

The Child and the Operating Room

Barbara M. Korsch, M.D.*

PEDIATRICIANS, parents and others involved in the care of sick children have become increasingly aware that illness, hospitalization, and most especially surgical operations have significant emotional and psychological impact on the growing child. Regression, depression, withdrawal, anxiety, increased dependency, and other behavior problems sometimes occur in children following hospitalization and/or surgery.¹⁻⁹ Hospitalization and surgery, in effect, constitute a nonspecific stressful experience for the child and his family. Family relationships, especially parental relationships with the sick child himself, cultural patterns, and economic background of the family influence strongly the manner in which the young child adapts to the experience of surgery and hospitalization. The attitude of the caretaking personnel in hospitals also makes for differences in adaptation on the part of the patient and his family.

In considering the child and the operating room it is important to consider the child's age, developmental stage, personality make-up, and past history. It is these background factors that determine the individual child-patient's psychological response to illness, hospitalization and surgery, as much as do the nature of the illness and the trauma experience for the child. A general outline of growth and development, especially in respect to issues relevant to illness, hospitalization and surgery, needs to be kept in mind by those caring for infants, children, and adolescents in hospital so that the patients' behavior can be considered in context of the developmental stage and responded to in an appropriate manner.

*Professor of Pediatrics, University of Southern California, School of Medicine; Children's Hospital of Los Angeles, 4650 Sunset Boulevard, Los Angeles, California 90054.

Address reprint requests to Dr. Korsch.

Infancy

It is difficult to assess the specific emotional impact of a surgical procedure in the smallest infants. It is not known how pain is perceived and remembered by small infants, nor are there appropriate methods for assessing anxiety. The one feature that is most distressing to the youngest infants is separation from the mother or mother substitute and from familiar surroundings. Young infants get depressed, develop feeding difficulties, and their development does not proceed normally when they are subjected to long-term separation from mother and home. Short-term separations can cause acute disturbances and are sometimes followed by increased fretfulness, night waking and other deviant behavior for limited periods after the separation. If infants are placed into an environment where in addition to the separation they experience sensory deprivation and lack of personal attention from caretakers—as is unfortunately true in many medical settings—this also interferes with normal affect and normal development.

Recent emphasis on the effect of separation on the mother (parents) of the young infant also suggests that separation may interfere with normal "bonding" of the mother to her baby and may be associated with later disturbances in parent-child relationships. If surgical conditions, operations and various features of modern technology in the newborn ICU have been part of the picture—that is, if the infant is in an incubator, has to be tube-fed, has IV's running, has vital functions monitored, etc.—the mother's initial relationship with her baby will be even more strained.

Allowing the mothers (parents) maximum active involvement in the care of their infants—with as much information, as much communication with staff, as much actual caretaking such as feeding and handling of

the baby as possible—seems to be the most effective remedy, as well as preventive measure for the problems encountered by infant and family during hospitalization and surgery in the first few months of life.

"Toddler" Stage—Autonomy Phase

As the infant passes from the stage of developing trust in his mother and in the world into the autonomy phase (that is, the end of the first year and the second year of life), where his developmental task is to gain confidence in himself, and to begin to achieve mastery over himself and the world, the responses to illness, hospitalization and surgery take on a different pattern. By this time he has learned to recognize his mother as a person who comes and goes, who can be summoned by him and who will minister to his needs. He has learned that he can *do* something to make things happen—he calls and mother comes; he can walk or run to the object he wants. He gets joy out of moving his body, pushing and pulling large objects—using his muscles and his voice. It is believed that this developmental phase is crucial in forming the child's general image of himself and a sense of trust in himself.¹⁰

Every aspect of the experience of hospitalization and surgery offends against these developmental needs of the toddler. He is forced into passivity and prevented from moving, enjoying or controlling his body. He is exposed to painful experiences and brutal movement restrictions. His beginning confidence is undermined because he is unable to make anything happen or predict anything in the incomprehensive and hostile world in which he finds himself.

