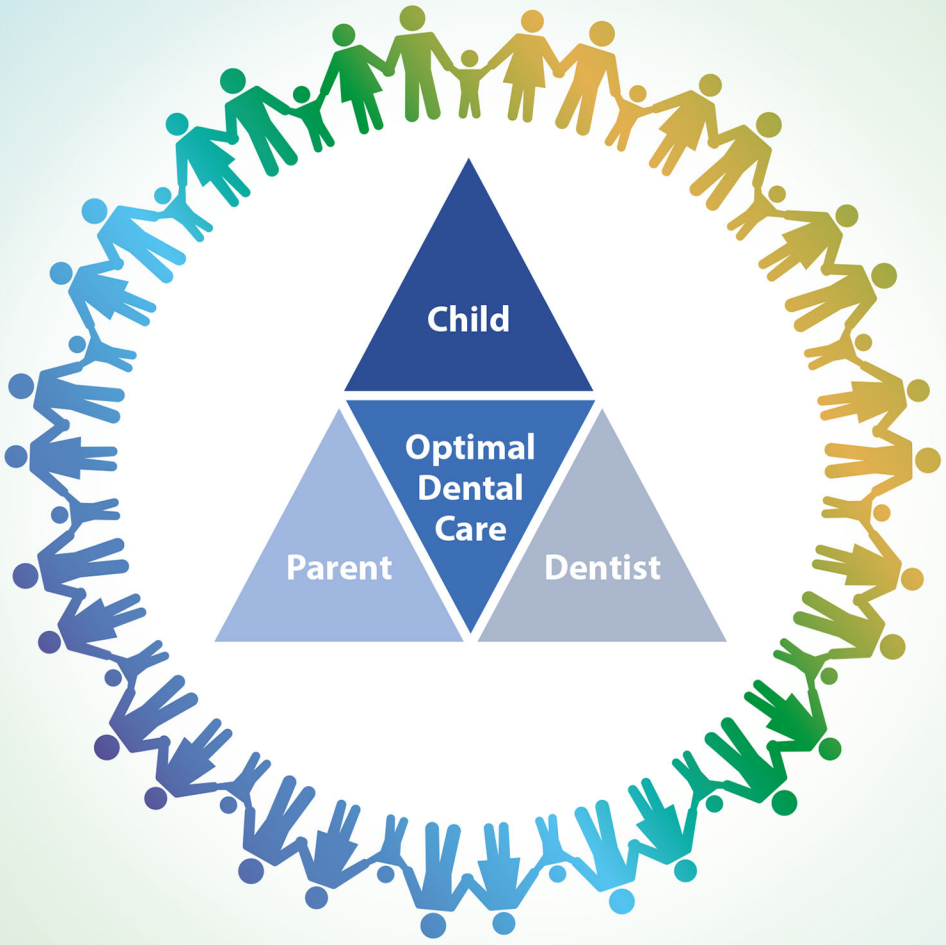
Third Edition

Wright's Behavior Management in Dentistry for Children

Edited by Ari Kupietzky



WILEY Blackwell

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Edited by

Ari Kupietzky, DMD, MSc
Diplomate of the American Board of Pediatric Dentistry
Private Practice
Senior Clinical Instructor, Department of Pediatric Dentistry
The Hebrew University, Hadassah School of Dental Medicine
Jerusalem, Israel

Visiting Professor, Department of Pediatric Dentistry
Rutgers School of Dental Medicine
The State University of New Jersey
Newark, New Jersey, USA

WILEY Blackwell

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This book is dedicated to the memory of two great leaders of pediatric dentistry who have been both my mentors and colleagues.

Professor Gerald Z. Wright (left) at Belarusian State Medical University in 2003. He received an honorary degree for bringing modern dentistry to the children of Belarus, social and medical activities, and mastering of educational process.

The editor, Dr. Ari Kupietzky (left) and Professor Milton Houpt (right) presenting "A simplified method of teaching dental health to children in the classroom". American Academy of Pediatric Dentistry, Annual Session, Kansas City, Missouri, 1993.

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About the Editor

Dr. Ari Kupietzky, DMD, MSC, is a Diplomate of the American Board of Pediatric Dentistry and served as a member on the Advisory Council of the American Board of Pediatric Dentistry, Sedation and Hospital Section. He teaches part time at the Department of Pediatric Dentistry of the Hebrew University Hadassah School of Dental Medicine in Jerusalem, Israel, and is Visiting Professor at Rutgers School of Dental Medicine in Newark, New Jersey, USA.

Acknowledgments

From Gerald Z. Wright (second edition)

Few books are solo efforts, and this one is no exception. If it were not for three people, it would not have been written and published at all. The first to be acknowledged is Professor Anna Fuks. For years, my good friend Anna had been urging me to write another edition to my first book, *Behavior Management in Dentistry for Children*. Urging is probably putting it mildly, but her requests went unheeded for many reasons. Finally, she put me in communication with Dr. Ari Kupietzky.

My co-editor Dr. Kupietzky is a very persuasive and persistent individual. We had several discussions about the need for this type of book, the differing approaches to treating children in dentistry in the world today, and the fact that it would be timely to once more consolidate some of the thinking and writing in behavior management. When he offered to co-edit this book with me, I assented, and we moved forward with this project. Essentially, the second edition is a new work and includes new chapters and contributors. Once the planning and writing was underway, I realized that he is a well-organized person, has an excellent knowledge of the most current literature, and possesses a passion to meet deadlines. He has been a pleasure to work with.

The third person who was influential in this project was my wife, Nancy Wright. She knew that I was unsure about involving myself in this commitment; it was 12 years since my retirement from dental teaching and practice. She urged me to go ahead with this book. Not only did she provide encouragement, but Nancy read and commented upon most of the chapters to which I contributed. Her professional background in psychology was instrumental in creating numerous "book discussions" in our home.

Ari and I enlisted 14 contributors from five different countries to lend their expertise to this book. Each of them provided worthy chapter drafts, met deadlines, and accepted our editing with grace and understanding. Consequently, the book was completed ahead of schedule.

