




# Healthy Child

GUIDE

Preconception and Pregnancy Recommendations for a Healthy Child



Educating and  
empowering  
parents to have  
healthy children  
free of chronic  
health disorders  
who realize their  
full neurological  
potential

Developed and funded by

**Neurological Health Foundation**

# The Challenge

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Today, approximately 30% of children in the U.S. suffer from serious neurological, developmental, psychiatric and physical health problems. This includes ADHD, autism, learning disabilities, asthma, cerebral palsy, cancer and other serious medical conditions. In the past 20 years, there has been a substantial increase in children's health conditions.

## THE SOLUTION

*The Healthy Child Guide* provides an integrated set of recommendations based on over 100 scientific studies on how to:

- Substantially reduce the risk of pregnancy/birth complications.
- Reduce the risk of many mental and physical health disorders.
- Improve your child's growth and development.

### 1) Eat Clean and Drink Pure Water

- Consume pure water (either filtered or from a pure, natural source).

### 2) Avoid Toxins

- Eat organic, whole foods to reduce pesticide exposure.
- Consume the highest quality seafood from the cleanest natural source.
- Avoid canned foods in order to reduce exposure to chemicals since the interiors of most food cans are coated with a protective lining containing bisphenol-A (BPA), an endocrine or hormone disruptor.
- Avoid household cleaners, garden pesticides, and herbicides. Consider using natural household care products such as lemon, baking soda, and vinegar.
- Avoid the chemicals, lead, hormone disruptors and toxins in some personal care products.

### 3) Personalized Medical Testing and Treatment

- Consume high quality, carefully calibrated prenatal vitamins, see the vitamin section of this guide for a list of quality vitamin sources.
- Consume high quality probiotics, with billions of colony forming units.

- Work with your medical care professional regarding your personal nutrition and health needs.
- Seek assessment for appropriate medical testing and treatment.

### 4) Stress Reduction and Appropriate Exercise

- Implement health habits that reduce daily psychological and physical stress.
- Exercise daily as recommended by the American College of Obstetricians and Gynecologists.

### 5) Cook Clean

- Prepare and cook meals at home (from scratch) with whole, unprocessed ingredients (preferably organic foods, as much as possible).
- Cook with filtered or artesian spring water as much as possible.
- Use cookware, foodware and drinkware made of steel, glass or ceramics. Avoid non-stick cookware.

We invite you to read and follow the recommendations of *The Healthy Child Guide* to increase the probability of having a healthy pregnancy and a healthy child.

Sincerely,



A handwritten signature in black ink that reads "Chris Willhite".

Chris Willhite

Chairman of the Board, Neurological Health Foundation (NHF)



A handwritten signature in black ink that reads "James B. Adams".

James Adams, Ph.D.

Chair of the Scientific Advisory Board, Neurological Health Foundation (NHF)





### Watch “[Introduction to The Neurological Health Foundation \(Healthy Child Guide\)](#)”

The Neurological Health Foundation (NHF) is a 501 (c)(3) public charity committed to educating and empowering parents to have healthy children free of chronic health disorders who realize their full neurological potential. Providing research-based nutrition and lifestyle guidelines in *The Healthy Child Guide*, NHF aims to reduce neurological illnesses in children. Learn more at [www.neurologicalhealth.org](http://www.neurologicalhealth.org).


## SUPPORT RESEARCH

Building on existing science and clinical practice, NHF works with medical doctors, professors at major universities, nutritionists, neuroscientists and other researchers. The professionals develop specific, evidence-based recommendations that women or couples can follow to improve the odds of having a healthy and happy child free of chronic neurological health disorders. To learn more, visit NHF’s website at [www.neurologicalhealth.org](http://www.neurologicalhealth.org).

The Neurological Health Foundation (NHF) is a 501(c)3 nonprofit, tax-exempt organization designated by the Internal Revenue Code. Your tax-deductible donation to NHF will fund programs that educate and empower parents to have healthier children free of chronic neurological illness.

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Neurological Health Foundation (NHF) is a 501(c)(3) public charity dedicated to helping parents have healthy and happy children.

**Statement of Scientific Policy** – The Neurological Health Foundation (NHF) has developed *The Healthy Child Guide* to address the concerning increase in the number of children diagnosed with developmental neurological disabilities (autism, cognitive disabilities, ADHD, etc.) as well as chronic health problems and diseases (diabetes, rheumatic diseases, asthma, childhood leukemia, brain cancer, food allergies, etc.). The recommendations provided by the NHF Scientific Advisory Board in *The Healthy Child Guide* integrate current scientific research findings with an emphasis on behaviors that lead to better health outcomes for parents and children. NHF recommends what is “standard of care” according to the American Academy of Pediatrics (AAP) as well as the American College of Obstetricians and Gynecologists (ACOG) with an emphasis on healthier choices.

**Disclaimer** – The information provided by NHF, *The Healthy Child Guide*, The NHF Scientific Advisory Board and our contributors is provided for educational purposes only. The information provided on our websites and in our digital media is not intended as a substitute for the advice provided by your physician or health care provider. As the individual needs of every person vary, it is recommended you consult with your health care provider regarding any personal health care issues. There is no guarantee that 100% of the parents who follow the NHF Scientific Advisory Board recommendations will be assured or guaranteed a healthy child without any health issues; thus, working consistently with your health care provider is advised.