He may just have learned to feed himself, but will probably not be allowed to do so in the hospital. He may be learning sphincter control and being praised and supported in these efforts at home—in hospital there is no one to heed or understand his signals—so he is reduced to earlier behavior patterns. There is evidence that the autonomy (toddler) phase of childhood is the time for the development of a sense of shame and embarrassment,¹⁰ and clearly the humiliations, exposures, and regressions inherent in medical and surgical treatment undermine the young child's self-

esteem repeatedly and foster a sense of guilt and shame.

The ability to say "no," cherished by young children in their second and third years, basic to their becoming aware of themselves as persons who are to be reckoned with, is another developmental achievement that is bound to be undermined by the child's experience with physicians, hospitals and surgery. The child's "no" is ignored, overridden and resented in hospitals. It gets him nowhere, but makes him disliked by the staff and tends to result in repressive measures.

While the above constrictions in the toddler's life style are uniquely disruptive to his developmental stage, there is, of course, at this age, still the powerful effect of separation from home and parents (especially mother) to be reckoned with. Mother's presence, whenever possible, during critical moments of the day, during crucial treatment procedures, and during preparation and recovery from surgery is mandatory to prevent unnecessary psychologic disturbance and to convince the toddler that there is someone on his side, in the horribly strange, difficult-to-understand and uncomfortable milieu where he finds himself. His behavior may be "better" from the point of view of the hospital staff and routine when his mother is excluded, but his mental health is certainly less threatened when he allows himself to protest, cry and resist than when he submits passively to the indignities to which he is subjected.

Preschool Age

The preschool age group is in many ways the most vulnerable. Even in the absence of major stress—such as hospitalization or surgery—children between two and five have great sensitivity, are prone to numerous fears, and are struggling with some basic developmental crises. They are more aware of the experience of separation, the strangeness of the hospital environment, and the threat of the many painful and intrusive procedures than are the young infants. Still, they do not have the defense mechanisms and skills, or the knowledge, that would help them withstand the experience. Their sense of reality is tenuous—their is a world full of

magic, monsters, aggression and retribution. They are for the first time aware and afraid of death. They themselves are full of aggressive feelings, are experiencing acute rivalry in respect to their siblings, and also at times in respect to the parent of the same sex—for this they feel they deserve punishment. Hence, they interpret many unpleasant experiences as punishment. Their own emotions during this age period are very violent; observation of a 3-year-old during an outburst of temper suggests the high potential for violence, as does careful listening to a preschooler imagining himself cutting his enemy into little pieces or meting out other equally grizzly fates to his victims.

This is the age where the fear of mutilation and physical injury is at its height—where a minor cut causes a rush for mother and a band-aid, where a drop of blood may initiate panic. The current heavy dosage of violence represented especially by television only serves to convince the young child even more that his most violent phantasies are not exaggerated and contributes to the most frightening image of hospitals and surgery. Thus, when placed into the unfamiliar, unwelcoming hospital setting, away from the parents whom he has so often offended and who may have threatened to “send him away” if he continues to be so bad, it is not surprising that the young patient feels that he has indeed been abandoned by all whom he loves and on whom he depends—to be punished by a group of oddly-garbed, unfriendly strangers armed with thermometers, needles, masks and other instruments of torture. Small wonder, then, that even an innocuous approach by a physician or nurse may be greeted with shrieks of terror and that cooperation may be difficult to elicit.

For these reasons elective surgery should preferably not be scheduled for children between three and five years old at all, but in spite of these special vulnerabilities, preschool children make up a significant proportion of the pediatric surgeons' caseload.

