ONE of the main interests of the Child Psychiatry Unit of the Massachusetts General Hospital from its beginning has been the study of emotions in the sick child and the prevention or treatment of emotional disturbances associated with illness. When the child is hospitalized his fears, anticipations, and concepts of his medical illness are important not only as psychologic concomitants but also as they may affect and prolong his illness.

Pediatric and psychiatric studies indicate that illness and/or hospitalization may lead to, or precipitate, neurotic disturbances in children. Specific reports point to the potential disturbing impact of separation, particularly in children under 5 years of age, of operations, of immobilization, and of various chronic illnesses. Often parents date the onset of an emotional disturbance such as tics, enuresis, phobias, and behavior problems to an illness, or to hospitalization. Such experiences in childhood may have an effect that lasts into adult life in the form of attitudes toward physicians, illness, and body function. One frequently observes in parents that their childhood experience regarding illness may influence the way in which they affect their child's reaction to hospitalization or operation.

However, pediatric experience shows that most children adapt to the painful and frightening experiences of hospitalization. Also improvement in health is usually followed by a spurt in development as the emotional energy previously bound up in the illness is released, and there is a resumption of interest in activities and people.

There are fewer studies reported which clarify the constructive forces within the child, his family, and the hospital environment. The effectiveness of a hospital program which makes use of psychologic principles, however, has been demonstrated.

THE CHILD

Hospitalization

Hospitalization to the child is separation from a situation which is familiar, where he usually knows what to expect. The hospital situation is frequently unfamiliar, similar to the state in infancy where the unknown is perceived as threatening. This supports a tendency to regress in behavior. In the young child under 5 years the main reaction to frightening situations is to seek the comfort and protection of his parent. Separation to the young child takes away this means of support.

In older children there are often procedures and practices which can be alien and threatening to them, such as romper uniforms, cribs, and nakedness.

For example, a 9-year-old boy in the hospital for tonsillectomy was rebellious and hyperactive on the ward and resisted the nurses and doctors. He spoke with concern about his pastel, flowered rompers, worrying that members of his gang might see him, tease him, and think he was a sissy.

The experience of nursing care may be upsetting to a child. The loss of ability to do for himself such tasks as toilet, feeding, and dressing returns him to the status of the small child. As a consequence the child may become more infantile in his behavior or
resist nursing care. It is important for nurses to recognize this so that when their medical condition permits, children can be encouraged to perform these functions.

**Meaning of and Reactions to Illness**

One of the common reactions to illness is the concentration of psychic energy on the illness and body. Transient hypochondriasis and self-interest usually occur with illness. This conserves psychic energy for the process of recovery. In the extreme, it becomes a depressive reaction.

Another common reaction is feelings of guilt. Illness is perceived as a punishment for wrong doing or bad thoughts. For example, on the Stanford Binet Intelligence Test, there is a question: “Give two reasons why children should obey their parents.” A very common answer is: “So they won’t get hurt or sick.” The converse of this which is supported by observations is that a child is sick because he has been bad.

The illness itself becomes a threat both in realistic terms and unconscious meanings. The severity of the illness, the organ involved, the type of treatment and the degree of suffering all represent realistic threats. Most children have feelings and fantasies about their illness in addition to the real threats which will determine to a considerable extent their emotional reactions. The organ involved will influence the amount of anxiety that is engendered. The heart, brain, genitals, and eyes are all organs which are particularly invested with unconscious as well as realistic significance, and threats to them represent the threats of death and the integrity of the body. Operations and illness activate fantasies of being attacked, mutilated, punished and annihilated. The meanings depend on a number of factors including the phase of development of the child, his previous life experience, and current life situation. The evidence for these findings comes from psychiatric studies of hospitalized children.

