

J JOSSEY-BASS

Raising Baby Green

The Earth-Friendly Guide to
Pregnancy, Childbirth, and Baby Care

ALAN GREENE, M.D.

with JEANETTE PAVINI and THERESA FOY DiGERONIMO

ILLUSTRATIONS by VAL LAWTON



John Wiley & Sons, Inc.

MORE PRAISE FOR
RAISING BABY GREEN

“I urge parents, old and new, to read this book and to keep it on a visible bookshelf, so that these messages of simple change can be passed on until we’ve raised a generation of healthy children on a balanced and healthy planet.”

Sara Snow, television host and green living expert;
host of “Get Fresh with Sara Snow” on *Discovery Health*

“This book will be the bible of the Green Baby Movement. It’s written by the Web’s number one pediatrician and one of the country’s most effective champions for protecting kids and the rest of us from environmental contaminants.”

Ken Cook, president, Environmental Working Group

“Alan Greene is a thoughtful pediatrician offering practical wisdom to parents. Even the small changes he recommends can make a big difference.”

Rosalind Creasy, author, *The Complete Book of Edible Landscaping*

“In easy-to-understand terms, Dr. Greene explains what nature intended: healthy babies equal healthy lives. This is the child-raising map you’re looking for!”

Steve Demos, founder and retired CEO, Silk Soymilk

“A wonderful guide to raising healthy babies and children. Brings together science, expert opinion, and experiential knowledge in an easy-to-follow book.”

Philip Lee, M.D.; former U.S. Assistant Secretary of Health;
Chancellor of the University of California at San Francisco;
professor, Stanford University

“I wish I’d had this book when my daughter was born. Dr. Greene’s ability to communicate how nutrition, organics, and the environment impact health puts him in a class all by himself.”

Akasha Richmond, organic chef at the restaurant Akasha;
author, *Hollywood Dish*

“Loaded with illustrations and hundreds of product evaluations, this is a unique package for parents!”

Anthony Zolezzi, author, *Chemical-Free Kids*

“A tool kit and manifesto for moms and dads who want to tilt the odds in favor of five fingers, five toes, and a brain that can cope with what is coming next.”

Charles Benbrook, Ph.D.; chief scientist,
The Organic Center

“Sixteen years ago, we lost our only child at age five to a nonhereditary cancer that we believe could have been prevented. Dr. Greene’s book is more than a practical green guide; it is the only lifestyle that can assure the essential first steps to a lifetime of well-being.”

Nancy and James Chuda, founders of (CHEC)
Healthy Child Healthy World and
The Colette Chuda Environmental Fund

“With this common-sense, science-backed book, difficult questions find thoughtful, experienced, truly intelligent answers. Our future depends upon parents making smarter decisions. Get this book to everyone you know with children.”

Doug Greene, cofounder, New Hope Natural Media

“Simple tips in the right direction for a Healthy Child in a Healthy World—and it’s easier than you think.”

Christopher Gavigan, CEO, Healthy Child
Healthy World (formerly CHEC)

“The best green baby book I’ve ever read.”

Christopher Moore, best-selling author, *Fluke*

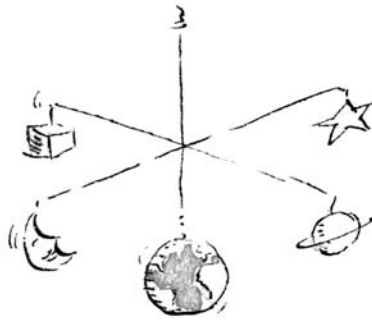
“Dr. Alan Greene is a pioneer in teaching parents the connection between a healthy environment, organic products, and healthy, vibrant, happy babies.”

Steven Hoffman, interim executive director,
The Organic Center; cofounder, *LOHAS Journal*
and the LOHAS conference

“An informed, practical, and hopeful guide to having a healthy baby. This book can make a difference not only in your baby’s health but also in the health of your whole family, your community, and our beautiful earth.”