In emergencies the only remedial measure available to the concerned hospital staff is to handle the separation from the mother as tactfully as possible. Maximal visiting should be encouraged. A therapeutic milieu must be provided for the child in hospital. The child

needs maximum explanation of and preparation for what is being done for him, with maximum reassurance that he will be OK, and there should be a friendly child-centered attitude from all. A pleasant childlike decor on the wards, the presence of other children, appropriate furnishings and toys, allowing the child a few of his own belongings (toys, slippers, robe, teddy bear, favorite blanket, etc.)—all mitigate against the trauma of the experience. The most important feature is probably a staff of people who understand children, are attuned to meeting their needs and comforting them, and also avoid frightening statements such as “If you don't stop crying, we'll have to tape your mouth shut” or “If you can't be good, you won't be able to go home.” which are still heard all too often from the mouths of exasperated caretakers.

It has been demonstrated that for preschool children who are having scheduled surgery the trauma of hospital and surgery can be greatly alleviated by proper preparation from parents and medical and surgical staff at an appropriate time before hospitalization. Prugh¹¹ and others¹² have shown that anxieties, night terrors and behavior problems after hospitalization, as well as the actual adjustment to the experience, can be significantly altered by proper preparation and in-hospital handling. Details concerning the preparation specifically for anesthesia are covered in the subsequent section of this chapter.

School Age

School-age children are prone to some of the same separation anxieties as younger children and to similar unrealistic as well as real fears. However, their increased sense of reality and their ability to communicate with adults helps them in handling these feelings. They are also aided by their interests and by their curiosity. The hospital environment and modern technology, while threatening, are also extremely interesting to many children. If the medical staff capitalizes on this interest, many otherwise painful experiences will carry their rewards in terms of cooperation from the patients. The atmosphere should be conducive to learning and to having the patient as a partner instead of a victim. Other children can be very helpful to

the patient between 6 and 12 years old—and his joy in mastery, his pride in being courageous will all be fostered if he is in the setting of peers. Honesty and fairness are high in the value system of the school-age child. It will be helpful to the staff to be honest in preparing and reassuring so that they will not jeopardize the patient's confidence in them or lose their own therapeutic potential.

All these resources will help the school-age child if the milieu is supportive, but it must also be remembered that everyone (including adults) regresses during periods of illness or stress and that there may be moments when a school-age child needs his mother, or if she is not available, needs other sources of comfort and reassurance that may at first glance seem more appropriate for a younger child.

Adolescence

Adolescence is almost as explosive a stage in growth and development as is the preschool period. Fears, aggressions, and irrational behavior are notoriously seen in adolescent boys and girls under normal circumstances, and more so when they are ill and in hospital undergoing stressful experiences.

The adolescent's self-esteem and his body image are especially fragile. He is always comparing his own development with that of his peers—is he as tall, are his genitalia as big, is his acne worse, can he lift as much weight or run a mile as fast as the next one? He is trying to "make it" from childhood into the adult world and is desperately concerned in how he will fare. This identity struggle makes him especially anxious when he has a physical problem to face, a surgical procedure pending. How will he do? Can he present an acceptable front? Sometimes an apparently minor issue such as how big will the scar be, what did I say when I was "under"?, will assume gigantic proportions in the teenager's mind. One moment the physician may feel he is talking to an intelligent young adult, when five minutes later he finds himself facing the same patient expressing needs for support and reassurance appropriate to a much younger child. Adolescents, like preschoolers, are afraid of life and afraid of death, and the physician must be

sensitive to expressions of these fears and minister to them.

Another notorious character trend to adolescents is their rebellion. In order to make sure that they are themselves growing into respected adults, adolescents need to challenge the adult authority at every point. This may present problems to the physician who values his own authority almost as much as does the adolescent.