# Preface

.....

In my twenty years as a Pediatrician, I have seen many changes in the health of our children. Early in my career as a Pediatrician, my patient appointments were primarily for school physicals, colds, and flus. These children were generally healthy and recovered quickly from their illnesses. However, children's health status has declined over time. Now, I have a specialty clinic full of children with chronic neurological and physical health problems. These children suffer throughout their lives with illnesses such as autism, ADHD, asthma, allergies, and chronic pain. Many parents growing up had not seen children with these chronic health problems and never expected to parent a child with one.

Because of the declining health of our children, I began researching prevention of these illnesses. The research repeatedly steered me toward risk factors from the mother that influenced the health of her child. I began writing and teaching women about these risk factors to their health before conception. It has been wonderful to see healthy pregnancies and healthy children come from this education. By taking charge of their own health, I have seen women become empowered knowing that they are doing their best for the health of their future child.

*The Healthy Child Guide* is based on the research and the clinical experience of the Neurological Health Foundation Scientific Advisory Board, including many highly regarded medical physicians, nutritionists, and research scientists. The Guide is a step-by-step plan you and your partner can follow to improve the health of your child. The key is in the timing. Before conception is the perfect time to improve your health. Improved preconception health has been shown by multiple research studies to greatly improve the health of a child.

## Improving Nutrition

The Guide focuses on recommendations in several specific areas. One of the recommendations focuses on nutrition which is the cornerstone of health for all people. Individuals need to have a natural source of vitamins, minerals, and other nutrients to be healthy. If you are trying to have a healthy child, you have to feed this child healthy food from the beginning. Many women are not healthy themselves and often have undiagnosed nutrition deficiencies. These may not cause overt health problems in an adult but can be devastating to a growing child. Many key organs are formed early in pregnancy before most women know they are pregnant so a woman needs to have adequate stores of all the essential nutrients.

## Reducing Toxic Exposures

Our world is filled with many chemicals in our food, our water, and in products that we come into contact with every day. While avoiding all toxic exposures may be difficult, there are many steps that you can take to avoid some of the more toxic chemicals. Education is key. Knowing which chemicals to avoid is a learning process.

Having the recommendations in *The Healthy Child Guide* as a resource makes this education much easier. All you have to do is follow The Guide, avoid the dangerous chemicals, and find healthier alternatives which are becoming increasingly available.

## Personalized Medical Testing and Treatment

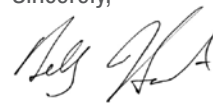
Since all women come into pregnancy with different health issues, identifying these issues on an individual basis is important. Personalized medical testing is another one of the recommendations in *The Healthy Child Guide*. Specialized testing can identify problems to address before pregnancy. Finding issues before pregnancy helps to avoid problems during pregnancy and with the baby after birth.

## Reducing Stress and Appropriate Exercise

Identifying areas of stress is another component of the Guide. Pregnancy is a big life change and a physical stress on your body. Reducing stress and improving fitness goes a long way toward improving the health of your pregnancy, which naturally leads to a safer delivery and a healthier child.

Ultimately, your health as a woman determines the health of your child. *The Healthy Child Guide* takes away the fear and uncertainty of how to best accomplish this. You can improve your health by improving your nutrition, identifying specific health problems, reducing your stress, and reducing your toxic exposures. I encourage all women to improve their health before pregnancy. A mother's first gift is the gift of health to her child. All children deserve this precious gift.

Sincerely,



Debby Hamilton, MD, MSPH, Pediatrician  
Author of "Preventing Autism & ADHD: Controlling Risk Factors Before, During & After Pregnancy"  
NHF Scientific Advisory Board

“We now have 5.5+ million children who have been diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) in the U.S. That is nearly one in ten school age children with an ADHD diagnosis—a million more children than in 2003.”

—National Center for Health Statistics, CDC.gov

.....

“Food allergies among children increased approximately 50% between 1997 and 2011.”

—CDC 2013 Study

.....

“Following the recommendations in *The Healthy Child Guide* will optimize the chances of your child being healthy at birth and throughout childhood so your family and your child can be well and healthy and have an excellent life.”

—Child Neurologist and Chief Scientist,  
**Prof. Richard Frye, MD, Ph.D.**  
NHF Scientific Advisory Board



## ***How the first nine months shape the rest of your life***

### **The new science of fetal origins**

Time, August 2010

Author: Annie Murphy Paul  
Cover: Merrick Morton/Columbia



# Table of Contents

## INTRODUCTION

- 9**    **Rates of Pregnancy Complications and Childhood Health Disorders in the U.S.**
- 10**   **Preconception Overview**
- 12**   **Pregnancy Overview**

## ARTICLES

- 14**   **Diet/Nutrition**
  - Checklist
  - Recommendations
  - Basic Nutrition During Preconception for Men
  - Preconception and Prenatal Supplements
- 28**   **Reducing Toxic Exposures**
  - Checklist
  - Reducing Toxic Exposures
  - Medical Recommendations
- 38**   **Exercise**
  - Checklist
  - Exercise During Preconception
  - Exercise During Pregnancy
  - Exercise Postpartum
- 48**   **Helpful Websites**
- 49**   **Scientific Advisory Board (Authors)**

NHF invites collaborative efforts on behalf of physicians, foundations, community organizations and the public so that we may raise awareness regarding the actions prospective and current parents can take to increase the likelihood of birthing healthier children free of neurological conditions.