Michael Lerner, Ph.D.; president, *Commonweal*;
and cofounder, The Collaborative on Health and
the Environment

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THERESA FOY DIGERONIMO

My wife, Cheryl Greene, and I dedicate this book to our children, Garrett, Kevin, Claire, and Austin; to our children's children; and to generations of children everywhere. May we leave the world for them an even better place than we found it.

—A. G.

To my father for showing me the meaning of integrity and to my mother for showing me the meaning of kindness. To Brandon, who has made parenting my greatest life lesson. To CBS 5 News for letting me tell stories that help consumers learn ways to save the environment. To Mark for making life so great. To Stacie for showing me what true courage is. To Mike, Ian, and Jim, my heroes, who have taught me to embrace every moment.

—J. P.

To my future grandchildren, who I hope one day will inherit a pure and sustainable planet.

—T.F.D.

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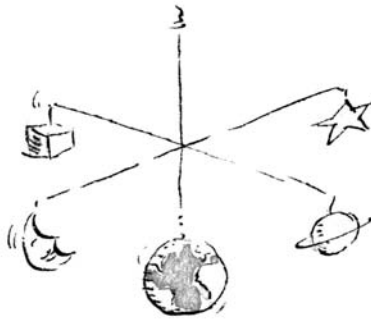
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Raising Baby Green



Introduction

WHY RAISE BABY GREEN?

HAVING A BABY CHANGES *everything*. Just thinking about welcoming a newborn changes your priorities and changes your awareness. A glass of wine, a daily prescription, or a cat's litter box each assumes new meaning.

Fortunately, nature has given us a powerful instinct to nurture and protect our children. For example, in many women the sense of smell is heightened during pregnancy, perhaps to make them more sensitive to what their baby needs and steer them away from what may be harmful. This awakened awareness could help shield the baby from malnutrition, spoiled food, and infection.

Today many parents are developing a heightened awareness of issues that could be important to their babies' futures. Whether it's when they first learn they're expecting, when they glimpse their baby on ultrasound, or when they first gaze into their baby's eyes, and she laughs out loud—somehow instinct and information combine as a catalyst for embracing a more eco-friendly lifestyle.

One of the goals of this book is to help you understand how the environment affects your baby and how raising your baby affects the environment. We're living at a time when environmentally conscious parenting is more possible than ever. We know so much more now about how to *raise* our babies in ways that can save energy, reduce greenhouse gases, and avoid toxic chemicals. Never before have we been better equipped to help babies thrive. Remember that every little thing we do can have an impact, so let's get started.

I have four children. My wife, Cheryl, and I have seen how this increased knowledge has inspired hundreds of new baby techniques and products. In my job as a pediatrician at Packard Children's Hospital at Stanford University School of Medicine over the last ten years, I've seen how clinical experience, science, research, and technology have increased



the choices that doctors and parents can make, based on real knowledge about what's good for our babies and what isn't. But there's also an important new set of choices parents can make that can have a beneficial impact on the environment. What's good for our environment is also good for our babies.

This interest in making smart choices in technique, nutrition, and baby products has created a veritable "green baby movement." Parents with different backgrounds and diverse cultural, political, and religious beliefs understand the essential need to raise baby "green," and they want to know how. That's why I've been a champion and early pioneer in the green baby movement, joining with other pediatricians and professionals, experts, entrepreneurs, and devoted practitioners in the field of science, medicine, and agriculture, who want to provide healthier food, more effective medicine, and safer everyday products that have no known harm for babies. I'm one of many in this large, informal group spread across our country and beyond our borders in Canada, Europe, Australia, and elsewhere. We have been sharing ideas and information; organizing in person and over the Internet; going to meetings, trade shows, and conferences; and building Web sites (more than a million different people visit DrGreene.com each month).

Raising Baby Green is a result of this effort, a guide for parents to the techniques, foods, and new kinds of baby care products, equipment, furniture, and toys that are safer for babies and promote a sustainable environment.

As I tell my patients, family, and friends, "You can personally make a huge difference not only for your baby and your immediate environment but even on a much larger scale. You'd be surprised." In *Raising Baby Green* I'll show you the difference you can make on the planet every time you make a positive choice.