List of Contributors

Debra A. Cohen, DDS
Diplomate, American Board of Pediatric Dentistry
Private Practice
Elmwood Park, New Jersey, USA

Marcio A. da Fonseca, DDS, MS
Chicago Dental Society Foundation Professor and Head
Department of Pediatric Dentistry
College of Dentistry
University of Illinois at Chicago
Chicago, Illinois, USA

Larry Dormois, DDS, MS
Associate Professor
University of Tennessee Health Science Center
Memphis, Tennessee

Dimitris Emmanouil, DDS, MS, PhD
Assistant Professor of Pediatric Dentistry
Athens, Greece

Anna B. Fuks, DDS
Professor Emeritus, Department of Pediatric Dentistry
The Hebrew University, Hadassah School of Dental Medicine
Jerusalem, Israel

Gunilla Klingberg, DDS, PhD
Professor, Department of Pediatric Dentistry
Faculty of Odontology, Malmö University
Malmö, Sweden

Ari Kupietzky, DMD, MSc
Diplomate of the American Board of Pediatric Dentistry
Private Practice
Senior Clinical Instructor
Department of Pediatric Dentistry
The Hebrew University, Hadassah School of Dental Medicine
Jerusalem, Israel;
Visiting Professor, Department of Pediatric Dentistry
Rutgers School of Dental Medicine
Rutgers, The State University of New Jersey
Newark, New Jersey, USA

Brian D. Lee, DDS, MSD, FACD, FAAPD
Diplomate of the American Board of Pediatric Dentistry
Private Practice
Foster City, California, USA

Jonathon E. Lee, DDS, FACD, FAAPD
Diplomate of the American Board of Pediatric Dentistry
Diplomate of the American Board of Orthodontics
Private Practice
Foster City, California, USA

Travis Nelson, DDS, MSD, MPH
Department of Pediatric Dentistry
University of Washington
Seattle, Washington, USA

Amanda Jo Okundaye, DDS
Dentist Anesthesiologist
Private Practice Mobile Dental Anesthesiology
Instructor, School of Dental Medicine
University of Nevada Las Vegas, Nevada, USA

Tammy Pilowsky Peleg, PhD
Department of Psychology
The Hebrew University of Jerusalem
Mt. Scopus, Jerusalem, Israel
The Neuropsychological Unit
Schneider Children's Medical Center of Israel
Petah Tikva, Israel

Kenneth L. Reed, DMD
Associate Program Director, Dental Anesthesiology
Attending in Anesthesiology, Graduate Pediatric Dentistry
New York University Langone Hospital, Brooklyn,
New York, USA;
Affiliate Assistant Professor, Department of
Periodontology, School of Dentistry, The Oregon Health
Science University, Portland, Oregon, USA;
Clinical Instructor, Department of Dentistry, Faculty of
Medicine and Dentistry, University of Alberta, Edmonton,
Alberta, Canada

Steven Schwartz, DDS
Staten Island University Hospital
New York, New York, USA

Barbara Sheller, DDS, MSD
Chief, Pediatric Dentist and Orthodontist
Department of Dentistry, Seattle Children's Hospital
Affiliate Professor
Department of Pediatric Dentistry and Department of
Orthodontics
School of Dentistry, University of Washington
Seattle, Washington, USA

Eyal Simchi, DMD
Diplomate, American Board of Pediatric Dentistry
Montefiore Nyack Hospital
Nyack, New York;
Private Practice, Elmwood Park, New Jersey, USA

Janice Townsend, DDS, MS
Chief, Dentistry
Nationwide Children's Hospital
Columbus, Ohio, USA

Jaap S. J. Veerkamp, DDS, PhD
Pediatric Dentist, Head
KINDERTAND, Secondary Dental Care Clinics in
Amsterdam and Rotterdam
Amsterdam, Netherlands

Martha Wells, DMD, MS
Heber Simmons Jr. Distinguished Professor and Program
Director, Pediatric Dentistry
The University of Tennessee Health Science Center
Department of Pediatric Dentistry and Community Oral Health
Memphis, Tennessee, USA

Stephen Wilson, DMD, MA, PhD
Chief Dental Officer
Blue Cloud Pediatric Surgery Centers, Inc.
Scottsdale, Arizona, USA;
Adjunct Professor
Department of Pediatric Dentistry
The Ohio State University/Nationwide Children's Hospital
Columbus, Ohio, USA

Gerald Z. Wright, DDS, MSD, FRCD (C)
Diplomate of the American Board of Pediatric Dentistry
Professor Emeritus
Schulich School of Medicine and Dentistry
Western University
London, Ontario, Canada

Preface

When approached by Wiley to consider editing a third edition of *Behavior Management in Dentistry for Children*, both Professor Wright and I were encouraged to proceed, given the splendid reception to the second edition. Professor Wright asked me to assume the role of leading editor, and a plan was made to improve and expand the third edition, including the selection of new contributing authors and new areas to focus on. It was decided that the third edition would follow rather closely the second, with updated references and new topics.

Sadly, Professor Wright became ill during the early stages of the revision. He was adamant that I continue on with the project without him, and soon after, he passed away. He has been described as being one of the giants in pediatric dentistry and a pioneer in behavior management. He published no less than three textbooks on the subject, laying down the principles of which became the foundation for the teaching and practice of managing children's behavior in the dental setting. As a tribute to him, I decided to rename the title of the third edition in his honor and memory to be called *Wright's Behavior Management in Dentistry for Children*. This is not only a semantic change; the new edition draws on Dr. Wright's other books, listed below, thus merging his theses and monographs into one book. He had requested that case studies from *Managing Children's Behavior in the Dental Office* be included, and many have been added throughout the text. Credit of these additions is given here to his co-editors.

- *Behavior Management in Dentistry for Children*. Editor: Gerald Z. Wright (W.B. Saunders Company, 1975)
- *Managing Children's Behavior in the Dental Office*. Co-editors: Gerald Z. Wright, Paul E. Starkey, and Donald E. Gardiner (The C.V. Mosby Company, 1983)
- *Child Management in Dentistry: Dental Practitioner Handbook*. Gerald Z. Wright, Paul E. Starkey, and Donald E. Gardner (IOP Publishing Ltd., 1987)

At the writing of the second edition, I acknowledged Professor Milton Houpt, who had been an inspiration throughout my professional career. A month after the passing of Professor Wright, Professor Houpt also passed away. Interestingly, they started out together at University of Toronto Dental School as undergraduate classmates and left the profession and this world together. Our specialty has lost two of its great founders of modern pediatric dentistry.

Aims and Scope of the Third Edition

This book has two main purposes: (l) to introduce current information basic to the understanding of children's behavior, and (2) to describe and discuss many of the techniques and methods, new and old, used for promoting cooperative behavior in children.

Due to numerous clinical approaches, increased research output by behavioral scientists, and growing awareness of the importance of this area, we no longer have one up-to-date source that dentists or dental students can rely on for a comprehensive coverage of the subject. Books dealing with behavior management have come and gone—and that is one more reason for reviving this book with a third edition. It is intended to integrate current pertinent information from research with current clinical practices.

Another aim has been to balance the practitioner's need for some basic knowledge of child psychology with the requirement of practical clinical instruction. Dental teachers and clinicians have expressed the need for such a book, provided that it is relevant to dental practice. Little psychological background on the part of the reader is therefore presumed, but an attempt is made to build a foundation on which a practicing dentist can develop an understanding of the dynamics of children's behavior in the dental environment.

