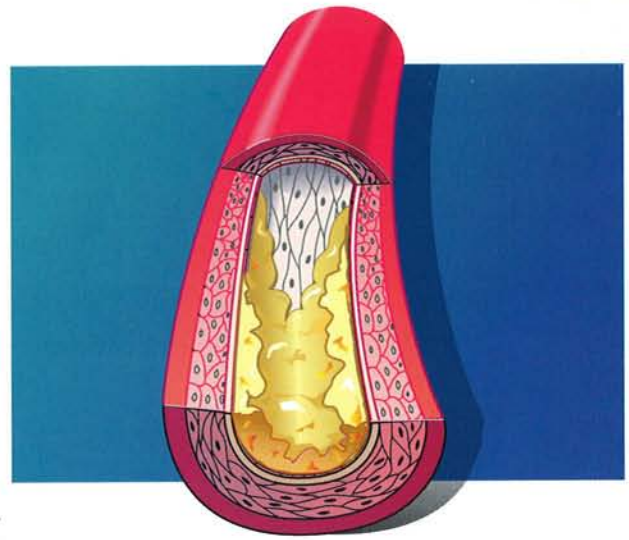


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How to detect and treat pediatric somatization

SHIRAH VOLLMER, MD

ABSTRACT

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edically unexplained symptoms are very common in children and adolescents seen in primary care. A few of these patients qualify for the diagnosis of somatization disorder, which requires a combination of several significant and handicapping complaints. The condition may lead to functional impairment and suffering. It is also associated with a high utilization of medical services and costly, even dangerous, medical investigations and treatment. Once an organic cause has been excluded, directed interviews with the child and parents must be conducted. Somatizing may be a sign of emotional conditions such as anxiety disorders or depression, and the physician must carefully search for contributing psychological factors. Treatment requires sensitivity and psychologically sound advice, along with behavioral and family therapeutic techniques.

Medically unexplained physical symptoms have long been recognized as common problems in pediatric primary care. Frequent complaints include recurrent pain, gastrointestinal difficulties, dizziness, and fatigue. In a minority of children, the symptoms severely handicap function and qualify for a diagnosis of somatization disorder.¹ But somatoform complaints in children and adolescents have received less systematic attention than in the adult literature, and the diagnosis of the disorder as currently defined is rare in children, particularly during prepubescence.² The

Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, lists somatization disorder as one of seven subtypes of somatoform disorder³ (Table 1, page 48). It is characterized by a chronic pattern of multiple, recurrent somatic complaints for which there is no identifiable physical cause. Symptoms must begin before age 30 (typical onset is during adolescence) and occur over a period of several years. Other diagnostic criteria are a history of pain related to at least four different sites or functions; at least two gastrointestinal symptoms other than pain; at least one sexual or reproductive symptom other than pain; and at least one symptom suggesting a neurologic condition that is not limited to pain (Table 2, page 49). Although sexual and reproductive symp-

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Table 1 Subtypes of somatoform disorders

Common features

Physical symptoms cannot be accounted for, or exceed what would be accounted for, by a diagnosable physical illness.

Symptoms are neither intentionally produced nor feigned.

Symptoms cause clinically significant distress or impairment.

Subtypes

Somatization disorder

A polysymptomatic condition that begins before age 30, extends over several years, and is characterized by a combination of pain, gastrointestinal, sexual, and pseudoneurologic symptoms.

Undifferentiated somatoform disorder

Unexplained physical complaints that last at least 6 months and are below the threshold for a diagnosis of somatization disorder.

Conversion disorder

Unexplained symptoms or deficits affecting voluntary motor or sensory function that suggest a neurologic or other general medical condition and are associated with psychological factors.

Pain disorder

Pain is the predominant focus of clinical attention, and associated psychological factors play an important role in its onset, severity, exacerbation, or maintenance.

Hypochondriasis

A preoccupation with the fear of having a serious disease due to the misinterpretation of bodily symptoms or functions.

Body dysmorphic disorder

A preoccupation with a perceived or exaggerated physical defect.

