



**COMPLETE GUIDE TO**



BABY

# & CHILD CARE

PRIMARY  
AUTHOR PAUL C. REISSER, MD



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The information contained in this book provides a general overview of many health-related topics. It is not intended to substitute for advice that you might receive from your child's physician, whether by telephone or during a direct medical evaluation. Furthermore, health-care practices are continually updated as a result of medical research and advances in technology. You should therefore check with your child's doctor if there is any question about current recommendations for a specific problem. No book can substitute for a direct assessment of your child by a qualified health-care professional.

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"The *Complete Guide to Baby & Child Care* is an up-to-date, comprehensive, and engaging resource for parents. It should be in the home library of anyone who cares for children."

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# Foreword by Dr. James Dobson

If you've picked up this book, it is likely that you are a parent, soon to be one, or know someone who is. Maybe you and your spouse are expecting your first child. Pregnancy has been an experience more precious and indescribable than you could ever have imagined. Ultrasound photos provide incontrovertible evidence of your baby's developing hands and feet, the shape of his or her head, the not-yet-seeing eyes. As this fragile life takes shape, you can't help being filled with wonder at the intricate, unfolding miracle of God's handiwork.

Perhaps your scenario is not so idyllic. Maybe you are not yet out of high school. The father of your baby conveniently excused himself when he learned of your condition. You've lived at home with your mom and dad throughout your pregnancy, or perhaps in a halfway house with other girls in crisis pregnancies.

Or your grown daughter has rejected her own baby, and now you're being asked to bring up your grandchild. Or you're a single dad trying to find your way in a world that fails to recognize that sometimes daddies have to be mommies too. Perhaps your baby is no longer a baby at all, but a troubled teen flirting with drugs and premarital sex—what do you do? This book was written with you in mind too.

Under the best of circumstances, rearing kids is a challenging assignment. As a parent, you will be called on to don a variety of hats, among them teacher, doctor, psychologist, friend, and pharmacist. As you contemplate the challenges ahead, you may feel overwhelmed by the responsibility. How can you nurture healthy self-esteem in your children? How can you teach them to protect themselves from unhealthy ideas, attitudes, habits, and associations? How can you build within them discernment and self-discipline? How can you develop in them, day by day, the values that are so basic to their well-being? And—one of the toughest questions of all—how can you guide them into independence until they themselves are walking with God in wisdom and truth, rather than simply following you?

The most discerning, vigilant, and competent parents ultimately find themselves feeling inadequate to accomplish these important tasks. A parent must have support, guidance, and encouragement—from other parents, from friends and family, from physicians and pastors. And we believe that, ultimately, each child must be entrusted to the care, love, and protection of Jesus Christ. I urge you not to shortchange your children by underestimating the importance of biblical precepts—either in the values you teach or in the way you conduct your own life. The stakes are simply too high.

Here at Focus on the Family, we recognize that parenting a child involves the care and nurture of the whole person—body, mind, *and* soul. That's why I'm particularly excited to be able to introduce to you this wonderful offering from Tyndale House Publishers, the Focus on the Family *Complete Guide to Baby & Child Care*. This comprehensive, well-researched volume offers detailed advice from more than fifty of the country's most highly respected physicians and medical authorities. Some have appeared as guests on the *Focus on the Family* broadcast, and many are members of Focus's prestigious Physicians Resource Council. This book is full of practical, specific guidance on every aspect of the child-rearing process—from infancy through the teen years and beyond. Additionally, the book contains hundreds of topical definitions, as well as charts, graphs, illustrations, and resource listings.

And what truly sets this book apart is the spiritual guidance and encouragement woven throughout its pages. You will find countless helpful hints for instilling in your little ones the timeless truths of Scripture—and the foundation of faith upon which rest our ultimate hope and salvation.

You yourself may have gotten a rough start in life. You may not have received the nurturing and encouragement you deserved as a child. Maybe you've struggled with issues of low self-esteem and feelings of rejection from your own parents. If that's your story, I have good news for you: Starting here, you *can* do better by your own child. It begins with dedicating yourself and your baby to the care of the only truly perfect parent—the Lord Jesus Christ.

Whatever your parenting situation—be it by choice or by chance, whether the circumstances are ideal or heartbreaking, whether yours is a background of poverty or privilege—it matters not. What does matter is that you have been charged by God with a profound and sacred trust: that of shaping and nurturing a human life. Handle it with care. God bless you!

A handwritten signature in black ink that reads "James C. Dobson". The signature is written in a cursive style with a large, looping initial "J".

James C. Dobson, PhD

# Acknowledgments

The first edition of this book was the result of the diligent and cooperative effort of many talented individuals over a period of nearly three years. The preparation of the revised edition extended over more than eighteen months and involved a number of the original team members as well as many new recruits. To all of them we are deeply indebted. While we cannot fully acknowledge the full length and breadth of their contributions, the following is our attempt to give credit where it is most certainly due.

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*Last but certainly not least, a heartfelt thank you to Teri Reisser, Alan Cox, and the many loving (and patient) spouses of all who worked for so many months on this project. Neither edition of this book would have been possible without your support, wisdom, and inspiration.*

# Introduction to the First Edition

The *Focus on the Family Complete Book of Baby and Child Care* has been designed to assist you throughout the course of the most rewarding and challenging job of your life: parenting. Whether you are expecting your first baby in the near future or have years of parenting experience, we hope that you will find this book helpful—not only as a useful resource but also as a source of inspiration, especially when the going gets a little tough (or extremely difficult).

This book is divided into two major sections:

The first section is a detailed chronological tour of a child's life from conception through infancy, toddlerhood, preschool and school years, adolescence, and finally the release of a young adult to independent living. Chapters in this section are intended to be read in their entirety, but you may also benefit from reviewing specific topics contained within them. The chapters include:

- Details about physical, mental, and emotional development at each age
- Practical information about basic topics such as feeding, sleep, safety, and common illnesses
- Suggestions for building strong bonds with your child, providing appropriate discipline through a balance of love and limits, and instilling moral and spiritual values
- Encouragement for strengthening marriage, meeting the special challenges of single parenting, avoiding burnout, managing conflicts, and generally surviving and thriving throughout the entire journey of parenthood

The second major section is a health-care reference containing hundreds of entries, arranged alphabetically, including:

- Definitions or brief descriptions of a wide variety of medical conditions
- Explanations of many health-related terms
- More extensive reviews of common health problems in childhood (for example, sore throats, headaches, and allergies) and conditions affecting specific parts of the body (for example, the eyes and teeth)



This book contains a number of additional features:

- Special Concerns sections dealing with topics that are important to parents of children in all age-groups: adoption, discipline, conflicts within the family, educational issues, the impact of divorce on children, and many others
- An overview of a number of **orthopaedic conditions** (those related to muscles, bones, and joints), from congenital deformities to everyday bumps and bruises
- A section devoted to **emergency care** and **first aid**
- A listing of **resources**, including addresses, phone numbers, and Web sites of organizations that can assist you in gathering additional information about specific problems

As you begin to use the *Focus on the Family Complete Book of Baby and Child Care*, it is important that you keep these cautionary points in mind:

- This book is intended to serve as a road map to help orient and guide you through your parenting journey. It does not provide detailed directions for every conceivable situation you might encounter along the way, nor is the advice it contains cast in concrete. The basic principles set forth in this book must be molded and adjusted to fit you and your own child.
- This book is not intended to serve as a substitute for specific input that you will receive from your child's physician. You will be encouraged many times throughout these pages to contact a doctor or, if the situation is urgent, take your child directly to a medical facility, for a variety of specific problems. *No book can substitute for a direct assessment of your child by a qualified health-care professional.*
- Despite our best efforts to include the most up-to-date information, in the field of health care, the "current wisdom" changes continuously, especially in areas such as immunization guidelines. What was hot news when this book went to press may be outdated in a matter of months. This is another reason to check with your child's doctor if you have any questions about a particular situation you might encounter.

For the physicians who serve on the Focus on the Family Physicians Resource Council, this book has indeed been a labor of love. Having spent countless hours over the past three years preparing the information and advice contained within this book, our heartfelt desire is that it will be a valuable resource for you while enhancing the life of your child(ren) for many years to come.

May you find joy in your parenting journey,

John P. Livoni, MD, MPH, Chair  
Focus on the Family Physicians Resource Council  
May 1997

# Introduction to the Revised Edition

In many ways, the preparation of the *Focus on the Family Complete Book of Baby and Child Care* (the first edition of this book) resembled the process of parenting a child from infancy to adulthood. Our “baby” was born in 1994 over the course of several enthusiastic brainstorming sessions, during which exciting and formidable proposals were set in motion. During the book’s infancy, as the first chapters and reference topics were written, we slowly began to appreciate the amount of time, effort, and patience that would be required before our “young adult” would be ready to meet the world.

But there was no turning back. We eventually hit our stride over a period of months as more chapters and topics were written, reviewed, debated, revised, and reviewed again—often as many as nine or ten times over the course of several months. Our “child” grew and matured and received ongoing prayer, loving attention, and correction until another rite of passage arrived: an “adolescence” of sorts, when hundreds of pages of manuscript were presented to Tyndale House Publishers. More questions, suggestions, and insights from Tyndale’s team led to further refinements, sometimes after spirited (but inevitably fruitful) discussions.

Finally graduation day arrived in the fall of 1997. Our offspring vacated the nest and began what would prove to be a successful independent career. More than 350,000 hard- and softcover copies of the book, including special editions for parents of newborns, toddlers, and teenagers, have been sold over the past decade. But ten years have brought many changes in medicine and society, and we are pleased to introduce a new edition, now entitled *Complete Guide to Baby & Child Care*, that has been carefully updated, revised, and expanded. Some of the many changes include:

- Several new Special Concerns sections addressing a variety of topics, including the premature infant, the overweight child and adolescent, safety in cyberspace, bullying, and the teenage driver.
- Numerous updates on facts and figures, safety advice, and approaches to medical problems that have changed over the past decade. For example, the use of syrup of ipecac, once a staple of the medicine cabinet that would induce vomiting in a child who had accidentally swallowed a toxic substance, is no longer recommended.

- New reference sections covering the length and breadth of immunizations and some ABCs of nutrition.
- Updates on the impact of changing media and technologies on children and teenagers, especially immersive video games and the explosive growth of electronic interactions such as text messaging, the sharing of digital photos and video via cell phone and computers, and social networking Web sites (for example, MySpace.com). All of these have created new and significant challenges for parents, especially those who aren't particularly technosavvy, and we made an effort to provide some timely advisories on these topics.

What *hasn't* changed since 1997 are the predictable developments in body and mind from infancy through adolescence and the critical role of the parenting assignment during those crucial years. Rearing children hasn't gotten any easier, nor is it any less fulfilling. Furthermore, the moral and spiritual principles that have served as the foundation for all of Focus on the Family's work and publications, including this one, are unchanging, and they may be found in this new edition from one end to the other.

Paul C. Reisser, MD, Primary Author  
February 2007

CHAPTER 1 | **Preparing for Parenthood**



# Preparing for Parenthood

Whether you are just beginning to think about starting a family  
 . . . or have just learned that you are going to be a mother or a father in a few months  
 . . . or are a day or two away from an expected delivery date  
 . . . or are planning an adoption  
 . . . or have a baby (or two) in your arms  
 . . . or have a house full of toddlers, school-age children, adolescents, or a combination of all ages  
 . . . or are proud grandparents,

this book is dedicated to enhancing the journey you have started.

Parenting is an adventure, a source of incredible fulfillment, a humbling responsibility, and a unique privilege. It's a voyage of discovery with a long learning curve. On many occasions, it brings both laughter and tears. It is, above all, a priceless gift from God—one that deserves to be received with joy and treated with the utmost respect.

Many people enter parenthood unexpectedly, at times even suddenly, often in a state of panic. Nearly everyone who accepts the assignment develops qualms at some point. You may have already progressed from “Am I really ready for all the responsibility of bringing up a child?” to “What am I going to do if \_\_\_\_\_ happens?” to “How in the world did I get into this?”

If any of those questions have passed through your mind, take heart, and remember some fundamental truths of parenting:

- You're not alone. Many millions have traveled the path before you.
- You probably know a lot more than you think.
- It's never too late to learn, to mold your attitudes and refine your skills.

Whether you're aware of it or not, the process of becoming a mother or a father actually begins well before the doctor announces, “It's a boy!” or “It's a girl!” It begins

before conception. In fact, it begins before the physical intimacy that sets the biological marvel of reproduction in motion.

And for an event of this importance, it's nice, as much as is humanly possible, to be prepared. This chapter is all about getting ready, but it's worth reading even if a lot of water has already passed under your parental bridge.

## Fearfully and Wonderfully Made: How a Baby Develops

Many authors and poets, after hearing the cry and seeing the first flailing movements of tiny arms and legs at the moment of birth, have declared that the process of coming into the world is a miracle.

But while childbirth is truly awe inspiring, the real miracles began long before this transition of the baby from one environment to another. If you are expecting an arrival in the near future, be assured that a host of wondrous and marvelous events have already taken place. Just six days after **conception**, the union of egg and sperm that created a new person, a tiny cluster of 64 to 128 cells embedded in the thickened lining of the uterus. Within seventy-two hours of establishing a temporary residence in the warm sanctuary of the womb, this new human being sent a powerful hormonal signal to override the mother's monthly cycle, preventing the shedding of her uterine lining.

Then began the astonishing process of differentiation, as new cells took on particular shapes, sizes, and functions, aligning themselves into tissues and organs, eyes and ears, arms and legs. Each of these cells contained all of the information needed to make any of the multitudes of cell types in the body. Yet during the process of constructing and organizing, integrating and communicating with one another, individual cells began to express unique qualities in very short order, but in a seamless and orderly pattern. The intricacy and timing of these events are nothing less than masterpieces of planning and engineering.

### See color insert for photos of fetal development, page A1–A3.

*Before the end of the first six weeks of life*, your child's heart has started to beat, eyes are developing, the central nervous system is under construction, most internal organs are forming, and small buds representing future arms and legs have sprouted. One cell created by the union of egg and sperm has now become millions, and your new daughter or son has reached the length of one-quarter of an inch (0.6 cm).

*By the end of eight weeks*, the fingers and toes have been formed. Heart, lungs, and major blood vessels have become well developed. Taste buds and the apparatus needed for the sense of smell have appeared. Tiny muscles have generated body movements, which at this point a mother cannot feel.

*When twelve weeks of growth have ended*, your baby has reached a length of three inches (7.6 cm). The heartbeat can be heard using an electronic listening device. All of the organs and tissues—including heart, lungs, brain, digestive system, kidneys, and reproductive organs—have been formed and are in place. The only necessary remaining ingredient is time: six more months for growth and maturation.

*Sixteen weeks after conception*, eyebrows and hair are growing. Your baby, now measuring six to seven inches (about 15 to 18 cm) and weighing nearly as many ounces (about 170 to 200 gm), kicks, swallows, hiccups, wakes, and sleeps. Soon the mother can begin feeling movement inside, an important milestone still referred to as quickening.

*You created my  
inmost being;  
you knit me  
together in my  
mother's womb.*

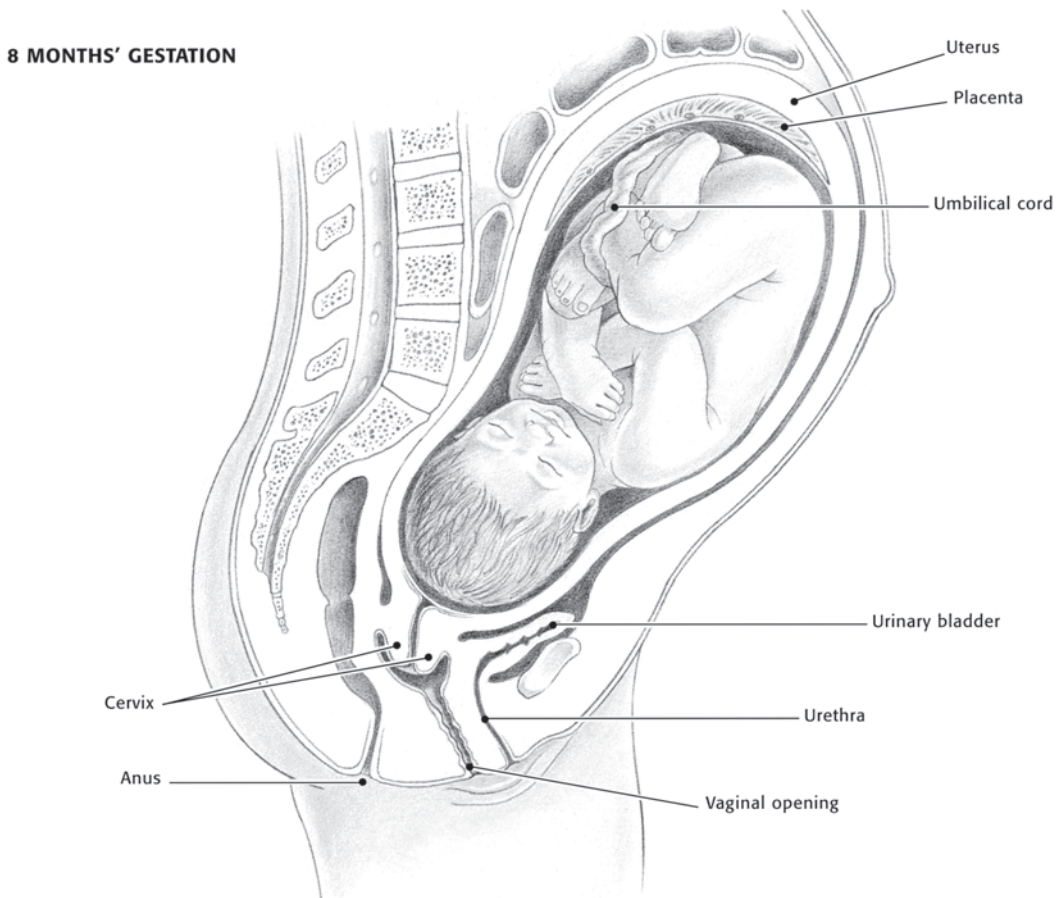
**Psalms 139:13**



At *twenty weeks*, with weight now approaching one pound (about 450 gm), your baby can hear and react to sounds, including Mom's heartbeat and stomach rumblings, as well as noise, music, and conversations outside the uterus. (Whether any of these sounds are recognized or become part of early memories is uncertain.)