Patient Background

Another important determinant of the psychologic needs of a particular child in the hospital resides in the background and past history of the child patient. Different socioeconomic groups, different cultures, and different families differ in their attitudes concerning important issues in health and disease. In some families religion provides the main resource of strength and support—in others there is greater awareness of and trust in science and technology. Some people feel that their own decisions and behavior determine their fate, others trust in the knowledge and skills of the professionals responsible for their care—others depend on some outside overall authority such as religion or destiny or the stars. Deprived social groups, poorly-educated ghetto dwellers tend to have "external controls"; that is, they believe their fates are not under their own control. Other social groups are described as having an "internal locus of control"; that is, they believe they can in some measure control their own fate and determine what happens to them. Obviously, the greater the sense of mastery, the more weight needs to be placed on the patient's and family's own decisions in terms of their health care. For those who feel themselves more the passive victims, the physician needs to rely more on his own authority, competence and decision. Thus, for instance, for a more dependent patient the doctor might assert that "in our judgment you will be most comfortable and safest if we do X, whereas in another situation he might offer alternatives to the patient.

The Child and the Operating Room

Going from general information to the specific problems involved in preparing a child for surgery, the operating room, and especially for anesthesia, all the preceding

developmental and background information needs to be kept in mind. Clearly, it is not always feasible for each staff member to obtain the relevant information, but a glance at the hospital record, a short conversation with child and parents, and awareness of the developmental stage can be obtained in most non-emergent situations. Some direct questions from the anesthesiologist or surgeon will always help in assessing the child's fears and expectations. "What have you been told about the operation you're going to have?" "What worries you the most about it?" "What can I, or we, do to make this operation easier for you or easier for you to look forward to?"

If the physician has the opportunity to encounter the family and child before the actual hospital stay, very similar questions can also be addressed to the child's parents. It has been shown consistently that the attitudes of the patient's parents toward the illness or treatment very largely determine those of the child patient himself. Thus, any relief of parental anxiety and doubt will help the child in approaching the operating room himself.

Certain features unique to anesthesia have to be kept in mind in order to provide optimal support to the patient. Most important among these is the concept of "going to sleep." *Sleep* means many things to many people. Repose, rest and peace are the positive end of the spectrum. Yet there is another side: during sleep there is loss of mastery, loss of control, which with certain individuals—especially for children who have but recently achieved a sense of mastery—is very frightening. Every human being has thoughts and feelings that are very private, and the thought of revealing these to others causes embarrassment and fear.

Sleep has the connotation of death. Often a person who has died is said to have "gone to sleep forever." A favorite pet may have been "put to sleep," and never returns. Children are very literal-minded and at times afraid to go to sleep lest they themselves never wake up again. The explanation that the anesthesiologist will "put the child to sleep" may be very frightening unless it is attenuated with reassurance that the child will definitely wake up.

The young child is accustomed to having adults make decisions for him, expose him to experiences he fears, transport him here and

there without prior consultation, and apparently control his fate. Therefore, the person who puts the child to sleep for his operation may impress the young child as overwhelmingly powerful. Also, there is the fear of mutilation (castration?) and other damage to themselves that is paramount with preschool-age children, but present throughout life. "What will be done to me while I am asleep and unable to protect myself? Will my mother or father be there? Who will look after my interests?" These fears, although apparently unreasonable, need attention from the attending physician or anesthesiologist.

Preparation of Patient

A prior acquaintance with the anesthesiologist is most helpful. A patient and sensitive discussion and preparation on the evening before the operation—as is currently practiced in many children's medical and surgical departments—can do a great deal to allay the child's fears. The smoothness of induction, the amount of anesthetic required, and the course of the anesthesia are believed by some to be influenced by this kind of preparation and by the patient's state of mind.^{12,13} A corollary to the fear about going to sleep is the prevalent fear on the part of the patient that he might wake up during the operation. He needs to be reassured about this also before going into surgery.