HEALTHFUL  
NUTRITION

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REDUCE  
TOXINS

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CONTINUE  
EXERCISE

---



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The Neurological Health Foundation (NHF) is a 501(c)3 nonprofit, tax-exempt organization designated by the Internal Revenue Code.

Your tax-deductible donation to NHF will fund programs that educate and empower parents to have healthier children free of chronic neurological illness.

SUPPORT  
RESEARCH

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OUR CHANNEL:



NHF has taken the position that the Environmental Protection Agency (EPA) needs more well defined and stricter standards on how chemicals are evaluated rather than “safe until proven otherwise.”

Click [here](#) to read more.

30%

U.S. children suffer  
mental and/or physical  
health problems

.....

In October of 2014, the EPA approved the use of Dow Chemical's Enlist Duo herbicide, a blend of **2,4-D (a newly-approved synthetic chemical derived from “Agent Orange”) and glyphosate** intended for use on Dow's patented 2,4-D resistant (Enlist) genetically-engineered corn and soybeans. This was done despite the fact that use of this herbicide (2,4-D) is associated with increased rates of immune system cancers, Parkinson's disease, birth defects, endocrine (hormone) disruption, reproductive problems and many other serious kinds of illness. Researchers at Penn State have concluded that in soybeans alone, planting of crops resistant to 2,4-D would increase the amount of 2,4-D sprayed on American fields to 100 million pounds per year—four times the current level.



# Pregnancy Complications and Health Disorders have increased in the U.S.

## RATES OF PREGNANCY COMPLICATIONS

|  |                                      |
|--|--------------------------------------|
| Infertility (Women)   <b>6%</b>              | Low Iron/Anemia   <b>20-40%*</b>     |
| Infertility (Men)   <b>6%*</b>               | Caesarean Sections   <b>33%</b>      |
| Inability To Carry Baby To Term   <b>11%</b> | Still Births   <b>1%</b>             |
| Miscarriages   <b>15-20%*</b>                | Low Birthweight   <b>8%</b>          |
| Gestational Diabetes   <b>9%</b>             | Pre-Term Births   <b>11%</b>         |
| Preeclampsia   <b>2-8%*</b>                  | Post-Partum Depression   <b>13%*</b> |

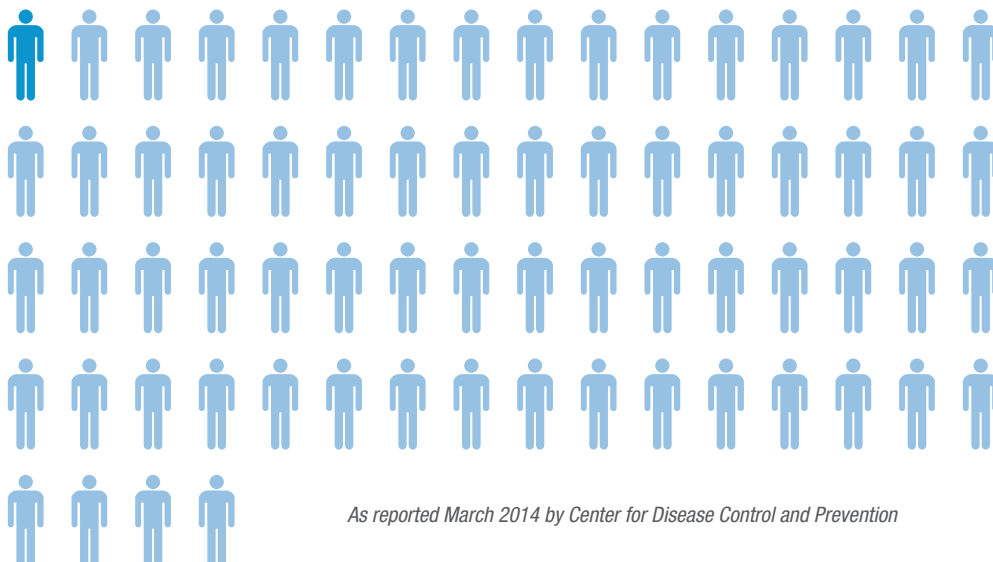
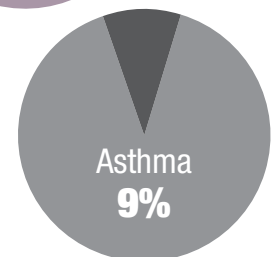
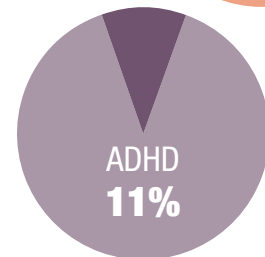
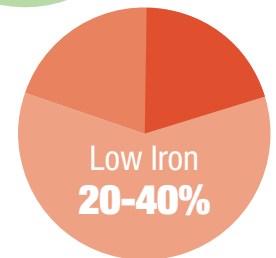
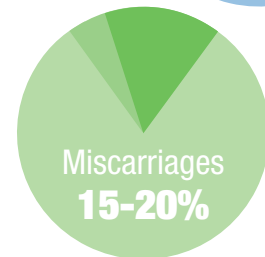
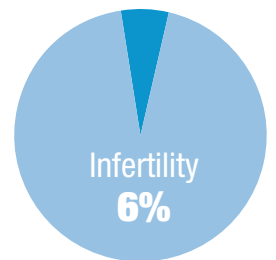
## RATES OF CHILDHOOD HEALTH DISORDERS