Somatoform disorder not otherwise specified

Somatoform symptoms that do not meet the criteria for any of the above, including those less than 6 months in duration.

toms are unlikely to be developmentally appropriate in pediatric patients, somatization is nevertheless extremely common in the pediatric population. For this reason, some authors have advocated the creation of less restrictive diagnostic criteria.^{4,5}

Affected children are usually monosymptomatic initially, and the symptoms appear to follow a developmental pattern.⁵ The most prominent physical complaints in prepubescent children are recurrent abdominal pain, followed by headaches. Headaches are reported by 10%-30% of community samples of children and adolescents on at least a weekly basis. Recurrent abdominal pain affects 10%-25% of school-age children and adolescents in available studies.⁶ Pain in the extremities, muscle aches, fatigue, and neurologic symptoms increase with age.⁵ The complaint is considered clinically significant if it results in medical treatment (such as taking medication) or significantly impairs social or other areas of functioning. When related physical pathology is present, the symptoms or resulting impairments grossly exceed what would be expected from the physical findings.

Pediatric somatization may place patients at risk for developmental or physical harm due to unnecessary medical investigations and treatments. The condition is associated with excessive use of health care services. According to a recent study, compared with their peers, pediatric somatizers were significantly more likely to be frequent users of health care services (defined as more than four physician visits in the previous 6 months or a history of at least one hospitalization).⁷ A history of frequent pain and seeking medical help for unexplained symptoms also places children and adolescents at considerable risk for psychopathology during their developmental period.⁷ Since most of these youngsters are seen in primary care settings, family physicians should be familiar with somatization disorder and with its other frequently associated psychiatric disorders. Once an accurate diagnosis is made, evidence suggests that appropriate treatment can lead to a good outcome for many patients.⁸

Source: Adapted from American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. Washington, DC: American Psychiatric Association; 1994:449-450.



Table 2 Diagnostic criteria for somatization disorder

- A. History of multiple complaints beginning before age 30, occurring over a period of several years, and leading to treatment being sought or significant impairment in social, occupational, or other important areas of functioning.
- B. All of the following, with individual symptoms occurring at any time during the course of the disturbance:
1. History of pain related to at least four different sites or functions (such as head, abdomen, back, joints, extremities, or during menstruation, sexual intercourse, or urination).
 2. History of at least two gastrointestinal symptoms other than pain (such as nausea, bloating, diarrhea, or intolerance of several different foods).
 3. History of at least one sexual or reproductive symptom other than pain.
 4. History of at least one symptom or deficit suggesting a neurologic condition not limited to pain (such as impaired coordination, localized weakness, urinary retention, double vision, amnesia).
- C. Either
1. Appropriate investigation is unable to attribute each of the symptoms in criterion B to a known general medical condition or the direct effects of a substance (such as a recreational drug or a medication).
- OR
2. A related general medical condition is identified, but the physical complaints or resulting social or occupational impairment are in excess of what would be expected based on history, physical examination, or laboratory findings.
- D. The symptoms are not intentionally produced or feigned.

Source: Adapted from American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. Washington, DC: American Psychiatric Association; 1994:449-450.

Prevalence and features

Available epidemiologic studies are difficult to compare, since there has been little consistency in the instruments and methodology used. Strong empirical evidence points to a somatic complaints syndrome that is replicable across age and sex groupings.⁹ In a survey of primary care facilities, children and adolescents with a psychosomatic diagnosis accounted for about 6%-11% of all pediatric patients.¹⁰ The Ontario Child Health Study identified a somatization syndrome in about 5% of boys and 11% of girls 12-16 years of age (prevalence was too low to allow an accurate determination in 4- to 11-year-olds).^{2,11} The Child Behavior Study presented a unique opportunity to examine pediatric somatization within a large, multi-site sample of pediatric primary care practices across a broad geographic base. Researchers found that the odds of being classified as a somatizer increased with age, comprising about 1%

of 4- to 5-year-olds, 2% of 6- to 10-year-olds, and 2.5% of 11- to 15-year-olds.¹²

Pediatric patients are frequently polysymptomatic, and the symptoms appear to cluster into four groups: cardiovascular, gastrointestinal, pain or weakness, and pseudoneurologic. Perhaps the best study to date examined a community sample of 540 children and adolescents in grades 3-12.⁴ Nearly half reported at least one physical symptom during the preceding 2 weeks—most commonly headaches (25%), low energy (23%), sore muscles (21%), and abdominal discomfort (17%).⁴ Another study reported that 20% of patients with recurrent abdominal pain had surgical or medical treatments of doubtful necessity, which emphasizes the potential risk of associated iatrogenic injury.¹³

How somatization develops

Virtually all children at some point have transient complaints of headache, abdominal