For example, Bobby, age 11, was referred to the psychiatrist because of fears of death, feelings of depersonalization, and attacks of anxiety. He was hospitalized for the third time on the Orthopedic Ward for operative correction of a knee deformity consequent to osteomyelitis. He had been extremely fearful of surgery, particularly about anesthesia during which he spoke anxiously of dying. Bobby was the youngest of four children from a family of marginal adjustment with siblings much older than himself. His mother was 45 years of age and in the menopause when he was born. The pregnancy was a surprise and unwanted. His mother considered osteomyelitis and necessary follow-up treatment to be an added burden. In his interviews he revealed the meanings of his illness and hospitalization through a discussion of pigeons that lived near his house. Specifically he spoke of an egg which he tried repeatedly to get a mother pigeon and father pigeon to sit on. When they refused to do this, he examined the egg. It smelled rotten so he threw it in the garbage pail. Through this story, Bobby showed that he felt like the rotten egg, uncared for and thrown into the garbage pail. This demonstrated his fears of death and abandonment.

The psychologic meanings of illness and hospital experience vary in type and degree from one patient to another. Such meanings are important in that they may have a determining influence on the course of and emotional adjustment to the disease. To be aware of these becomes an important aspect of pediatric management and guidance.

In specific diseases there are typical kinds of concerns in children and their parents. For example, in epilepsy the fears over loss of control extend to areas beyond motor control. The common fear in the patient and his family is that he will not be able to control his impulses and might commit criminal and sexual acts. The age-old concepts of epilepsy being linked to insanity and the epileptic being possessed by the devil still exist in the mental life of such patients and their families.

Studies of children with rheumatic fever indicate that anxiety is caused by both physiologic changes and psychologic disturbance. Chronic anxiety has a demonstrable physiologic effect on the heart. Anxiety from psychologic sources is aroused...
by the threat to the heart which is considered the organ of life and death, prolonged separation from home, and conflict in the mother-child relationship. Such anxieties may be expressed physiologically or by excessive and general inhibition in activity, or may be masked by excessive activity.

In diabetes, hereditary concepts of causation arouse in parents feelings of responsibility for the disease. Because of the nature of the illness and method of treatment a close dependent relationship between parent and child is set up in which various activities are controlled. The dependence and control often extend beyond a period of realistic necessity, as the parent may use this for his own neurotic purposes. In the adolescent diabetic, rebellion and struggle with a dependent and controlling relationship in the form of behavior disturbance or poor diabetic control leading to frequent hospitalization, are frequently encountered. In addition to the emotional consequences of the disease on psychologic adjustment, there are many reports of the course and severity of diabetes being influenced by emotional stress despite careful medical regulation.3

Treatment Procedures

The real as well as the imaginary limits set up by the disease and the treatment procedures play an important role in adaptation to hospitalization. A child cannot distinguish between suffering from the illness and the treatment done for cure. Some children make an initial adjustment to the hospital which breaks down under the impact of prolonged separation, repeated medical procedures, immobilization, and special diets. Clinical experience with children hospitalized with ulcerative colitis indicates how they perceive medical procedures in terms of their violent and destructive fantasies.33-34 In general, treatment procedures in the hospital have a punitive coloring to them since parents have used and still use them as punishments or threats—being confined to bed or room, restriction of activities, restriction in diet, medication, or even, “I’ll call the doctor.”

Restriction in movement is usually resisted by children when they are not defeated by the type and intensity of the illness. Such restriction blocks normal emotional discharge through movement. During the acute phase of an illness, restriction may be accepted but difficulties often arise during the recovery phase.34 Reactions to restriction vary and include resisting, general inhibition in all activity, increase in fantasy activity, and the compensatory development of other activities.

Dieting may present a problem in children to whom food has great emotional significance. A special hospital diet may invoke fantasies of being punished, unloved and rejected. Where special diets are given for prolonged periods, as in diabetes, nephritis and allergies, the child may feel different from others and discriminated against. Urging of food by hospital personnel may revive or invoke battles over eating between child and parent or parent-substitute. Taking medicine is a problem not just from the standpoint of the bad taste but also as it may represent a punishment, bad food, poison, or something that has to be swallowed whole. A battle over medicine is similar in its meanings to struggles over food.

Reactions to pain are also influenced by its psychic meaning. A child is apt to perceive pain both within him and from without as a persecution, punishment or maltreatment. The child who reacts appropriately to pain is less dominated by these fantasies. Otherwise he reacts according to his own interpretation of the event. This includes anxiety, rage, wish for revenge, depression, guilt, and in some, unusual passive submission.