|   |   |
|---|---|
| Autism   <b>1-2%</b>                    | Asthma   <b>9%</b>                        |
| Birth Defect (heart, other)   <b>3%</b> | Childhood Obesity   <b>17%</b>            |
| ADHD   <b>11%</b>                       | Depression   <b>7%*</b>                   |
| Learning Disabilities   <b>8%</b>       | Bipolar   <b>Rapidly rising diagnosis</b> |

## SUMMARY

Pregnancy complications and childhood health disorders are very common in the U.S. The recommendations in *The Healthy Child Guide* will help you reduce those risks and improve the health and development of your child. Learn more in the following pages.

Data is from the U.S. Centers for Disease Control (CDC) [www.cdc.gov](http://www.cdc.gov) except for those marked with an asterisk which are from research articles.



NUMBER OF  
CHILDREN  
IDENTIFIED  
WITH AUTISM

**1 in 68**

As reported March 2014 by Center for Disease Control and Prevention



# Preconception

.....

7 tips  
before you  
conceive

## OVERVIEW

Much of your baby's initial brain growth and development occurs in the first 12 weeks of pregnancy, so it is important to prepare your body for a healthy pregnancy 3-6 months before you conceive.

### 1) Improve Nutrition and Diet

- Eat a healthy, balanced diet rich in vegetables, fruits, protein, and essential fats. Eating organic will help reduce your exposure to pesticides and herbicides.
- Avoid junk food and highly-processed food.
- Choose food free of Aspartame and MSG Derivatives (flavor enhancers) since both have no nutritional value and are considered to be “excitotoxins.”
- Prepare meals at home “from scratch” as much as possible with a focus on whole, organic food ingredients; utilize stain-less steel, iron, glass and ceramic cookware as much as possible.

- Avoid canned foods and canned drinks (which may be lined with BPA, an endocrine disrupter).
- Seek personalized medical care and consultation with a knowledgeable dietitian or nutritionist.

### 2) Optimal Prenatal Supplements

- Prenatal supplements vary greatly in quality (some calcium supplements have trace amounts of lead). See our recommendations and reviews ([page 24](#)).
- Start taking a prenatal supplement at least 3 months before you become pregnant so your body has all the nutrients you need for the critical first few weeks.

- Begin taking probiotics during preconception phase in order to improve gut bacteria. See the recommendations (including an explanation of health benefits to both mom and baby) ([page 26](#)).

### 3) Reduce Toxic Exposures

- **Avoid:** Alcohol, smoking and recreational drugs.
- **Drink Clean Water:** See our recommendations on the best choices ([page 18](#)).
- **Clean Air:** Air out your home once per week.
- **Toxin-Free Home:** Reduce sources of toxic chemicals.
- **Personal Care:** Minimize your exposure to toxic chemicals in certain cosmetics and personal care products. To learn more, we recommend checking out: <http://www.healthychild.org/when-looking-good-is-bad-for-baby/>

### 4) Medical Care

- Request personalized medical testing with your physician. See our list of suggested tests ([page 36](#)).
- Discuss all medications with your physician for safety during pregnancy.
- Limit over-the-counter medications and discuss them with your physician.
- Continue regular dental cleaning and exams, but minimize dental procedures.


### 5) Stress Reduction and Appropriate Exercise

- Discuss your pregnancy plans with your partner, family, and friends and build a strong support system.
- Ensure that you are in a healthy relationship without violence.
- Continue or start lifestyle behaviors that decrease stress such as walking, yoga, meditation, or prayer.
- **Exercise daily:** Daily walking or other exercise will help to decrease stress and improve fitness. We recommend building up to 150 minutes/week of moderate-intensity aerobic activity AND muscle strengthening activities two or more days per week, or 75 minutes of high-intensity activity.
- **Regular sleep habits:** Get at least eight hours per night if possible; avoid caffeine and sleep medications, instead rely on a regular bedtime routine, daily exercise, and a completely dark, quiet room.

### 6) Wait 18 Months After Previous Births

- After a previous birth, wait at least 18 months before conceiving. This significantly reduces the risk of pregnancy complications including pre-term birth and infant mortality because it allows your body time to recover and replenish its nutritional stores.

### 7) Wait Three Months After Oral Contraceptives

- Wait three months after stopping oral contraceptives before conceiving. This allows time for hormone levels to normalize and restores healthy levels of B vitamins and zinc that are depleted by oral contraceptives and are critical to a healthy conception and pregnancy. 

Click here:



Join The NHF Community

We are excited you are using *The Healthy Child Guide*! Our team is inviting the general public to participate by joining the NHF Community. Members of the NHF Community will gain exclusive access to free material which will include the following:

- Webinars hosted by the experts who form the NHF Scientific Advisory Board as well as CME training for health care professionals.
- Updated PDF Guides published by NHF's Scientific Advisory Board.
- Local support groups of parents who are partnering with NHF.
- Invitations to provide testimonies and share real life stories about *The Healthy Child Guide*.
- Periodic alerts regarding recent video postings to the NHF YouTube Channel.