Table 3 Risk factors for pediatric somatization

Depression Emotional closeness with the parents Having a family member with a somatoform disorder High educational and behavioral expectations Illness in the family Poor communication about emotional issues School difficulties (problems with bullying, peer relationships, or learning) Temperamental style (sensitivity or fussiness)
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Source: Adapted from Garralda ME. Psychosomatic illness in children. *Practitioner* 1992;326:621-625.

pain, chest pain, and nausea that are related to some stress or developmental hurdle. Parents usually appreciate that the child is healthy and recognize the symptoms as a sign of distress. Sometimes it takes one or two trips to a physician to reassure parents that everything is all right, and the child gets back on track fairly effortlessly. Nonorganic somatic symptoms lose their "value" for most children in a relatively short period of time. Thus for a somatoform symptom to persist, something in the patient's environment or mental outlook must be serving to keep it from abating. Table 3 lists factors that may increase the risk for pediatric somatization.

- *Age, gender, and sociocultural factors* Somatization peaks in late childhood or early adolescence,⁴ although polysymptomatic somatization is more common in adolescents.⁹ The onset of pubertal development and menarche in girls has been specifically associated with an increase in somatoform symptoms.¹⁴ Observable gender differences may, however, be related to the decline in symptoms reported by boys.

The potential influences of culture, race, and ethnicity have not been adequately studied. Somatization has been associated with lower levels of parental education, urban residence, and receiving Medicaid benefits.¹⁴ Adoption studies have found that, compared with the general population, female first-degree rela-

tives of probands with somatization disorder are 5-10 times more likely to be somatizers.¹⁵

- *Psychological models* proposed for the development of pediatric somatization include the learning theory, which suggests that children may display physical symptoms to attract parental attention and interest. The disabling symptom is more likely to recur if each episode is reinforced by heightened parental solicitude and the avoidance of unpleasant responsibilities.⁸ Vicarious learning also plays a role. The child who sees a sick brother or sister receiving parental attention may imitate the sibling's symptoms. Having an affected role model in the family has shown a high correlation with the development of somatoform disorders.¹⁶ Modeling is also an influencing factor; many symptomatic children have an adult in their family who uses physical symptoms to satisfy certain needs.

Psychodynamically oriented clinicians view somatization as a repression of emotional responses. They refer to the overt lack of concern or appropriate worry about the symptoms as "la belle indifférence" and attribute it to repressed feelings. The symptom represents a compromise that restores the patient's emotional homeostasis by sacrificing some function. Relieving anxiety is the primary gain of the symptom, while additional parental attention is the secondary gain.

- *Trauma* Numerous authors have associated childhood sexual abuse with somatization.^{17,18} Because of their concrete thinking and limited vocabulary, children may use physical symptoms to communicate distress. The child's dependent status may also predispose him or her to more covert forms of expression if open revelations—of sexual abuse, incest, or anger toward one's parents, for example—would risk rejection or retaliation from caregivers.

- *Physical illness* often precedes or even coexists with the first presentation of a somatoform symptom. If previously unmet needs were gratified during a flu-like or neurologic illness, the symptoms may persist after the organic component of the illness has resolved. Specific symptoms of a chronic illness such as epilepsy or mi-



graine headaches usually coexist with somatoform symptoms that mimic those of the organic condition.

- *The physician* can dramatically influence the patient's level of somatizing behavior by his or her attitudes, behaviors, and responses.¹⁹ Performing unnecessary medical investigations and procedures, for example, may encourage somatization by strengthening the conviction of the patient and family that a physical illness exists.²⁰

- *Family factors* The way the child reacts to stress and illness is influenced by the quality of family functioning: parental effectiveness, adaptability, clarity of communication, and ability to complete essential tasks (decision making, problem solving, and conflict resolution). For some children, somatoform symptoms may be the only legitimate way to express emotions and needs and the sole avenue to gratification. Parents who respond to the symptoms reinforce the resulting incapacitation. One study found that parents of pediatric somatizers were more apt to perceive their children as functionally limited by their physical health and as less healthy than their peers—perceptions that may encourage somatization in their children.⁷ Studies have also found more somatic complaints reported by young adolescents who see their families as disorganized and less cohesive.²¹

- *School factors* Pediatric somatization is associated with difficulties in school and frequent school absences.²⁰ Refusal to attend school frequently becomes a secondary accompaniment to the somatoform symptom, and almost all affected children are absent from school for extended periods. Parents who are concerned that physical illness is causing the disorder often encourage the child to stay home. The more school missed, the further behind the

child falls and the more difficult the return to school becomes.