At *twenty-six weeks of life*, breathing movements are present, although there is no air to be inhaled. Depending on their weight, babies born prematurely at this time have a 60 to 80 percent chance of survival with expert care, although complications are common.

With each additional week that passes within the mother's womb, the baby's likelihood of surviving a premature delivery improves, the risk of long-term complications declines, and the medical care needed after birth usually becomes less complex.



The *final fourteen weeks* are the homestretch, during which your baby grows and gains weight very rapidly. By the *end of thirty-two weeks*, the bones are hardening, the eyes are opening and closing, the thumb has found its way into the mouth, and the arms and legs are stretching and kicking regularly. Your baby is sixteen to seventeen inches (about 40 to 43 cm) long and weighs almost four pounds (about 1.8 kg). Over the next four weeks, the weight nearly doubles, and you feel all sorts of kicks, prods, and pokes much more

strongly. A baby born at this age needs some assistance with feeding and keeping warm and could still develop more complicated medical problems as well. However, the vast majority of those born a month or so ahead of schedule do very well.

Finally, after a few more weeks of rapid weight gain (about half a pound per week during the last six weeks of gestation), your baby is fully developed and ready to meet you.

Every mother and father awaits the birth of a child with a mixture of anticipation, excitement, and anxiety. Who is this new person? Will this be a son or a daughter (or more than one)? What will he or she be like? Will she have her mother's eyes? Will he have his father's chin? Will everything be in the right place? Could there have been any problems that occurred silently during the time between conception and birth?

Some of these questions—but certainly not all of them—may be answered by ultrasound or other types of tests before the moment of birth. Furthermore, a baby may have some initial problems that clear up quickly and easily, while a more serious disturbance may not be apparent until a number of days, weeks, or even months have passed. Obviously, everyone involved in the debut of a new life is hoping, praying, and working toward the safe arrival of a healthy baby to a healthy mother. While no one can guarantee this happy outcome, there are many positive steps and basic precautions that can dramatically increase the likelihood of a joyful “special delivery.”

## Planning Ahead: Lifestyle and Health Questions for the Mother- (and Father-) to-Be

In a very real and practical sense, parenting begins well before the news arrives that a new family member is on the way. The state of the union of the parents-to-be and particularly the health of the mother *before* pregnancy strongly affect her health *during* pregnancy, which in turn plays a vital role in the baby's well-being both before and after delivery.

If you are planning to begin a family, or even if your pregnancy is well under way, you would be wise to review the following list of self-assessment questions. Much of what follows is directed toward the mother, but the ongoing health and habits of *both* parents are very important. (Expectant fathers, please read on.)

*One important note:* This book is not intended to be a comprehensive resource on pregnancy and childbirth. The information given in this and the next chapter is intentionally limited to parenting before the delivery—matters that specifically affect the health of the baby to be born. This is not to imply that a mother's health is any less important or that her well-being and her child's are not intimately connected. Nevertheless, the length, breadth, and depth of pregnancy care are beyond the scope of this book. If you are pregnant (or may be soon), it is very important that you find a physician who will not only guide you through pregnancy but also recommend books and other materials from which you can learn more about this miraculous process.

### How well are you taking care of your (one and only) body?

Imagine what would happen if a strict law were passed declaring that you could buy only one automobile in your lifetime. Suppose the law also included a stiff penalty for riding in anyone else's vehicle. If your car ever became seriously damaged or fell apart, you would have to walk—everywhere. How well would you take care of your one



and only car if the only alternative would be a pair of very sore feet? Would you fill its tank with the cheapest grade of no-name gas or find the highest-octane premium fuel on the market? Would you get the oil changed, engine tuned, and wheels aligned on a regular basis or wait for rumbles, rattles, and warning lights to appear before heading for the service station? When you weren't using it, would you keep the car snug in the garage or let the elements beat on it mercilessly day and night?

The analogy to your one and only body should be obvious: If it deteriorates and malfunctions, you can't borrow anyone else's. *And neither can your baby.* Poor nutrition, smoking, and the use of alcohol and drugs can have a serious impact on your baby's development, especially during the first eight weeks, when the vital organs are under construction. But your pregnancy may not even be confirmed until this period has already passed. Therefore, *the habits you develop well before you even think about having a child are very important.*

So how are you treating yourself? Specifically:

### ***How's your nutrition?***

Contrary to what you may hear on talk shows and infomercials or what you may read on Web sites that promote eccentric diets and expensive supplements, good nutrition does not involve magic formulas, rigid restrictions, or tackle boxes full of vitamins. At the same time, "eating right" isn't just something you should do during pregnancy and then return to a collection of unhealthy food habits. (If your four favorite foods are burgers, soft drinks, doughnuts, and chips, for example, you need to start making some serious changes.)

Instead, you can and should make a decision to choose high-quality foods for a lifetime—not only for yourself, but for your child(ren) as well. In fact, you are probably already familiar with some basic principles of healthy eating that continue to be reinforced by research and consensus among health professionals. You can review these in "Some ABCs of Good Nutrition," beginning on page 771, but for now we want to emphasize a few key points:

- When we say that a pregnant woman is "eating for two," it doesn't mean that she should double her food intake. In fact, her overall energy requirements increase by only about 15 percent—roughly 300 calories per day, or the amount contained in a modest snack such as a combination of an apple, an ounce (30 g) of cheese, and an eight-ounce (240 ml) glass of skim milk.
- The amount of protein recommended during pregnancy is about 60 grams per day—10 grams more than for a nonpregnant woman. This should not be difficult to obtain from dietary sources such as lean meat, poultry (minus skin), fish, eggs, nuts, dried beans, and peas. Unless specifically advised otherwise by your obstetrician or a registered dietitian, additional high-protein supplements or beverages should not be necessary. A cup (240 ml) of cottage cheese, for example, contains nearly 30 grams of protein, as does half a chicken breast or a quarter pound (120 g) of ground beef. Two eggs contain 12 to 13 grams.
- Eat lots of fresh fruits and vegetables—seven or more servings per day. These provide wholesome nutrients, fiber, vitamins, minerals, and a diverse group of compounds called **phytochemicals** that help protect us from heart disease, cancer, and other disorders. Sample widely from a variety of colors—green, red, yellow, orange, blue, and tan/white—because phytochemicals

Metric conversions are given for some—but not all—measurements and temperatures in this book. If you'd like to find a metric equivalent for one that isn't provided in the text, see "Metric Conversion Charts" on the inside back cover.

associated with different colors of fruits and vegetables appear to provide a variety of health benefits.

- Gravitate toward whole-grain foods rather than those made from refined or processed grains. Fiber, vitamins, and minerals are lost during refining and processing (though some are replaced), while whole-grain products contain a variety of useful compounds, including antioxidants, phytochemicals, folic acid, B vitamins, iron, and vitamin E.

If you are a vegetarian, you should be able to continue through an entire pregnancy without difficulty, provided that you include a wide variety of foods. If you eat absolutely no animal products, such as milk, eggs, or cheese, you may become short-changed on protein and calories, as well as on iron, calcium, vitamin B<sub>12</sub>, and zinc. Careful attention to the protein content of foods such as legumes (beans and peas), nuts, soy products, and grains, as well as vitamin and mineral supplementation under the guidance of your obstetrician or a registered dietitian would be advisable.

## FISH, METHYLMERCURY, AND PREGNANCY

**Y**ou have probably heard of **omega-3 fatty acids**, and perhaps you're aware that they are considered to be beneficial nutrients. Indeed, they play vital roles in several important functions in the body, including immunity, clot formation, and many others. Two omega-3 fatty acids with tongue-twisting names—**eicosapentaenoic** and **docosahexaenoic acids**, better known by their initials **EPA** and **DHA**—have been identified as particularly important to the well-being of the heart, blood vessels, and nervous system. DHA is an important component of cell membranes in the brain, and both EPA and DHA are considered crucial to brain (as well as eye) development before birth and during infancy. DHA is transferred to the baby before birth via the placenta and is present in breast milk. (In fact, it is now being added to infant formula.)

Our bodies manufacture EPA and DHA from **linolenic acid**, a compound that is called an **essential fatty acid** because we cannot make it ourselves and thus must obtain it from food. Unfortunately, linolenic acid is not as plentiful as other types of fatty acids in a typical Western diet. (It is found in flaxseed, walnuts, soybeans, canola, and their oils—not exactly staples at the drive-through—and it is also present in dark green leafy vegetables, though in lesser amounts.)

A widely recommended response to the research supporting the benefits of omega-3 fatty acids is to add some to our diet in the form of fatty, cold-water fish—salmon, mackerel, lake trout, albacore tuna, herring, and sardines. These contain the beneficial fatty acids EPA and DHA already formed and in more generous amounts than in their leaner counterparts, such as cod, orange roughy, sole, and flounder. In addition to containing variable amounts of beneficial omega-3 fatty acids, fish is an excellent source of protein, with smaller amounts of saturated fats than many other types of meat.

A pregnant or nursing mother would appear to be a particularly good candidate to eat fish regularly in order to obtain adequate supplies of DHA and EPA for the developing brain and eyes of her growing baby. But some fish contain

What about vitamins and other supplements? Theoretically, a woman who eats a variety of fresh, high-quality foods should not need to take supplemental vitamins and minerals. But certain substances are so critical to a healthy pregnancy that most physicians will prescribe **prenatal vitamins** to make up for any deficiencies in the mother's diet. Remember, however, that *supplements are not a replacement for healthy eating habits*.

There is evidence that taking supplemental **folic acid** will reduce the likelihood that the newborn will have one of several types of major problems known as **neural tube defects**. Within the first month after conception, a tubelike structure forms from which the brain and spinal cord develop. If the tube does not close properly, serious abnormalities of these vital structures can result. Unfortunately, neural tube defects may occur before you know you are pregnant. Therefore, the Institute of Medicine (see margin note on page 10) recommends that *all women of childbearing age take 0.4 mg of folic acid* daily to reduce the risk of a neural tube defect occurring in an unexpected pregnancy. Once a woman becomes pregnant, she should take 0.6 mg of folic acid daily. Most prenatal vitamins contain at least this amount. (You may see these amounts of

a worrisome amount of **methylmercury**, a form of mercury that can harm a baby's central nervous system if he or she is exposed to it regularly. Mercury circulates in the atmosphere as a result of natural events and the release of industrial pollutants. Some of this accumulates in rivers, streams, and larger bodies of water, where bacteria convert it to methylmercury. Fish in turn absorb this compound during their feeding, and as a result most contain tiny amounts of it that are not harmful to humans. However, fish that are closer to the top of the food chain—especially the oldest and largest types that eat fish that have eaten other fish—are likely to have accumulated a fair amount of methylmercury before being pulled aboard the fishing boat.

The most likely candidates to carry unwholesome quantities of mercury are shark, swordfish, king mackerel, and tilefish (sometimes called golden bass or golden snapper), and the FDA therefore recommends that pregnant women and nursing mothers, as well as young children, avoid eating them. They should also consider limiting their tuna consumption to less than six ounces (180 g) per week, based on recent concerns that have been raised about the presence of mercury in this popular fish. (The amount may vary depending on the type of tuna—tuna steaks and canned albacore tuna typically contain more mercury than canned light tuna, for example.)

What about other fish? Women who are pregnant (or may become so) and young children can enjoy up to twelve ounces (360 g) of other types of fish per week without risk. Shrimp, salmon, catfish, and pollock are lower in mercury content. A typical serving is about three to six ounces (90 to 180 g), and while eating more than this amount in a given week isn't a big danger, cutting back during the following week(s) to keep the overall average at twelve ounces (360 g) is advisable.

For updated advisories regarding mercury in fish, check the FDA Web site (<http://www.fda.gov>). Once there, in the "A-Z Index," go to "M" and click on "Mercury in Fish." ■

folic acid expressed in **micrograms**—a tiny amount equal to a thousandth of a milligram, often abbreviated mcg or µg. For example, a vitamin label may say that a tablet contains 400 mcg of folic acid, which is the same amount as 0.4 mg.)

If you have already had a child with a neural tube defect, a higher dose of folic acid—4 mg per day—is recommended for a month prior to the time you plan to become pregnant and should be continued through the first three months. (This amount of folic acid requires a doctor's prescription.) You can, of course, obtain folic acid through foods such as dark green leafy vegetables, cereals, whole-grain breads, citrus fruits, bananas, and tomatoes. However, in light of the research favoring supplementation, you should check with your physician about the amount of folic acid recommended for your pregnancy.

A pregnant woman needs additional **iron**, both for her increased blood volume as well as for the growing tissues and iron stores within her baby. Iron is necessary for the formation of **hemoglobin**, the protein within red blood cells that binds to oxygen, thus allowing red cells to deliver oxygen to every cell in the body. If the supply of iron in a mother's food is inadequate to meet this increased need, iron deficiency anemia will eventually result. This can cause her to feel extremely tired—more so than she would normally expect from the pregnancy itself.

An intake of about 30 mg of elemental iron per day will meet the need of most pregnant women. (Those who are already iron deficient may require 60 mg or more to correct this problem.) Since a typical diet provides only 5 or 6 mg of elemental iron per one thousand calories of food, and because consuming five thousand calories per day would be both unwise and impractical, iron should be included in your prenatal vitamin regimen. Absorption of iron is improved when foods containing vitamin C are eaten at the same time.

A woman's daily **calcium** intake normally should be 1,000 mg per day during the childbearing years but should increase to 1,200 to 1,500 mg per day during pregnancy because of the new skeleton under construction inside her uterus. You should eat at least four servings per day of foods that contain

calcium, which is necessary to build and maintain both your and your baby's bones and teeth. Dairy products (such as low-fat or nonfat milk, cheese, and yogurt), green leafy vegetables, tofu, canned salmon (with bones), and calcium-fortified products (such as some brands of orange juice and breakfast cereal) are good sources of calcium. For example, you can get nearly 300 mg from a cup (eight ounces, or 240 ml) of nonfat milk, 300 to 400 mg from a cup of yogurt, and 200 to 250 mg from a cup of cooked spinach.

If you can't tolerate dairy products (or are a vegetarian who does not eat any type of animal products), you should consider taking a supplement containing 600 mg of calcium during pregnancy.<sup>1</sup> Your doctor may recommend a specific calcium supplement, since prenatal vitamins alone typically do not include the full amount. Calcium carbonate or calcium citrate are the forms that are most easily absorbed.

### *Do you weigh enough or too much?*

Obesity is a health hazard for many reasons, all of which are heightened during pregnancy. Excessive weight during pregnancy is a risk factor for **high blood pressure** and **diabetes**, both of which can lead to significant problems for mother and baby. The aches and pains (especially in the lower back) that are so common during the later stages of pregnancy can become intolerable when there is already an extra burden on muscles and joints. Obesity is associated with a higher risk of miscarriage, an increased

The Institute of Medicine (IOM) is a private, nonprofit organization originally chartered in 1970 as a component of the National Academy of Sciences (now called the National Academies). The IOM provides information and advice regarding health to policymakers and professionals within both the government and the private sector, as well as to the general public.

likelihood of needing a cesarean delivery, and a greater risk for complications after a cesarean. Infants carried by obese pregnant women are more likely to be stillborn or premature, to have neural tube defects (regardless of the mother's folic acid intake), and to be obese themselves during childhood.<sup>2</sup>

But being underweight before or during pregnancy is no great advantage either because the nutritional needs of the baby may be compromised. This can result in a baby of low birth weight who is at risk for a variety of problems, including difficulty maintaining normal temperature or blood sugar level after birth.

If you have had a history of erratic nutritional habits or even a full-blown eating disorder (such as **anorexia** or **bulimia**), you and your baby will benefit greatly from ongoing counseling and coaching from a dietitian before, during, and after pregnancy. Similarly, if you are struggling with excessive weight, a gradual process of reduction (ideally under the guidance of a dietitian) *prior* to becoming pregnant would be wise. Attaining a stable weight prior to pregnancy will help prevent rapid regaining of weight after pregnancy begins. If you are already pregnant, however, a weight-loss program is not a good idea because the nutritional needs of both you and your baby could be jeopardized. Pregnancy would be a good time, however, to modify eating habits toward healthy patterns that will serve you well for the rest of your life.

### *Are you exercising your muscles, heart, and lungs?*

A sedentary lifestyle—that is, one without deliberate exercise—has been specifically identified as a health risk for both women and men. Unfortunately, despite the numerous and well-publicized benefits of regular exercise, a majority of Americans still do not take part in any form of planned physical activity. But a regular habit of exercise established now will serve as an investment in long-term health and also improve the way you feel throughout pregnancy.

Several normal changes during pregnancy put new physical demands on your body. Aside from a normal weight gain of twenty-five to thirty-five pounds (about eleven to sixteen kilograms), your heart will be dealing with a 50 percent increase in blood volume. Muscles and ligaments in the back and pelvis will be stretched and subjected to new tensions and strains. Unless you have a scheduled cesarean section, you will also go through the rigors of labor—which is aptly named—and the birth itself. These are physically challenging events, and those who are well conditioned will usually fare better. In fact, their labor may even be shortened.

The increased stamina and muscle tone resulting from regular exercise will also increase your energy level, improve sleep, reduce swelling of the legs, and probably reduce aches and pains in the lower back. If you are on your feet all day, it may seem ridiculous to spend precious time for additional muscle motion. But unless you are a professional athlete, it is unlikely that your daily activities, no matter how exhausting, will specifically condition your heart and lungs. The good news is that you don't need to become a marathon runner to see some benefit in your health.

If you are not used to exercising, a goal of thirty minutes three or four times per week is reasonable. It is always better to do light or moderate exercise on a regular basis than heavy exercise intermittently. While stretching and muscle strengthening are worthwhile, aerobic conditioning—in which increased oxygen is consumed continuously for a prolonged period of time—has the greatest overall benefit.

The most straightforward and least costly aerobic activity is walking. No fancy equipment, health-club membership, or special gear (other than a pair of comfortable, supportive shoes) is needed. Pleasant and safe surroundings, a flat surface, and agreeable

weather are advisable, however, as well as a companion. Another person (whether your husband, an older child, a relative, a friend, or another pregnant woman) will add accountability to the process, and the conversation can be enjoyable and help the time pass quickly. Gentle stretching for a few minutes before and after is a good idea in order to warm up and then cool down leg and back muscles.