Let me give you one small example. When thinking about your new baby, you might dab a few sweet tears with a facial tissue. Or you might use a tissue to deal with a runny or stuffed-up nose that pregnancy can cause. But the tissue you reach for can make a difference! The Natural Resources Defense Council has calculated that if every household in the United States replaced just one box of conventional facial tissues (175 count) with 100% recycled ones, *together we could save 163,000 trees* for our children's world.¹ Many of these trees would be valuable virgin wood. Saving forests helps reduce global warming.

There are more benefits . . . Recycled tissues are made from previously used paper that would otherwise have gone into a landfill or burned in an incinerator. The people at Seventh Generation have calculated all of us switching just one box of facial tissues would save more than 453,000 cubic feet of landfill space (equal to a procession of 660 full garbage trucks) and avoid more than 10,600 pounds of pollution. (*www.seventhgen.com*). Along the way, it would also save more than 62 million gallons of water, a year's supply for 480 families of four.

And the benefits continue . . . The recycled tissues require considerably less energy to produce. Conventional tissues are often bleached with chlorine, which creates dangerous chemicals including dioxin, and other organochlorines. These accumulate in the environment, and in people and animals. If you make the smart choice and select tissues that have not been bleached with chlorine, you can help keep toxins out of your home and out of the larger environment.

All of this good from replacing just one box of facial tissues! Let's join together to make choices that are good for our babies and for the environment. Let's join the green baby movement.

What Is the Green Baby Movement?

In this book, *green* is a word representing a way of living in which we strive, with conscious awareness, to do things each day that in small, incremental steps improve the quality of our environment by preserving forests, cleaning air, husbanding soil, protecting wildlife, valuing dwindling resources, and at the same time maintaining our climate and sustaining our planet's crucial resources.

In this book, *sustainability* is a word that has been defined by the Brundtland Commission, led by the former Norwegian prime minister Gro Harlem Brundtland, as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs." We wholeheartedly agree with this definition, which relates to the continuity of economic, social, institutional, and environmental aspects of human society, as well as the nonhuman environment.

So I have written this book to inspire, encourage, and guide you in this rewarding adventure of raising a "green" baby. I believe that we can travel



this road together in ways that will protect and nurture our lives, our children's lives, and this increasingly fragile world we all share—and make “green” a tradition with an eternal life span.

The simple act of opening this book shows that you care about your baby and about the world around you.

This attitude *can* truly change the world.

Every Little Bit Helps

Raising your baby green doesn't require a revolution in your lifestyle or creature comforts. Do as much or as little as you want. For example, some mothers and fathers I know try to provide their baby with as much healthy, organic food as possible, avoiding artificial or overly processed foods. Others test their home drinking water and throw out all their toxic household cleaners (using services that can dispose of such liquids without polluting local waters). Others also watch out for safer baby toys, paints, floor coverings, cribs, and car seats. What you choose to do depends on the level of commitment you are able and ready to make.

I encourage you to take an approach that feels comfortable, that won't overwhelm or discourage you. You don't have to do each and every thing suggested in these pages to make a positive impact. Raising baby green is not an all-or-nothing proposition. It is a journey, one step at a time.

So pick the pieces of advice in this book that address your own concerns and needs. Try just one suggestion and see how you like the results. Then try another.

The guidelines in *Raising Baby Green* are meant to give you an easy, pleasant, doable, and practical approach based on the simple philosophy that we all should leave the campsite cleaner than it was when we arrived. I know that each of us can really make a difference, but I also know that none of us can do this alone.

This is a journey we all have to take together.

How I Became a Green Baby Pediatrician

As a medical doctor, I've always been interested in environmental issues and the way they affect one's health. But then I became a father. I found that each time I first looked into my newborn's eyes I was overwhelmed with a desire to make this world a better place for this child to live and grow. So

for the last twenty years I have been on my own journey, learning about how to do that—about how to raise my children green.

The journey accelerated when a life-threatening illness in my family pushed us to re-evaluate ways to find good health. We made the choice to go organic and in so doing learned a lot more about the amazing personal benefits of good food.

