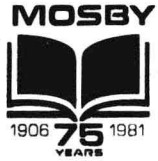
Surgical problems in children

Recognition and referral

HOWARD C. FILSTON



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Foreword

As Dr. Filston points out in the Preface, this book has been written for primary care physicians who will first see the infants, children, and adolescents whose problems may need surgical evaluation. In the normal flow of child health care, it is the primary care physician who is responsible initially for recognizing as early as possible the onset of a condition that may require surgical consultation and, perhaps, surgical intervention. Unless the primary care physician is alert to the early clinical presentation of these conditions, the patient's likelihood of an optimal result may be compromised if undue delay is allowed.

With the information that Dr. Filston has assembled here, much of it based on his own personal experience, the primary care physician should be able to recognize early those conditions which merit surgical attention. He should also be able to serve as a member of the patient care team during further evaluation and preoperative management, to participate in the immediate postoperative care with supportive therapy of various types, and to recognize any late postoperative complications.

It has been my pleasure and privilege to work with Dr. Filston for five years in connection with his role as a member of the Departments of Surgery and Pediatrics at Duke University Medical Center. In addition to his obvious technical skills as a pediatric surgeon, the most outstanding features that he demonstrates as a teacher and clinician are clarity, dedication, and sensitivity. He teaches the same principles of pediatric surgery presented in this book to medical students, residents, and graduate physicians representing the disciplines of pediatrics, family practice, and general and thoracic surgery. Nurses and physicians' associates benefit similarly from his extraordinary skills as a graphic and convincing teacher. Always his focus is on the patient for the attainment of ideal results—possible when diagnosis is early, treatment is appropriate, and supportive care is optimal. He is uncompromising in his quest for this level of care for every infant, child, or adolescent who comes to his attention. The introduction of a subclavian line is performed with the same painstaking, precise, and sensitive approach that he uses in the operative suite for a complicated intestinal resection.

The collaboration in authorship of key sections of the book by Drs. Ruderman and Whitfield, Oakes and Wilkins, and Duckett attests further to the quality Dr. Filston demands in all his attentions to the needs of pediatric patients. These clinical colleagues have added their keen perspectives to the breadth and excellence of this volume. If in his written words Dr. Filston can convey a fraction of the impact of his actions and spoken words, this will be a book of enduring value to all those physicians who include in their practice the primary care of children.

Samuel L. Katz, M.D.
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Preface

Today almost every major teaching center and children's hospital can provide safe, sophisticated surgical care for children. Innumerable lesions in infants, once highly lethal, can be treated with the expectation of a successful outcome. The evolution of pediatric surgery as a specialty, the rapid advances of neonatology, the development of safer anesthetic programs for children by highly trained individuals familiar with the special needs of infants and children, and the rapid improvement in critical care knowledge and methodologies for infants and children have all contributed to this progress. Within the surgical subspecialties, other individuals have taken special interest in children's lesions and have added further surgical accomplishments.

Sadly, however, many infants and children fail to benefit from these advances, either because of diagnostic failure by the primary care physician (whether pediatrician or family practitioner) or because of insufficient knowledge regarding the proper surgical approach on the part of both the primary care physician and the surgical consultant.

A wealth of texts and an entire journal (the *Journal of Pediatric Surgery*) are devoted to the surgical aspects of care for infants and children. This book has been written to help primary care physicians recognize and evaluate surgically treatable lesions and to give them some knowledge of the overall dimensions of care required, the proper procedures to be performed, and the prognosis and success rates to be anticipated and attained. The book is age group and symptom oriented to help primary care physicians know what to think of and when.

Each section contains separate discussions of the urologic, orthopedic, and neurosurgical lesions common to that age group, written by appropriate subspecialists in these fields. Where appropriate, the discussions of individual lesions are subdivided to discuss etiology, clinical presentation, evaluation, referral, medical versus surgical treatment, surgical options, the postoperative course, the prognosis to be expected, complications, and important aspects of follow-up.

The contributors and I hope that this work will provide primary care physicians with much of the information they need to recognize the lesions in children that have surgical implications. Guidelines for expeditious evaluation are presented, and an outline of the overall surgical management is included. Some suggestions regarding the level of surgical expertise required are provided to help primary care physicians make the wisest possible choice of surgical consultant.

Finally, enough information about the complexities and prognosis of the surgical procedures is included to enable primary care physicians to advise parents intelligently. Obviously, this work bears the strong influence of our experience and preferences. Other equally knowledgeable and experienced surgeons may differ in details of surgical management and preferred procedures. We have written to give primary care physicians information and guidelines, not to dictate the specifics of surgical care.