There is fear of pain in almost all children and most adults facing an operation. Reassurance that there will be no pain during the procedure is essential. Fear of suffocation is another basic source of human anguish, associated with the whole concept of extinction of life and the process of dying. If inhalation anesthesia is to be used initially, preparation for the subjective experience of inhaling the anesthetic agent is essential. It will relieve anxiety and make for better cooperation. Clearly, all these issues must be considered with the child and his parents in light of the child's intelligence, comprehension, his stage of development, as well as in light of his previous experience. For the 1-2-year-old child, it may suffice to emphasize that "his mommy" will be there when he is put to sleep and will be waiting for him when he awakens. For the preschooler it may be important to explain that he will wake up in a different room, the Recovery Room, with different nurses and doctors, but that he will

be in no way changed or mutilated and that the operation will "fix" his tonsils, hernia, stomach, leg, or whatever—also that there will be a bandage and maybe some medicine running into a vein in his arm.

The experience of the operating room itself needs to be considered in light of the particular situation. In centers where basal anesthesia is administered in the patient's room the youngest children need not be burdened with technical details of operating room procedure. In hospitals where the patient will be taken to the operating room or induction suite while awake, it is extremely reassuring for the child to be prepared for the exact sequence of events so that he realizes that his physician has dealt with him honestly and respectfully, which makes him less likely to have irrational or exaggerated fears about the experience. For older children verbal preparation is appropriate—for the younger ones play techniques are necessary.

Timing of Preparation

In general, honesty is mandatory in dealing with children of all ages. The only issue that should influence what the child is told is his level of comprehension. Developmental level should also influence the timing of preparation. Older children do well with advanced warning so that they can prepare themselves for what is ahead. The younger ones, with their more limited time sense, may only get more anxious if they are prepared too far ahead. As a rule of thumb, most children less than 3 years of age need preparation *hours* ahead of time—those between 3 and 5 years old need preparation *days* ahead of time—and older children, depending on personality, anxiety level, and family patterns in terms of planning and discussing ahead, may need a few days to even a few weeks.

Who Shall Prepare the Patient

Another consideration to be mentioned is *who* should prepare the child. For the youngest children often the parents, if their personality make-up is suitable, are more helpful to the child than the medical staff. In these instances, however, the parents will need professional help in deciding when and how to prepare the child. Also, there is still

virtue in having even the young child meet the anesthesiologist and the surgeon to establish trust and to dispel any frightening phantasies as to the nature of the person who is going to be so powerful in handling the child's surgery.

The older the child, the more important it is for the anesthesiologist and the surgeon to make direct contact with him prior to the time of operation. Even for rational adults there is a great deal of reassurance in knowing the person who is going to operate on them, put them to sleep, or even the person on whom they rely to fix their car. This is even more important for the young child, who has less intellectual knowledge about qualifications of institutions, professional staff members, and rules and safeguards about patient care.

A sense of mastery, as has been mentioned, is crucial to the young child. Thus, whenever possible, the anesthesiologist and others involved in the child's care should allow the patient to ask questions and to have some say concerning his own treatment. "Would you rather have a shot to make you drowsy in your room before we take you upstairs to put you to sleep?" "Would you rather be awake and see the operating room, and then breathe through the mask until you fall asleep?" "How much do you want to know?"

How much, indeed, does the young child need to know concerning the surgical experience? There are widely divergent opinions on this matter, ranging from those who take the child through the operating room, let him look at the operating room table, try on the mask, look at the instruments some days or weeks before he is actually admitted, to those who tell him not to worry and everything will be all right.

The whole issue of informed consent and child advocacy is relevant in this context. Does one need to tell the child as well as the parent of the risks involved in general anesthesia? In my opinion this is carrying informed consent too far and can only increase the child's anxiety without furthering his understanding. Even with the parents, I think, although informed consent is necessary, an attempt should be made to allay rather than raise anxieties.

At the present level of knowledge it appears prudent to individualize. Infants and very young children need to trust those who

care for them, and to be warned of their subjective experiences insofar as they can comprehend it. If there is to be basal anesthesia in the child's room and he goes to the operating room asleep, he need not know all the fixtures and routines that are involved. If he is to arrive there awake, he probably will handle the experience better with advance warning of the people, the setting, and the situation to be encountered.