For example, the experience of pain to the child with severe burns presents special problems in the handling of the child's hostile feelings.35 Nursing care which otherwise might be supportive, reassuring and comforting produces pain. Often it may not be medically advisable to anesthetize the
patient for a dressing change. The reactions of these children may provoke dissatisfaction, dislike, avoidance and antagonism in hospital personnel who care for them. It is often hard for hospital personnel to understand why these children feel so overwhelmed.

Sam, a 15-year-old boy with epilepsy, had second and third degree burns involving the left side of his face, left arm and hand. Prior to sustaining the burn he had presented a behavior problem. During the hospitalization, three grafting procedures to his face had failed to heal because Sam disrupted them by poking the bandage and consciously twitching his face. The psychiatric interviews revealed that this behavior was determined by a number of factors: 1) retaliation against what he perceived as hostility directed against him from the hospital environment; 2) resentment for being deserted first by his father and currently by his mother during hospitalization, 3) punishment to himself for his aggressive behavior in the hospital and his feelings of responsibility for his mother’s recent operation prior to the burn and for his parents’ divorce. This behavior as well as his threatening and insolent manner intensified the antagonism of the hospital staff towards him. A fourth grafting procedure was successful following a ward conference of the various hospital staff members responsible for his care, repeated psychiatric interpretation of Sam’s anger and guilt, and the presence of his mother on the day of the operation.

THE FAMILY

Illness also has an impact on parents and others in the family, leading to change in their attitudes towards the hospitalized child. It may reactivate the parents’ feelings about their own past experiences with sickness. Just as illness may be perceived as punishment by the child, so it may be viewed by the parents as punishment for their misdeeds, failures and neglect. This attitude is particularly intensified in those parents who have an intensely ambivalent relationship to the child. Some parents resent the child whose illness is felt to be a hostile act against them or to be a reflection of their failure. A few parents are afraid of overindulging, but the majority are the opposite. The sick child is more fondled and loved. He may have the sole possession of the mother’s attention which may lead to reverberations within the family.

Illness may provoke feelings of jealousy and resentment on the part of siblings and father, creating a new situation for the sick child to face following his discharge. In their anxiety and guilt, parents tend to forget psychologic principles and their usual ways of dealing with the child and others. Parents may distort and misinterpret medical information given them by doctors and nurses. They may mistrust medical personnel. They may deceive the child about an operation or hospitalization. For example, a few parents told their children who were to have tonsillectomies that they were going to buy a new pair of shoes; they would be fitted with a new pair of tonsils; it was “like going to a hotel.”

The emotional reactions of parents to a hospital experience are determined by the specific psychologic meaning and realistic aspects of the event. Many parents feel reluctant to turn over to hospital personnel the complete care of their child. They are often unable to participate in his nursing and parental care. They may not always receive sufficient information on his medical progress. Administrative policy and realistic necessity often restrict visiting of the parents.

CHILDREN EXPOSED TO A UNIFORM STRESS SITUATION

In addition to individual case illustrations, a study of children exposed to a similar and uniform stress situation gives a broader perspective to the emotional reactions of children exposed to a hospital experience.

The emotional significance of tonsillectomy is the basis of a research study in which the Child Psychiatry Unit of the Massachusetts General Hospital has been engaged for a number of years. The object of this study was not only to determine the possible short- and long-range sequelae
to the operation but also how children reacted to brief hospitalization and a minor operation. Initial psychiatric observations were made of 143 unselected children from the age of 2 to 14 years while they were undergoing tonsillectomy at the Massachusetts Eye and Ear Infirmary. Figure 1 shows the age distribution of these children. The majority of the group falls into the age range of 5 to 7 years. The sex distribution is approximately equal. Follow-up studies have been made in as many cases as possible; 40 children have been followed for 4 years. At the present time, an additional 6- to 10-year follow-up study is in preparation.

A universal finding among this group of children was the existence of fantasy meanings to the operation, i.e., concept and location of the tonsils and method of operation. This often existed coincident with realistic information.

Another finding was that the main focus of anxiety about the procedure shifted with age (Fig. 2). The interview data indicated that the foci of anxiety were hospitalization, operation itself, needles, and narcosis. Hospitalization as the main focus of anxiety was most frequently encountered, 54 of 143 patients, predominantly in the younger age groups and largely due to separation. In the older age groups, narcosis, which represented a threat to self control and loss of consciousness, was most disturbing.