The volume begins by describing the psychological, social, and emotional development of children. What is normal behavior for a three-year-old may be unacceptable for a five-year-old child. There are margins of normality that those treating children should understand. When the first edition of this book was written, maternal anxiety was significantly related to children's cooperative behavior and

was the primary focus of a chapter. But there are many types of families nowadays—single-parent families, same-sex families, blended families, to name a few—and they too will be discussed. While the nuclear family is still predominant in society, understanding family environments and how they influence child behaviors is much more complex than in the past. Therefore, much more emphasis has been placed on the study of families of dental patients, and an entire new chapter is devoted to this subject. The chapter dealing with parents offers new material—and is exceptional. It highlights many of these changes in society. As mentioned earlier, not only are there changes in the populations that we serve but also in our dental staffs and dentists' beliefs. All of these changes—diversity, language, and customs—are making life more interesting.

As the reader progresses through the book, a spectrum of techniques for managing the behavior of children is offered. The approach is characterized by eclecticism. It includes clinical management of children using many non-pharmacologic and pharmacologic methods. The subject of hypnosis was not included in either of the two previous books. It keeps coming back and is topical, so it was decided to include it in this third edition.

The non-pharmacologic techniques generally are those which have been time-tested over generations. They still form the basis of behavior management. However, there has been an increase in the use of sedation, and it is obvious that many new pharmacologic methods need to be highlighted. Sedation usage has led to numerous changes in dental practice: new sedation agents—along with optimum drug dosages and new drug combinations, guidelines for patient monitoring, and emergency measures—are only some of these changes.

An entire chapter is devoted to the management of children with disabilities. Most work on this topic have been technique-oriented writings. The present chapter takes a broader approach. A disabled child creates special problems in a family and alters the dynamics of that family. Since the trend today is to maintain the special patient in the community, rather than in an institution, it is apparent that a greater knowledge and understanding of the management of these patients is required. The revised chapter also addresses the home care that is absolutely essential to maintain the oral health of these special children. Additionally, much more is known today about communicating with these children than was known when the first edition of this book was created. Some of these communication methods will be addressed in this chapter.

In the last two chapters, the book covers practical considerations in the office, discussing a myriad of strategies. The dentist plans and has ultimate responsibility for these strategies, while the office personnel implements them. There is abundant evidence that successful behavior management is facilitated by a well-run office, the employment of personnel well-trained in relating to children, and the design and appearance of the dental office. The final chapter is devoted to the office environment. Having an office that appeals to children makes management much easier. An appealing office might be considered a starting point in behavior management.

This book also has a major difference when compared to the original book. To elucidate some of the key points in the writings, cases are presented. The cases provide examples that make the book more clinically relevant. Some of these cases are from the book *Managing Children's Behavior in the Dental Office* (1983) as mentioned earlier. The cases are set apart from the text, appearing in boxes. The scenarios may be used as a teaching aid, allowing for further discussion amongst clinicians and their students during teaching seminars. A few are used to give examples of fallacious arguments, the intention being that the separation from the text in this way will eliminate possible misconstruction of the point.

I acknowledge the following contributors to the second edition:

Eileen Wood, HBA, MA, PhD
Professor, Developmental Psychology, Department of Psychology, Wilfrid Laurier University, Waterloo, Ontario, Canada

And **Steven Schwartz, DDS,** of blessed memory.

The editor thanks Mirva Maki, RDA for being a part of the dental team and providing support in behavior management. Many of the clinical photographs throughout the text were taken by Ms. Maki during routine treatment of our patients.

Ari Kupietzky,
Jerusalem, Israel

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The Pediatric Dentistry Treatment Triangle

Ari Kupietzky and Gerald Z. Wright

Introduction

The subject matter "behavior of children in the dental environment" seems unlimited and is timely. Therefore, this new book contains material that has not been included in previous editions. Changes in society are occurring at an extremely fast pace, and the need for revising and adding new information to address these changes is self-evident. Not only are children changing, so are the dentists treating them. For example, during the writing of the first edition of *Behavior Management in Dentistry for Children*, the majority of pediatric dentists were male. This persisted into the twenty-first century with only 18% of all pediatric dentists being female. However, a recent survey conducted by the American Academy of Pediatric Dentistry (AAPD 2017) showed that the percent of female pediatric dentists has tripled, the majority of pediatric dentists being female (51.8%). Additionally, pediatric dentists are young; females in the workforce are, on average, younger (41.6 years) than their male counterparts (49.1 years). Young pediatric dentists, millennial dentists (or *Dentennials*, as coined by Piers in 2018), may not be accepting of the traditional methods to manage their pediatric patients and accompanying parents.

Societal changes in family structure, formal education and the influence of technology and social media on children and adults alike – all require a fresh outlook on how we treat our patients and their parents in our offices. Modern society no longer regards children as "adults-in-the-making" whose lives are determined by their parents who take into consideration their age and stage of development. Rather, modern society recognizes children as active agents, capable of participating and indeed entitled to be involved in the decision-making process and the determination of their well-being. This may explain the avoidance of any aversive techniques which were previously employed by pediatric dentists and the subsequent rise in the usage of deep sedation and general anesthesia for the dental treatment of children. And yet, since the publication of the second edition of *Behavior Management in Dentistry for Children*, the US Food and Drug Administration (FDA) issued a warning with regard to the use of general anesthesia on children under 3 years of age which may affect the neurological development during their toddling age (US Food and Drug Administration 2017). On the other hand, more and more pediatric dentists avoid using invasive restorative techniques in the case of an uncooperative pediatric patient and instead employ techniques such as interim therapeutic restoration (ITR), also referred to as *atraumatic restorative treatment (ART)*, silver diamine fluoride (SDF), and the Hall Technique to manage dental caries. These procedures can be performed without the use of general anesthesia or sedation and do not require expertise in basic behavior guidance. These techniques indeed have a place in the pediatric dentist's armamentarium; however, they should be reserved for use in the case of a pre-cooperative patient and should not be used due to a practitioner's lack of patient management skills.

The primary objective of this book is to help the dental office team manage the behavior of children in the dental environment. Some parts of the text are directed primarily to dentists, while other parts pertain to the roles of dental hygienists, dental assistants, and dental receptionists. It is unusual for a professional book to address all these functions. However, guiding children through their dental experiences requires teamwork; thus, a multidisciplinary approach seems reasonable. If dental teams are to use consistent and effective methods, each member of the dental

Wright's Behavior Management in Dentistry for Children, Third Edition. Edited by Ari Kupietzky.

team must have an understanding of the dynamics of child behavior and appreciate others' roles in behavior management. These thoughts were addressed more than a century ago when a dentist, while writing in one of the professional journals of the day, voiced concern about the behavior of children in his practice (Raymond 1875). It was his opinion that "getting into the good graces of children is almost half the work to be accomplished." This observation opened the gates to a flood of comments on a subject which hitherto had been unrecognized in the dental literature.

Much attention has been focused on shaping children's behavior in the dental environment. Although some dentists have reacted intuitively to the needs of their child patients, others have been more systematic. They have tried to identify children's behavior patterns and to find the best means of coping with them. Practitioners have adopted and adapted the techniques of their dental colleagues. The better methods have been passed from one generation of practitioners to the next. These procedures have stood the test of time. The cumulative effect of this knowledge and experience has been the gradual development of an area known as *behavior management*.