# Pregnancy

## 7 tips after you conceive

### OVERVIEW

In addition to the recommendations above for Preconception, we recommend the following for a healthy pregnancy and healthy baby.

#### 1) **Medical Care** ATTEND ALL PRENATAL CARE VISITS

- Collect personal and family medical history data.
- Discuss risk vs. benefits of prescribed medications (e.g., antidepressants, acne medications with retinoic acid, Accutane®).
- Attend childbirth classes, consider natural childbirth.
- Recheck iron status at the third trimester—40% of women become anemic during the third trimester due to large production of blood for the fetus and placenta.
- Do a complete iron panel (serum iron, IBC, % saturation and serum ferritin).

#### 2) **Continue a Healthy Diet** (see *Nutrition Section*)

- If low-income, apply for WIC or SNAP (federal nutrition programs for low-income families).
- Eat frequent small to moderate meals throughout the day to stabilize glucose levels of the fetus. Foods with a low glycemic index (low sugar) are preferred.

- Drink plenty of clean water. Water helps flush out toxins. Also, low fluid intake may result in low amniotic fluid, which reduces your baby's ability to move and therefore decreases muscle function.
- Consume a moderate amount of salt unless you have high blood pressure. As your pregnancy progresses and blood volume increases, the need for salt increases. Inadequate levels contribute to toxemia, high blood pressure and early labor and delivery.
- Avoid consuming heavy meals before bed to avoid reflux-triggered waking.
- Eat a balanced diet to facilitate appropriate weight gain based on BMI at the start of pregnancy. Anticipate gaining approximately 25-35 pounds during the pregnancy if normal weight. (About 28-40 pounds if underweight, or 20 pounds if you are a little overweight before pregnancy).
- Eat organic foods as much as possible, to reduce exposure to toxic, conventional pesticides and herbicides (cook meals at home and from scratch as much as reasonably possible).



### SPECIAL CASES

#### **Gestational Diabetes**

If you had gestational diabetes in previous pregnancies, the following may help:

- Aim to keep your carbohydrate intake under 60 grams per day.
- Fill up on low starch vegetables, meats, eggs, nuts, and oils.
- Get a nutrition evaluation for specific diet and/or supplements and to determine the status of important nutrients in glucose control (zinc, chromium). Pregnancy increases the loss of chromium and glycemic (sugar-raising) diets increase the loss of zinc.

“A recent study performed by an MIT senior research scientist, demonstrated there is a likely correlation between glyphosate (Round-up Weed Killer) and neurodevelopmental issues in children. The reason why more research on glyphosate is needed is because this synthetic chemical rids the human body of a host of ‘good bacteria’ and this has the potential to affect the health of both pregnant mothers and children.”

—James Adams, Ph.D | Chair of the Scientific Advisory Board | Neurological Health Foundation (NHF)

(Pregnancy Overview Recommendations, continued)

### 3) Continue to Reduce Toxic Exposures

- Continue to avoid all toxins listed in *Reducing Toxic Exposure* section ([page 28](#)).
- Ultrasound: Although not conclusive, there is growing concern about excessive use of ultra-sounds during pregnancy since it can cause heating of fetal tissue. We recommend minimizing the number and duration of ultrasound testing.

### 4) Stress Reduction and Mood Improvement

- Start or continue the recommendations above in the *Preconception Overview*.


### 5) Appropriate Exercise

- Most healthy women should participate in 150 minutes of moderate-intensity physical activity per week (30 minutes on most, if not all days of the week). If you have not previously exercised, you should slowly build up to that level. Discuss exercise with your physician ([page 38](#)).

### 6) Strive for 40 Weeks of Pregnancy

- Do not schedule C-sections prior to 40 weeks unless medically necessary.

### 7) Give Colostrum

- Colostrum is the initial milk produced by mothers, primarily during the first one to days days after birth, and approximately 25% of colostrum is composed of important immunoglobulins that regulate the infant's immune system.
- So, it is especially important that the infant nurses from the mother for the first three days to develop a healthy immune system for the rest of their life. 

“Numerous scientific studies have confirmed a relationship between exposure to organophosphate pesticides and synthetic herbicides during pregnancy to lower birth weight as well as an increased probability of ADHD. Therefore, the NHF Scientific Advisory Board recommends organic fruits and vegetables whenever possible.”

—Debby Hamilton MD, MSPH, Pediatrician  
Author of “Preventing Autism & ADHD: Controlling Risk Factors Before, During & After Pregnancy”  
NHF Scientific Advisory Board

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#### The Call To Action and Need for Funding:

NHF's program, *The Healthy Child Guide*, will have an immediate and positive impact on thousands of families. Furthermore, our objective is to positively influence the births of over 1 million children through NHF's programs and research.