Alternatives to walking include:

- *A home treadmill.* Advantages: No concerns about weather, aggressive dogs, or finding someone to watch your children. You can be flexible about the time of day you use it. Disadvantages: Cost, size, and noise.
- *An exercise video or book geared to pregnant women.* Advantages: Same as above, with less cost. Disadvantage: Repetition could become boring.
- *A prenatal fitness class at a local hospital or health club.* Advantage: Interaction with instructor and other women can be helpful and motivating. Disadvantages: Cost. Also, scheduling and child-care needs may be complicated.
- *Swimming.* Advantage: Good aerobic conditioning involving many muscle groups, with no added strain on sore muscles and joints of the lower back and pelvis. Disadvantage: You need access to a pool.

## HOW MUCH WEIGHT SHOULD YOU GAIN DURING YOUR PREGNANCY?

The short answer is, “Check with your obstetrician,” because your specific weight gain will depend on a number of factors. Why does weight matter? If you gain too little, you risk having a baby with a low birth weight (less than 5½ pounds, or 2.5 kg). If you gain too much, you risk having not only a large baby but also a number of health problems of your own. The basic guidelines for weight gain during pregnancy are related to your **body mass index (BMI)**, a calculation based on height and weight defined as follows (depending on whether you use metric or standard English measurements):

$$\text{BMI} = \frac{\text{weight in kilograms}}{(\text{height in meters})^2}$$

$$\text{BMI} = \frac{\text{weight in pounds}}{(\text{height in inches})^2} \times 703$$

If you don’t have a calculator handy, you can find BMI calculators on several Web sites, such as <http://nhlbisupport.com/bmi/bmicalc.htm> or <http://www.cdc.gov/nccdphp/dnpa/bmi/index.htm>.

BMI correlates with body fat—not perfectly, but well enough to serve as a general indicator of the health risk associated with your current height and weight. In 1998 the National Institutes of Health established the following categories for weight based on BMI among adults twenty years and older. These are now widely utilized among health professionals and researchers:

| BMI                    | Weight Status   |
|------------------------|-----------------|
| Below 18.5 . . . . .   | Underweight     |
| 18.5 to 24.9 . . . . . | Normal          |
| 25.0 to 29.9 . . . . . | Overweight      |
| 30.0 to 39.9 . . . . . | Obese           |
| Over 40.0 . . . . .    | Extremely obese |

- *Stationary cycling.* Advantages: Good aerobic conditioning and (depending on your anatomy) probably less strain on your lower back than from walking. Disadvantage: Many women become increasingly uncomfortable on this equipment as pregnancy progresses.

If you are already well conditioned, you should be able to continue your specific exercise routine. If you are already a confirmed jogger or an accomplished tennis player, you can probably continue these activities through the early months of pregnancy. Snow skiing, surfing, water skiing, and horseback riding all pose specific risks during pregnancy because of the possibility of falls—especially as your center of gravity shifts and your balance becomes less reliable as the uterus enlarges. All of these activities should be reviewed with your physician throughout the course of your pregnancy. Note: Scuba diving is not recommended at any time during pregnancy.

A few special precautions about exercise during pregnancy:

- Pregnancy is *not* a good time to take on a new, intense form of exercise, especially if it involves jumping, jerking, high-impact motion, or sudden changes in direction.

The Institute of Medicine has made the following recommendations for weight gain during pregnancy:

- A woman who begins her pregnancy at a *normal* weight should gain twenty-five to thirty-five pounds over nine months.
- A woman who is *underweight* prior to becoming pregnant should gain about twenty-eight to forty pounds.
- A woman who is *overweight* when she becomes pregnant should not attempt to lose weight during her pregnancy but should target a gain of fifteen to twenty-five pounds. For an *obese* woman, the target should be fifteen pounds.
- A woman carrying twins should gain thirty-five to forty-five pounds over nine months, and for triplets, fifty pounds.<sup>3</sup>

During the first trimester (three months) of pregnancy, a gain of two to eight pounds is typical, although some women lose a little weight during this time. During the second and third trimesters, however, a woman normally gains about a pound per week. Those who are underweight should gain a little more than a pound per week, and a woman who is overweight at conception should try to gain about two-thirds of a pound per week during this period.

Remember that these are only general guidelines, and the progress of your weight during pregnancy must ultimately be assessed and guided by your obstetrician (who may, when appropriate, recommend some input from a dietitian as well). ■



- Exercise should not be so vigorous or prolonged as to cause exhaustion, overheating, or dehydration. During pregnancy your heart rate should stay below 140, regardless of the type of exercise you are doing.
- After the first trimester (three months) of pregnancy, you should avoid exercises that require you to lie on your back, since this could restrict blood flow to the uterus.
- Exercise should not continue if any of the following pregnancy-related problems develop: preterm rupture of membranes; poor growth of the baby (**intrauterine growth restriction**); vaginal bleeding; high blood pressure; preterm labor; or cervical incompetence, a condition in which the cervix or “neck” of the uterus isn’t strong enough to prevent a premature delivery. Exercise may also be limited if you are pregnant with more than one baby.
- If you have specific health problems such as heart disease, high blood pressure, irregular heart rate, epilepsy, fainting episodes, asthma, arthritis, or anemia, review any exercise plans with your physician, whether or not you are pregnant.

In addition to aerobic activity, a variety of gentle stretching and muscle-conditioning activities can help prepare your body for the changes of late pregnancy and labor. Your doctor and/or childbirth class instructor will have a number of suggestions for such exercises.

***Are you taking or inhaling any substances that might harm you or your baby?***

As a result of widespread public-health announcements, most people are aware that smoking cigarettes, drinking excessive amounts of alcohol, and using illicit drugs are risky and destructive, especially during pregnancy. Yet it’s often difficult to believe that “this could happen to me”—that we might actually suffer any of the consequences we hear so much about. Furthermore, even if one is convinced of the dangers of these substances, gaining freedom from their grip can be a real uphill battle. If you need any additional reasons to separate yourself from cigarettes, alcohol, or illegal drugs, or if you need some extra resolve to remain free of these unhealthy habits, consider carefully the following facts:

**Cigarette smoking.** This is a form of legalized drug addiction that is harmful to the smoker, those around the smoker, and especially the baby growing inside the smoker. Thousands of chemicals in cigarette smoke flow directly from the mother’s lungs into her bloodstream and then directly into the baby. According to the Centers for Disease Control and Prevention (CDC), smoking during pregnancy is the single most preventable cause of illness and death among mothers and their infants.<sup>4</sup> Nicotine specifically causes constriction of blood vessels in both the placenta and the baby, thus reducing the baby’s supply of vital blood and oxygen. Carbon monoxide in smoke binds tightly to red blood cells and displaces oxygen. The overall effect is a recurrent choking of the baby’s oxygen supply, resulting in smaller (by an average of half a pound, or 225 g) and shorter babies. Unfortunately, these infants (whom doctors refer to as small-for-dates) are more likely than their normal counterparts to have a variety of medical problems after birth.

The smoker’s baby is more likely to be born prematurely or to be stillborn. The tragedy of **sudden infant death syndrome (SIDS)** occurs two to three times as frequently when the child’s mother has smoked throughout pregnancy, and this increased risk continues if there is continuing exposure to secondhand smoke after birth.<sup>5</sup> Smoking



*anywhere* in the home increases a young infant’s risk of SIDS, so going to another room to smoke is not a reasonable alternative to a completely smoke-free home.<sup>6</sup>

Exposure to cigarette smoke after birth is linked to colds, ear infections, and asthma. And the child who sees Mom and Dad smoke is also much more likely to pick up the habit than are his peers who live in homes where there are no smokers.

Let’s not forget smoking’s effect on the mother. Aside from the long-term risks of chronic lung disease, heart disease, ulcers, and diseased blood vessels, she is more likely to have unexpected vaginal bleeding during her pregnancy.

The only good news about smoking is that *quitting early in pregnancy reduces the baby’s risk of problems to the level of a child born to a nonsmoker*. For many women, the emotional impact of a threat to the baby is powerful enough to override the compulsion to light up, and a pregnancy usually lasts long enough to help temporary abstinence lead to a smoke-free life.

But cigarettes are so powerfully addictive that additional support may be necessary to kick the habit. If you are a smoker, it’s never too late—or too early—to stop. A successful decision to quit usually requires:

- A well-defined list of reasons that have some emotional power. (“I don’t want to starve my baby of oxygen” or “I want to live long enough to see my kids grow up.”) Since resistance to quitting often hinges on an emotional attachment to cigarettes, your reasons for giving up smoking should likewise motivate you on an emotional level.
- A specified quitting date that is announced to family, friends, and coworkers. Some gentle peer pressure can be a powerful motivator.
- Participation in a stop-smoking class. These are available in most communities through hospitals or local chapters of national organizations (American Lung Association, American Heart Association, American Cancer Society).
- A firm declaration that your home, car, and workplace are smoke-free zones. Nobody, but nobody—spouse, in-laws, guests, visiting heads of state—lights up in your airspace.
- If you are not yet pregnant, you may wish to consider using nicotine patches or chewing gum to assist you through the withdrawal process. These are now available on both a prescription and nonprescription (or over-the-counter) basis. You should not smoke while using nicotine patches or gum. These nicotine-replacement products are generally not recommended for use during pregnancy, although some research has suggested that short-term use to help end a tobacco habit may be preferable to ongoing smoking by a pregnant woman. You should review any concerns about their proper use (especially during or after pregnancy) with your physician.

According to the Centers for Disease Control and Prevention (CDC), if just one percent of the number of pregnant women who smoke would quit, about 1,300 cases of low birth weight infants would be prevented each year.

**Alcoholic beverages.** We’ll start and end this section with some critical bottom-line statements:

- When a pregnant woman drinks alcohol, her baby does as well.
- *Any* amount of alcohol consumed by a mother at *any* time during pregnancy can be potentially harmful to her baby.

A baby exposed to alcohol before birth is at risk for suffering a number of irreversible problems that are collectively known as **fetal alcohol spectrum disorders (FASDs)**.

When a pregnant woman drinks alcohol, her baby does as well. Any amount of alcohol consumed by a mother at any time during pregnancy can be potentially harmful to her baby.

The most extreme manifestation of these is **fetal alcohol syndrome (FAS)**, which is considered one of the leading causes of preventable birth defects and mental retardation. Babies with this disorder may have a variety of abnormalities of the head, face, heart, joints, and limbs, including growth deficiency. In addition, the central nervous system can be affected, causing mental retardation, hyperactivity, and behavioral problems. Memory, communication, attention span, vision, and hearing may be affected throughout life.

For every child with FAS it is estimated that there are three or more who have some but not all of its manifestations. These tend to fall into two specific subgroups: Those with **alcohol-related neurodevelopmental disorder** (or **ARND**) primarily manifest mental and behavioral disturbances, while those with **alcohol-related birth defects** (or **ARBD**) have problems with one or more body structures such as the heart, kidney, or bones.

Fetal alcohol syndrome occurs most often among infants born to women who chronically abuse alcohol (typically consuming four or more drinks daily), but ARND and ARBD can occur when mothers drink much less. Some research has suggested that babies born to women who have had as little as one drink per week during pregnancy may be at higher risk for behavior problems later in life.<sup>7</sup> Furthermore, fetal alcohol spectrum disorders can occur in a child whose mother drank at *any* stage of her pregnancy. Birth defects (such as heart abnormalities) are more likely to arise from alcohol consumption during the first three months of pregnancy; growth disturbances can occur when a mother drinks during the last few months; and adverse effects on the brain can result from a mother's alcohol use at any time while pregnant.<sup>8</sup>

Here's the bottom line again, stated another way:

- There is no amount of alcohol that can be considered safe for a woman to drink during pregnancy.
- There is no time during pregnancy when consuming alcohol can be considered safe for the developing baby.

Because a woman may become pregnant without realizing it, and because many pregnancies are unplanned, a woman who is *thinking* about becoming pregnant (or who even remotely suspects that she might be pregnant) should not consume any alcohol. If abstaining from alcohol is hard for you or if you tend to lose control of the amount you drink at any given time, you would be wise to seek help *before* you become pregnant, whether in a group setting (such as a church support group or Alcoholics Anonymous) or individually with a professional counselor.

**Illegal drugs.** The use of illegal drugs continues to be a fearsome epidemic in our culture. The popular term *recreational drug use* is a contradiction because the word *recreation* implies an activity that has a positive, restoring, re-creating effect on mind and body. These substances, however, have just the opposite effect, draining away the resources, health, and ultimately the life from their users. When the user is a pregnant woman, two lives (at least) are being damaged.

Regular **marijuana** users may deliver prematurely and even at term are more likely to have smaller babies. **Cocaine** use during pregnancy can cause not only a miscarriage or premature labor but also the eventual delivery of a small, irritable baby

who may have serious, lifelong problems. Aside from any difficulties that might arise from premature delivery, cocaine itself can damage the infant's central nervous system, urinary tract, and limbs by constricting their blood supply. Increased irritability during the newborn period, developmental delays, and difficulty with learning and interacting with others may also be attributable to cocaine use by the mother. (Frequently cocaine users consume substances such as alcohol and tobacco as well, complicating the question of identifying specific consequences of cocaine.) Long-term memory and learning problems may also occur in the child whose mother has taken the popular mood-altering drug **ecstasy** during pregnancy. **Amphetamine** use during pregnancy can compromise the supply of nutrients to the growing baby. It can even cause a dangerous event known as **placental abruption**, in which the placenta prematurely separates from the uterus, threatening the lives of both baby and mother.

A mother's use of narcotics such as **heroin** or **methadone** throughout her pregnancy may subject the baby to a difficult withdrawal after birth. Symptoms, which usually begin during the first day or two after birth, can include increased irritability, tremors, a high-pitched cry, constant hunger, sweating, and sneezing. In severe cases, seizures, vomiting, diarrhea, and difficulty with breathing can occur. Furthermore, if these drugs are taken intravenously (that is, injected into the veins), the mother risks becoming infected with one or more dangerous pathogens, including the viruses that cause hepatitis B and C as well as AIDS. Any of these could not only shorten the mother's life drastically but could infect her baby as well. Furthermore, a woman addicted to one or more drugs may resort to exchanges of sex for cash or drugs, thus greatly increasing her risk for acquiring a sexually transmitted infection.

As serious as all these health concerns are, they do not encompass the vast waste of resources and the chaotic lifestyle that so often accompany the use of illegal drugs. Chronic drug abusers are usually unable to deal consistently with the daily demands of child care. Food preparation, safety in the home, and basic health practices are likely to be compromised. Run-ins with the law and difficulty maintaining steady employment are not uncommon. Healthy relationships with friends and family members may be in short supply. The disturbances and distractions of chronic drug use seriously compromise a parent's ability to bring up healthy children. Whether or not you are pregnant, the time to stop using any of these toxic substances is *now*, and seeking help to do so should be an immediate priority.

**Caffeine.** This stimulant abounds in everyday beverages such as coffee, tea, and soft drinks, as well as some headache remedies and pain relievers. A daily intake of up to 300 mg (the amount in two or three five-ounce cups of coffee) is widely considered safe during pregnancy. Larger amounts (over 500 mg per day) will keep both you and your baby awake, and his or her increased activity levels before birth may lead to a lower birth weight. If you consume coffee by the pot or sodas by the six-pack, you should begin cutting back on your intake of these drinks to reduce your daily caffeine to well below 300 mg (see table on page 18) before you become pregnant or reduce immediately if you are already expecting. Decreasing the brewing time for coffee or tea will also cut caffeine content. (If you're trying to become pregnant, you should be aware that some evidence suggests that consuming more than 300 to 500 mg of caffeine per day may delay conception.) One additional thought: While coffee and tea (with or without caffeine) contain antioxidants that may actually provide some long-term health benefits, soft drinks contain a lot of sugar (or artificial sweetener) and zero nutritional

value. If they are part of your daily nutritional routine, demoting them to an occasional indulgence or phasing them out entirely would be a wise decision.

### CAFFEINE CONTENT OF FOOD AND BEVERAGES

| Food Source    | Amount         | Caffeine Content |
|----------------|----------------|------------------|
| Regular coffee | 8 oz (240 ml)  | 100–300 mg       |
| Instant coffee | 8 oz           | 80–100 mg        |
| Decaf coffee   | 8 oz           | 3–5 mg           |
| Tea            | 8 oz           | 60–65 mg         |
| *Regular cola  | 12 oz (360 ml) | 36 mg            |
| Diet cola      | 12 oz          | 36–47 mg         |
| Chocolate bar  | 1 oz (30 g)    | 20 mg            |

\* Read labels to determine the presence of caffeine in specific soft drinks, such as Mountain Dew and Dr. Pepper.

**Prescription and over-the-counter (OTC) drugs.** In general, you should try to avoid using any type of medication that isn't specifically prescribed or approved by your physician. *Always be sure to inform any physician who treats you that you are or might be pregnant, since this could have a significant impact on the medication(s) he or she might recommend.*

What about artificial sweeteners? Aspartame (Equal, NutraSweet) and sucralose (Splenda) appear to be safe during pregnancy when used in moderation. People with the metabolic disorder phenylketonuria (or PKU), which occurs in about one in ten thousand individuals, should not use aspartame.<sup>9</sup>

*The fact that you can buy a drug off the shelf at the supermarket doesn't necessarily mean that it is wise to use it during pregnancy.* Pain relievers, cold tablets, laxatives, and other medications, as well as vitamin, herb, and food supplements, may seem harmless merely because they are easily accessible or advertised as "natural." A number of these are, in fact, quite safe during pregnancy, but you should consult your physician, who is familiar with your medical history and the details of your pregnancy, before using any of them. Common examples of OTC medications include the following:

**Pain relievers. Acetaminophen** (Tylenol and other brands) is generally recognized as safe for both mother and baby during pregnancy when used in the recommended dosage, but it can be toxic to the liver in an overdose. This drug reduces aches, pains, headaches, and fever. Aspirin and the anti-inflammatory drugs **ibuprofen** (Advil, Motrin, and others) and **naproxen** (Aleve) may increase the risk of bleeding in both mother and baby, especially around the time of birth. Anti-inflammatory medications taken late in pregnancy also may inhibit the onset of labor. Furthermore, they can cause a structure in the infant's heart known as the **ductus arteriosus** to close, resulting in potential circulatory problems after birth. While such complications are very unusual, you should avoid these medications during pregnancy (especially during the final three months) unless they are recommended for a specific purpose by your physician.