When planning the second edition of this book, the change in nomenclature was an initial stumbling block. Forty years ago, the foremost national specialty organization in the world, the American Academy of Pedodontics, now known as the American Academy of Pediatric Dentistry (*AAPD*), used the term *behavior management*. The AAPD now prefers the term behavior *guidance* rather than behavior *management*. The editor believes that the role of the pediatric dentist remains to be the leader in the dental clinic. The verb "manage" is defined as to be in charge, to administer. Therefore, at the risk of political incorrectness, the term *behavior management* will be used throughout in this book.

The study of behavior management has undergone changes. Early writings on the subject were essentially subjective and anecdotal. Interest matured in the 1970s. The result has been a more scientific approach to behavior management.

The descriptive terms "subjective" and "anecdotal" might be interpreted as a criticism. This was not the intention. Earlier writers on the subject of behavior management were pioneers. They attempted to list the causes of uncooperativeness. They classified behavior patterns. They made accurate observations. They established guidelines for behavior management, some of which are incorporated into the foundation of contemporary practice.

Professional recognition that the behavior of the child patient is the most influential factor affecting treatment outcomes significantly heightened interest in behavior management. As a consequence, dentists began to confer on the subject the same respect and objectivity that they have accorded to other areas of science in dentistry (Teuscher 1973). Collaborations with psychologists and psychiatrists have broadened the theoretical bases of behavior management. The current systematic approach has been referred to as *behavioral science research* in pediatric dentistry. The maturing interest has resulted in a healthy questioning of our earlier subjective considerations. Investigators have explored various hypotheses, new and old, in an attempt to further enhance our relationships with children.

As one would expect, the practice of behavior management has been a dynamic one. Differing treatment techniques have been recommended and debated by pediatric dentists. The choice and acceptability of technique are directly dependent on the societal norms of specific cultures. As a result, today's practitioners have a wide selection of methods which can be used for managing children's behavior.

By now, it should be apparent that this book has been organized to present an overview of an extremely broad field, rather than an investigation of a few topics. It was designed for all members of the dental health team who deal with children. These team members combine their efforts in the management of children's behaviors. Each makes their own unique contribution as a dental professional. Consequently, certain aspects of this book will be more appealing, or more germane, to one or the other team members. It is the sum total of the children's experiences in the dental environment which ultimately determines their cooperative behaviors. All team members have a stake in determining the nature of those experiences: each of the team members should have a mastery of their own profession and an understanding of the roles of office associates.

The fundamentals of behavior management are brought into the focus of clinical reality through an understanding of the pediatric dentistry treatment triangle with true-to-life situations presented alongside in accompanying boxes throughout the book.

The Pediatric Dentistry Treatment Triangle

The *pedodontic triangle* was first introduced in 1975 in the first edition of *Behavior Management in Dentistry for Children*. The evolution of the concept of the newly named *pediatric dentistry treatment triangle* (Figure 1-1), to some extent, has provided the framework for this entire volume. It pointed out that it is not possible to view any single corner of this triangle in isolation; each interrelates. The child is at the apex of the triangle and is the focus of attention of both the family and the dental team. At the base of the triangle are mainly adults: the child's family and the entire

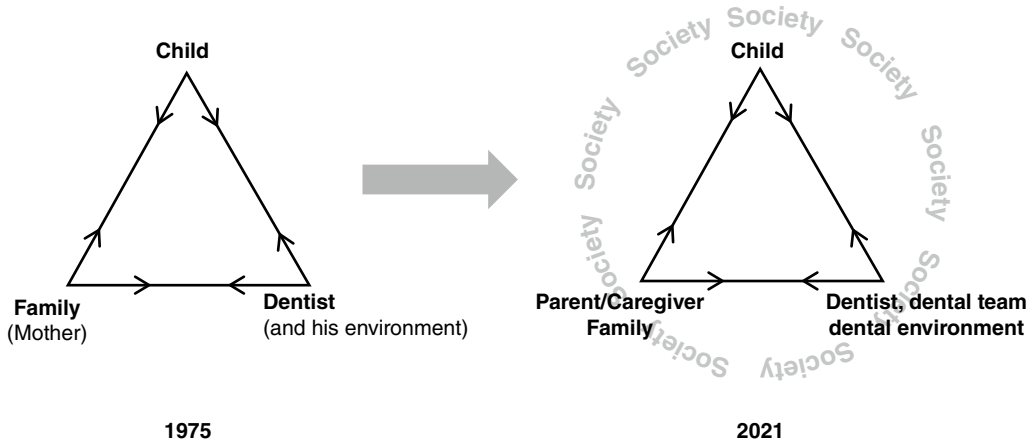

Figure 1-1 The pediatric dentistry treatment triangle. The illustration shows how things have changed since the first edition of this book.

dental team. A child's family can affect the child's dental behavior. This aspect is discussed in Chapter 4. Obviously, all the dental team, particularly the dentist, participate in guiding the chairside behavior of the child. Throughout the book, the roles of both dentists' and other members of the dental team will be discussed.

The two lines of communication emanating from the dentist's corner emphasize a major difference between children's dentistry and adult dentistry. These lines show that treating children is at least a 1:2 relationship (i.e., dentist:child and parent). Adult dentistry tends to be a 1:1 situation (i.e., dentist:patient). It is extremely important for all dental personnel to communicate in both directions.

Case 1.1

Zara, 4-years-old, was brought to the dental clinic by her father for her first dental visit. While they both waited in the reception room for the appointed time, Zara was calm. The receptionist notified them that it was now their turn. She heard Zara's father say: "Let's go inside, Zara. Nobody will hurt you today. It's just a check-up."

***Case 1.1, Discussion*:** The case demonstrates the 1:2 relationship that is distinctive to pediatric dentistry. When pediatric dentists treat children, parents are part of the dental relationship, for better or for worse. Many people in clinical dentistry have heard children introduced to the dental situation in this unthinking way (Figure 1-2).

A much better approach would have been for Zara's father to say, "Let's go inside and show the dentist how well you brush your teeth. I heard that you're going to get a prize!" This situation highlights the influential role parents play in the dental situation. They are an integral part of the triangle. Numerous sections throughout this book will discuss how both parents and children may be prepared by the dentist and dental team for their visit. A well-prepared parent's messages to the child may be more supportive.

The arrows at the end of the lines indicate that communication is reciprocal. They also signify that the dental treatment of the child patient is a dynamic relationship between the corners of the triangle—the child, the family, and the dentist. The relationships among the three angles of the triangle are not static. They are vibrant and ever-changing. A harmonious situation can exist at one dental visit, which can be subsequently upset by marital strife within a family or a changing school situation for the child. Moreover, communication among the different personalities in the triangle alters relationships; hence, the arrows indicate that the communication is reciprocal. The importance of this unifying concept will become evident as techniques are described in subsequent chapters.