# Diet and Nutrition

## RECOMMENDATIONS DURING PRECONCEPTION AND PREGNANCY

### CONSUME:

- \_\_\_ **Balanced Meals:** 50% vegetables, 25% protein, 25% fruit/starch
- \_\_\_ **Protein:** 75g per day during first trimester, 90g per day during second and third trimesters
- \_\_\_ **Vegetables and Fruits:** 7 servings per day of a wide variety. 1 serving = half cup (4 oz) of most vegetables/fruit, except for lettuce/leafy greens where 1 cup = 1 serving
- \_\_\_ **Seafood:** 8-12 ounces per week of low-mercury seafood (wild, not farm-raised)
- \_\_\_ **Clean Water:** Tap water purified with a charcoal filter or uncontaminated spring water
- \_\_\_ **Homemade Foods:** Cook from scratch with whole, organic food ingredients
- \_\_\_ **High-Fiber Foods:** 25g per day of fiber reduces risk of constipation
- \_\_\_ **Organic Foods:** Eat organic as much as possible to avoid harmful conventional pesticides and herbicides. Thoroughly wash non-organic food.

### AVOID:

- \_\_\_ **Alcohol**
- \_\_\_ **Fish with High Mercury** (shark, swordfish) or moderate mercury (tuna)
- \_\_\_ **Avoid Aspartame and MSG Derivatives** (flavor enhancers): Both have no nutritional value and are considered be “excitotoxins.”
- \_\_\_ **Fish Skin**
- \_\_\_ **Raw or Undercooked Meat or Seafood**
- \_\_\_ **Fats in Non-Organic Meats**
- \_\_\_ **Charred/Blackened/Burned Food**
- \_\_\_ **Hydrogenated Fats, Partially Hydrogenated Fats, Transfats**
- \_\_\_ **Unpasteurized Foods**
- \_\_\_ **Soy/Tofu**
- \_\_\_ **Refined Sugars**
- \_\_\_ **Glycemic Foods:** Refined grains in bread, pasta, cold cereal, crackers, pretzels
- \_\_\_ **Soda, Diet Soda**
- \_\_\_ **Excessive Caffeine:** More than 3 cups of coffee or 5 cups of tea per day
- \_\_\_ **Highly-Processed Foods**
- \_\_\_ **Deli Meats**
- \_\_\_ **Artificial Colors, Flavors, Sweeteners or Preservatives**
- \_\_\_ **Genetically Modified Foods (GMOs)**



We recommend you print this page, post it on your refrigerator, and check it against your diet regularly.



**Neurological  
Health  
Foundation**





"Eat a healthy, balanced diet rich in vegetables, fruits, protein, and essential fats. Eating organic will help reduce your exposure to pesticides and herbicides. Prepare meals at home 'from scratch' as much as possible."

—Vicki Kobliner, MS RDN, CD-N  
Author and Registered Dietitian Nutritionist  
NHF Scientific Advisory Board



Watch **"Best to Avoid GMO Foods"** for more advice from Board Certified Pediatrician, **Dr. Nancy O'Hara**

"Over the last 25 years, the modern food supply has become exposed to more and more unsafe chemicals. Currently, the FDA has standards that allow more than 10,000 different additives in food that simply were not present 50 years ago when children were much healthier on average.

Not only is this increased exposure an outcome of new chemicals in foods, but is also due to how drinks and food items are packaged. The health impact of these additives can have on a developing child remains largely unknown; only some of these permitted substances have ever been scientifically studied for safety.

We've become accustomed to GMO food ingredients, dyes, flavors, synthetic sweeteners, and chemical preservatives (which can kill good gut bacteria). We need to avoid the following: growth hormones, livestock antibiotics, hormone disruptors such as Atrazine (a weed killer), BPA, perfluorochemicals, and synthetic pesticides/herbicides."

—Nancy O'Hara, MD  
Pediatrician

To learn more about GMOs, [\*\*click here.\*\*](#)

# RECOMMENDATIONS DURING PRECONCEPTION AND PREGNANCY



The phrase, “You are what you eat” is never more important than just before and during pregnancy. At this stage in your life, it is not only your health that is affected by your diet but also your baby’s. Your diet impacts not only how your child grows and develops during pregnancy, but the long-term health of your child.

Luckily eating a nutritious diet is not difficult. *The Healthy Child Guide* describes which foods, in what amounts, are critical to include in your diet. Equally important in our world of fast and processed foods are those foods to avoid.

Reading ingredient labels takes a little time but learning specific items to avoid will quickly become second nature. After educating yourself, you will realize that good nutrition comes down to eating

whole, unprocessed organic foods and avoiding any ingredient that you cannot identify easily as a true food. The improvements in your health and the health of your child are well worth the time and effort to make these changes.

Eat a  
rainbow  
everyday

When you are pregnant, your body requires a higher amount of nutrients. In general, we recommend a nutrient dense diet of healthy whole organic foods which includes a variety of proteins, vegetables, fruits, whole grains, and essential fats/oils. To help guide your decisions as to what is best for you and your baby, please be sure to consult with your health care provider and/or a registered or licensed dietitian/nutritionist to help guide your decisions as to what's best for you and your baby.

## 1) Balanced Meals

Strive for a balanced meal with half of your plate comprised of vegetables, ¼ as protein, and ¼ as fruit or starches (whole fruit, healthy fats, whole grains or potato). A typical meal might be a leafy green vegetable rich salad with olive oil dressing, a broiled piece of chicken or fish, and some fruit and/or a small serving of potatoes, quinoa, or rice. Homemade soups filled with vegetables and chicken, beef, beans or other protein sources are also a great choice.