Although the tonsillectomy itself aroused anxiety in all the children, the great majority mastered and integrated the experience without any serious emotional consequences. Most of the parents reported an improvement in the children's health and a number in emotional adjustment. Many children showed a transient emotional reaction postoperatively, lasting from a week to 10 days, consisting of sleep disturbances, reluctance to eat, mild anxiety symptoms and regressive behavior.

Severe postoperative reactions, lasting longer than 2 weeks, were noted in 25 of 143 children (Table 1). Some children had more than one type of reaction; six were considered to have traumatic reactions. These six children were emotionally disturbed and showed evidence, from history

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Fig. 1. Age distribution of patients undergoing tonsill- and adenoidectomy.
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and psychiatric study, of previous disturbing events in their past life which had not been assimilated.

The postoperative reaction was correlated with a number of factors: age, sex, preparation, and emotional adjustment. The incidence of severe reactions was not significantly different for the various age groups. There were too few children in the sample to test the observation that operations on children under 3 years of age are more frequently traumatic. Little difference between boys and girls was noted. In relating preparation to postoperative reaction, there was no significant difference. Preparation could only be defined in terms of accurate information given the child. What was considered more crucial was emotional preparedness for the operation, including the balance of negative and supportive feelings which the parent conveys to the child. However, this was difficult to ascertain from the data.

The children who had severe postoperative reactions were chiefly those with neurotic trends and evidence of a disturbed emotional adjustment prior to operation (Fig. 3). One child with an adequate emotional adjustment had a severe reaction which appeared to be related to the postoperative complication of hemorrhage. However, not all disturbed children reacted severely.

The factors which influenced the outcome were individually determined. Some of the resources utilized by the children who were able to assimilate the experiences were:

The ability to transfer positive feelings from parents to hospital personnel; to see the operation in a constructive way, i.e., to im-

TABLE I

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<th>Types of Severe Reactions</th>
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<td>A. Fears</td>
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<td>B. Eating disturbances</td>
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<td>C. Sleep disturbances</td>
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<td>D. Speech disturbances</td>
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<td>E. Regressive behavior</td>
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<td>F. Tics and mannerisms</td>
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FIG. 2. Main focus of anxiety according to age.
prove health, or as an initiation rite to growing up; the capacity to interact with other children; the ability to direct interest away from themselves toward play; to turn in their play from experiencing danger passively to being in the active role as doctor or mother; the freedom to express themselves within limits in a direct, unsublimated way, i.e., crying and anger; and the dominance of realistic awareness of the procedure over fantasy notions and expectations.

THE HOSPITAL ENVIRONMENT

Today many hospitals have tried to minimize the stressful aspects of hospitalization by an awareness of the emotions present in the sick child, by preparing children for procedures, providing liberal visiting periods for parents, and instituting recreational programs on hospital wards.

The constructive forces within the hospital are numerous. There are nurses, doctors, and other personnel who can substitute for parents and who may present an emotional climate less filled with tension and overconcern than would exist at home. There is also the group life of co-sufferers. There is the realistic awareness that the hospital and doctors are helpful in restoring health and easing pain and suffering. The attitude of children who live near the Massachusetts General Hospital illustrates this aspect. One of the duties of the hospital policeman at the main entrance to the Emergency Ward is to intercept children who come by themselves to have their minor bruises bandaged. He has his own first aid kit with bandaid and antiseptics for such purposes.

Faced with the situation of illness and hospitalization the child may grow emotionally through learning to master his environment. He may also be reassured that the reality situation is not as his fantasies had led him to anticipate. Children from an unstable family may find in the hospital gratification of their needs to be loved and accepted. In fact, this may
create problems upon discharge. In children with asthma\textsuperscript{26} the beneficial aspects of hospitalization on the symptoms of that disease have been clearly demonstrated.

However, there are unusual situations where children and mothers provoke negative attitudes from the hospital personnel which may intensify the stressful aspects of the hospital experience.\textsuperscript{37} These situations are ones in which the emotional reactions of the child and parents interfere with the positive motivations, gratifications and satisfactions of the hospital personnel. The mother who projects her own guilt about the child’s illness onto the doctors, who distrusts and blames them, provokes hostility from them. This is particularly so in the instance of children with ulcerative colitis where the illness itself and the associated personality features in child and parents stir up negative feelings.