Note the difference in Figure 1-1 between the triangular illustrations in 1975 and 2021: a circle has been added surrounding the original triangle. In 2021, societal expectations have greatly impacted the practice of pediatric dentistry. The pediatric triangle does not represent an isolated environment, but rather exists within and is influenced by the surrounding society, hence the addition of the circle. The diagram has not changed for 2021, but the societal changes within it have been dynamic. Diversity, cultural beliefs, and attitudes of the dentists, their staffs, and the parents of child patients have had a significant impact on pediatric dentistry today and are discussed in Chapter 5.

Perhaps, the utmost societal impact on pediatric dentistry was the law of informed consent. Informing the parent about the nature, risk, and benefits of the technique to be used and any professionally recognized or evidence-based alternative is essential to obtaining informed consent. The impact upon professionals became more widespread in the 1980s. Pediatric dentists became aware that it was far more

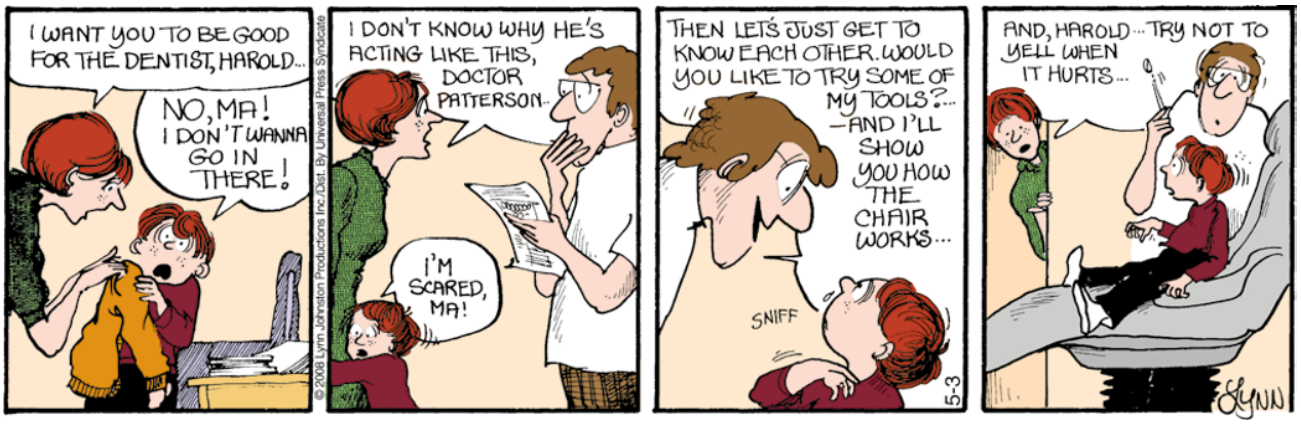

Figure 1-2 For better or for worse. *Source:* © 1995. Lynn Johnston Prod. Used courtesy of the creator and Universal Uclick. All rights reserved.

difficult to obtain legal consent from a parent on behalf of a child than it was to have consent when dealing with an adult on a dentist–patient (1:1) relationship.

The term *informed consent* first appeared in the United States in court documents in 1957. It was in a civil court ruling for a patient who underwent anesthesia for what he thought was a routine procedure. He woke up permanently paralyzed from the waist down. The doctor had not told him that the procedure carried risks. In a subsequent civil suit, the judge in the case ruled that "a physician violates his duty to his patient and subjects himself to liability if he withholds any facts which are necessary to form the basis for an intelligent consent by the patient to the proposed treatment." Obtaining informed consent for all procedures is now mandatory, and it is an example as to why society has to be considered when illustrating the pediatric dentistry treatment triangle. The evolving and constantly changing nature of the triangle is also reflected in the new requirement of seeking the child's assent in addition to parental consent. As stated by the American Academy of Pediatrics in its 2016 policy statement: "Informed consent should be seen as an essential part of health care practice; parental permission and *childhood assent* is an active process that engages patients, both adults and children, in health care. Pediatric practice is unique in that developmental maturation allows, over time, for *increasing inclusion of the child's and adolescent's opinion* in medical decision-making in clinical practice and research."

Societal norms affect all corners of the triangle individually, as well as the interactions between all three components. The intimate relationship between parent and child has been changed by society. The professional relationships between dentist and child and dentist and parent have also evolved, dictated by societal changes. In 1975, it was widely accepted that a mother's attitude significantly affected her offspring's behavior in the dental office. Roles in families are changing, and now, the total family environment has to be considered. A father bringing a child for treatment is not unusual. Not infrequently, both parents are working, and the child presents at the dental office with a caregiver. Hence, the new triangular illustration recognizes the change that has occurred in the last 40 years. This book will highlight some of these changes and identify how they have influenced the practice of pediatric dentistry.

What is Behavior Management?

McElroy (1895) inadvertently provided a definition for behavior management near the beginning of this century. She wrote, "although the operative dentistry may be perfect, the appointment is a failure if the child departs in tears." This was the first mention in the dental literature of measuring the success or failure of a child's appointment on anything other than a technical basis.

The term *behavior management* (or guidance), or its synonym *child management*, has been used repeatedly in dentistry for children. Generally, it has referred to methods used to obtain a child's acceptance of treatment in the dental chair. Considering the frequency with which these terms have been applied, it was somewhat surprising that a precise definition was non-existent when the first edition of this book was produced. For the purpose of that monograph, the term *behavior management* was defined as follows:

> It is the means by which the dental team effectively and efficiently performs treatment for a child and at the same time instills a positive dental attitude.

Let us briefly discuss the definition. Each component is essential to succeed in providing proper behavior management.

The dental team: As mentioned above, behavior management involves the entire dental team. Indeed, many dental auxiliaries are invaluable when it comes to dealing with children. Thus, all clinic personnel have a stake in guiding a child through a dental experience.

Case 1.2

Mr. Z brought his 8-year-old daughter to the dental office for a recall appointment. The receptionist was on the phone. Without even glancing at the father and child she instructed them: "Mr. Z., please have a seat with your daughter in the waiting room. The hygienist will call for you shortly."

***Case 1.2, Discussion*:** The dental team includes all staff members. The receptionist is the first team member that the child will meet and subsequently should also be trained in behavior management techniques. A child's dental experiences begins as soon as he or she enters the dental environment. In the above case scenario, a receptionist properly trained in behavior management would have stopped conversing on the phone and directed her attention to the child and parent. The pediatric dentistry treatment triangle dictates having the child as the focus and center of attention of the entire dental staff. It places the child at the apex of the triangle.

The receptionist should greet the child with a smile first, the parent second. Smiling is critical when greeting a child (Figure 1-3). Even at times that require all staff to wear facial masks such as during the Covid-19 pandemic, staff should be encouraged to smile. Smiling not only affects others but also one's self, lowering stress and improving cardiovascular function (Kraft and Pressman, 2012). A smiling person perceives others more positively (Alejandra et al., 2015). Positive nonverbal communication includes in addition to smiles, body language, eye contact and tone of voice. Proper body language is essential while communicating with children. Staff members who use a pleasant tone of voice and smile convey a message of the dental office being a non- threatening and calm environment to the child. The rule: "it's not what you say but how you say it" applies particularly with children who are more sensitive to body language than adults. Children encountering negative nonverbal communication might feel rejected and sense a feeling that the staff don't care about their well-being.