## 2) Protein

Proteins are the building blocks for growth and development, and the need for protein increases significantly during the second and third trimester. Good sources of protein include organic poultry, meats, eggs, beans, nuts, seeds, milk products, and low-mercury seafood (limit seafood to two to three times per week).

The goal for protein intake should be no less than 75 grams per day, increasing toward 90 grams in the second and third trimesters. Protein should be spread out over meals and snacks. Consider including some protein at every meal and snack in order to provide stable glucose levels and reduce the risk for gestational diabetes.

### 3) Organic Vegetables/Fruits

Eat at least 7 servings of vegetables and fruits each day, with the emphasis on vegetables. Vegetables and fruits provide important vitamins, minerals, and phytonutrients (thousands of special chemicals made by plants that may have nutritional benefit). A serving is considered to be half a cup (4 oz.) for all fruits and vegetables except for lettuce and leafy greens, which are a cup per serving. Bright orange, deep red/purple, and dark green vegetables and fruits should be a part of your daily diet. “Eat a rainbow every day” can help remind you of the need for a varied diet, especially when planning for and during pregnancy.

Click [here](#) to see #1 best seller, “Simply Scratch: 120 Wholesome Homemade Recipes Made Easy”

Drink and cook with plenty of clean water. We recommend a high end water filter as well as purchasing premium spring water (often rich in minerals) from a pure source.

You can very often find a local distributor of premium artesian water who will deliver the water in 5 gallon glass jugs (always lean toward glass).

This is well worth the investment beginning during preconception and during pregnancy.





Did you know you can have some of the best wild caught Alaskan seafood shipped directly to your house?

.....

We recommend eating the fish that are lowest in mercury.

| SOME OF THE MOST COMMON ARE: |
|------------------------------|
| Wild Salmon                  |
| Atlantic Mackerel            |
| Sardines                     |
| Mussels                      |
| Rainbow Trout                |

For a further explanation, we recommend reviewing [EWG's Guide to Seafood](#).

# What foods should I focus on eating during preconception and pregnancy?

## 4) Omega-3 and Omega-6 Fatty Acids

Consumption of foods high in omega-3 and omega-6 essential fatty acids is necessary for the brain development of your baby. Foods high in these fatty acids include: fish/seafood, nuts and seeds, and certain fruits and vegetables (e.g., avocados). Your baby’s brain, cognition, vision and immunity depend upon omega-3 and omega-6 essential fatty acids.

## 5) Seafood

Carefully selected seafood is the primary source of omega-3 fatty acids. ***The FDA strongly recommends that pregnant women consume 8-12 ounces per week (two to three servings per week) of a variety of low-mercury seafood for optimal fetal development.*** Surprisingly, one major study found that fish oil supplements are not an adequate replacement for eating seafood.

Research shows us that children born to mothers who eat fish (from a clean natural source) rich in omega-3 fatty acids and low in mercury during pregnancy have **better cognition and behavior** than children born to mothers who skip fish altogether. Yet, mercury and the omega-3 fatty acid levels in fish and seafood vary widely, as does the quality of fish depending on its source.

**You should completely avoid the fish highest in mercury** (shark, swordfish) because one serving during a pregnancy is enough to significantly increase the risk of neurological damage to your fetus. We also recommend avoiding fish with moderate amounts of mercury, including tuna.

Eat only “wild-caught” seafood, and avoid “farmed” because “farmed” fish are lower in omega-3’s (due to being fed GMO corn or GMO soy instead of algae) and are often exposed to antibiotics and other chemicals. We strongly recommend avoiding fish from China, Indonesia, and Central/South America because of unsafe farming practices and chemical exposures (e.g., PCBs, dioxins). Do not eat the skin of the fish because it tends to accumulate certain chemicals, such as PCB’s and other chlorinated hydrocarbons.

## 6) Clean Water

Drink plenty of clean water. The best sources are usually purified drinking water, purified with a high-quality filter at home or natural spring water from an uncontaminated source.

Store pure drinking water in glass, stainless steel or ceramic. You can flavor the water with small amounts of organic fruit (lemon, berries, etc.) for variety. Avoid most bottled water in plastic containers because it is often no better than tap water (the chemicals in plastic often bleed into water when left in the sun); the source is often unknown.

## 7) Homemade Foods

Processed foods (pre-prepared soups, dinners, etc.) often contain high amounts of sugar, salt, artificial colors, flavors (Aspartame and MSG derivatives), and preservatives. Check ingredient labels, and cook meals at home whenever possible. Cooking meals from scratch is often more nutritious and you know what the actual ingredients are (which is not always the case).

# Drink and cook with pure water (either filtered or from a pure, natural source).

*("What foods should I focus on eating during preconception and pregnancy?" continued)*

## 8) High-Fiber Foods

High-fiber diets (25g per day) help reduce risk of constipation, a common problem during pregnancy (good source includes beans, nuts, seeds, vegetables, fruits, whole grains).