Then, slowly, step-by-step, year after year, I began to recognize the many other ways that my daily choices affected my health and the health of my family. I remember the day I saw a trail of ants and grabbed a can of bug spray out of the kitchen cabinet. Suddenly I froze in my tracks as I made the connection between what I had already decided I didn't want on my foods and what I was now about to spray right in my own house.

On another day, as I was working in the garden, it suddenly struck me that the chemicals I was about to spread across my lawn to kill weeds and bugs were some of the very poisons I was trying to protect my family against. Not only that, but I was using a whole lot of water just to keep this little patch of grass going.

That was the day it occurred to me that the purity and preservation of the world's air and water and food was not something someone else would just take care of for me. I had to take responsibility for my own actions, in my own little world, because they could have a profound impact on this planet that my children would inherit. And, just as important, each time I made a decision to respect the environment in some small way, I was teaching this important lesson to my children as well. We're now in the process of shrinking our lawn and growing more of our own food—and using new technologies to decrease our water consumption.

How This Book Works

We know that many parents don't have a lot of time to sit around and study a book. As a father, husband, and pediatrician, I know how tired you can get and how you don't want to waste precious time ruminating over theories or big changes that require a lot of attention.

I have found that many parents of newborns focus on very basic needs, such as “What kind of diapers should we use?” or “What's the best kind of baby food for my baby?”

That's why this book has been designed so that you can read through it a little bit at a time or just skip to the issue at hand—to what you need



to know about this very minute, without waiting! To find just what you need, look in the table of contents, which describes what's in every chapter, or look in the handy index at the end of the book.

I've organized the book so that there's a chapter for each "room" in your baby's life. For each room, I offer practical information based on the latest scientific research and progressive clinical practice.

This book has been prepared by a team of devoted and creative individuals, including researcher and writer Theresa Foy DiGeronimo; consumer expert Jeanette Pavini; my wife, Cheryl; and dedicated editor Alan Rinzler and his wife, Cheryl Rinzler, who had the original idea and title for this book and who contributed so many invaluable ideas and research every step of the way. I'm honored to be the leader of this team.

We're still learning more every day. With your help and input we can keep learning more about raising baby green, so e-mail me at RaisingBabyGreen@DrGreene.com to send me your thoughts and let me know what new information or ideas you have.

Having a baby is a time of pivotal change. Your family is embarking on the journey of a lifetime together. Much will be spontaneous and unexpected, yet there is also something of a roadmap for this journey already written deep into your being. It's no accident that it occurs to so many parents who smoke that this is the time to stop. You want your body and your home to be welcoming and healthy environments. The future matters in a new and living way.

Wouldn't it be great if pregnancy also became the time, for instance, to stop overusing a bigger smokestack—fossil fuels—in our cars, our wall sockets, and in foods grown with oil-based pesticides and fertilizers. Let's let our children trigger deeper instincts, grander inspiration, and greater determination.

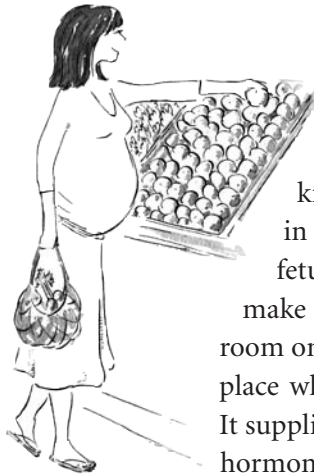
I know this will be a process of learning and growing for all of us far into the future, and I'm glad we can take this journey together.

Alan Greene, M.D., F.A.A.P.
Packard Children's Hospital
Stanford University School of Medicine, Palo Alto, California
DrGreene.com

1

THE
Womb





The first room your baby lives in is the pear-shaped organ called the uterus, which we know as the nurturing womb—that safe enclosure in the mother’s body that separates the developing fetus from the outer world. In many ways, if you make the right choices, the womb can be the greenest room on the planet. The womb is a warm and comforting place where we have all been rocked, fed, and snuggled. It supplies with natural efficiency the food, water, oxygen, hormones, vitamins and minerals, and complex brew of neurological developmental messages needed by every baby to flourish in safety and good health.