**Cold tablets.** Decongestants, antihistamines, cough syrups, and nasal sprays are sold in a bewildering array of combinations and preparations. All are intended to relieve symptoms, but these drugs rarely have a direct effect on the course of an upper-respiratory illness. Some of the ingredients in cold remedies are considered safe during

a normal pregnancy, but you should check with your physician and pharmacist before using any of them. Rest, fluids, and time will take care of the vast majority of these infections. However, you should also contact your doctor if your runny nose, sore throat, or cough continues for more than a week; if you are producing thick, discolored drainage from nose or chest; or if you are running a fever over 100°F (37.8°C). If the doctor you speak with is not the one who is caring for your pregnancy, be sure that he or she knows you are pregnant.

**Antacids.** Many pregnant women develop heartburn and indigestion because of changes in the intestinal tract produced by the growing uterus. Antacids are generally considered safe during pregnancy when used in recommended doses, but they may provoke diarrhea and can interfere with the absorption of prescription drugs. If neither antacids nor simple measures (such as eating smaller amounts of food more frequently and avoiding lying down within an hour after eating) are controlling these symptoms, the nonprescription medications **cimetidine** (Tagamet) and **ranitidine** (Zantac) are generally considered both effective and safe during pregnancy. As with nearly all medications, you should consult with your obstetrician before using any of these during the first three months of pregnancy. (A similar drug, **nizatidine** [Axid], is *not* recommended during pregnancy because of adverse effects in animal studies.)<sup>10</sup>

**Laxatives.** Constipation is common during pregnancy, but chemical laxatives are not the preferred method of treatment. Lots of fluids and juices, additional fiber in the diet (whether directly from food sources or from psyllium-seed supplements such as Metamucil or Citrucel), and regular exercise are the best first-line remedies. If you are not able to have a bowel movement for a few days at a time, you should review additional options with your physician.

### *Are you exposed to any environmental hazards?*

During the course of your pregnancy, and especially during the first three months, you should minimize your exposure to **X-rays** (also called **ionizing radiation**). Exposure to very large doses during the early weeks, when the baby's tissues and organs are under construction, could lead to birth defects. Fortunately, the X-ray exposure involved in common medical examinations is a tiny fraction of the amount generally considered risky. If you have had one or more diagnostic X-rays and then discover you were pregnant at the time, it is extremely unlikely that your baby will be affected. Nevertheless, if this occurs you should review with your physician what procedures were done.

Some reasonable precautions to minimize your (and your baby's) exposure to X-rays include these steps:

- If X-rays (including those in the dentist's office) have been recommended, be sure to tell both your physician or dentist and the X-ray technician if you are or might be pregnant.
- If at all possible, postpone X-rays until after the baby is born, or at least wait until the first three months of pregnancy have passed. Procedures that do not utilize ionizing radiation, such as **ultrasound** or **magnetic resonance imaging (MRI)**, may be alternative options that can supply the necessary diagnostic information. (It is currently assumed but not proven that an MRI study is safe in early pregnancy.) If X-rays are needed in an emergency situation, techniques that limit exposure (such as shielding the abdomen with a lead apron or limiting the number of films taken) may be utilized. (It is generally recommended that a woman of reproductive age have her abdomen shielded when she has *any* type of X-ray.)

- If you work around sources of ionizing radiation (for example, in an office or hospital area where X-rays are taken), be sure to follow carefully the occupational guidelines in your facility for minimizing and measuring any ongoing exposure.
- Depending upon location, dose, and timing during pregnancy, radiation therapy for cancer may—or may not—pose a significant hazard to a developing baby. The difficult problem of managing a cancer arises only in about one in one thousand pregnancies. Should this occur, however, the benefits and risks of any proposed treatment—as well as the consequences of postponing treatment—must be reviewed in detail and decisions made after careful deliberation and prayer.

Over the past several years concerns have been raised about the effects of exposure of pregnant women to **nonionizing radiation**—microwaves, radio waves, electromagnetic fields (such as those associated with power lines), and infrared light. Thus far, problems arising from these forms of radiation have not been clearly demonstrated. Specifically, research has not shown an increased risk of birth defects among pregnant women who work at video display terminals (VDTs) such as computer monitors for several hours per week. Similarly, adverse effects of living near power lines have not been established.

Some concerns have been raised about prolonged exposure to high temperatures in **hot tubs, whirlpools, and saunas**. The American College of Obstetricians and Gynecologists recommends that a woman avoid core body temperatures above 102.2°F (39°C) during the first three months of pregnancy because of an increased risk of her baby having a birth defect. Because a maximum safe amount of exposure to high temperatures cannot be established with complete certainty, and because ten to twenty minutes in a hot tub can raise a person’s body temperature to 102° (38.9°C) or more, it is best to avoid hot tubs or extremely hot baths altogether during the course of your pregnancy (and especially during the first three months).

***Do you have any medical problems that need to be addressed?***

Before 1900, a pregnant woman typically had only one prenatal visit with a physician prior to her delivery, during which her due date was determined—and little else. When

## LAB TESTS COMMONLY DONE DURING PREGNANCY

- A complete blood count (CBC) to check for anemia and other abnormalities of blood components.
- A urinalysis to check for infection, protein (which normally is minimally present in urine), blood, or other signs of disease.
- Blood type and Rh factor. This is important because differences between your blood type or Rh and the baby’s could lead to complications in the newborn. For women who do not have the Rh factor (that is, they are Rh-negative), additional screening is done later in the pregnancy.
- A blood test for immunity to rubella (German measles).
- Tests for syphilis, hepatitis B, chlamydia, and HIV, and possibly for gonorrhea (see Special Concerns “Sexually Transmitted Infections: Their Impact on You and Your Unborn Child,” page 73).
- Blood glucose to check for diabetes.



next seen, she might be near term and in perfect health—or severely ill with an infection or a complication of her pregnancy. One of the major advances in public health in the early twentieth century was the recognition that a number of health problems that affect both mother and child could be detected, and in many cases corrected, through screening during pregnancy.

Many experts now not only advocate starting prenatal care as soon as possible after a pregnancy is diagnosed but even recommend a **preconception visit** for those who are thinking about starting a family. Whether before or during pregnancy, a thorough history and physical examination, including a review of important areas such as family background, habits, lifestyle, and general health, are wise. Some basic laboratory tests may also be done. Since all these areas can affect the health of both mother and child during pregnancy and thus the quality of a baby’s start in life, an ounce or two of prevention and protection can save several pounds of costly cure. Areas to consider include:

**Family background.** If there is a history of any diseases that are passed by inheritance (such as cystic fibrosis, sickle cell disease, or Tay-Sachs disease) within the family of either parent-to-be, genetic counseling can help to determine the potential risk of having a baby with a similar problem. This information can in turn guide decisions about having certain tests done during pregnancy to detect possible problems in the child (see Special Concerns, “Birth Defects and Prenatal Testing,” page 85).

**Previous pregnancies.** If you have had a prior pregnancy loss, a complication during labor or delivery, or a child born with a congenital problem of any type, specific tests and preparations may be in order before or during another pregnancy.

**General health.** Pregnancy is not a disease, of course, but it does have a significant impact on the way a woman’s body functions. Furthermore, a number of medical problems can have a profound effect on her pregnancy and the health of her baby. The most important of these are diabetes, high blood pressure (hypertension), epilepsy, heart disease, asthma, kidney disease, and the so-called autoimmune disorders such as rheumatoid arthritis or systemic lupus erythematosus. Any of these problems should

- A Pap test (smear) to check the cells of the cervix (the opening of the uterus) for abnormalities, including cancerous or precancerous cells. This is normally carried out during the first prenatal visit if it has not been done during the previous year.
- Screening for bacterial and viral infections in the vagina and cervix. This is often performed during pregnancy. Specifically, a woman who has had a premature delivery in the past may be screened during her first prenatal visit for bacterial vaginosis, the presence of certain bacteria in the vagina that could increase the risk for premature rupture of membranes and subsequent labor. A culture for group B streptococci, which can infect and harm the newborn after delivery, is generally done during the last few weeks of pregnancy.
- Other tests may be appropriate, based on your history or exam findings. For example, if you have high blood pressure, an assessment of kidney function and other tests may be necessary. ■

be addressed and controlled, if at all possible, *before* becoming pregnant or as soon as possible after pregnancy is confirmed.

**Infections and immunity.** Most acute illnesses (such as colds) that might occur during a pregnancy are weathered without difficulty by both mother and baby. However, some types of infections in a pregnant woman can have adverse effects on her unborn child. When one of these occurs, the ultimate outcome will depend on (among other things) the type of organism, the severity of the infection, and the stage of pregnancy during which it occurs. While the more troublesome infections are uncommon, it is well worth taking some basic precautions in order to avoid them.

**Rubella (German or three-day measles)** is a viral infection that causes fever, aches, and a rash for a few days. If a woman becomes infected with rubella during the first three months of pregnancy, her baby will have a significant risk of developing one or more serious defects, which together are known as **congenital rubella syndrome**. These can include delayed growth, mental retardation, eye disorders, deafness, and heart disease. Congenital rubella syndrome rarely occurs if the mother is infected with rubella after the halfway point of the pregnancy (twenty weeks).

Any woman who might become pregnant should have a blood test to see if she is immune to this disease. A vaccine that protects children and adults from developing rubella has been available since 1969, and its widespread use has drastically reduced the number of cases of both the infection and congenital rubella syndrome in the United States over the past few decades. Most young women have had at least one MMR (measles/mumps/rubella) injection—two doses during childhood have been recommended since 1990—but *this does not guarantee that they are protected.*

If a blood test does not detect antibodies to rubella, a woman should have an immunization *before* she becomes pregnant. Most experts recommend waiting for one month after the injection before becoming pregnant,<sup>11</sup> although congenital rubella syndrome has not been reported even when the injection has been accidentally given during pregnancy. (If a woman is breastfeeding, the rubella vaccine can be administered without any apparent risk to the nursing child.)

**Chickenpox (varicella)** is another viral infection that usually occurs during childhood, although susceptible adults (including pregnant women) can also develop this illness—often causing a more difficult course than the one their younger counterparts experience.

A developing baby can be infected with the mother's chickenpox, and the consequences will depend on the timing of the illness. If she becomes ill during the first twelve weeks of pregnancy, there is a 0.4 percent risk (stated another way, a one in 250 chance) of her baby developing a **congenital varicella syndrome**, which may include any of several defects of the eyes, heart, and limbs. If the infection occurs between thirteen and twenty weeks of the pregnancy, the risk of congenital varicella syndrome is about 2 percent. There is no way to determine whether the baby has been affected at the time of the mother's infection. Unfortunately, women who are infected with chickenpox during the first half of pregnancy may be advised that they should have an abortion without being told that the risk of a congenital problem is quite low.

After twenty weeks of pregnancy, chickenpox in the mother does not result in harm to her baby unless the infection occurs from five days before to two days after delivery. (Before birth, the baby can be infected through the mother's blood via the umbilical cord. If the mother is infected shortly after giving birth, the baby can contract the illness

We will look at rubella in more detail, and the importance of immunizing a child against it, in "Immunizations—Which Ones, Why, and When?" beginning on page 739.



by direct exposure.) When this occurs, a severe infection can result because the baby may acquire the virus without also receiving any of the mother’s protective antibodies. If this occurs, the baby should receive an injection called varicella-zoster immune globulin (or VZIG), which provides a temporary protective dose of “borrowed” antibody.

If you are pregnant and do not believe you have had this disease, you should be careful to avoid any child who has or might have chickenpox, as well as any adult with an outbreak of shingles, which can spread the same virus. If you are uncertain whether or not you have had chickenpox in the past and wish to find out prior to or during pregnancy, your doctor can order a blood test that detects antibodies to the virus. If the test indicates that you are not immune and you are not yet pregnant, discuss with your physician the possibility of receiving the varicella vaccine, which is given in two doses four to eight weeks apart. You should avoid becoming pregnant for at least one month after receiving either dose of the vaccine.<sup>12</sup>

**Group B streptococci** are bacteria that are present in the vagina of approximately 20 to 25 percent of pregnant women and can infect the baby during birth, especially if labor is premature or if the woman’s membranes are ruptured for more than eighteen hours prior to delivery. Overall, about one of every one thousand infants is infected during birth, often with severe consequences including pneumonia and meningitis. Your doctor may recommend a culture to detect this bacteria at some point during your pregnancy. A baby born to a woman who is a carrier of group B streptococci has a one in two hundred chance of being infected if the mother is not treated with antibiotics at the time of delivery. If she is treated, however, the risk of group B strep infection drops twentyfold to one in four thousand.

**Toxoplasmosis** is an infection caused by a one-celled parasite (*Toxoplasma gondii* is its official name) that usually causes few or no symptoms in children or adults who have normal immunity. However, if a woman becomes infected with *Toxoplasma* just before or during her pregnancy, her baby may become infected as well. The infant may not have any symptoms, or he may develop a disease that can affect the skin, central nervous system, vision, and/or hearing. Premature delivery, a head that is small (microcephaly) or large (macrocephaly), enlargement of liver and spleen, and anemia (a low red cell count) may also occur. Seizures and mental retardation may be late manifestations. If recognized in mother and/or infant, toxoplasmosis can be treated with antibiotics. Unfortunately, this infection can be difficult to diagnose, and treatment may or may not change the outcome. Because toxoplasmosis is potentially very hazardous to a preborn infant but difficult to diagnose and treat, *preventing* the disease is critical.

Cats play a pivotal role in the transmission of toxoplasmosis, passing millions of parasites in their feces for about three weeks after eating birds, rodents, or other animals that have been infected. The cat feces in turn can spread *Toxoplasma* wherever they are deposited—in a litter box, a garden, or a feed lot. Animals such as pigs or sheep that eat contaminated feed can develop cysts containing the parasite in their muscles, which can then infect the unwary individual who eats undercooked meat. To minimize your risk of getting toxoplasmosis, you need to mind how you handle your cat (if you have one) and your food (even if you don’t have a cat).

- If you have an indoor cat, keep her that way.
- Don’t feed your cat raw meat. Stick with canned or dry cat food.

The term *ruptured membranes* refers to the breaking open of the amniotic sac (known more familiarly as the “bag of waters”) that contains amniotic fluid in which the baby floats prior to birth.

According to the Centers for Disease Control and Prevention (CDC), more than 60 million Americans have been infected by *Toxoplasma gondii*. Each year between four hundred and four thousand infants are infected before birth, and as many as eighty die of toxoplasmosis.<sup>13</sup>

- If you're pregnant, don't get a new cat—especially a stray. Note that kittens and younger cats are more likely to spread *Toxoplasma* than older cats.
- If you're pregnant, have someone else clean the litter box. Daily removal of feces reduces the likelihood of transmission because the parasite is not infectious until at least a day after it has been passed by the cat.
- If no one else can clean the litter box, wear disposable gloves, clean it daily, and wash your hands thoroughly after doing so.
- Because cats pass *Toxoplasma* in their feces for only a few weeks after becoming infected, testing their stools for the parasite is not recommended.
- Wash your hands thoroughly after handling soil, sand, raw meat, or unwashed fruits and vegetables.
- Cook your meat thoroughly, making sure there is no visible pink color, until it reaches an internal temperature of 160°F (71.1°C). Don't sample meat that is still cooking.
- Wash your cutting boards and other food preparation surfaces with hot water and soap after you have used them.
- Wash and/or peel fresh fruits and vegetables before you eat them.

**Listeriosis** is an infection caused by a type of bacteria (known as *Listeria monocytogenes*) that can be transmitted through a variety of ready-to-eat foods derived from animals.<sup>14</sup> It is particularly hazardous for the elderly, those with impaired immunity, pregnant women, and unborn children. (One in three cases of this disease occurs during pregnancy.) Even if the mother does not become ill, *Listeria* can be transmitted to her baby during pregnancy and may cause miscarriage, stillbirth, or premature delivery. A baby infected near the end of pregnancy is at risk for serious illness after birth and a number of potentially serious long-term problems involving the central nervous system, heart, or kidneys.

As with toxoplasmosis, listeriosis can be prevented by taking some basic precautions involving the handling, preparation, or outright avoidance of certain types of food:

- Do not eat unpasteurized milk or any foods that contain it.
- Do not eat unpasteurized soft cheeses such as feta, brie, Camembert, or cheeses such as *queso blanco fresco* (fresh white cheese) that are popular in Hispanic cuisine. Pasteurized cheeses, cottage cheese, cream cheese, and hard cheeses are safe.
- Hot dogs, lunch meats, and deli meats should not be eaten *unless* heated until steaming hot.
- Do not eat smoked seafood that you find in the refrigerated section of the store or the deli counter. These include fish such as salmon, trout, tuna, whitefish, cod, and mackerel, variously described as smoked, lox, kippered, jerky, or nova-style. (This type of fish may be eaten if it is an ingredient in a fully cooked dish.)
- Perishable foods that are ready to eat or precooked should be eaten as soon as possible, even if kept in the refrigerator. (Unlike many bacteria, *Listeria* can grow at 40°F [4.4°C] or below.)
- Clean your refrigerator regularly.
- Wash raw vegetables thoroughly before peeling or eating them.

**Parvovirus** causes an infection, seen commonly in schoolchildren but also in other age-groups, called **erythema infectiosum**, or **fifth disease**. Typically seen in

winter and spring months, fifth disease is most well known for producing a so-called slapped-cheek rash on the face, although a lacy eruption may be seen on the arms, legs, and upper body as well. Adults who are infected may develop the rash but also typically develop aching joints. However, both children and adults can become infected without any symptoms at all. Unfortunately, this disease is contagious for up to three weeks *before* the rash breaks out, so it is virtually impossible to prevent exposure of other family members.

If a woman becomes infected with parvovirus during pregnancy, it's very likely that there will be no adverse effects on her baby. However, sometimes the mother's infection results in a severe anemia in the baby, which in turn can cause congestive heart failure. This may result in the death of the preborn baby, leading to miscarriage or stillbirth, especially if the infection occurs during the first half of the pregnancy. Therefore, a pregnant woman who is exposed to this infection should have a blood test to determine whether she is immune to it. If she is, there should be no cause for concern. If not, testing may be recommended later in the pregnancy to determine whether she has become infected.

If infection with parvovirus appears to have taken place during pregnancy—with or without symptoms—the baby should be monitored with ultrasound exams prior to birth for signs of heart failure resulting from anemia. Should heart failure or anemia develop, the baby may require medication, early delivery, or even a transfusion prior to birth (one of the many forms of medical intervention now available for the preborn).