An effective adjustment to illness, hospitalization, and surgery is illustrated by the following case report.

**CASE REPORT**

Johnny, age 11, had cirrhosis of the liver, splenomegaly, esophageal varices, marked ascites, and edema of both lower extremities. There was a history of jaundice, vomiting and failure to gain weight during the first 6 months of infancy, which subsequently subsided completely. At 8 years of age, abdominal swelling first developed which progressed during the 4 months preceding admission to the hospital. Initial medical care had been provided in a local hospital; referral to the Massachusetts General Hospital was made for a possible surgical procedure.

For 6 weeks Johnny was given a regime of maximum bed rest and a special diet low in sodium and fat, and high in protein. During this period, there was an effective diuresis, loss of weight, and a marked decrease in ascites and edema of the legs. This was followed by a surgical procedure to reduce portal vein hypertension. The postoperative course had complications, but discharge finally occurred after a total hospital stay of 12 weeks.

Johnny was the second of three children from a stable family of moderate financial means. When he was discharged for the Christmas holidays, his parents followed carefully the hospital regime at home with resultant continued improvement.

Both parents gave a reliable history with considerable realistic factual data about the disease. They had no striking difficulties in accepting his illness and maintained an unusual awareness of the actual problems. They were able to visit him only once a week since they lived a long distance from the hospital, but during the operation visited daily on their own initiative. They were friendly and shared some of their anxieties with Johnny.

They presented a picture of the patient, between 8 and 11 years of age, and prior to the most recent exacerbation, as an active, aggressive, athletic boy who did well in school work. He had friends and got along well with his two siblings.

From the hospital record of the present illness, John was reported as friendly, well mannered and bright. When told that he would stay in the hospital for 6 weeks, he cried and was depressed and homesick for several days. However, he brightened when his interest was directed toward various activities. He ate a special diet amazingly well, considering its unappetizing nature. He took pride in doing better than he was asked. He enjoyed the praise and attention he received for his grown-up and courageous attitudes. However, he was not inflexible in his goodness: He would occasionally prolong the half hour of being up permitted him. He was allowed to pick the time that best suited him. At first, he kept track of his caloric intake and water intake and output, but eventually he wanted the nurses to take over these activities. He complained some about needles and food. He responded positively to the parents’ visits, comparing hospital food unfavorably to his mother’s.

Psychologic tests revealed a number of important themes. In the Blacky test and TAT stories, withdrawal of food and confinement were punishments for being bad. In the Sentence Completion Test, people became angry when the boy ate forbidden food. These responses reflected his feelings about bed rest and special diet. The TAT stories showed a preoccupation with destructive fantasies which represented a concept of his own illness as destructive of himself. However, the solution was generally hopeful. One story concerned a sea monster which grew higher than 6,000 feet, wrecked cities and crushed houses. The Army,
Johnny was a dark-complexioned, thinly-framed boy of 11 years who looked chronically ill. His face brightened easily with a charming smile. He was first seen in a wheelchair. When the psychiatrist told him why he was being seen, Johnny suggested going to the interview room. At the psychiatrist's suggestion, he asked permission of a nurse though at first he said this was not necessary. The nurse asked how long he had been up, and he replied over one-half hour. She said she was sorry but he would have to go back to bed. As she accompanied him, the nurse remarked, with appropriate gestures, that he must feel angry. John smiled in response to this sympathetic attitude. In his room when someone commented that he had a visitor, he replied cheerfully that the visitor was a talking-doctor. When he was asked about the hospital, he first said OK. Then he mentioned his fear of transfusions: He said he was going to have 40 (transfusions) when he had his operation, and that he had to stay in bed to make the blood go through his veins better. When talking of his parents' visits, he became slightly tearful and his voice wavered. When the psychiatrist said this might be the hard part of being in the hospital, he quickly became active and gained control of the situation. He got his playing cards and showed a trick, remarking that he had never played cards very much but usually played active sports. The psychiatrist commented that it was hard to be quiet but now he could polish up on his tricks. While playing cards, he enjoyed winning but strictly followed the rules, saying, "If you gyp you lose in the end."