The Greenest Room on the Planet

THE WOMB IS AN incredible piece of living engineering that provides an ideal environment for the amazing transformation that occurs during the forty weeks of gestation—a time when a baby’s brain is developing faster than at any time later in life, at one point making one hundred thousand new neural connections an hour.

While growing and developing in this protected biosphere, your baby is intimately connected to the outside environment, including all the nutrients entering the womb, and the smells and sounds of the outer world, which have a lasting impact on her neurological, physical, mental, and anatomical development. These external influences provide you a once-in-a-lifetime opportunity to give your baby a strong and healthy foundation on which to grow. In fact, at no other time in your child’s life will you have this degree of control over the way her environment influences her development.

The most direct way you can affect the health of your baby before he is even born is by making smart decisions about what you eat, drink, and



absorb (through your lungs and skin), as well as what you introduce into the womb in the way of smells and sounds.

The swift passage of nutrients, protective proteins, and molecular messages through the umbilical cord from mother to baby offers the ideal opportunity to enrich your unborn baby's room in the womb and to contribute to the health of the planet your baby will inherit. You can do this each day through your own careful intake of organic foods and healthful beverages. Bring on the green!

The Umbilical Cord Connection

The umbilical cord is the living link through which a mother feeds her baby and removes its waste. The cord also becomes the conduit of an on-going exchange, a silent conversation, in which hormones from the mother and the baby signal changes in each other's bodies.

The umbilical cord consists of three blood vessels—two umbilical arteries and one umbilical vein—embedded in slippery connective tissue called Wharton's jelly. The arteries spiral around the vein, giving the cord the toughness of a cable. At one end of the cord is the baby; at the other is the placenta.

The baby's heart pumps depleted blood out of its body through the umbilical arteries to the placenta, where the arteries divide into a network of tiny capillaries. The mother's blood in the placenta forms a free-flowing, living five-ounce lake about the size of a glass of red wine. This blood is refreshed completely three or four times each minute to supply the baby's needs. The replenished blood returns through the umbilical cord like a steady, unhindered river bringing the stuff of life to the fetus.

By the fourth month of pregnancy, seventy-five quarts of blood flow through this river every day, delivering oxygen-rich vital nutrients and removing waste. A typical blood cell will make a complete round trip every thirty seconds. By the time the baby is born, up to three hundred quarts of blood a day will flow through the umbilical cord.¹

Three hundred quarts!

And you, the expectant mom, don't have to do anything out of the ordinary to make that happen as you prepare for the arrival of your little one. The human reproductive system is truly a remarkable thing.

However, this constant flow of blood that stimulates the baby to grow and develop also offers access to elements of our world that can harm a

Green Parent Report



Why Go Green During Pregnancy?

AS A PEDIATRICIAN, I knew that the link between environmental dangers and the many cases of chronic illness in my patients was important, but the magnitude of the situation really hit home when I saw the preliminary results of an umbilical cord blood study conducted by the Environmental Working Group (EWG), in which I was fortunate to participate.

In this study, we examined the umbilical cord blood of ten babies born in August and September of 2004 in U.S. hospitals. We found a total of 287 different industrial chemicals circulating through the body of the newborns. These babies each carried an average of 200 chemicals, which included mercury, fire retardants, and pesticides. The report states, “Of the 287 chemicals we detected in umbilical-cord blood, we know that 180 cause cancer in humans or animals, 217 are toxic to the brain and nervous system, and 208 cause birth defects or abnormal development in animal tests.”² (See “The Womb” in the Green Information in the back of the book for a table of the chemicals.)

This small preliminary study suggests something very important: We are the environment; there is no separation. If a chemical is “out there” it may also be “in here,” in the most protected inner sanctum of our bodies. And the presence of these chemicals in umbilical cord blood demands more research into what this means for babies. In the meantime, this report gives us further motivation to go green before your precious child is even born.

baby in the womb. Just as the umbilical cord can deliver high-quality nourishment and the fortifying hydration of healthy liquids, it also can transport unhealthy air, food, water, and fumes if those elements are coursing through the mother’s body or in her environment.