**Cytomegalovirus (CMV)** has the dubious distinction of causing the most common congenital infection in the United States while being both untreatable and rarely (if ever) preventable. Fortunately, significant CMV disease in newborns is very uncommon. Approximately one to 3 percent of pregnant women experience a primary (first-time) infection with CMV, but the vast majority have no symptoms. About 30 to 40 percent of infected mothers transmit the virus to their babies, but only about 10 to 15 percent of infected infants will have some form of noticeable disease at birth. Sadly, about 20 percent of those with symptoms of CMV infection at birth will die, and 90 percent of the survivors will have long-term neurological problems. In addition, about 15 percent of infected infants who do not have symptoms at birth will develop problems (such as mental retardation, vision and hearing loss) during the first two years of life. At the present time, pregnant women are not screened for their susceptibility to CMV because there is no effective treatment for this infection. However, if a woman develops an illness during pregnancy that resembles mononucleosis—with fever, sore throat, enlarged lymph nodes in the neck, and marked fatigue—her physician may at some point request blood tests or even cultures to help determine if CMV might be involved. If this diagnosis is made, she will need careful and accurate counseling regarding the risk of the baby having congenital disease.

Approximately twenty different **sexually transmitted infections (STIs)** pose significant risks to both mother and baby. Many STIs are passed during intimate contact with people who look perfectly well and have no signs of illness. *Unfortunately, the first indication that an infection has taken place may be the birth of a very sick baby, a miscarriage or stillbirth, or even a woman's inability to become pregnant.* The Special Concerns section on page 73 has details about STIs and pregnancy, including descriptions of their symptoms, risks to an unborn child, treatment, and prevention. Even if you consider yourself at low risk for having a sexually transmitted infection, you would be wise to review this

Erythema infectiosum (which literally means “infectious redness”) was given the name fifth disease because it was originally fifth on a list of common childhood infectious diseases that were accompanied by rash. The first four were measles, rubella (German measles), scarlet fever, and a viral infection called scarlatinella.

information. (An in-depth look at the impact of STIs on adolescents and young adults is contained in a Special Concerns section beginning on page 539.)

## Personal and Spiritual Preparations: What Sort of World Will Your Child Live In?

*The task of parenting is too scary on our own, and there is not enough knowledge in the books to guarantee the outcome of our duties. We desperately need divine help to do the job properly!*

**The New Dare to Discipline**  
By Dr. James Dobson

As important as it is to have a safe and satisfactory childbirth, in the long run the most critical assignments of parenthood involve much more than preparing for the delivery date. Once the cord is cut and the first breaths of air are taken, your child's world has permanently and dramatically changed. If she is going to thrive, and not merely survive, that world needs to be safe, stable, and loving, especially during the first three years of life.

It is a sad reality that the world at large is anything *but* safe, stable, and loving. It is full of "many dangers, toils, and snares," to quote the writer of the hymn "Amazing Grace," so much so that some young adults are not sure they are willing to bring a child into a world so torn by upheaval and uncertainty.

But for children (especially the very young), the world they experience is primarily the creation of the people around them. The sights, sounds, and touches of parents and family and a general sense of order, comfort, and predictability can be an island of love and sanity, even when the culture outside the front door is volatile or even violent. The reverse is also true: The prettiest home in the nicest neighborhood may be hell on earth for a young child, who will carry the aftermath of damaging experiences into adulthood.

Whatever else you do as you bring up your child, you must convey a crucial message that she can hear, see, and *experience* in hundreds of different ways, especially when she is young:

You are loved, you are important, and you always will be, no matter what happens. I care enough about you to provide for you, stand with you, coach you, correct you, and even die for you if necessary. My commitment to you is not based on what you do or don't do, how you look, whether your body is perfect or handicapped, or how you perform in school or sports. It is based on the fact that I am your parent and you are my child, a priceless gift whom God has loaned to me for a season. Eventually I will release you to live your own life, but while you are growing up, I consider caring for you an assignment of utmost importance.

Obviously, a newborn baby will not understand these words, and even an older child will not fully grasp their meaning. But embracing these words as a mind-set and a fundamental attitude toward your child will shape thousands of interactions that ultimately convey its message. Indeed, most of the other details and techniques of child rearing—feeding, toilet training, education, and the rest—pale in comparison to the importance of communicating this attitude to your child, week in and week out for years.

The question to ponder, therefore, is this: Are you ready to deliver this message to your child and to strive to make your child's world safe, stable, and loving?

This is certainly a more complicated question to answer than “Are you smoking cigarettes?” or “Is your blood pressure too high?” The answer has a lot to do with how *you* were brought up and with the decisions you have made up until now. The answer is also affected by the way you see yourself in relation to the baby, to any other children you may have, to your mate, to your own parents, to the world in general, and ultimately to God. To get a better grasp on this issue, consider carefully the following questions, perhaps writing down your thoughts in a journal for future reference:

- What did your mother and father teach you about love, safety, and security? Did you see them express affection for one another? Did they build one another up or barrage one another, and everyone else, with criticism? (If you were reared by one parent, the same questions apply in connection with that parent or other caregivers.)
- Did you hear and feel that you were loved unconditionally? Were consistent limits set and enforced? Was discipline administered in a context of teaching and love, or did unpredictable punishments occur in outbursts of anger? Was your home a safe or a dangerous place? Were you abused as a child—or as an adult?
- Are you expecting your baby to give you love? Are you hoping to derive significance from the role of being a mother or a father? Or do you already feel loved and believe that your life is significant and useful?
- How do you feel when
  - you are interrupted frequently?
  - someone needs you constantly?
  - you have ongoing responsibilities?
  - sudden changes rearrange your plans?
  - you don’t get enough sleep?

The messages you received from one or both parents can have a profound impact on the messages you in turn give to your own child. If your world was safe and secure, and if you felt loved and accepted by the most important people in your life—even when you were being corrected or disciplined—you are more likely to transmit that same sense of belonging and security to your own child. If the opposite was true, you may have a difficult time communicating warmth and acceptance to a child because you are probably still seeking them yourself.

You may be looking for love, acceptance, and significance from the role of being a mother or a father (and the recognition from others that ideally should come with the role) or even directly from your child. *But for babies or small children, nearly all of the loving and caring flows in a one-way direction: from you to them.* The newborn baby in particular is totally incapable of offering any affection before the first genuine smile appears at about the age of one month. His or her crying—especially if there is a lot of it—may sound downright hostile to the mother or father who is looking for a little appreciation for all the effort, pain, and sleepless nights.

If you are not sure—or are not happy—about your answers to these questions, you are not alone. No one has had perfect parents, and no one has lived a life free of mistakes and bad decisions. We are all on a learning curve, especially when it comes to parenting, and it’s never too late to make course corrections. Here are some ways to get started:

**Tap into a support team.** By seeking guidance and input from your pastor, a professional counselor, a relative, or someone with parenting experience whom you respect, you can gain valuable encouragement and support. Many churches have ongoing small-group studies available for young parents, and these can be water in the desert during some of the challenging periods of child rearing. A counselor may be efficient at sorting through your particular personal issues, but a great deal can also be accomplished with a person (or a couple) who is willing to serve as a mentor. If you have been verbally, physically, or sexually abused as a child (or adult), it is particularly important that you work with someone who is qualified to help you in the process of healing the wounds that are an inevitable consequence of such experiences.

**Take advantage of books, CDs, audiocassettes, and DVDs/videotapes that can be utilized at your own pace.** There is an abundance of materials that can educate and inspire you or supplement counseling about a particular problem.

**Maintain a regular quiet time.** Setting aside time to read Scripture, reflect, and pray elevates the entire project of child rearing to a different plane. However, if you already have one or more small children at home, sitting down for a peaceful quiet time may seem about as easy as flying to Mars. Some planning, creativity, and perseverance will definitely be necessary. (For example, this activity may have to take place during nap time or after the children are in bed, assuming you can stay awake and ignore whatever mess needs to be picked up. Or you may try to think and pray while taking a walk around the block, with or without a stroller.) Whatever effort is spent carving out some time for personal renewal will definitely pay off—perhaps in ways you may not appreciate until months or years have passed.

God is clearly presented in both Old and New Testaments as the perfect parent: not only our Creator but a loving, patient, wise Father who cares enough to guide and correct His children on a daily basis. When we truly begin to grasp the lengths to which God has gone in expressing His love for each of us and His desire to be involved in the details of our lives, our ultimate sense of identity, security, and significance takes on a whole new meaning. If we were brought up in an atmosphere of inconsistency, neglect, or hostility and violence, God is willing and able to parent us, even as adults. And that in turn leads us into a new capacity for loving and cherishing our own children.

Prayer forges powerful links not only to God but also to those we care about most. It's never too late (or too early) to give thanks for our children, to release the health and well-being of each child to God's provision since they ultimately belong to Him anyway, and to pray for those who will influence that child in the future—friends, teachers, pastors, and eventually a mate.

**For the parent who is married: Cultivate your relationship with your spouse.** Kids whose parents are openly affectionate, do kind things for one another, and treat one another with respect will feel secure indeed. *Your relationship with your husband or wife cannot be put on hold when children begin to arrive.* Eventually they will leave the nest, and you definitely want to have a healthy and thriving marriage, with a long-lasting supply of conversation and worthwhile projects, after they are gone.

### **Some thoughts for the expectant and new father**

As your wife progresses through her pregnancy, your original commitment to “love, honor, and cherish” will take on some important new dimensions. She is going through



some significant physical changes, including radical variations in hormone levels, which can affect energy, appetite, and mood. At any given time, she may feel tired (especially if there are other small children at home), nauseated, ungainly, and unattractive. After your baby is born, she may feel terrific, but she could also feel exhausted or depressed. Unfortunately, for all of these reasons, pregnancy and the months that follow are times when someone else who isn't tired or nauseated or irritable might begin to look attractive to you—in other words, when there may be an increased risk of infidelity. Your job, therefore, is to honor the commitments you made at the altar on your wedding day and to say and do things that communicate a consistent message:

You are loved, you are important, and you always will be, no matter what happens. I care enough about you to provide for you, stand with you, protect you, and even die for you if necessary. My commitment to you is not based on how you look, whether your body is perfect, how much you accomplish, or whether we can have sex. It is based on the fact that I am your husband and you are my wife and that our union is a priceless gift that God has so graciously provided. I consider looking out for your well-being to be an assignment of utmost importance as long as we live.

Sound familiar? Cultivating this attitude toward your wife is the foundation for communicating the same message to your child. Some practical suggestions include:

**Take the time to communicate.** If you have been separated from your wife all day, debriefing with her is far more important than browsing through the evening paper or watching the six o'clock news. This is particularly important if she is caring for small children at home, since most women crave adult conversation after a day full of toddler talk. You can begin with the simple “How was your day?” type of questions—and pay attention to the answers—but on a regular basis (weekly, if not more often) both of you should also ask and answer some important “checking in” questions as well:

1. What was the high point of your week (or day)?
2. What was the low point?
3. What are you most worried about right now?
4. Is there anything I can do right now to help you with what you are worried about (or anything else)?

Here's another important tip: Throughout your married life (and not just during pregnancy and the child-rearing years), make it a habit to ask these or similar questions, and listen carefully to the responses. Otherwise, after a few years you may find yourselves not knowing who your spouse has become.

**Learn how to listen.** If she's had a bad day, hear her out. Very often a husband will go into troubleshooting mode when his wife is unhappy, but it's usually much more important to let her vent than for you to try to “fix” everything. If you're not sure, by the way, whether she is looking for a fix-it or a sympathetic ear (or perhaps some of each), it's okay to ask. (Important tip for wives: Don't require your husband to read your mind. Let him know what you need most at the moment.)

**Offer to take on some tasks that might not normally be your turf at home.** Better yet, just do them without saying anything about it. Shoo her out of the kitchen, clean up the kids' mess, or offer to do the grocery run if you're not doing so already. Give her the opportunity to go out for a few hours to do something she enjoys or simply let her put her feet up or take a warm, uninterrupted bath.

**Maintain (or start) a date night every week or at least twice a month.** Spending a lot of money is not the object—but spending time together is. She needs to know that she is still desirable and that you appreciate her.

A number of constructive approaches to dealing with marital and family issues can be found in *Special Concerns*, "Conflict within the Family," beginning on page 425.

**Unexpected flowers and cards always make an amazingly positive impact, as they have for generations.**

**Pray regularly for and with your wife.**

On the warnings and cautions side, remember the following:

**Learn to deal with conflict constructively.** Most people do not automatically know how to discuss differences of opinion, especially strong ones, in a manner that is mutually respectful. If you find that discussions are generating more heat than light, take the time and effort to work with a pastor or counselor on your specific issues. Better yet, find a husband-wife team you both respect and who would be willing to serve as mentors, particularly in improving the basic way you approach disagreements.

**Choose your timing carefully when you discuss conflicts and problems.** If you are both tired, distracted, or irritated, the conversation will likely be unproductive.

**Eliminate from your vocabulary words and phrases that insult or degrade your wife.** If common courtesy would prevent you from saying them to a coworker or a complete stranger, you have no business saying them at home.

**Never, under any circumstances, strike, shove, or in any way make physical contact with your wife as an expression of anger or with intent to injure her.** There is never justification for taking this type of harmful action, but it is particularly destructive when she is pregnant. If you are angry and have run out of words, walk away from the situation and calm down. If you have hit your wife (or any woman in your life) in the past or feel the urge to do so, seek help from a pastor or counselor. This is a serious issue that must not be ignored or denied.

### **For the mother-to-be who is single**

All of the recommendations mentioned earlier—finding a support team, taking advantage of helpful books and tapes, and establishing a quiet time—are especially important for you and perhaps worth reading again. It is a courageous but often very difficult task to raise a child on your own, and you should not hesitate to seek whatever help is available within your family, church, or community at large. Most significantly, on many occasions you will also need to remember that God is keenly aware of all your needs and that He will be your "silent partner," standing beside you during those times when you feel you've reached the end of your resources.



At the same time, you will need to be careful with the attitudes you cultivate about your child. Watch out for the dangerous but all too common feeling that he is a burden, a hassle, or an obstacle to what you *really* would like to do with your life. (This viewpoint isn't unique to single mothers, by the way.) Because you might not have someone to share the workload, the time your child is dependent upon you may seem like an eternity. In fact, it is but a season, and one that will never return. It may take effort to do so, but remember—especially when what you want most is a good night's sleep, one that isn't interrupted by crying—to cherish this new person in your life.

## So . . . Are You Ready to Bring Up a Child?

This is a trick question.

As important as it is to plan ahead and prepare for parenthood, it is impossible to be *completely* ready. Even those who feel ready, willing, and able; have had all their checkups; have gone to the childbirth classes; and have decked out the nursery to look like a designer showcase may be thrown a major curveball with the arrival of their new baby. An unexpected physical abnormality, a sudden medical problem during or after delivery, or perhaps a difficult temperament in an otherwise normal child can turn the lives of the most well-equipped parents inside out.

For most parents, there is never a perfect time to have a baby. There will always be problems and circumstances to deal with: education, career paths, money, living space, health problems, and most of all, the basic maturity to nurture a child—especially the first one. Unfortunately, our culture has become so fixated on idealized notions of what constitutes a “wanted” pregnancy that in the United States there is one abortion for every three babies born.

Many women have not actually been trying to become pregnant when they find out they are carrying a child, and a number are in difficult circumstances. This is a particularly acute issue when the mother is young, single, and limited in resources. Those who need help dealing with the circumstances surrounding their pregnancy should not have to fend for themselves. The good news is that help is available. Hundreds of nonprofit centers have been established across North America, all dedicated to helping pregnant women (both single and married) and those close to them tackle the challenges of pregnancy and parenthood. Their services, all given without charge, range from locating a shelter and medical care to providing baby supplies and single-parent support groups.

The bottom line is that circumstances will *never* be perfect. No pregnancy, childbirth, or newborn baby will be flawless. But one major advantage of having nine months between conception and delivery is that it allows both Mom and Dad time to adjust and prepare for this major change in their lives. With time to reflect and draw on inner resources and assistance from family and community, the most turbulent beginnings of parenthood can ultimately have a successful outcome.

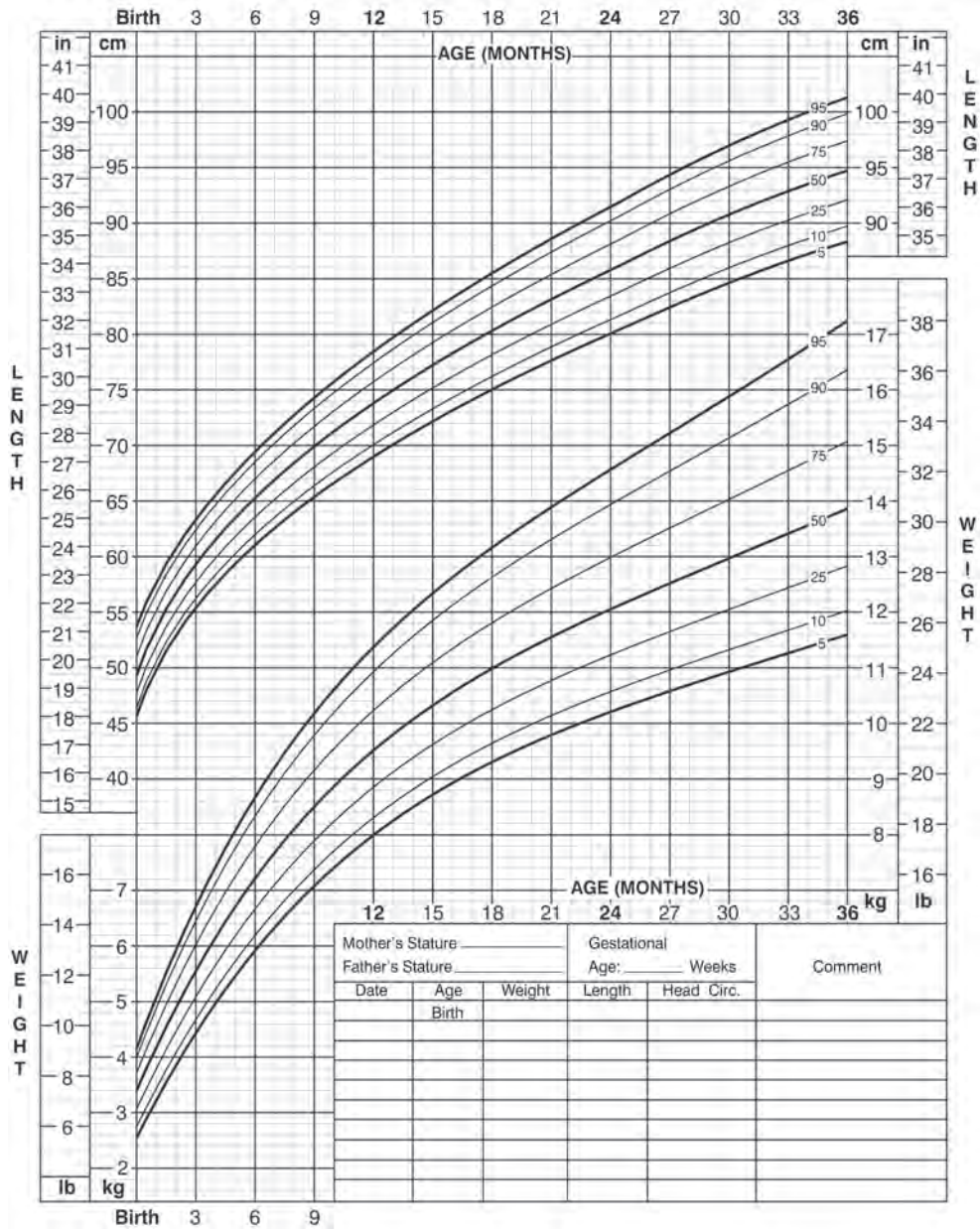
An organization that provides these types of services may be called a pregnancy resource center, crisis pregnancy center, pregnancy care center, or women's resource center. To locate one in your community, call 800-395-HELP or check [www.optionline.org](http://www.optionline.org) on the Internet.