- *Association with other psychiatric disorders* In general, somatizers are more likely to fear novelty and are more prone to separation anxieties,²² which may increase their likelihood of reacting negatively to somatoform symptoms. Somatic complaints may be one of the most common forms of psychopathology seen in pediatric primary care⁸ and may be a significant

feature of depressive disorders, increasing with the severity of depression.²³

Nearly half of all somatizers in the Child Behavior Study screened positive for psychopathology.¹² In a study of 4,500 9- to 13-year-olds, depressed girls were 4 times more likely to experience headaches and nearly 13 times more likely to report musculoskeletal pains than girls without depression.²⁴ Girls with anxiety disorders had almost 3 times as many headaches, 100 times as many stomachaches and headaches

together, and 3 times as many musculoskeletal pains as did girls without anxiety disorders. Complaints of musculoskeletal pains were 10 times more common in depressed boys than in boys who were not depressed.²⁴

Assessing the pediatric somatizer

Somatization disorder should be entertained early in the diagnostic process to avoid unnecessary testing or medical treatments, to evaluate for the presence of a psychiatric disorder, and to consider the possibility of maltreatment. Evidence suggests that primary care physicians recognize the psychological contributions to somatoform symptoms in only about 20% of their pediatric patients.²⁵ To correctly identify the disorder, two crucial questions must be answered: "Is the symptom onset related to any life event, personal loss, developmental crisis,

One study found that parents of pediatric somatizers were more apt to perceive their children as functionally limited by their physical health and as less healthy than their peers.



or physical illness?" and "Does the family focus on somatic symptoms?" Although sometimes indicative of a physical illness, other diagnostic clues include symptoms that appear to garner intrapsychic, interpersonal, familial, or social benefits; symptoms that seem to be an act of communication, possibly with symbolic significance; symptoms that do not follow established anatomic or physiologic patterns; symptoms that vacillate with vital functions such as sleep or secondary to interpersonal or familial factors; and symptoms that improve with psychological treatment, suggestion, or placebo.⁸

A full assessment requires seeing the entire family with whom the child lives. The physician must carefully assess the physical, developmental, psychological, and social aspects of the problem. Ideally each component is considered in parallel, rather than first dealing with the physical features, then moving on to the psychosocial ones. It is helpful to explain that the body and mind are inseparable and must be considered together. If the initial focus is on an organic cause, the patient and family may assume that psychological factors are unlikely and unimportant. This can fix the symptoms in their minds and heighten their resistance to a subsequent consideration of psychological issues. Whether or not an organic basis for the symptoms can be identified, information from the psychosocial history may suggest a target for interventions that may alleviate stress. A teenager who talks about breaking up with her boyfriend, for example, may benefit from a discussion about relationships.

Close attention should be paid to separation issues: the death or anticipated death of a family member, the child's fear of his or her own death, and parental divorce or work commitments that involve a separation. Also important are whether the child has a long-term, life-threatening illness or has recovered from a critical illness and whether there is illness in the family. Exploring how school attendance has been affected by the symptoms is essential. Teachers can provide useful information about academic performance, classroom behavior, peer relationships, and the child's response to

authority figures. Teachers, other professionals, and extended family members can furnish additional social history. They may be either interviewed or asked to supply a report or complete a standardized questionnaire.

Throughout the interviews, the physician should explore the patient's and parents' past and current life situations and their feelings, beliefs, and anxieties while at the same time assuring the patient of interest in him or her as a person.

- *The interview with the child* A rough assessment of intelligence, developmental level, and reading skills should be part of any comprehensive examination but is particularly important for the evaluation of somatization. Intellectual and developmental delays or specific learning disabilities—particularly if previously unrecognized—are likely to lead to adjustment problems. Referral to a psychologist for formal intelligence testing and developmental evaluation should be considered when no other satisfactory explanation for the child's symptoms can be found.

Obviously, the interview format depends on the age of the child. A standard technique can be adopted for those who are at least 8 years old and of normal intelligence. More indirect means, such as play interviews, are better for younger children. Using dolls, puppets, or another form of third-person fantasy in which the child's symptoms can be ascribed to the imaginary characters often helps uncover the symptom's meaning. The physician may ask: "What does the doll's mother do when she feels weak?"