That’s why the decisions you make during your pregnancy about what to eat, drink, inhale, and put on your skin or hair can help ensure that this primal lake bathes your baby with enriching, beneficial nutrients.



How Do I Get Started?

The answer to this question demonstrates what's so wonderful about your decision to go green. Every small change, every step you take to follow even one of the suggestions in this chapter, can make a significant contribution to the health and well-being of your unborn child and our planet. Throughout this book you'll see many boxes that show the actual impact of specific small changes you can make easily and every day to preserve the health and safety of your baby, as well as sustain the earth for future generations.

Read through all the possible ways you can go green during your pregnancy and make whatever changes you're comfortable with, knowing that however big or small these changes may be, your child is indeed fortunate to have a parent like you who is going green right from the start.

In this chapter, you will learn what you need to know to make smart, green choices that will keep your body as healthy and nurturing as possible during your pregnancy. The following are the five main areas to think about:

1. Food
2. Drink
3. Exercise
4. Personal care products
5. Aromas



Eating for Two

I FREQUENTLY SEE moms-to-be quickly adjust their diets after getting the good news of the pregnancy. Without always knowing exactly how or why, most expectant moms instinctively understand that “eating for two” means they have an opportunity to be the direct source of healthy foods that supply all the nutrients, vitamins, and minerals a tiny fetus needs to thrive.

A case in point is the vital role that choline, a little-known nutrient, plays in protecting your baby's neural tube development in the earliest weeks of pregnancy, when the most rapid cell division occurs. Like the better known folate, it can reduce the risk of devastating brain and spinal

chord defects. The March of Dimes recommends choline, along with protein, calcium, and folate for healthy pregnancies.

Choline remains important throughout your pregnancy as a critical building block of cells in your baby's rapidly growing brain. Getting plenty of choline appears to have a lasting effect on children's memory. Most women do not get an adequate supply from their prenatal vitamins. You can find lots of choline in eggs, cauliflower, asparagus, and spinach, as well as other vegetables, meats, fish, nuts, grains, herbs, and spices.

Choline is just one of the many vital nutrients you'll be supplying your baby through the foods you eat. And like choline, each has a significant role to play in your baby's healthy development. The best way to make sure you're providing everything he needs is to enjoy a varied diet of your favorite fruits and vegetables, whole grains, legumes, healthy fats, and lean sources of protein and calcium—plus a vitamin supplement as a safety net.

Next we'll take a look at how your healthy food habits may influence your baby's own food tastes after birth.

“More broccoli please, Mom!”

Our taste preferences are formed by a complex mix of genetics and how we are raised. The great news is that we can start even before our babies are born to help them to learn to love great foods. The latest science is uncovering fascinating connections between what moms eat while pregnant



and what foods their babies enjoy after birth. Remarkable, but true. Babies have more taste buds before they are born than at any time later in life. Amniotic fluid is a flavored soup of what Mom has been eating, and babies in the womb taste, remember, and form preferences for some of these foods. I call this period “Taste Beginnings.”

Consider a fascinating study involving carrot juice. As part of the study, one group of pregnant women drank ten ounces of carrot juice four times a week for three consecutive weeks. Another group of women in the study drank water. When their babies were old enough to start eating

Green Parent Alert



Preventing Allergies Even Before Birth

CHILDHOOD ASTHMA AND A number of food allergies are frequently diagnosed during early childhood. Often the key events that determine these allergies, it is thought, occur even earlier—in the womb. During this marvelous nine-month period, you might increase your child’s chances of being allergy free by *increasing* your intake of foods

- ❖ Rich in omega-3 fatty acids, found, for example, in wild salmon or flaxseed
- ❖ Containing antioxidants—fruits, vegetables, and whole grains
- ❖ Containing cultures of beneficial bacteria (probiotics), as found in some yogurts

And by *decreasing* your exposure to

- ❖ Tobacco smoke
- ❖ Peanuts
- ❖ Acetaminophen

You might also reduce your child’s allergy risk by making a visit to a farmyard! Studies have found that the children of women who were exposed prenatally to the microbial compounds in a farming environment were protected against the development of immune system changes that led to sensitization and asthma.³