foundation for successful and collaborative treatment of SSRD.

When providing biopsychosocial assessment in the inpatient setting, communication about the diagnosis should follow the process as discussed earlier, but with the additional consideration for consistency in messaging across providers, such as holding a care conference with the family, collaborating medical providers, and the community pediatrician. A care conference is often a primary intervention for an inpatient admission, as it sets the foundation for interventions and focuses on a return to function. In many inpatient settings, the CL psychologist may not be able to conduct the course of outpatient care due to patient distance from the hospital, different area of expertise, or lack of outpatient clinic availability. Finding appropriate outpatient providers can be challenging, as many outpatient therapists lack confidence or experience in SSRD. Finding a local therapist who is able to perform CBT and willing to learn about SSRD treatment can be sufficient if the CL psychologist can provide consultation and treatment manual recommendations (Williams & Zahka, 2017).

The Outpatient Setting

The outpatient consultation setting has its own unique set of challenges. Psychologists consulting in multidisciplinary or primary care clinics may or may not have access to the same resources available to inpatient psychologists, such as access to and collaboration with other care providers (e.g., physical therapist, psychiatry) or access to the results of a medical workup. Regardless, collaboration with medical providers whether in person or through other communication is crucial to provide the family with an accurate diagnosis and treatment plan. If the patient will only have a one-time clinic visit, this could mirror the inpatient CL workup as discussed above. Depending on time constraints, the psychologist's only interventions may be the presentation of the diagnosis and resources. In this case, providing the family with supplementary reading materials or directing them to information regarding general coping strategies can be useful (see handouts). When the psychologist may have multiple contacts with the patient through subsequent multidisciplinary clinic visits or brief treatment, the interventions might be broken down by session as described above. The outpatient CL psychologist may consider transfer of care to a psychologist with a more flexible outpatient schedule to provide longer-term intervention, maintain gains, and/or address comorbid mental health concerns that may affect the SSRD presentation. Collaboration with the medical team and any other treating providers is key throughout to ensure consistent messaging across providers.

Case Example

An 11-year-old female presented to an outpatient neurology medical clinic for sudden onset leg weakness and difficulty walking. Previous history was significant for functional abdominal pain at age 9 and a recent bout of viral meningitis; otherwise she was healthy and typically developing. At the Neurology visit, the patient reported feeling like she was going to fall and had leg pain that worsened with walking. She also reported headache, fatigue, poor concentration, muscle soreness, weakness, poor appetite, and stomach pain. The exam was inconsistent, with findings of decreased temperature and sensation to mid shins, decreased vibratory sense of big toes, exaggerated reflexes of the right leg, and unusual gait (wide stance, unsteady). Diagnostic differential was postinfectious sensory neuropathy or central process of spinal cord. She was admitted to the inpatient Neurology service for further assessment.

During the inpatient stay, other inconsistencies were found, including intact reflexes, and sensation to touch and vibration, but not to temperature or pinprick from knee down. A normal MRI was reviewed. The physical therapist noted that the patient could walk appropriately when distracted. The patient was diagnosed with conversion disorder and discharged with outpatient Psychology and PT referrals. However, she returned to the pediatrician and hospital with worsening symptoms. Further testing ruled out other organic medical disorders. When she presented to the emergency room with a complete inability to walk, she was admitted to the hospital a third time.

At this point, a comprehensive, interdisciplinary approach was adopted, including CL Psychology and PT. In the psychological assessment, the patient did not identify a stressor associated with symptoms, though she maintained a high level of activity in athletic, social, and academic realms. She denied worry about symptoms and had difficulty identifying emotions in general. She disclosed a history of bullying and sibling conflict. The psychologist agreed with the conversion disorder diagnosis and provided further education to the patient and family.

The psychologist began intervention with a focus on functional restoration. First, a goal sheet was developed for the patient to earn rewards by following a daily schedule, reinforced by staff. Behavioral and cognitive interventions were taught, including diaphragmatic breathing, distraction, and cognitive restructuring to regulate emotions and symptoms. She and the family learned to identify stressors, including how her family needed to change to support her at home. Parent training was conducted to reinforce age-appropriate activities and effectively set limits.

Through this coordinated inpatient intervention, the patient made significant progress over the course of a week to ambulate appropriately and displayed greater awareness of how thoughts, feelings, actions, and family dynamics affected symptoms. The team communicated with the outpatient psychologist and physical therapist prior to discharge to ensure that the progress was maintained with unified treatment goals. During subsequent outpatient treatment, the patient and family remarked on how helpful the inpatient intervention was in terms of understanding patient's diagnosis, treatment goals, and recovery. The patient's gait continued to improve and she was eventually able to walk completely normally; although she experienced symptom flares from time to time, they typically resolved within a few days. The patient became aware of longstanding perfectionism, anxiety, and attention difficulty. She was referred to a psychiatrist for management of mood, which further aided her functional improvement.

Overall, this case example is a good representation of successful, coordinated care of a patient with functional somatic symptoms. There were multiple factors that contributed to her eventual success, including appropriate diagnostic workup, consistent and clear messages from the treatment team regarding the functional nature of her symptoms, involvement of CL Psychology and PT, family engagement, and coordination of care with outpatient providers. While common for multiple medical evaluations/hospitalizations to occur before adoption of an interdisciplinary approach, the patient and family would likely have benefitted from CL Psychology and PT involvement during the first hospitalization.