With preadolescent children, questions should be concrete and oriented to "what" instead of "why." For example: "What happens when your headache gets worse? What do your friends do when you are dizzy? What does your mother do when you get a headache?" The youngster with pain symptoms should be asked about the quality, intensity, and location of the pain. The context in which the symptom first appeared should also be explored in detail; important information about the precipitating stressor is often unknowingly disclosed during this description.

continued



The patient's fantasies and beliefs about the symptoms should be examined by asking: "Where do the symptoms come from? What might make them go away? Does anyone else you know have these symptoms? If you were the doctor and a boy or girl your age came to see you with this symptom, what would you think might be wrong?"

The examiner should pay close attention to sudden shifts of affect, variations in the flow of verbalization or eye contact during the interview, or attempts by the patient to change the subject. Such signs of anxiety may provide clues to the noxious stimulus of the symptom. Inappropriate affect may range from overdramatization to a marked lack of anxiety. The physician should also note how the child responds to medical procedures; if the patient responds positively, he or she may be seeking nurturing outside the home.

Never question the child's truthfulness; regardless of the cause, the pain or other symptoms are very real. Children who are challenged or sense they are not being believed can become distressed and resentful, which can exacerbate symptoms and create a resistance to treatment.²⁵

- *The interview with the parents* may begin by the physician saying: "In seeing many children with this symptom, I find that it is sometimes due to physical causes, sometimes to stresses at this stage of life, and sometimes to both. But pain is pain no matter what the cause, so it's my practice to look thoroughly at all possibilities—physical, psychological, or whatever else." A thorough assessment of the family environment, including careful attention to the parents' description of the child's symptoms, is crucial to building trust.

Investigate how the family deals with the somatic symptoms, how the child has coped with stress in the past, and whether there is a family history of somatoform disorder. Both parents should be asked if they are seeing a physician.²⁵ Ask about the child's social development, general temperament, anxiety level, ability to express feelings, and any behavioral, emotional, or learning problems that may have

caused concern. For example: "How did Tommy behave when Johnny was born? How did it affect his mood? How do you know when he is anxious, unhappy, angry, or frustrated?"

When somatization plays an important role in a family's lifestyle, there may be resistance or even resentment to the idea that psychological factors may be responsible for their child's symptoms. It is helpful to convey that a psychiatric evaluation is a routine but important part of every medical workup for symptoms that may be exacerbated by stress. Some authors recommend avoiding the use of terms such as "somatizer" that may have a negative connotation.²⁶

- *Differential diagnosis* Affective disorders, especially depression, are often accompanied by somatic symptoms, and children with anxiety disorders commonly have physical complaints. Other diagnoses to consider are malingering (intentionally producing symptoms or signs of illness or disability to reach a clearly recognizable goal), factitious disorder (intentionally producing signs and symptoms of illness to maintain a role), and factitious disorder by proxy (wherein a caregiver induces signs of illness in a child).

Management of pediatric somatization disorder

Evidence suggests that youngsters with somatization disorder can respond to sensitive, psychologically sound advice from physicians and treatment using cognitive-behavioral and family techniques.¹ Physicians should set reasonable goals, minimize unneeded testing and referrals, schedule frequent nonsymptomatic visits, collaborate with other health care professionals, and try to cope with their own frustrations.²⁶ The challenge is to become more empathic with the patient and recognize that his or her suffering is real while continuing to be accessible.¹⁹

The first step in treatment is establishing trust with the patient and family,²⁶ and the approach requires a family orientation. If the patient and parents feel that the symptoms are taken seriously rather than shrugged off, they

will be more likely to accept treatment recommendations. Physicians who treat only the symptoms tend to give a prescription; those who treat the patient are more likely to offer guidance.

The physician must identify, clarify, and try to reverse the stresses that the symptoms may be obscuring. The feedback conference with the parents is the most difficult part of the process, although they are often relieved to hear that the child is not malingering. It helps to explain that someone with a somatoform reaction is unaware of the content of his or her worries and conflicts. Try to shift the emphasis from the physical to the psychological at a pace that is comfortable for the family and child.²⁵ Above all, the patient and family should never be told that "nothing is wrong," since something clearly is amiss. One may say, "I don't know how all this got started, perhaps with some kind of viral infection, flu, or irritation, but the persistence of the symptoms seems to be related to some of the psychosocial factors we talked about." Simply making the diagnosis and linking it to a psychosocial stressor can be therapeutic.

After informing the family of the diagnosis, the physician should offer follow-up discussions. These sessions may range from 15 to 30 minutes and include a focus on current family stress. Often the family problems that led to the somatization disorder are not disclosed until after the physician has developed a good rapport with the family. These verbal explorations are often enough to relieve the child's symptoms.