Figure 1-3 The receptionist should greet the child with a smile first, the parent second. Smiling is critical when greeting a child. A practical tip is to place a mirror behind the reception desk thus reminding the receptionist to always smile while communicating with patients and parents.

As mentioned above, the dental experience begins in the waiting room and so does behavior management. The front desk staff must not ignore poor behaviors displayed by patients. The tasks of setting limits and enforcing office policies are shared by all staff members. A child misbehaving in the waiting room should not be ignored. The dental team must project a degree of firmness when necessary. Children have to realize who is in charge, and they must be aware of what is expected of them. Once again, body language is employed. Speaking in a clear, firm tone while maintaining consistent eye contact with the child will assist in relaying the message. For a more detailed discussion on the dental team's role in patient management see Chapter 17.

Let us now consider the meaning of two key words in the proposed definition: effectively and efficiently. They are important to a contemporary definition.

Effective refers to providing high-quality dental care. Treatment should not be compromised to the detriment of the child's oral health. For example, postponing treatment of a 2-year-old with early childhood caries until the child is older is unacceptable. It is not behavior management, and it is not good dentistry. In addition, as mentioned above, non-invasive caries management techniques should be chosen as *part* of the behavior management strategy and not due to a *lack* of clinical behavioral skills that are mandatory for a pediatric dentist to possess and master.

Efficient treatment is a necessity in both public and private practices. Giving a child a ride in the chair over a series of appointments to "get used to the environment" without accomplishing any treatment objectives is inefficient. Neither today's busy parents nor the dentist can afford this unnecessary expenditure of time. A proper introduction to dentistry is indeed one of the fundamentals of behavior management and must be followed by necessary treatment in a timely manner. However, in certain situations, for example, while treating a child with autism, repeated visits are indeed *part* of the treatment strategy for these special children, as will be explained in Chapter 8.

Finally, the goal of behavior management is to instill a *positive dental attitude* and not to simply perform dental treatment. Pediatric dentists should be trained to be "dental teachers" and not "dental technicians" (Kupietzky 2004). Reasonable cooperation between child and operator is implicit in the proposed definition of behavior management. What is meant by "reasonable" varies from operator to operator. This will be discussed at length in Chapter 3.

Case 1.3

Dr. K., the attending dentist at a dental school, observed her second-year graduate resident treating a 5-year-old patient who was undergoing a preventive resin restoration. The child was crying and constantly fidgeting on the dental chair. The resident was engrossed in the procedure and ignoring the child's behavior. Dr. K. interrupted the treatment and questioned the resident with regard to the child's persistent crying and poor behavior. The resident answered: "Oh, the crying doesn't bother me. I'm able to complete the treatment and that's what counts!"

***Case 1.3, Discussion*:** The development of a child's positive attitude is an integral part of the proposed definition of behavior management. That attitude may become positive after a single appointment or over a series of appointments. Indeed, the positive attitude sometimes takes years to develop. "Getting the job done" is not good enough. Many practitioners believe that getting the job done without taking into consideration their child patients' crying is behavior management. This is not good enough. A child who associates dental treatment with crying and whining is not undergoing a positive experience. If the child is expected to exercise preventive measures and continue regular treatments as an adult, a long-term positive attitude is mandatory. Evidence of this type of attitude is demonstrated in several ways. Periodically, a toddler may stroll into the office and hug the dentist or a member of the dental staff. Older children may express interest in becoming a dentist or dental hygienist. Parents may say that their children look forward to the semiannual checkups.

Note that this definition makes no mention of any specific techniques or modalities of treatment. Years ago, discussions with colleagues led to the belief that behavior management was absolutely non-pharmacologic. Some stated that behavior management was not truly practiced when drugs were employed to allay apprehension. There is no mention in the definition of any specific techniques or modalities of treatment. Indeed, behavior management may be defined and visualized as a continuum of techniques (Figure 1-4). Thus, the definition allows the exercise of individuality, and treatment methods are left to the clinician's discretion and direction. The challenge to the dentist is to satisfy the elements of the definition as frequently as possible and as safely as possible for each child in a dental practice. Every dentist must develop or adapt an interpretation for behavior management. This philosophical necessity influences the clinician's total approach to children in dental practice.

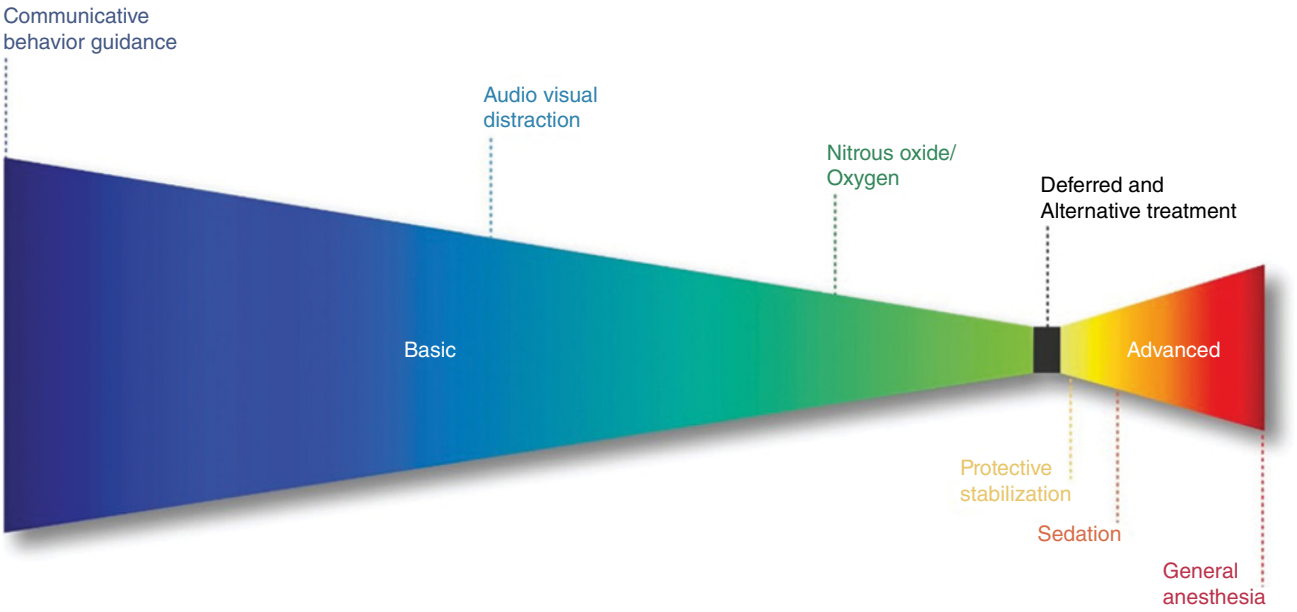

Figure 1-4 Technique continuum. *Source:* Nelson (2013). © 2013, Elsevier.