Appendix

Handout 1: Coping Skills Resource List

Start by taking good care of your body and keeping a daily routine every day of the week.

Hydration—*64–100 oz. fluids per day* Plant Nanny Waterlogged Daily Water Tracker Reminder	**Activity Pacing**—*daily schedule with time for activities and breaks* Schedule template: https://templates.office.com/en-au/Student-schedule-TM00000023 Google Calendar 24Me
Exercise—*1 h per day* My Fitness Pal Pocket Yoga Johnson & Johnson Official 7 min Workout Runkeeper Super Stretch Yoga	**Nutrition**—*well-balanced, consistent meals* Choose My Plate: https://www.choosemyplate.gov/
	Sleep—*8–10 h per night, same bedtime and wake time with about an hour flex* White Noise Lite CBT-I Coach Relax Melodies: Sleep Sounds

Prevent, reduce, or manage impairment related to your symptoms by using your coping skills. You can change what you're doing, how you're thinking, or both. Try doing a favorite activity, taking some time to relax, or thinking in a neutral and realistic way

Diaphragmatic Breathing Learn the diaphragmatic breathing technique: https://www.youtube.com/watch?v=kgTL5G1ibIo Breathe2Relax Breathing Zone Breathe + Simple Breath Trainer (iTunes)	**Relaxation** GoNoodle—movement and mindfulness: https://www.gonoodle.com/ Stop Breathe & Think Stop Breathe & Think Kids Calm Headspace: Guided Meditation and Mindfulness Insight Timer-Meditation App
Biofeedback Heart Math Inner Balance: https://store.heartmath.com/innerbalance Belly Bio Interactive Breathing (iTunes) BreathMix (Google Play)	**Distracting Activities** Play a game, watch a show, do a craft, take a walk, text a friend, make a list, plan a party, look through photos, watch a funny video, listen to music, play iSpy
Thinking Strategies If you notice you're stuck in a negative thinking trap, ask yourself: "How likely is that to happen?" "Am I thinking too far ahead?" "What can I do to change that?" What's Up	**Coping Skills** Pacifica Virtual Hope Box Booster Buddy Mindshift Clear Fear WebMAP Mobile

All apps available on Google Play and iTunes unless otherwise noted

Handout 2: Somatic Symptom and Related Disorders Fact Sheet

Somatic symptom and related disorders (SSRD) are a set of diagnoses that are defined by the presence of physical symptoms, like muscle tremors, nausea, pain, or dizziness, often in the absence of an identifiable disease or injury. Patients receive one of these diagnoses when their concern about symptoms causes a lot of distress and keeps them from participating in their normal activities. Sometimes patients might also have a medical or mental health diagnosis at the same time, but the symptoms and distress are more impairing than expected.

Somatic symptoms are the result of how the brain processes different types of stressors—physical and emotional—and communicates this information to the body. Somatic symptoms are real, but they are not dangerous in terms of being related to a disease. Even still, they can be distressing for children and adolescents to experience, as well as for the adults who care for them. Because patients with SSRD have physical symptoms as their primary problem, they are usually first seen by a medical provider and expect to receive a medical cure, like a pill or a procedure. However, since somatic symptoms are due to how the brain processes stressors, the treatment is a primarily psychological treatment, or cognitive behavioral therapy (CBT), to learn how the brain and body are connected and how to manage symptoms more effectively.

CBT is an evidence-based treatment that teaches children coping skills to improve function in everyday activities and manage symptoms. CBT helps children understand the connections between their thoughts, feelings, actions, and body responses. Children learn how to manage and cope with their symptoms by changing what they are doing and how they are thinking about their symptoms, by learning skills like keeping their bodies healthy, relaxation, and thinking in a realistic way.

Parents, caregivers, and teachers have an important role in helping children by encouraging them to use coping skills and reducing attention to symptoms or impairment. Adults can also help children manage their symptoms by staying calm when symptoms occur, reducing check-ins, giving positive feedback for use of coping skills, and focusing on what the child can do instead of what they cannot. Depending on the child's level of impairment, parents may want to work with the school to develop a Section 504 plan for their child to provide accommodations as they work toward improving function.

Informational Resources

– Somatic Symptoms in Children: The 5 Ws Explained: https://blog.cincinnatichildrens.org/healthy-living/child-development-and-behavior/the-5ws-of-somatic-symptoms-in-children/
– Somatic Symptom and Related Disorders in Children: https://www.merckmanuals.com/home/children-s-health-issues/mental-health-disorders-in-children-and-adolescents/somatic-symptom-and-related-disorders-in-children
– American Academy of Child and Adolescent Psychiatry Facts for Families: https://www.aacap.org/aacap/families_and_youth/facts_for_families/fff-guide/Physical_Symptoms_of_Emotional_Distress-Somatic_Symptoms_and_Related_Disorders.aspx
– Kelty Mental Health Somatization: https://keltymentalhealth.ca/somatization
– Conversion Disorder: https://www.chop.edu/conditions-diseases/conversion-disorder
– 7 Steps to Getting a 504 Plan for Your Child: https://www.understood.org/en/school-learning/special-services/504-plan/7-steps-to-getting-a-504-plan-for-your-child

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