Dr. Samuel L. Katz, Professor and Chairman of the Department of Pediatrics at Duke University Medical Center was the catalyst for this book, for he was the first to point out the need for a text directed to the primary care physician. In the presentation of one's own understanding of a field, the continuing debt owed to one's teachers and peers remains ever obvious. My appreciation is, therefore, expressed to Dr. C. Everett Koop, Dr.

Harry C. Bishop, and Dr. Dale G. Johnson, who provided me with an initial, firm foundation at the Children's Hospital of Philadelphia, and to Dr. Robert J. Izant, Jr., whose valued association as teacher, research director, associate, and friend for so many years provided a standard of excellence and an atmosphere of excitement.

Dr. David C. Sabiston, Jr., Professor and Chairman of the Department of Surgery at Duke, has created an atmosphere of excellence in which pediatric surgery can flourish and the individual can pursue his own academic and clinical goals.

The temptation to mention the names of many is great, but one fears that by mentioning some, one will exclude others—and there is seemingly no end to the advancements being made in pediatric surgery, pediatric anesthesiology, pediatric radiology, neonatology, and general pediatrics and in the surgical subspecialties, as evidenced by the urologic, neurosurgical, and orthopedic sections of this work. Many of the names are to be found among the references and suggested texts. My thanks to all for their many contributions to the care of children with surgical problems.

I appreciate the help of my contributors, who were willing to spend their valued time on yet another writing project. Dr. John W. Duckett has made remarkable contributions to pediatric urology in the past several years, and his help in getting the urology sections together is greatly valued. Dr. W. Jerry Oakes, with the collaboration of Dr. Robert H. Wilkins, has compiled what may be the most complete and comprehensive discussion of neurosurgical lesions in children available for the primary care physician.

As one surveys children's surgical lesions from the neonatal period to adolescence, orthopedic problems, often serious in the neonate, become increasingly more numerous in late childhood and adolescence. Dr. Robert J. Ruderman, assisted by Dr. Peter W. Whitfield, has encompassed these entities with emphasis on the primary care physician's role and needs.

Dr. Donald Kirks of the Pediatric Radiology Division at Duke was a great help in selecting radiographs, but he and his colleagues Dr. David Merten, Dr. Herman Grossman, and Dr. Eric Effmann contributed as well by their high clinical and academic standards and their ever present and knowledgeable consultations.

Dr. Edmond Bloch, Chief of Pediatric Anesthesia at Duke, is a constant source of support and knowledge. He graciously reviewed the anesthesia comments in the introductory section of the book.

Mr. Charles Lewis of the Audiovisual Department at Duke has again been a great help to me with the illustrations.

Ms. Karen Berger, Ms. Judith Bange, and Ms. Carol Trumbold have been most patient, supportive, and enthusiastic editors and are outstanding representatives of their publisher.

My wife, Nancy, always deserves the lion's share of credit for my endeavors—for her constant support and for the atmosphere of love and understanding that pervades our home.

Ms. Barbara Shaw, my very competent and enthusiastic secretary, has worked extremely hard and long to produce a manuscript from the "goulash" of tapes and scratchings with which I bombarded her.

Finally, this book was written to help primary care physicians in their struggle to sort out serious surgical illness from the overwhelming array of nonspecific complaints with which they are presented. They have my admiration and respect for their continuing vigilance in the face of such a burden of less serious ills and upsets with similar symptoms.

Howard C. Filston

SECTION ONE

General considerations

This section provides a general discussion of some of the management concepts and concerns with which the primary care physician may become involved in the process of providing ongoing medical coordination for the patient undergoing a surgical procedure. An experienced pediatric surgeon will usually handle the overall management of the patient, but most other surgeons will depend on the primary care physician for ongoing consultative advice and medical support for the patient. Although many of the procedures and considerations are common to other pediatric medical problems, the primary care physician must have some appreciation of the modifications necessary for the surgical problem. In addition, this section contains suggested techniques that have been found helpful in optimizing care and minimizing complications. It begins with a discussion of the surgical environment, emotional support for children, and interaction with parents.