Drugs are an adjunct to behavior management. Their use depends upon the philosophy and attitudes of the dentist. Personalities and educational backgrounds tend to influence clinical practice (Wright and McAulay 1973). However, as long as the proposed definition has been satisfied, it is behavior management. Not all techniques advocated in this book will be the reader's personal choice. But they are the means by which some dentists successfully practice behavior management with children.

Since the introduction of the above definition, the AAPD guidelines have stated (AAPD Reference Manual 2019/20):

> Behavior guidance techniques, both nonpharmacological and pharmacological, are used to alleviate anxiety, nurture a positive dental attitude, and perform quality oral health care safely and efficiently for infants, children, adolescents, and persons with special health care needs.

As the reader can see, these goals are very similar to the definition proposed for this book.

Importance of Behavior Management

If a generalization can be made about dental curricula of the past, it is that the study of human behavior has played a secondary role to the scientific and technical learning. Recognizing this in academia, behavioral sciences now are included as an integral part of a modern curriculum, and behavior management has been a part of this newly developing course of study. It is taught using a multimedia approach. Educators have an array of literature and video films to call upon as effective teaching aids.

Concomitant with expanded teaching in behavior management, there was a surge in behavior management research. It was spurred on by educators like McDonald (1969) who wrote, "Until recently little research has been undertaken to provide answers to even the common problems associated with the guidance of the child's behavior in the dental office." The emphasis on the humanistic aspect in teaching and research had led to many fine studies published in the 1970s into the 1980s. Unfortunately, this research productivity has slowed (Wilson and Cody 2005). This is probably due to practical reasons, such as lack of funding and a greater emphasis on other aspects of pediatric dentistry. Funding has a great impact on research, and behavioral science research primarily is dependent upon government funding.

Considerable effort has been directed toward the question, "Why do people not attend a dentist regularly?" No simple answer has emerged. Indeed, there are so many related variables that it boggles the mind to think of them. Does public opinion vary geographically? Does ethnic background affect viewpoints? What bearing would socioeconomic status have upon the question? Dentists have been aware of the jibes of humorists, artists and authors in the past. Have these reflected or shaped the public attitude? When studying individual behaviors, there are exceptions to cause–effect relationships. When dealing with large population groups with an increased number of variables, the difficulty in establishing relationships becomes more complex. Despite the difficulties, however, certain variables have cropped up repeatedly as sources of the public's negative attitude. The major variables are economics and dental anxiety or fear.

Investigations into dental utilization have repeatedly demonstrated that many children lack care. In a perfect world, every child would receive routine dental care. However, it is not a perfect world, and many children go uncared for. Why? Many have attempted to answer this question. It is complex, and no single variable can provide the answer. Numerous practical barriers to care have been described, such as a limited availability of dental providers, low reimbursement, and transportation difficulties. The cost of dental care has also been suggested as a chief reason why many do not attend to their dental needs on a regular basis. While this may be a good reason for some, poor attendance at low-income, government-sponsored dental programs discounts the economic factor as a chief barrier. It is apparent that the reasons many people do not seek regular dental care go well beyond the simplistic contention of some that if the economic impediment were removed, then demand and dental care standards would improve. Other factors obviously affect public attitude and utilization.

The importance of behavior management becomes more significant when assessing the effects of dental anxiety. It completely limits, or partially limits, utilization of health care (Berggren and Meynert 1984; Locker 2003). Dental anxiety is certainly associated with avoidance of care and lack of regular dental visits (Nicolas et al. 2007) and remains high and a hindrance to seeking dental treatment (Nermo et al. 2019).

While dental anxiety has been studied to determine its effect on dental care, little attention has been given to the age of onset of dental anxiety, even though it may have a bearing on the origins of dental fear. Locker et al. (1999) studied this variable and concluded that the onset of dental anxiety was overwhelming reported to have occurred during childhood. Considering the variables leading to childhood anxiety, there was a strong association with an aversive incident. Interestingly, half of the participants who had child anxiety onset also reported that they had a mother, father, or sibling who was anxious about dental treatment.

Dental anxiety or fear is not inherited. It is acquired, and it is commonly accepted that genesis occurs in childhood. A reasonable speculation is that these early dental fears shape a patient's attitude in adulthood. Research has demonstrated that adults holding negative dental attitudes can and do convey their feelings to their offspring. Therefore, it can be concluded that negative attitudes tend to be self-perpetuating (Figure 1-5).

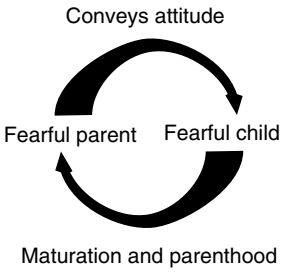

Figure 1-5 Dental attitudes are passed from one generation to another. The illustration is a diagrammatic representation of the circular pattern.

Case 1.4

Mrs. H. had heard about the importance of bringing her first and only child to the dentist at an early age. She and her husband decided to bring their 3-year-old for her first check-up. They both had negative dental experiences as children and also as adults, and they wanted to avoid similar situations for their daughter.

With her daughter Jessica on her lap, Mrs. H. tells the dentist: "I am so glad we came to see you. Both my husband and I are totally scared of going to the dentist and we don't want our daughter to feel the same. I hate going for my checkups!" Jessica begins to cry.

***Case 1.4, Discussion*:** The parent should not have shared her dental anxiety with the dentist in the presence of her daughter. The well-trained and experienced pediatric dentist could have guided the parent to allow for a positive first visit if properly alerted before the exam. However, with quick reactions and improvisation, the appointment can be saved. The dentist talks directly to the child: "Oh, don't worry, I am a doctor of teeth not a dentist! My name is Dr. Sue and I would like to show you a special doll. We are going to have a great time and you are going to get a prize!" Later, after the examination, in the waiting room, the receptionist overhears Jessica telling her mother, "I liked going to Dr. Sue, but I am never going to a dentist, only to Dr. Sue." Patient management is all about improvising. That's what makes it so challenging and interesting!

The early part of this book focuses on thefamily and the home environment. If the circular pattern is to be interrupted, that is where we must begin. Since dental anxiety and fears are acquired, the most logical place to interrupt these sequential events is in childhood. It is far simpler to start patients with proper dental attitudes than to attempt to change deeply rooted negative ones. The establishment of a dental home as early as the first year of life will be expanded upon in Chapter 6. The early development of a positive relationship with the dentist will help shape the future behavior of both child and parent. It is obvious that in order to accomplish this, early dental exposures must occur with minimum psychological trauma. Thus, the need for continually improving behavior management becomes obvious and extremely important.

Considerable effort has been expended by organized dentistry over the years to improve its image. If we are to promote positive dental attitudes and improve the dental health of the public, then children are logically the keys to the future. No greater compliment can be paid to the dentist than when the parent of a young patient says, "I can't understand it, but my kids really look forward to going to the dentist." That is another reason for this book.