# PHYSICAL GROWTH GIRLS: BIRTH TO 36 MONTHS

NAME \_\_\_\_\_

## Length-for-age and Weight-for-age percentiles

RECORD # \_\_\_\_\_



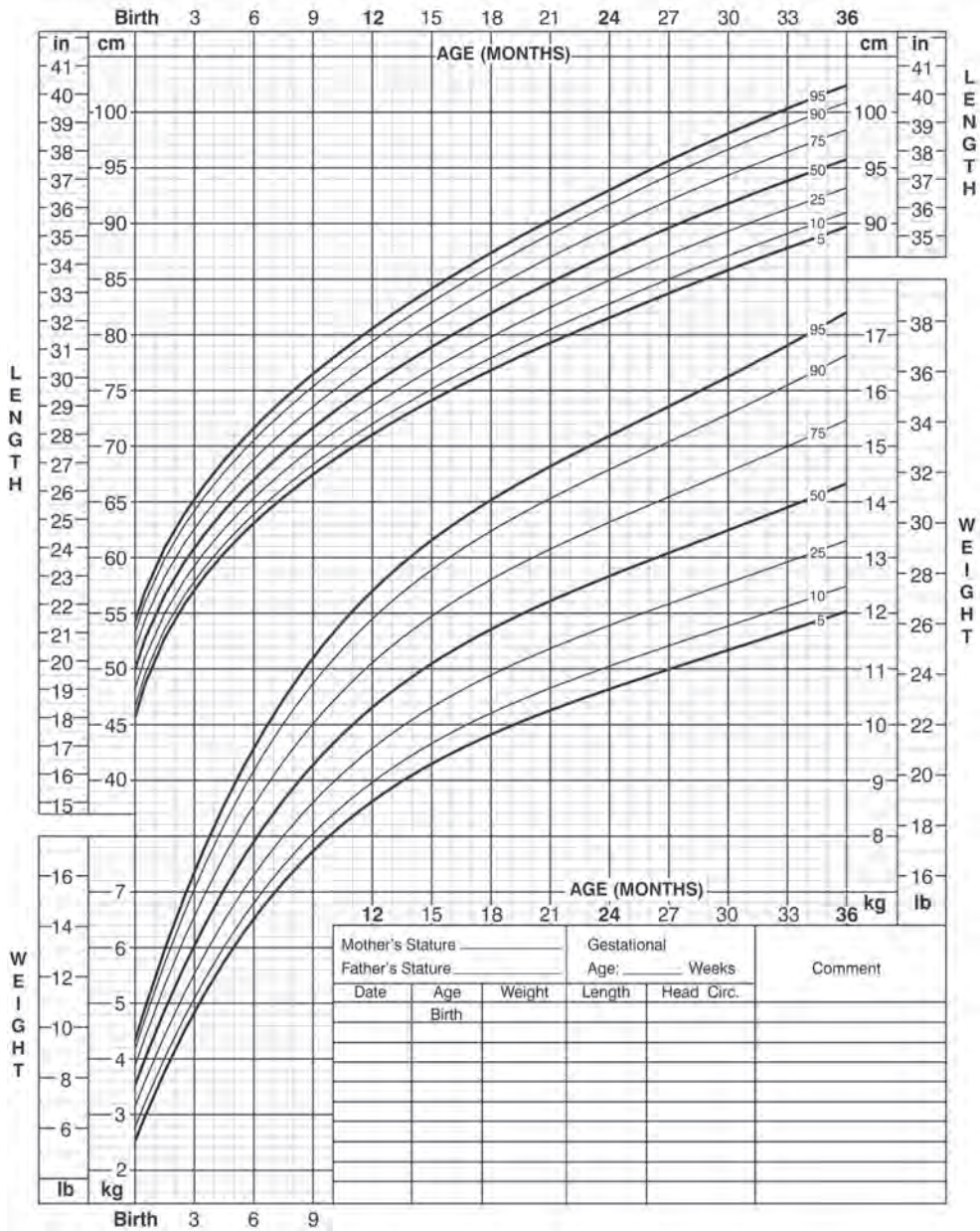
Published May 30, 2000 (modified 4/20/01).  
 SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).  
<http://www.cdc.gov/growthcharts>

# PHYSICAL GROWTH BOYS: BIRTH TO 36 MONTHS

NAME \_\_\_\_\_

## Length-for-age and Weight-for-age percentiles

RECORD # \_\_\_\_\_



Published May 30, 2000 (modified 4/20/01).  
 SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).  
<http://www.cdc.gov/growthcharts>

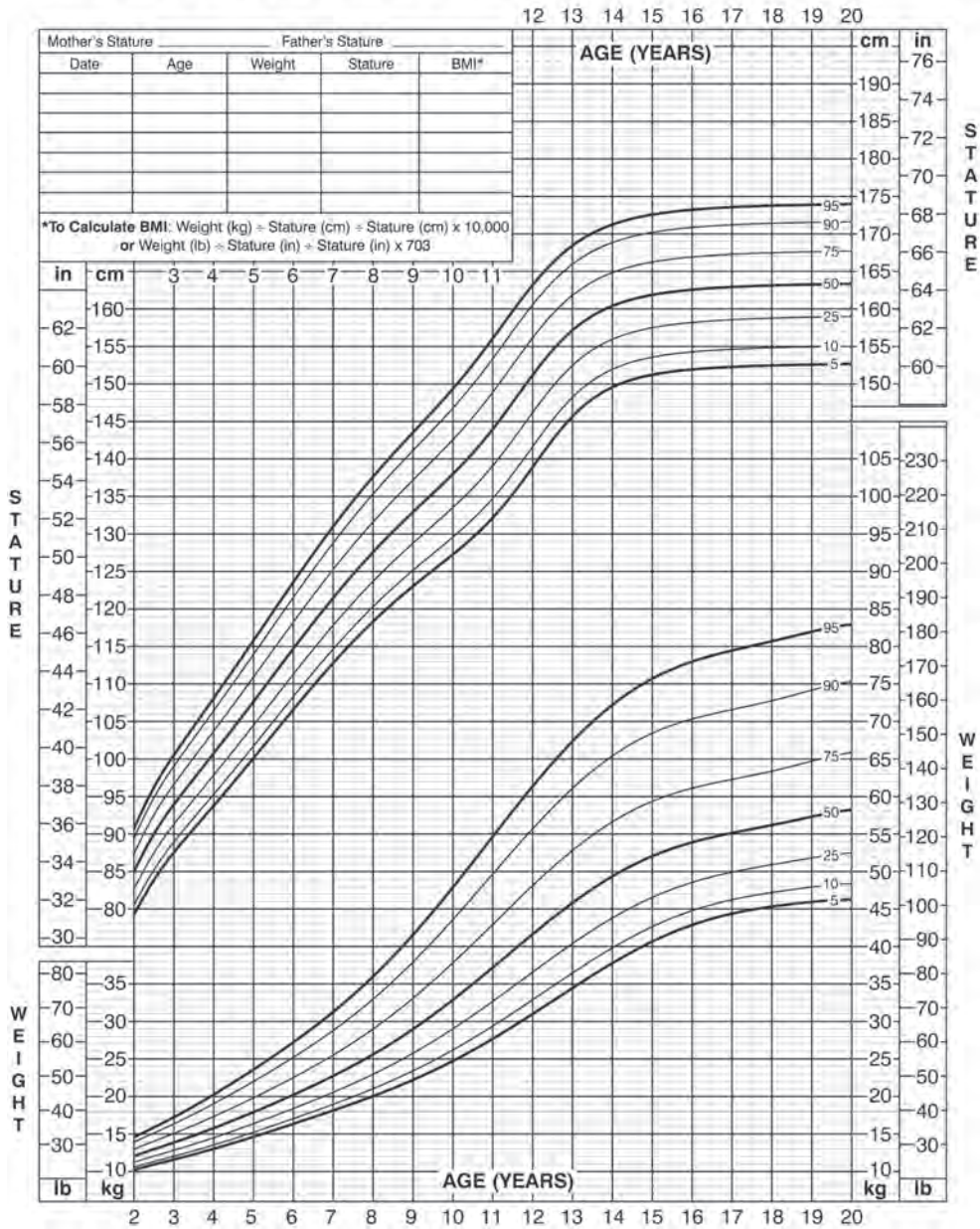


# PHYSICAL GROWTH GIRLS: 2 TO 20 YEARS

NAME \_\_\_\_\_

## Stature-for-age and Weight-for-age percentiles

RECORD # \_\_\_\_\_



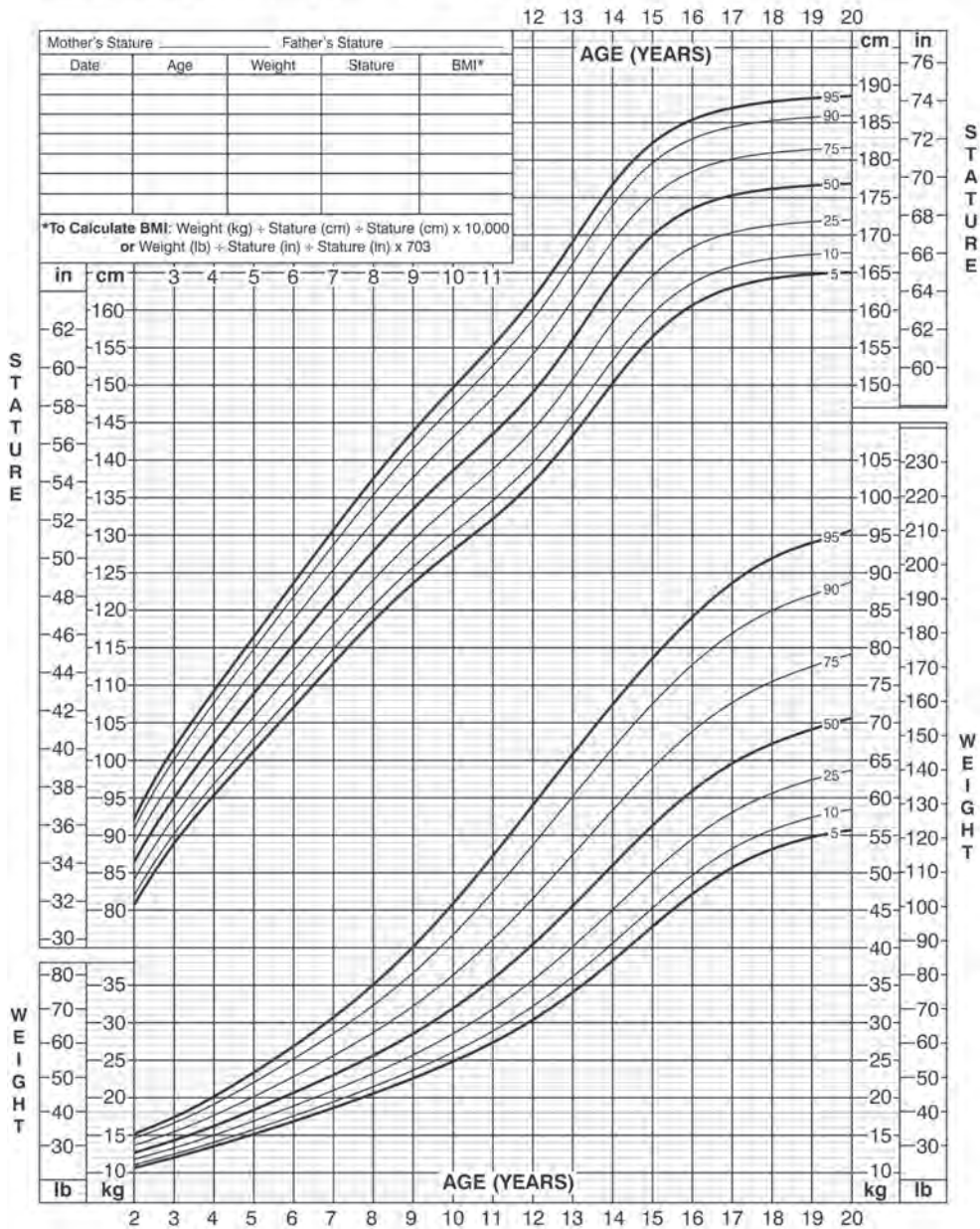
Published May 30, 2000 (modified 11/21/00).  
 SOURCE: Developed by the National Center for Health Statistics in collaboration with  
 the National Center for Chronic Disease Prevention and Health Promotion (2000).  
<http://www.cdc.gov/growthcharts>

# PHYSICAL GROWTH BOYS: 2 TO 20 YEARS

NAME \_\_\_\_\_

## Stature-for-age and Weight-for-age percentiles

RECORD # \_\_\_\_\_



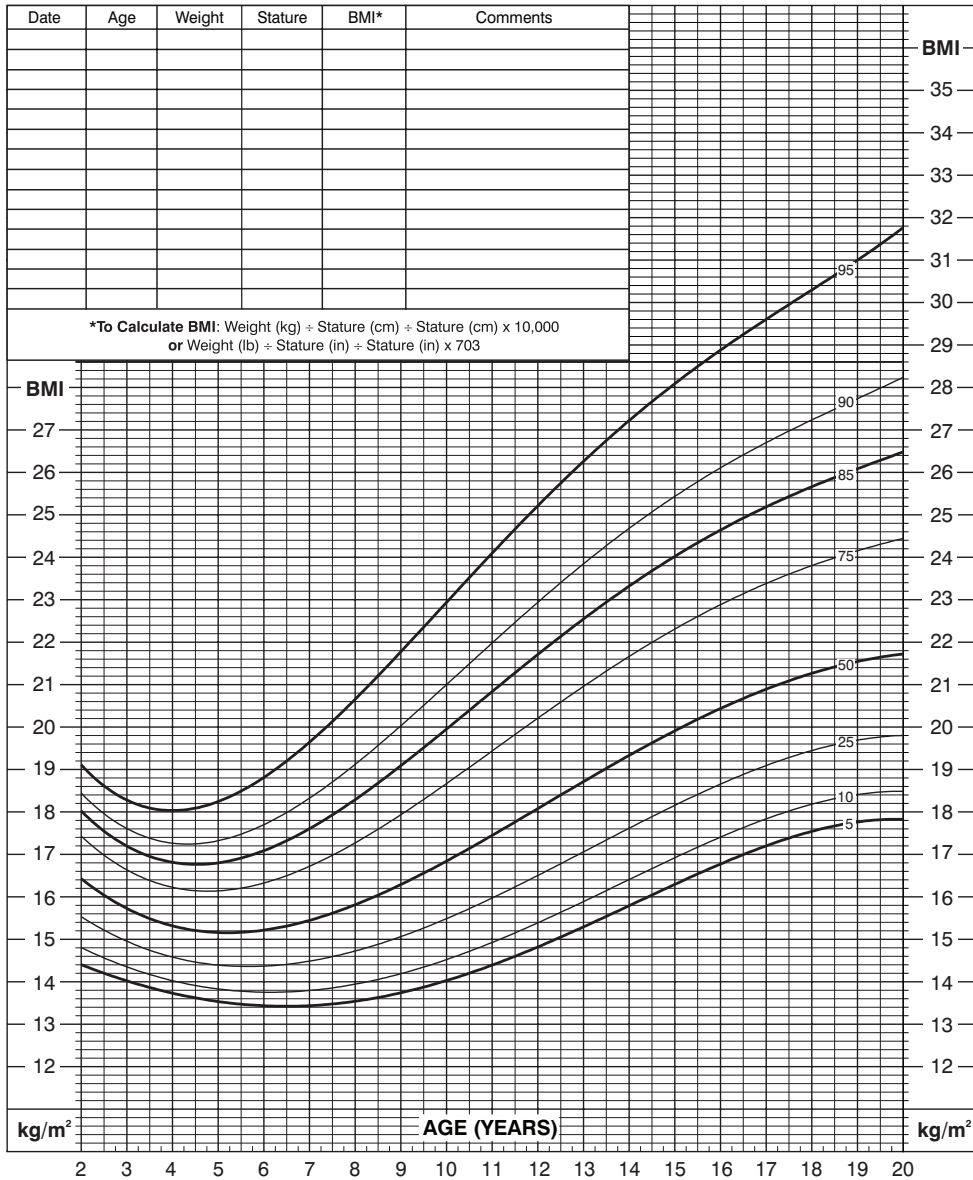
Published May 30, 2000 (modified 11/21/00).  
SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).  
<http://www.cdc.gov/growthcharts>

# BODY MASS INDEX GIRLS: 2 TO 20 YEARS

## 2 to 20 years: Girls Body mass index-for-age percentiles

NAME \_\_\_\_\_

RECORD # \_\_\_\_\_



Published May 30, 2000 (modified 10/16/00).  
SOURCE: Developed by the National Center for Health Statistics in collaboration with  
the National Center for Chronic Disease Prevention and Health Promotion (2000).  
<http://www.cdc.gov/growthcharts>