Helping the patient and family see the symptom as less threatening is beneficial. Carefully explain that the child ultimately benefits if the parents focus on capabilities instead

of limitations. The parents should reinforce their child's participation in social and school activities and limit questions and conversation about physical symptoms. Parents should be encouraged to develop a more confident attitude toward the child.⁸

Direct suggestions and environmental manipulation of secondary gain are appropriate interventions. Behavioral techniques commonly used to treat somatization include positive reinforcement that rewards healthy behaviors.

Secondary gain can be mitigated by withdrawing reinforcement.⁸ Some studies have shown that relaxation training substantially improves tension headaches.¹

When the symptoms are primarily a means of avoiding school, the parents should be supportive but firm in the expectation of a return to school.²⁵ Suggest a meeting with their child's teachers to determine which activities the child finds most difficult. Some schools permit initial exclusion from the trouble-

some activities, followed by a gradual reintroduction as the child builds confidence.²⁵

The physician may also try explaining to the child how stress can affect physical symptoms, for example: "Stress can sometimes play tricks on your body and stop you from getting better."²⁵

Counseling is always beneficial; without it, these children grow up to be adults with multiple somatoform symptoms. The goal of counseling is not to eliminate the pain, but to help the patient and family understand its cause so they can better cope with it. Teaching methods of dealing with anxiety can be more beneficial than prescriptions for pain medications.

If the symptoms continue or deep personality problems become evident, referral to a mental health professional is the next step. Since psychiatric care is often costly and can make

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parents feel inadequate, such a referral should be considered judiciously. The primary care physician should continue to be available before and after psychotherapy has begun, acting as a bridge to assure parental compliance. A team approach is best because it conveys to the family the message that all aspects of the child's health are being addressed.

The long-term outcome

Systematic longitudinal studies in children and adolescents are lacking, and the question of whether the persistence of the original somatoform symptoms or some other measure should be used as the primary determinant of outcome has not been settled.⁸ Functional or psychological status at follow-up may be associated with a poorer outcome than the original physical symptom.⁸ In some follow-up studies of children with recurrent abdominal pain, 25%-50% continued to have abdominal discomfort as adults.¹³ Other studies have found that such children were not at greatly increased risk for abdominal pain as adults, but were at increased risk for adulthood psychiatric disorders.²⁷ Somatization disorder in children and adolescents usually takes a fluctuating course and progresses to a chronic, possibly disabling, adult form.

Conclusion

In traditional medicine, a diagnosis is usually made using a combination of history taking, physical examination, and specific investigations. But childhood disorders such as somatization demand a more complex and comprehensive approach. The onset or maintenance of somatoform symptoms is probably related to stressful events. Affected individuals are often psychologically vulnerable and have parents who are preoccupied with health problems.¹

Failure to recognize and treat pediatric somatization results in significant morbidity and tremendous economic costs.⁸ Attention must be paid not only to the development of the problem but also to its context. The role of the family in maintaining, aggravating, or

alleviating the problem must be explored if the full picture is to be uncovered. In most cases, the management of these patients is rewarding because the physician can obtain good results using his or her skills while enlisting the strengths of children and their parents to understand and master the developmental stresses in their lives. §

SELF - EXAMINATION

- Which of the following statements about pediatric somatization is not true?
 - Most children are initially monosymptomatic.
 - Abdominal pain is the most common complaint in prepubescent children.
 - The prevalence of headaches increases with age.
 - Physical illness often precedes the onset of somatoform symptoms.
- Which of the following is not a diagnostic criterion for somatization disorder?
 - symptom onset before age 20
 - persistence of symptoms for several years
 - history of at least two gastrointestinal symptoms other than pain
 - history of pain related to at least four different sites
- The risk of being classified as a somatizer increases with age.
 - true
 - false
- Which of the following statements about the diagnosis of pediatric somatization is not true?
 - The entire family with whom the child lives should be interviewed.
 - Questions to preadolescent children should be oriented to "why" instead of "what."



- c) The patient's fantasies about the symptoms should be explored.
 - d) Both parents should be asked if they are seeing a physician.
 - e) The context in which the symptoms first appeared should be carefully explored.
5. Linking symptoms to a psychological stressor may increase resistance to treatment.
- a) true
 - b) false

Answers at end of reference list.

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Answers: 1)c, 2)a, 3)a, 4)b, 5)b.