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with Foreword by

SAMUEL L. KATZ, M.D.

with **578** *illustrations*

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CHAPTER 1

The surgical environment and emotional support for the patient and parents

HOWARD C. FILSTON

It is amazing how long it has taken the medical community to recognize the dependence of children on their parents for emotional support in times of stress. We have maintained our sterile hospital environments, limiting parental visiting in the name of efficiency, at the expense of the emotional needs of the infant, young child, and even teenager. Obvious as is the dependence of the healthy child on parental support as he faces new and threatening experiences, it should be ever so much clearer that in sickness the child must have the constant reassurance that can be provided only by the continual presence of a trusted parent. For the child facing surgery, with all the mysteries and fears that it involves, such continual parental presence and support is of primary importance. Second in importance is the presence of other children enduring and surviving similar experiences. The child can relate to them and gain confidence from their successful results.

The child who must undergo major surgery and the complexities of postoperative care will probably experience more threatening procedures and encounter greater numbers and varieties of hospital staff personnel than will the child with a single medical illness.

Although many aspects of modern medical therapy arouse anxiety and involve threatening procedures, the surgical environment provides an anxiety-provoking atmosphere and an assurance of some pain for almost every patient. It is of paramount importance, therefore, that every person with whom the child interacts be understanding of and attuned to the emotional and physical needs of children at various ages. Each individual must realize the fearsomeness of even minor, painless procedures and take the time to soothe the child's fears and explain what must be done. Truthfulness and concern are the watch words. The best emotional support for the child is a friendly and concerned attitude on the part of all the individuals involved. The overriding concern should be to provide the child with explanations commensurate with his ability to understand, to provide him with the ongoing support of his parents whenever this is feasible, and to deal with him in a truthful and straightforward manner. Hurtful procedures should not be made light of, nor should they be presented as overly threatening. For the child who has reached the age of basic communication and understanding, straightforward explanations, including the facts that pain is to be expected and that control is necessary, will usually produce a cooperative patient. For the infant or toddler, the constant presence of his parents and the caring attitude on the part of family members and nurses will minimize the fear and pain the child experiences.

For the child who is able to understand simple but honest explanations of the procedures, a considerate but firm attitude on the part of the personnel and a sympathetic reassurance and support for the child's attempts at control will usually see the child through these anxiety-producing procedures. A little planning on the part of the personnel involved can result in a great deal of satisfaction for them as they take the child through a threatening surgical environment and procedure in a manner that the child finds acceptable and

tolerable. If the entire anesthesia-surgical-nursing team makes the effort, in most cases anesthesia can be successfully induced in a well-controlled, cooperative patient who goes to sleep without undue anxiety or hysterics. This achievement on the part of the staff is a source of pride for them, and the control and accomplishment exhibited by the child is a source of pride for him that should be acknowledged and rewarded.

It should be appreciated that the child may see hurtful procedures as punishment for real or imagined transgressions. The child must be reassured that the pain is part of a necessary procedure and not something inflicted on him as punishment. The realization of attendant guilt may go far toward helping the parents and staff to understand transient personality changes in the child undergoing traumatic procedures.

For the child undergoing prolonged hospitalization, constant reaffirmation of the continuation of his existence is mandatory. A play therapy program is essential and should include schooling as well as play commensurate with the child's interests and physical ability to tolerate it. Play should range from simple games at the bedside to participation in activities in a play area with other children when tolerated.

When this kind of emotional support is provided, most children will see the surgical experience as a reasonably tolerable one; they will look on the staff as friends and enjoy return visits. When a child looks forward to return visits to the hospital, the staff can take pride in having achieved the emotional support that was the goal.

The physical environment must be tailored to children's needs and interests. Bright, cheery colors; play areas; toys; and comfortable clothing make the child feel relaxed and more at home. The simple act of wearing a surgical cap with familiar Sesame Street, Disney, or Peanuts characters portrayed on it will serve to remove some of the harshness from an otherwise cold and threatening environment. A transportation attendant who talks to the child, holds him, and tells him stories en route from the ward to the operating room will do more toward delivering a patient suitable for anesthetic induction than all the premedication available.

A superbly skilled surgical technician with an international reputation can certainly see any child through surgery safely and expect a successful outcome. A well-trained and competent surgeon who also understands the human needs of the child and who works with a concerned and caring team can achieve similar technical results while making the overall experience for the child and family an emotionally acceptable one. However, the primary care physician must not be deluded into believing that these factors will take care of themselves. Only enlightened surgical leadership can influence the otherwise efficiency-oriented operating room staff to take the extra time and effort needed to support the emotional needs of children.

A child should be able to come through a surgical experience having had the reassurance of his parents' constant attendance, the friendship and concern of a sympathetic and knowledgeable hospital staff, the comfort of attractive physical surroundings, and freedom from exposure to the agonies of adult illnesses and discomfitures. Achievement of this goal requires prior thought and preparation, continual staff education and encouragement, a vigilance for truthfulness, and a commitment toward the goal on the part of all concerned. The primary care physician should demand and accept no less for his young patients.