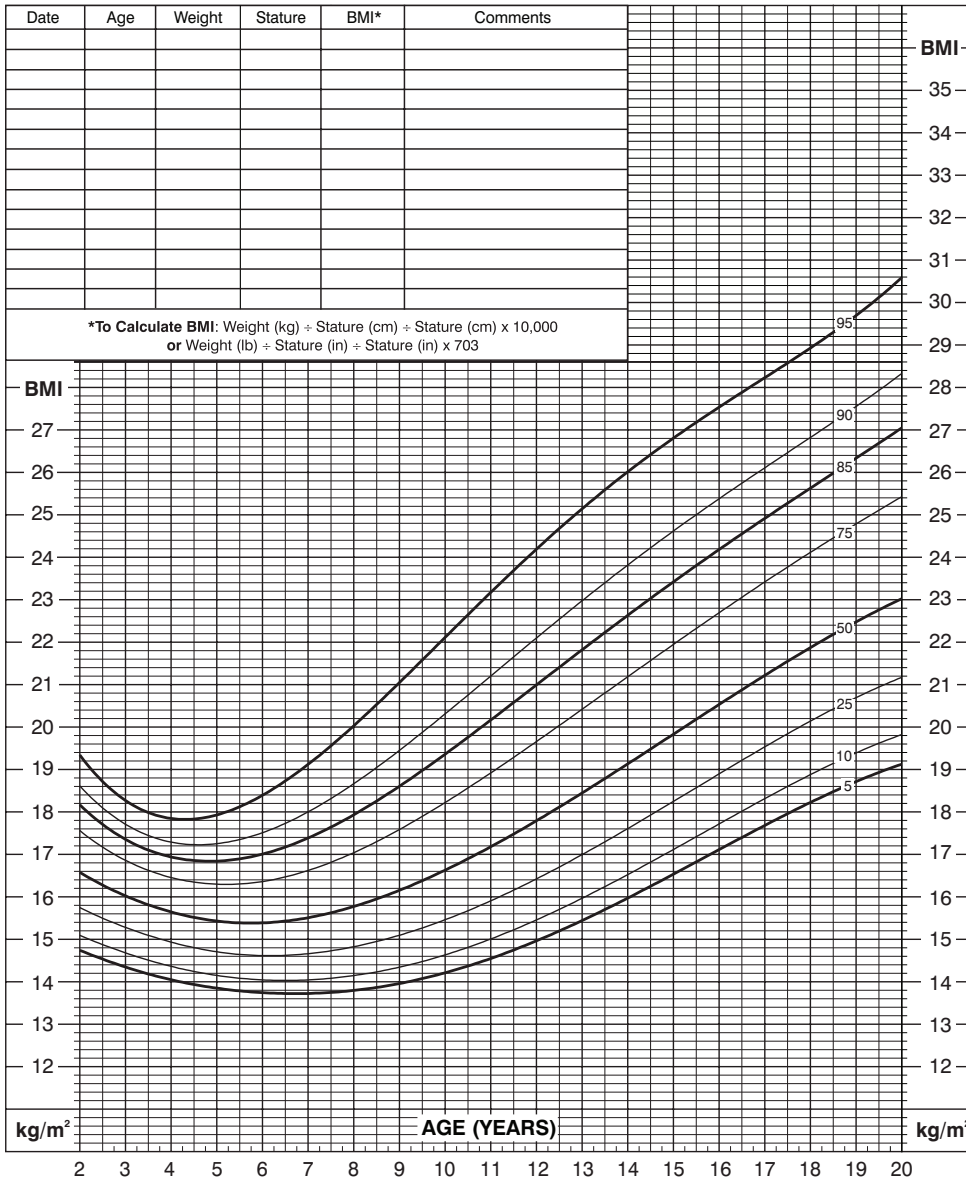


# BODY MASS INDEX BOYS: 2 TO 20 YEARS

## 2 to 20 years: Boys Body mass index-for-age percentiles

NAME \_\_\_\_\_

RECORD # \_\_\_\_\_



Published May 30, 2000 (modified 10/16/00).  
SOURCE: Developed by the National Center for Health Statistics in collaboration with the National Center for Chronic Disease Prevention and Health Promotion (2000).  
<http://www.cdc.gov/growthcharts>





# Emergency Care

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## IF YOU DIAL 911

- Tell the dispatcher that you have a medical emergency, and then state briefly what has happened (including the age of the child), where you are, and the phone number from which you are calling.
- *Stay on the line* so you can answer any questions the dispatcher might ask. He or she may also give you specific instructions for emergency care prior to the arrival of emergency personnel. Do not hang up until the dispatcher indicates it is time to do so. (He or she should hang up first.)
- If it is nighttime, turn on your outside lights—especially those that illuminate your address.
- If possible, have someone stand outside to direct the emergency personnel to the victim.

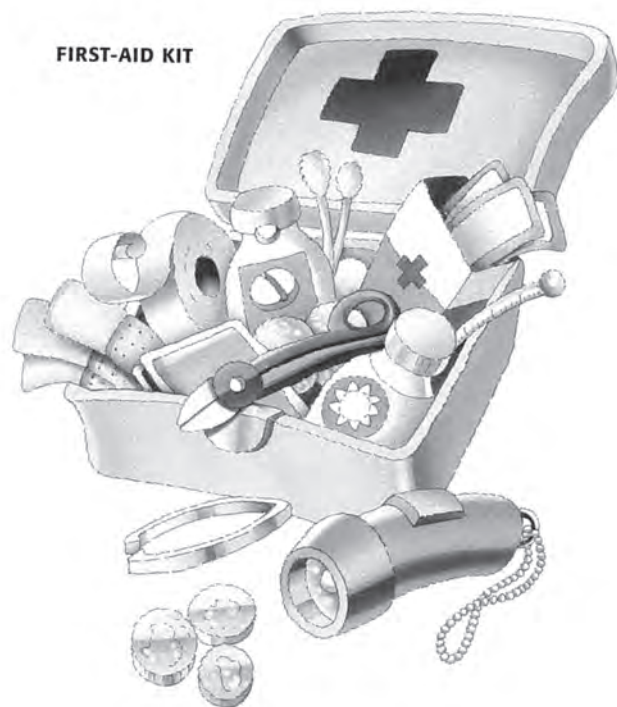
## IF YOU DIAL 911 FROM A CELL PHONE

- The dispatcher cannot determine the exact location of your call. Therefore it is very important to *give the dispatcher the location of the emergency right away*.
- Give the dispatcher your wireless number so that it can be called back if you are disconnected.
- *Don't* program your cell phone to dial 911 when a particular button is pushed. This can result in an unintentional emergency call that could waste the time and resources of responders.

## ITEMS FOR THE FIRST AID KIT

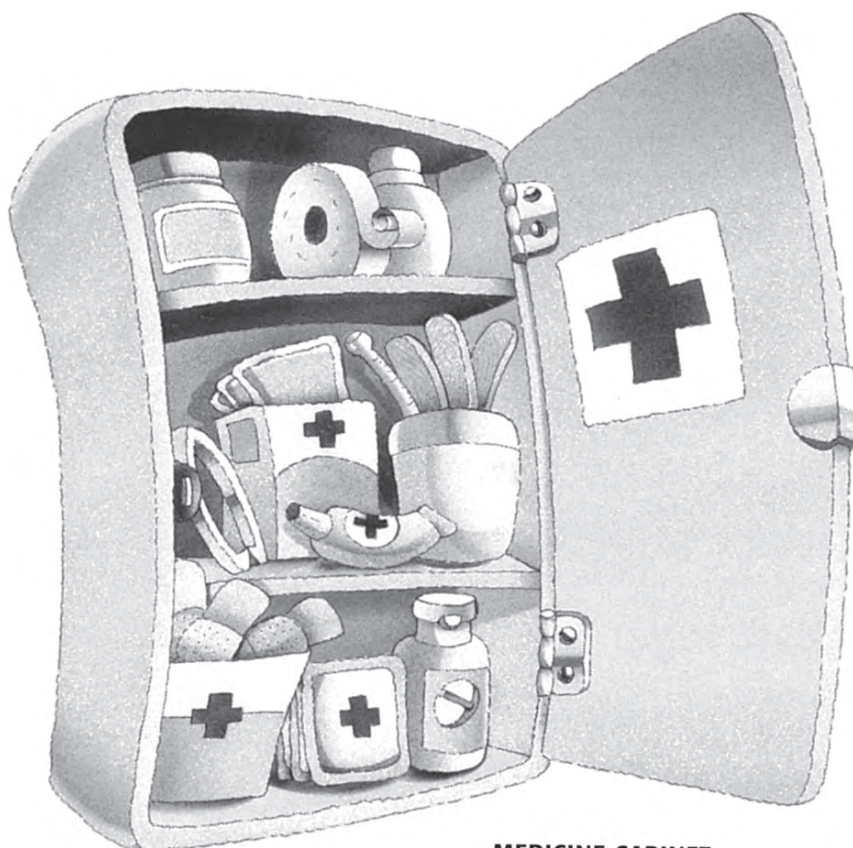
Prepare a first aid kit for each car and a smaller version for hiking or biking. Include the following items:

- Antiseptic wipes for cleaning cuts
- Antibacterial ointment
- Band-Aids
- Gauze pads and adhesive tape for larger scrapes
- Sunblock
- Instant cold pack
- Elastic bandage—three-inch width (7.5 cm)
- Acetaminophen (such as Children's Tylenol) or ibuprofen (such as Children's Advil or Children's Motrin)
- Tweezers
- Steri-Strips or butterfly closures
- Prepaid phone card or prepaid cell phone. (The phone should have a car charger or separate battery pack.)



## ITEMS FOR THE MEDICINE CABINET

- Appropriate thermometer for age of child. Know how to read it. (See “When Your Child Has a Fever,” page 241.)
- Petroleum jelly (Vaseline).
- Antiseptic wipes.
- Band-Aids, gauze pads, and adhesive tape for cuts and scrapes.
- Steri-Strips or butterfly closures.
- Antibacterial ointment.
- Elastic bandages: two-inch width (5 cm) for children under twelve months; three-inch width (7.5 cm) for children ages one to five; four-inch width (10 cm) for children over age five.
- Popsicle sticks for finger splinting.
- Acetaminophen drops, liquid, or tablets (Tylenol or other brand), appropriate for age and weight (see dosage chart, page 609).
- Ibuprofen drops, liquid, or tablets (Children’s Advil, Children’s Motrin or other brand), appropriate for age and weight (see dosage chart, page 688).
- Instant cold packs (small plastic bags that become cold when squeezed to mix the chemicals inside them).
- Tweezers.



**MEDICINE CABINET**

# Emergencies *(listed alphabetically)*

## ALLERGIC REACTIONS *See also “allergies in children,” Reference Section, page 612*

### Generalized allergic reactions

Generalized allergic reactions can vary greatly in severity, from mild itching to life-threatening anaphylaxis, and may occur in response to any of these:

- Foods (especially nuts, eggs, shellfish, and berries)
- Medications
- Substances called contrast materials that are injected into the body during certain X-ray procedures
- Insect stings

#### *Symptoms*

*of mild reactions*

- Rash—typically scattered widely over the body. Raised, itchy welts called hives are a common manifestation of a generalized allergic reaction.
- Generalized itching.

#### *Treatment*

*for mild reactions*

- Use antihistamines—especially diphenhydramine (Benadryl and other brands), cetirizine (Zyrtec, a prescription drug), or clemastine (Tavist and other brands)—to help relieve itching, swelling, and hives.
- Have the child lie down if feeling light-headed.
- If you think the reaction involves a medication, withhold further doses until you consult your child’s physician.
- When a drug reaction (of any kind—see page 800) has occurred, remind your child’s doctor during the next office visit to ensure that the information about the reaction is recorded on the child’s permanent medical record.

#### *Symptoms*

*of moderate reactions*

- All of the above and these:
- Swelling of the face, tongue, or throat
- Wheezing or coughing
- Light-headedness

#### *Treatment*

*for moderate reactions*

- All of the above. In addition, contact your child’s physician immediately or go to the nearest emergency room.

## Symptoms

*of severe reactions (anaphylaxis or anaphylactic shock)*

In the more severe, life-threatening reaction known as anaphylaxis, these symptoms may develop very rapidly and be very intense. In addition to the above, the following may occur:

- Difficulty swallowing or breathing
- Nausea or vomiting
- Abdominal cramps
- Sudden drop in blood pressure, manifested by pale, clammy skin; altered consciousness or unconsciousness; and rapid, weak pulse

*Anaphylaxis may lead to cardiac arrest and death if not treated promptly.*

## Treatment

*for severe reactions (anaphylaxis, or any involving rapid swelling of face/throat/tongue or difficulty breathing)*

- Call 911.
- If the child has been bitten, stung, or has ingested a substance, any of which have caused severe reactions *in the past*, call 911 even before symptoms are evident.
- Try to keep yourself and your child calm.
- If the child is wheezing and has an inhaler available that is intended for acute treatment of wheezing—for example, albuterol or levalbuterol (Xopenex)—have him use it as directed.
- If the child has an emergency kit (such as EpiPen or Ana-Kit) containing syringes prefilled with epinephrine (adrenaline), follow the instructions for giving this injection.
- Check responsiveness and breathing. If necessary, begin CPR (see page 836).
- If the episode follows a bee sting, remove the stinger by scraping it off with a credit card or other flat object—*do not use tweezers, since this may squeeze more venom into the skin.*
- If the child feels faint, have him lie down on a flat surface, loosen any tight clothing, cover him with a blanket or a coat, and elevate his feet eight to twelve inches (about 20 to 30 cm) to help maintain his blood pressure.
- *Do not* elevate the head if there is a breathing problem; this may aggravate a blockage of the airway.
- After your child has had an anaphylactic reaction, talk to his doctor about obtaining emergency treatment kits containing an injection of epinephrine (such as EpiPen or Ana-Kit) that can partially or completely reverse the reaction. These should be available at home, in the car, and in the gear taken on camping trips or other outings. A visit with an allergist may be appropriate as well.
- A child who has had an anaphylactic reaction should wear a medical ID tag with this information, especially if he may need an emergency injection of epinephrine.

*A child can have an allergic reaction to a substance that has never caused problems before, even with many prior contacts. If a reaction occurs, every reasonable effort should be made to prevent contact with that substance in the future because reactions that are initially mild can become more severe with further exposure.*

### ALLERGIC REACTION OR DRUG SIDE EFFECT?

Some children (and adults) experience side effects from over-the-counter (OTC) or prescription medications. Examples of common side effects are drowsiness with many antihistamines, nausea and/or diarrhea from certain antibiotics, and dry mouth from some forms of antidepressants. These reactions can vary considerably from person to person, and over time they can also change in a given individual using the same drug. Usually the potential side effects of a medication are listed on the label of an OTC drug. For prescription drugs, the physician will often review possible side effects, or the effects will be noted by the pharmacist when the prescription is filled.

Side effects are not the same as allergic reactions, which involve a specific response of the immune system. Distinguishing between side effects and allergic reactions is important: If a true allergic reaction has occurred, repeated doses of the same or a related drug might cause a more serious reaction in the future. By contrast, side effects may or may not occur if the drug is taken in the future. Sometimes a symptom that might seem like a drug reaction actually has no relationship to the medication, and the timing of its appearance is purely coincidental. Deciding whether or not a drug has caused a particular problem and whether it may be safely taken in the future can often be difficult and should be discussed with your child's physician.

## BITES AND STINGS

### Animal Bites

#### *Treatment*

*If your child has been bitten by any animal, wild or domestic, do the following:*

- Clean the wound at once with copious amounts of water and mild soap.
- If the wound is severe—with large tears or perforations—handle it as you would any large wound (see “Wounds and Wound Care,” page 834).
- Contact your child's doctor as soon as possible. Many animal bites—even those that do not require sutures (stitches) to close them—should be treated with antibiotics, especially if they occur on the hands or fingers. Cats in particular have sharper, narrower teeth that tend to create deeper puncture wounds, which are more likely to become infected.
- A tetanus shot should be given within twenty-four hours of the bite if the child or adolescent has not had one in five years.

### CONCERNS ABOUT RABIES

The major concern after the bite wound is treated is whether or not the child will need specific treatment to prevent rabies (a viral infection that is nearly always fatal). If the bite is from a wild animal and the animal has been caught, it will be killed and its brain examined microscopically for evidence

of this disease. While awaiting the results of this examination—or more commonly, if the animal is not captured and its brain cannot be evaluated—a decision must be made whether or not to begin a rabies vaccination series. This will depend to a large degree on the type of animal involved and the circumstances of the bite.

In most parts of the United States, bites from wild rodents such as squirrels, rats, chipmunks, mice, and rabbits usually will not be treated with rabies vaccination. However, your child's doctor may consult the local public-health authority for specific advice. On the other hand, skunks, raccoons, opossums, bats, and all wild carnivores should always be considered potentially rabid (rabies carrying) and should never be touched, even in a park or other setting where they are accustomed to receiving food from human hands. A bite from one of these animals—especially if the animal was not provoked or defending itself—is more likely to raise concerns about rabies. Contact with bats is a particular concern because people who have contracted rabies from a bat often do not recall being bitten. Any direct contact with a bat—or even seeing a bat in your house—warrants immediate contact with a knowledgeable health-care provider and consideration of rabies vaccination.

Bites from domestic animals (dogs, cats, etc.) are more common but rarely cause rabies. If someone is bitten by a domestic animal, treat the wound as described above. The animal will usually be available for observation, and public-health officials may quarantine it for ten to fourteen days. If the animal appears normal at the end of the quarantine, no rabies vaccination is required. But if the animal becomes ill, it will be promptly sacrificed and its brain examined microscopically for rabies. Rabies treatment and vaccination should be started as soon as a quarantined animal is found to be ill, not delayed while awaiting results of the brain examination.

When purchased from pet stores, mice, rats, gerbils, and hamsters are not known to transmit rabies.

Wild animals that have been raised as pets—such as raccoons, skunks, foxes, wolves, ferrets, and small wildcats—can carry rabies even if they have appeared healthy in captivity for long periods. This is particularly true of skunks, which have had the rabies virus isolated from their saliva even when the skunk was born in captivity.