For older children, in general, information tends to be reassuring rather than frightening. However, the child's expressed concern, and questions to parents and staff, should be the guide in deciding how much to tell.

The most important issue relates to the establishment of mutual trust and confidence. Parents and professionals must not lie to the child in order to protect either the child or themselves. If things are going to hurt, the child needs to know; if he wants to cry or complain, this must be permitted. The feeling of confidence that the staff is there to help him and that he will be all right (if this is indeed anticipated), and that he is receiving the best of care needs to be transmitted by everyone. Questions should be encouraged, and there should be active participation by the child when possible.

Another important phase in the continuum of illness, hospitalization, operation, and recovery is the child's experience in the recovery room, or in his own room after operation. For the child, awakening from anesthesia in strange surroundings with new caretakers, with other patients behaving strangely, crying and vomiting, or being suctioned, while still feeling unlike himself, can be a very frightening experience. Under these conditions children may feel completely removed from their own true selves, doubtful of ever rejoining their families and regaining familiar sensations or surroundings. Understanding personnel in the recovery room is essential in helping the child with his re-entry into the non-surgical world—to assure him of pain relief and recovery with subsequent return to more comfortable surroundings. If the child is old enough, a visit from the known surgeon or anesthesiologist, before return to the parents and to the child's own room, when possible, can be very reassuring. In any case, gentleness, reassurance, explanations of strange dress and sensations will minimize

the trauma inherent in this last stage of the child's variegated experience with hospital and operation.

In summary, hospitalization and surgery can be acutely traumatic to the young child, and may lead to lasting emotional and behavioral problems. However, if handled sensitively and appropriately, stressful experiences with illness or treatment can lead to growth and increased maturity for the child and family, who feel they have responded well to the challenge and have had skilled professional support in doing so.

References

1. Faust O: Reducing Emotional Trauma in Hospitalized Children: A Study in Psychosomatic Pediatrics. Albany, New York, Albany Medical College, 1952
2. Freud A: The role of bodily illness in the mental life of children. *Psychoanal Study Child* 7:42, 1952
3. Goldman HB, Crain I: Psychologic aspects of tonsillectomy. *N Y State J Med* 57:232, 1957
4. Jackson K, Winkley R, Faust OA, et al: Behavior changes indicating emotional trauma in tonsillectomized children: Final report. *Pediatrics* 12:23, 1953
5. Jensen RA: The child, the surgeon, the operation. *Minn Med* 32:616, 1949
6. Jessner L: Some observations on children hospitalized during latency. *Dynamic Psychopathology in Childhood*. Edited by L Jessner, E Pavenstedt. New York, Grune and Stratton, 1959
7. Jessner L, Blom GE, Waldfoegel S: Emotional implications of tonsillectomy and adenoidectomy on children. *Psychoanal Study Child* 7:126, 1952
8. Prugh DG: Emotional reactions to surgery. *The Non-Operative Aspects of Surgery: Report of the Twenty-seventh Ross Pediatric Conference*. Columbus, Ohio, Ross Laboratories, 1958
9. Robertson J: *Young Children in Hospitals*. New York, Basic Books, 1958
10. Erikson E: Growth and crises of the healthy personality. *Symposium on the Healthy Personality*. Supplement II. New York, Josiah Macy, Jr., Foundation, 1950
11. Prugh DG, Staub EM, Sands H, et al: A study of the emotional reactions of children and families to illness and hospitalization. *Am J Orthopsychiat* 23:78, 1953
12. Francis L, Cutler RP: Psychological preparation and premedication for pediatric anesthesia. *ANESTHESIOLOGY* 18:106-109, 1957
13. Jackson K: Psychological preparation as a method of reducing the emotional trauma of anesthesia in children. *ANESTHESIOLOGY* 12:293-300, 1951