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2

Child Development: Basic Concepts and Clinical Considerations

Tammy Pilowsky Peleg

Introduction

Pediatric patients encompass a wide range of ages and development stages from infants, toddlers, and children to pre-adolescents and adolescents, challenging clinicians in their attempt to communicate with children at different ages and adapt their practice, respectively. A national study of pediatric clinicians, performed in 13 diverse sites in the United States, established that a therapeutic relationship and individualized care significantly contributed to the success of pediatric health encounters, and early recognition of developmental and behavior problems was viewed as a priority to improve pediatric effectiveness (Tanner et al. 2009).

In order to understand child development in relation to dental behavior management, it has been suggested that pediatric dentists be acquainted with psychological development, in the areas of cognitive development, socioemotional and language development, and emotion regulation, including temperament (Bee and Boyd 2003). These will be addressed in this chapter.

Typical Development

Among the most remarkable characteristics of human beings is how much our thinking changes with age, from the cognitive ability of an infant, to that of a toddler, an elementary school student, and adolescent (Siegler 1994). These changes represent brain development, from neurogenesis to neural migration, maturation, synaptogenesis, pruning, and myelin formation (Kolb and Gibb 2011), which starts from the prenatal period and continues well after birth, through childhood and early adulthood.

Since development has its basis in biology, its course is relatively predictable (Bjorklund and Causey 2017), and most children will acquire particular skills over a certain period of time (Johnson 2012). However, development is non-linear and does not occur at a constant rate, and variability occurs both within one child and across children (Johnson 2012). The brain develops in a complex interplay between genetics and environmental components (Kolb and Gibb 2011). Factors influencing development include biological elements such as hereditary characteristics, epigenetics, gender, prenatal influences, and nutrition, as well as non-biological elements such as nurture, experience, education, parent–child relationships, peer relationships, stress, drugs, and culture (Johnson 2012; Kolb and Gibb 2011; Nelson et al. 2019; Wang 2011).

Thus, development may be described by a series of consecutive accomplishments, as well as a process involving dynamic interactions between a child as an active organism and the physical and social environment (Scarr 1992), and should not be considered outside of its context (Bjorklund and Causey 2017), including characteristics such as demographic group, economic background, gender, culture, and other physiological characteristics (Siegler 2002).

Normal development is the developmental course that the majority of children in a population group will follow (Johnson 2012). Although considered an ideal standpoint or an expected distribution, the frequency distributions of many physical, biological, and psychological attributes, as they occur across individuals, tend to conform, to a bell-shaped curve (see Figure 2-1), named "The Normal Curve," or the Gaussian or Laplace-Gauss distribution (Strauss et al. 2006). As can be seen in Figure 2-1, most cases (68%) fall within one standard deviation of the mean, usually

Wright's Behavior Management in Dentistry for Children, Third Edition. Edited by Ari Kupietzky.

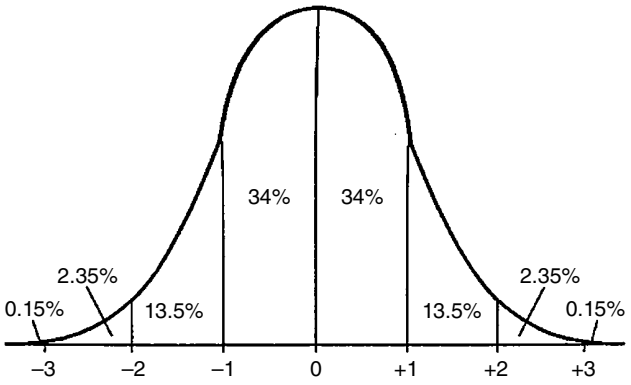

Figure 2-1 The normal distribution of development.
Source: Strauss et al. (2006). © 2006, Oxford University Press.

referred to as *the mean range*, whereas only about 2%, indicating two standard deviations from the mean, are usually referred to as *deviation from the expected norm*.

Albeit expected heterogeneity, characteristic developmental milestones and their typical or average age at which they are achieved can be noted. Examples of typical development according to age are presented in Table 2-1 (Centers for Disease Control and Prevention CDC 2018).

Regarding dental practice, it has been found that mental age (the age level at which the child is functioning) and chronologic age (his/her actual age) influenced children's acceptance of dental treatment: 3-year-olds needed 20% more time to accept treatment than older children, and similarly, children with mental ages of 3 and 4 years needed

Table 2-1 Developmental milestones by age.

Age	Social and Emotional	Language and Communication	Cognitive	Motor
2 months	Begins to smile at people, can briefly calm himself (may bring hands to mouth and suck on them), tries to look at parent.	Coos, makes gurgling sounds, turns head toward sounds.	Pays attention to faces, begins to follow things with eyes, begins to act bored (cries, becomes fussy) if activity doesn't change.	Holds head and begins to push up when lying on tummy, makes smoother movements with arms and legs.
4 months	Likes to play with people and might cry when playing stops, copies some movements and facial expressions like smiling or frowning.	Babbles with expression and copies sounds heard, cries differently to show hunger, pain, or being tired.	Lets you know if she is happy or sad, responds to affection, reaches for a toy with hands.	Holds head steadily, may be able to roll over from tummy to back, holds and shakes a toy, brings hands to mouth.
6 months	Knows familiar faces and recognizes if someone is a stranger, responds to other's emotions, likes to look at self in a mirror.	Makes sounds to show joy and displeasure, responds to sounds, likes taking turns while making sounds, responds to own name.	Looks around at things nearby, shows curiosity about things and tries to get things that are out of reach, passes things from one hand to the other.	Rolls over, begins to sit without support, when standing supports weight on legs and might bounce, rocks back and forth.
9 months	May be afraid of strangers, may be clingy with familiar adults, has favorite toys, uses fingers to point at things.	Understands "no," makes a lot of different sounds, copies sounds and gestures of others.	Looks for things he sees you hide, plays peek-a-boo, picks up things like cereal o's between thumb and index finger.	Stands while holding on, sits without support, pulls up to stand, crawls.
1 year	May be shy or nervous with strangers, cries when parent leaves, has favorite things and people, hands you a book when wants to hear a story.	Responds to simple spoken requests, uses simple gestures (nodding, waving "bye-bye"), makes sounds with changes in tone (sounds more like speech), says simple words, tries to copy words you say.	Explores things in different ways (shaking, banging), looks at the correct picture or thing when it is named, copies gestures, puts things in and out of a container.	Pulls up to stand, walks holding on to furniture, may take a few steps without holding on, may stand alone.
18 months	Likes to hand things to others as play, has temper tantrums, may be afraid of strangers, shows affection to familiar people, plays simple pretend play (feeds a doll), may cling to parent in new situations.	Says several single words, points to show someone what he wants or to show something interesting.	Points to one body part, scribbles, can follow 1-step verbal instruction without gestures (sits when you say "sit down").	Walks alone, may walk up steps and run, drinks from a cup, eats with a spoon.