INTERACTING WITH PARENTS

It is the primary care physician who refers the child and therefore the parents to the surgical consultant, and it is through this physician's faith in the consultant that the parents' confidence in the surgeon is established. A surgeon who is experienced in the care of children will also be experienced in the care of their parents and will recognize that the patient is only one of a group of people whom he must communicate with and satisfy. Surgeons used to dealing with adults generally have only peripheral conversation with family members in most instances, the major thrust of explanation and decision making being with the patient himself.

However, in dealing with the child up until the midteenage years, the surgeon must not only gain the child's trust but must also gain the parents' trust and satisfy their questions and explanations, for it is their moral and legal responsibility to make decisions for the child. This is a burdensome responsibility for many parents, because they recognize that they are thrusting pain, discomfort, and risk on another individual and realize that it may be their own desires rather than the

child's that are foremost in the decision-making process. Obviously, the more critical the illness and the more directly indicated the procedure, the easier these decisions are to make. Nevertheless, the parents will require support and explanation; and they may continue to rely on the primary care physician to provide it, particularly if the surgeon is uncommunicative.

The primary care physician must avoid committing the surgeon beyond retraction to a course before the consultation takes place. At times the surgical consultant may not think that surgery is indicated or may believe that further evaluation is indicated or that a different diagnosis is involved. If this relationship is to be a consultative and cooperative one, the surgeon must be given leeway to act as a consultant rather than a technician. Generally, it is better for the surgeon to discuss the details of the procedure and the attendant indications, risks, and alternatives. On the other hand, if the primary care physician knows that the surgeon is unlikely to communicate adequately with the parents, the former may be forced into an explanatory role. The parents will rely on whomever they can to provide them with the explanations and information they seek.

I have found that once a primary care physician opts for a surgical course of therapy, the physician tends to downplay the attendant risks. However, most parents appreciate a frank discussion of the problem, the indications for surgery, the alternatives, and the risks involved—conveyed in terms that they can understand. To tell parents that their child may die during anesthesia is a threatening statement, although a true one. The parents have no way of putting this statement into perspective. It is highly unlikely that the child will die during anesthesia, but one cannot tell the parents that it cannot happen. This type of information should be couched in terms the parents can relate to. To tell parents what they already know—that the child can die during anesthesia—reinforces their anxieties concerning a preknown truth and heightens the risks in their minds. On the other hand, to tell parents that anesthesia is generally safe but that nothing in life is 100% safe, that the child may die during the trip home—just as the child may die during anesthesia—and that both are unlikely, with the former being more likely than the latter puts perspective on the situation for most parents. It recalls to them that life has its uncertainties, but it does not make the risk of death during anesthesia seem a probability rather than a minor possibility.

Of course, when the surgical procedure is a major, life-threatening one or the underlying disease has made the child a high risk for both anesthesia and surgery, the risks are obviously increased; and these increased risks must be conveyed to the parents.

Most parents prefer a reasonably complete discussion of the surgical procedure and a reasonable analysis of its chance of success. It is not fair for the surgeon or primary care physician to overstate the chances of failure in a procedure that should be highly successful; on the other hand, the surgeon should make the parents aware of the limitations of a surgical procedure in a given situation and give an honest evaluation of the chances of success and failure, the hoped-for gains, and possible complications. Doing so will provide the best basis for the ongoing relationship required to see the child through the surgical procedure and the postoperative period. The primary care physician who is thrust into the role of providing this communication for the parents, should try to the best of his or her ability to give them the necessary information and evaluation. On the other hand, the primary care physician should avoid this type of detailed discussion and evaluation if it will be subsequently provided by the surgeon, since even similar explanations coming from two different persons can be highly confusing and may sound contradictory. Many otherwise cooperative and devoted parents may become highly hostile and antagonistic in a setting where too many individuals are trying to explain the same procedure to them. The array of helpful persons who may feel called on to perform these tasks in the modern hospital setting may range from the surgeon, to the surgical resident, to the primary care physician, to the primary care resident, to the social worker, to the nurse, to the nursing student, to the medical student, to the play therapist, and on down the line.

The overriding consideration must be to ensure that the parents have the opportunity to have their questions answered and that open lines of communication are maintained. The time allotted in providing this opportunity for the family will pay great dividends in ensuring their cooperation and understanding of the complexities of modern surgical care for children. Complications do occur