### PREVENTING DOG BITES

- Before you get a dog, consider the breed and gender. Female dogs and neutered males are less likely to bite than unneutered males. Some breeds of dogs are more aggressive than others.
- Teach children how to treat a dog properly. Prodding, poking, and tail pulling may provoke a bite even from the most mild-mannered canine. This also can occur if a sleeping dog is jolted awake by a child or if a child tries to play with a dog who is eating. If you have one or more active toddlers who might not understand these ground rules, you might consider waiting until they are more mature before getting a dog.
- Don't leave infants or small children unattended with a dog.
- Obedience training for dogs—which should not involve harsh physical punishment—is a worthwhile investment. Teach children to use commands (“Down,” “No,” etc.) appropriately.
- When walking your dog, observe local leash laws. Do not let your dog approach a child it does not know.
- Do not let your child approach a strange dog.
- Teach your child to stand still and stay calm if approached by a strange dog. Running away may arouse a dog's instinct to chase and bite.
- Teach your children never to try to break up a dogfight.

## Human Bites

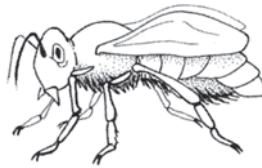
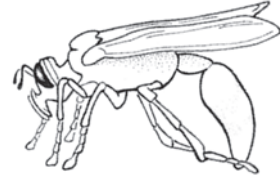
These bites commonly become infected because they are likely to be heavily contaminated by bacteria, which are abundant in saliva. In addition, the victim may be reluctant to seek medical help because of legal concerns or embarrassment.

### Treatment

Treatment for a human bite is the same as that outlined for animal bites. Human bite wounds are rarely sutured because of the contamination risk noted above. These wounds should be vigorously irrigated and then left open. Antibiotics are usually required for all but the most minor wounds.

## Bee and Wasp Stings

Honeybees almost always leave the stinger (with attached venom sac) in the skin. This should be removed as quickly as possible by scraping the skin at the stinger base with a credit card or other flat object. Do not grasp the venom sac with fingers or tweezers because this will inject the venom remaining in the sac into the skin. Wasp stingers are smooth and do not remain in the skin.

**HONEYBEE****WASP**

### Symptoms

*of immediate response to venom*

- Pain, redness, and swelling at the sting site
- Itching, sometimes intense, which may occur twelve to twenty-four hours after the sting

### Treatment

- Avoid scratching to reduce risk of infection.
- Apply ice to affected area.
- Elevate affected area.
- Nonprescription one-percent hydrocortisone cream or calamine lotion may be applied two or three times daily until local symptoms subside.

### Symptoms

*of delayed hypersensitivity reaction*

- Significant swelling, usually beginning one or two days after the sting and spreading past one or more neighboring joints
- Mild itching
- Usually very mild pain, or no pain at all

### Treatment

- Give an antihistamine such as diphenhydramine (Benadryl) to relieve itching and swelling.
- For more severe local reactions, contact your child's physician. Sometimes oral steroids (prednisone) are prescribed.
- Antibiotics are rarely necessary.



### Symptoms

*of multiple stings*

A toxic reaction may occur when a person is stung multiple times, often ten or more. Symptoms include:

- Moderate swelling
- Vomiting
- Diarrhea
- Light-headedness

### Treatment

Go to an emergency facility immediately or call 911. Severe symptoms can develop quickly, and the emergency room is better equipped to treat a serious reaction to bee or wasp venom.

### Symptoms

*of life-threatening or anaphylactic reaction*

This reaction affects the entire body and can result from one or multiple stings. Initial symptoms occur shortly after the sting. For symptoms and treatment, see page 799.

## PREVENTION

If your child has had a severe reaction to an insect sting in the past, talk to her doctor about obtaining emergency treatment kits containing an injection of epinephrine (such as EpiPen or Ana-Kit) that can partially or completely reverse a similar reaction in the future. These should be available at home, in the car, and in gear taken on camping trips or other outings. The child should wear a medical ID tag indicating that she is at risk for this type of reaction, especially if she may need an emergency injection of epinephrine. You might also want to see an allergist about giving your child immunotherapy injections to prevent this potentially life-threatening problem in the future. Even after completing an allergy-shot series, emergency kits containing epinephrine should still be available.

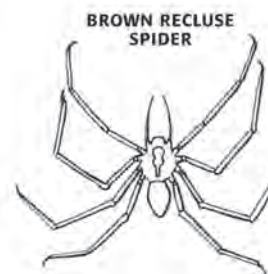
## Spider Bites

In the continental United States and Canada, only the bites of brown recluse and black widow spiders inject venom that can cause serious problems. However, any spider bite can cause significant swelling.

### Brown Recluse

#### Symptoms

Often a brown recluse bite is at first painless or causes only a brief stinging. Several hours later, pain begins around the site and can become severe. The involved area often has a red, white, and blue appearance: a wide area of reddened skin, within which is a smaller patch of white-appearing skin, and finally a central bluish



discoloration around the fang marks. The central bluish area usually forms an ulcer that may take weeks or months to heal and occasionally requires skin grafting. This procedure is generally done about two months after the bite because the graft may slough off if applied to the poisoned area too early. Other possible symptoms of brown recluse bites include fever, skin rash, nausea or vomiting, joint pain, and bloody urine.

### *Treatment*

There is no specific treatment or antidote for brown recluse bites. A variety of treatments (such the use of corticosteroids) have been tried, though evidence for their effectiveness is inconclusive. Cleanse and elevate the wound. Antibiotics are occasionally prescribed, and a tetanus booster is given if needed. In general the best approach is a combination of effective pain relief and keeping the bite site clean and dry to prevent secondary infection.

### PREVENTION

Brown recluse spiders prefer warm, dry, and abandoned locations—for example, vacant buildings, woodpiles or sheds, or seldom-used closets. The spider is brown with a violin-shaped marking on its back. They are active primarily at night and usually bite when trapped in clothing or shoes. Be careful when delving into closets and other spaces that have been undisturbed, and shake out clothes and shoes that have been stored awhile or that are kept in areas where brown recluse spiders have been seen. (Brown recluse spiders are generally found in the central Midwest southward to the Gulf of Mexico, but rarely west of the Rocky Mountains.)

## Black Widow

### *Symptoms*

A black widow bite is generally unnoticed at first but then becomes painful—often severely so—within fifteen minutes to four hours. Pain will usually reach a peak in two or three hours, but it can last up to forty-eight hours. Associated muscle spasms, which may be very severe, contribute to the pain. Usually only two tiny red spots are visible at the bite site, or no local reaction may be seen at all.



### *Treatment*

The primary goal of treatment for a black widow bite is to relieve pain and muscle spasms. An antivenin is available, but it is generally reserved for severe cases, which are more commonly seen in young children.

### PREVENTION

The black widow is a shy, coal black spider with a red or yellow hourglass marking on the underside of the abdomen. Only the female spider bites. She builds a chaotic, irregular-shaped web that is easy to recognize when compared to the highly symmetrical webs of other spiders. The black widow is found throughout the United States, preferring warm, dry environments, both indoors and out.

## Tarantulas

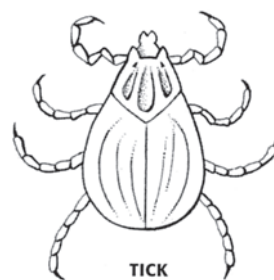
These spiders attack only when handled roughly. Their bite can be painless or can cause a deep, throbbing discomfort that generally stops after about an hour. The only treatment needed is elevation and possibly a pain reliever, although most of the discomfort usually subsides before the medication takes effect.

## Tick Bites

See also “ticks,” Reference Section, page 727

While tick bites are generally insignificant in and of themselves, some ticks transmit infections that can be serious, including Lyme disease (see “Lyme disease,” Reference Section, page 695) and Rocky Mountain spotted fever (see “Rocky Mountain spotted fever,” Reference Section, page 711). Generally most tick-borne diseases are transmitted only after the tick has remained attached to the skin for many hours. For example, transmission of Lyme disease is unusual if the tick remains attached less than twenty-four to forty-eight hours.

Another less-common tick-borne illness is tick paralysis, which usually afflicts children. Weakness and paralysis begin in the legs and progress upward with increasing severity as long as the tick is attached. Eventually difficulty with speech and swallowing and respiratory problems occur; rarely, death may result. Tick removal reverses this disorder (see “ticks,” Reference Section, page 727).



## Snakebites

Pit vipers—rattlesnakes, cottonmouths, and copperheads—inject venom through two hollow, needlelike fangs.

Coral snakes are also poisonous, but they are much less common than pit vipers. Unlike pit vipers, coral snakes do not have hollow fangs; instead they have short (less than one-eighth inch, or about 3 mm), rigid grooved pegs. Therefore, they must gnaw on their victim to inject venom.

If a child has been bitten by a snake, identifying the particular type is important but not critical. Even if the snake has been killed, the head should be preserved to make identification easier. Be very careful when handling dead poisonous snakes because their strike reflex can cause a venom-injecting bite up to an hour after they are killed.

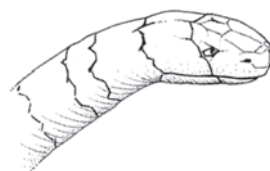
### Symptoms

When a strike from a pit viper has injected venom, swelling or pain almost always occurs within thirty minutes. Anyone who has been bitten by one of these snakes should be en route to the hospital before this much time has elapsed.

PIT VIPER



CORAL SNAKE



## Additional Resources

Books, journals, and organizations are listed alphabetically and in categories.

Books marked with the symbol ‡ are out of print but may still be available through online booksellers or at your local library.

**Some organizations on the list are secular. These are marked with an asterisk (\*). Inclusion on this list does not necessarily constitute an endorsement by Focus on the Family of an organization's material content or viewpoint. It would be wise to investigate any organization prior to using it as a resource.**

**For more information on resources or materials, call 800-A-FAMILY.**

### Abuse

*Boundaries: When to Say Yes, When to Say No to Take Control of Your Life* by Dr. Henry Cloud and Dr. John Townsend. Grand Rapids, Mich.: Zondervan, 1992, rev. ed. 2002.

*Caring for Sexually Abused Children: A Handbook for Families and Churches* by Dr. R. Timothy Kearney. Downers Grove, Ill.: InterVarsity, 2001.

### Childhelp\*

15757 N. 78th St.  
Scottsdale, AZ 85260  
480-922-8212  
Hotline: 800-422-4453  
<http://www.childhelp.org>

Provides counseling, referral, and reporting services concerning child abuse.

### Child SHARE

Joanne Feldmeth, Executive Director  
1544 W. Glenoaks Blvd.  
Glendale, CA 91201  
877-957-4452  
<http://www.childshare.org>

This agency was set up to recruit, train, and support families or individuals who will provide quality care for abused, neglected, or abandoned children. It also offers a monthly newsletter and other materials.

*Door of Hope: Recognizing and Resolving the Pains of Your Past* by Jan Frank. Nashville: Thomas Nelson, 1995.

*Love Must Be Tough: New Hope for Marriages in Crisis* by Dr. James Dobson. Sisters, Ore.: Multnomah, 2004.

‡*Pain and Pretending* by Rev. Rich Buhler. Nashville: Thomas Nelson, 1991.

## Addictions

see also *Substance Abuse*

*Breaking Free: Understanding Sexual Addiction and the Healing Power of Jesus* by Russell Willingham. Downers Grove, Ill.: InterVarsity, 1999.

### Celebrate Recovery

25422 Trabuco Road #105-151  
Lake Forest, CA 92630  
949-581-0548

<http://www.celebraterecovery.com>

An international ministry started at Saddleback Church in Southern California in 1991, Celebrate Recovery teaches eight biblically based recovery principles to bring freedom from addictive, compulsive, and dysfunctional behaviors. Celebrate Recovery publishes books and visual materials, organizes conferences and training seminars, and promotes recovery ministries in churches.

*Deceived by Shame, Desired by God* by Cynthia Spell Humbert. Colorado Springs: NavPress, 2001.

*Gambling: Risky Business* (VHS). Ventura, Calif.: Gospel Light, 2000.

‡*Healing Life's Hidden Addictions* by Dr. Archibald Hart. Ann Arbor, Mich.: Servant, 1990.

*Hope, Help, and Healing for Eating Disorders: A New Approach to Treating Anorexia, Bulimia, and Overeating* by Dr. Gregory L. Jantz. Colorado Springs: Shaw, 2002.

*Living with Your Husband's Secret Wars* by Marsha Means. Grand Rapids, Mich.: Revell, 1999.

‡*The Love Hunger Action Plan* by Dr. Sharon Sneed. Nashville: Thomas Nelson, 1993.

## Adoption, Infertility, and Miscarriage

### “Adoption Options: Fact Sheet for Families”

[http://www.childwelfare.gov/pubs/f\\_adoptoption.cfm](http://www.childwelfare.gov/pubs/f_adoptoption.cfm)

This information sheet is available from the Child Welfare Information Gateway, a service of the U.S. Department of Health and Human Services. It lists organizations that provide assistance to potential adoptive parents, including those who want to know about adopting special-needs children. Also listed are adoption search organizations, Canadian and international adoption information, and helpful resources.

### Adoptive Families\*

39 West 37th St., 15th Floor  
New York, NY 10018  
646-366-0830

<http://www.adoptivefamilies.com>

This national adoptive parent organization serves parents who have adopted, or who are waiting to adopt, children from all countries. It is an umbrella organization for over three hundred adoptive parent support groups. The group does not discuss adoption in general, but it can provide information about adoption issues, health insurance equity, and adoption procedures. A free general information booklet for prospective adoptive parents is available, as well as a bimonthly magazine called *Adoptive Families*.

### Baptist Children's Homes and Family Ministries

354 West St.  
Valparaiso, IN 46383  
219-462-4111

<http://www.baptistchildrenshome.org>

This organization exists to assist churches and communities, through the care and counseling of children and adults, to care for the fatherless (see James 1:27). It sponsors group homes for children in three states and offers counseling and referral services to unwed mothers; it also offers adoption and foster-care services.

### Bethany Christian Services

901 Eastern Ave. NE  
PO Box 294  
Grand Rapids, MI 49501-0294  
Main office: 616-224-7610  
Refugee Service Center: 616-224-7540  
24-hour pregnancy help line: 800-238-4269  
<http://www.bethany.org>

This privately licensed, Christian child-welfare and adoption agency offers pro-life pregnancy counseling, temporary foster care, help with international adoptions, and alternative living arrangements for pregnant women. A listing of locations in different states is available. Spanish editions of some of their brochures are available on their Web site.

‡*Brian Was Adopted* by Doris Sanford. Sisters, Ore.: Multnomah, 1989.

### Christian Family Care Agency

3603 North Seventh Ave.  
Phoenix, AZ 85013  
602-234-1935  
<http://www.cfcare.org>

CFCA serves families in crisis through counseling, pregnancy assistance, foster care, and adoption.

*Empty Arms: Hope and Support for Those Who Have Suffered a Miscarriage, Stillbirth or Tubal Pregnancy* by Pam Vredevelt. Sisters, Ore.: Multnomah, 2001.

*Empty Womb, Aching Heart: Hope and Help for Those Struggling with Infertility* by Marlo Schalesky. Minneapolis: Bethany, 2001.

### The Family Network, Inc.

820 Bay Ave., Ste. 206  
Capitola, CA 95010  
831-462-8954  
<http://www.adopt-familynetwork.com>

This ministry assists with home studies and family assessment for adoption, placement services for domestic (in the United States) and international adoptions, professional pro-life pregnancy counseling, and postplacement supervision. It also offers services in Spanish.

### Holt International Children's Services

PO Box 2880  
Eugene, OR 97402  
541-687-2202  
<http://www.holtintl.org>

This nonprofit organization works to unite homeless children from foreign countries with adoptive families in the United States.

‡*How to Adopt a Child: A Comprehensive Guide for Prospective Parents* by Connie Crain and Janice Duffy. Nashville: Thomas Nelson, 1994.

*I'll Hold You in Heaven: Healing and Hope for the Parent Who Has Lost a Child through Miscarriage, Stillbirth, Abortion or Early Infant Death* by Jack Hayford. Ventura, Calif.: Regal, 2003.

*Loved By Choice: True Stories That Celebrate Adoption* by Susan Horner and Kelly Fordyce Martindale. Grand Rapids, Mich.: Revell, 2002.

‡*Major League Dad* by Tim and Christine Burke. Colorado Springs: Focus on the Family, 1994.

### National Council for Adoption\*

225 N. Washington St.  
Alexandria, VA 22314-2561  
703-299-6633  
<http://www.ncfa-usa.org>

This organization serves as a clearinghouse of information on the issue of adoption. It is able to process Spanish correspondence.

### Shaohannah's Hope

44180 Riverside Parkway  
Lansdowne, VA 20176  
<http://www.shaohannahshope.org>

Founded by Steven Curtis and Mary Beth Chapman, this organization is dedicated to helping prospective adoptive parents overcome financial barriers associated with adoption. It also works to engage the church to care for orphans and provides a variety of resources for individuals and churches.

### Share Pregnancy and Infant Loss Support

St. Joseph Health Center  
300 First Capitol Dr.

# Endnotes

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3. Institutes of Medicine, Subcommittee on Nutritional Status and Weight Gain During Pregnancy, *Nutrition During Pregnancy* (Washington DC: National Academic Press, 1990).
4. Centers for Disease Control and Prevention, "Chronic Disease Prevention: Preventing Smoking During Pregnancy," <http://www.cdc.gov/nccdphp/publications/factsheets/Prevention/smoking.htm>.
5. American Cancer Society, "Women and Smoking," February 13, 2006, [http://www.cancer.org/docroot/PED/content/PED\\_10\\_2X\\_Women\\_and\\_Smoking.asp?sitearea=PED](http://www.cancer.org/docroot/PED/content/PED_10_2X_Women_and_Smoking.asp?sitearea=PED); Mark E. Anderson, Daniel C. Johnson, and Holly A. Batal, "Sudden Infant Death Syndrome and Prenatal Maternal Smoking: Rising Attributed Risk in the Back to Sleep Era," *BMC Medicine* 3 (2005), <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=545061>; KidsHealth, "Sudden Infant Death Syndrome (SIDS)," Nemours Foundation, <http://kidshealth.org/parent/general/sleep/sids.html>.
6. John L. Carroll and Ellen S. Siska, "SIDS: Counseling Parents to Reduce the Risk," *American Family Physician* 57, no. 7 (April 1, 1998), <http://www.aafp.org/afp/980401ap/carroll.html>.
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10. Ronald A. Black and D. Ashley Hill, "Over-the-Counter Medications in Pregnancy," *American Family Physician* 67, no. 12 (June 15, 2003), <http://www.aafp.org/afp/20030615/2517.html>.
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