At another visit he commented about a medical folder on the lungs which a doctor had given him. "The doctor showed me the heart. The heart beats and if it stops, you die." He said he would like to be a doctor, in particular a surgeon. After an interval in which he was anxious about a spontaneous nosebleed, he mentioned his operation that will make his blood run better, and the scars on his liver from having jaundice when he was small. When asked how he knew this, he said the doctors in Maine told him; also, he listens to the doctors talk here. He is on bed rest and diet. "The diet is hard, not the low salty part, but no chocolate and ice cream." He could gyp, he said, but it would only make matters worse. Johnny thinks about cheating but they are only thoughts. He wonders if both rest and diet are necessary and thinks maybe he should put this to the test by some experiments. He was told that the doctors had much experience and had done these experiments so that both were necessary in his case.

In talking about his older sister, who was very generous, John commented he should be nicer. He was asked why. "Well, if you are bad, you are unlucky." He's unlucky because he's sick and in the hospital. He was told that children do not get sick because they have been bad.

Johnny then made a series of drawings in black crayon which reflected his image of himself and other concepts of his illness. The first five were cartoon characters which provoked the comment that they were silly or crazy looking. On one he wrote his name and on another he had difficulties in drawing a distorted trunk of a body. These drawings in black reflected his depressed feelings and his body image as peculiar and distorted. In the next drawings, he first asked the psychiatrist to scribble on the paper with the black crayon, and then he would make it into something. Three of the six drawings involved wind—a tornado, wind tunnel, and wind through an open window. He was asked about tornadoes, and he mentioned that last summer a tornado hit a town adjoining the one he was visiting in New Jersey. It blew the roof off a diner and hurt two people. He laughed and imagined someone coming out of the diner. The roof blew off and he must have thought it was something he ate. "How come?" he was asked. "Well, if you ate something, came out of the diner, and then something happened, wouldn't you think it was because of something you ate?" Since the psychiatrist knew Johnny had a marked increase in abdominal swelling during last summer, he said no, and that something he had eaten or done had not caused his sickness.

Continued observations were made of John during the hospitalization. He enjoyed playing doctor, putting the initials "L.S." after his name, to mean "liver specialist." He rehearsed to several people what the proposed surgery consisted of and what it would do. He used card tricks to impress other children and hospital personnel, thereby to demonstrate his
mastery. He thought of the operation as magic—he would be good as new once the operation was over. The day before the operation, Johnny was tense and anxious. This focused on his parents' visiting—“Would they come; had they had a car wreck?” When they came he cried for a short time, but then became happily engrossed in a bag of presents.

Johnny's mother remained with him during the operation and 4 days following. Postoperatively, when he cried his mother sympathized with him some but then encouraged him to stop. “Now, Johnny, that will only make you feel worse and won't help.” For the next 4 days, he was in pain, cried frequently and was more dependent than previously. However, he gradually became more cheerful. He hoped if he was going to have another operation 5 years later it might be done with a shot or pill. He looked forward to going home but with a touch of despair when doctors told him he could not get into active sports for a long time.

This boy's adequate adjustment to the stress of illness and hospitalization seemed to be related to a number of factors: 1) the adequacy of his pre-illness personality; 2) the predominantly positive parent-child relationships; 3) the dominance of realistic information concerning his illness and proposed treatment; and 4) effective ways of dealing with anxiety which the hospital staff supported, particularly a positive identification with the hospital personnel.

However, he demonstrated periodic depressed feelings, disillusionment in the magical hope that he would be new again, thoughts of his illness as a punishment for being bad, dieting and bed rest as further punishment, a concept of his illness as a destructive force, some fears of death, and concerns about his body image.

SUMMARY

The emotional reactions of the hospitalized child to illness are determined by the nature and degree of stress from both realistic and unconscious sources and the balance of forces within the child, his parents, and the hospital environment which facilitate or impede adaptation.

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“To be nobody-but-yourself—in a world which is doing its best, night and day, to make you somebody else—means to fight the hardest battle which any human being can fight; and never stop fighting.”

E. E. Cummings
THE REACTIONS OF HOSPITALIZED CHILDREN TO ILLNESS
Gaston E. Blom

Pediatrics 1958;22:590

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