## 9) Organic Foods

Eat organic foods as much as possible. It is ideal to consume organic foods to limit exposure to harmful pesticides, toxins, and additives. This includes organic chicken (conventional chicken is fed arsenic to reduce infections and achieve a pink-colored meat) and beef (grass-fed/pasture-fed is better than corn-fed), as well as beans, nuts, seeds, fruits, vegetables, and grains. Organic food can be somewhat more expensive, but is especially important during preconception and pregnancy. Costs can be reduced by cooking your own food from scratch instead of purchasing processed foods/meals.

If you cannot afford organic food, try not to purchase foods that are more likely to have higher pesticide residues—see the "[Clean Fifteen](#)" and "[Dirty Dozen](#)" lists of fruits and vegetables.

Peel fruits and vegetables to remove pesticides on the outer surface. If you cannot afford organic meats, purchase lean meats to avoid toxins that concentrate in fat.

Be sure to wash all fruit and vegetables, even if organic. This includes fruits and vegetables that you peel, because toxins can rub off onto your hands. Repeated soaking in clean warm water with small amounts of natural vinegar and baking soda helps remove most pesticides.

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## What foods should I avoid eating during my pregnancy?

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Understanding what foods to avoid during pregnancy can help you make the healthiest choices for you and your baby.

### 1) Alcohol

There are no known safe amounts of alcohol consumption during pregnancy. It is recommended that women avoid alcohol completely when trying to conceive and throughout pregnancy and nursing.

### 2) Fish High In Mercury

Do not eat any shark, swordfish, king mackerel, or tilefish—a single serving has enough mercury to increase risk of neurological damage to infants, according to the FDA. We also recommend avoiding fish with moderate levels of



# What foods should I avoid eating during my pregnancy?

mercury such as tuna, because eating a lot of fish with moderate levels of mercury can result in a significant body burden of mercury. Mercury is a toxic metal that can damage your baby's brain, lungs, kidneys, and potentially, hearing and vision. Approximately one in six women in the U.S. have high enough levels of mercury in their bodies to increase the risk of neurological damage to their infant, primarily due to consumption of fish with moderate or high levels of mercury.

- Fish highest in mercury are shark, swordfish, king mackerel, and tilefish
- Fish moderately high in mercury (also avoid): tuna, orange roughy, mackerel, grouper, bluefish, sablefish
- Fish skin: Fish skin is high in toxins, so avoid eating it.

## 3) Raw Or Undercooked Meat Or Seafood

May contain dangerous bacteria or parasites.

## 4) Fats In Non-Organic Meats

Many toxic chemicals are concentrated in fats. Most conventional meats contain synthetic hormones as well as trace amounts of antibiotics.

## 5) Charred/Blackened/Burnt Food

The charred (burnt) portions of overcooked food (e.g. char-grilled meats) contain high levels of polyaromatic hydrocarbons, many of which cause birth defects, mutations, and cancer.

## 6) Hydrogenated Fats, Partially Hydrogenated Fats, Transfats

These are unhealthy fats that should be avoided.

## 7) Unpasteurized Foods

Foods that are unpasteurized (soft cheeses such as brie or raw milk) are not safe to eat during pregnancy and could cause harm to your baby.

## 8) Soy/Tofu

We recommend reducing/avoiding soy products, including tofu, during pregnancy. First, roughly 80% of soy products are GMO (genetically modified), and there is concern by some scientists and nutritionists about their safety. Second, soy contains high amounts of genistein which is an endocrine disruptor (alters hormone levels). Although more research is needed, we still recommend reducing/avoiding soy products and tofu during pregnancy.

For vegetarians, eat only moderate amounts of organic tofu, and rely on other protein sources such as legumes/beans, nuts, seeds, eggs, milk products and organic protein powders (e.g. whey, pea protein) instead.

## 9) Refined Sugars

Avoid refined sugars such as sugar (sucrose), high-fructose corn syrup (HFCS) as well as fructose, cakes, candies, and sweets because they provide empty calories without nutrients. HFCS has been found to be even more damaging than sugar. Because some agave includes HFCS, we do not recommend it as a substitute. Instead, use small amounts of natural juice to flavor water or tea. **Intake of all refined sugars increases the loss of zinc and chromium which are critical to insulin structure and function. This is one of the ways that refined sugars cause glucose control problems which can lead to gestational diabetes.**

## 10) Glycemic Foods

Like refined sugars, glycemic foods deplete important nutrients and increase the risk for gestational diabetes in the mother and risk for diabetes in the child. These “sugar raising” foods include refined grains (breads, pastas, cold cereals, crackers, pretzels, bagels), juices, sweets, sodas, and alcohol. They often raise glucose as significantly as refined sugars. Refined grains without the fiber are extremely glycemic. Similarly, orange juice is highly glycemic, but eating a whole orange is not.

## 11) Junk Food (*cookies, chips, candy, desserts*)

These foods provide empty calories without nutrients and should be avoided. See *Glycemic Foods* above.

## 12) Over-Consumption of Soda

One study of 3,628 women in Denmark found that consumption of three sodas per day decreases the chance of conception by 50%. Regular sodas have high levels of sugar and/or high fructose corn syrup which can result in a rapid rise and fall of blood sugar (glucose). They increase the risk for diabetes, weight gain, cardiovascular disease and high triglycerides. There are healthier alternatives to conventional soda pop.



### 13) Diet Soda

One major study of 59,000 Danish women found that consuming one diet soda/day (containing Aspartame) increased the risk of preterm delivery by 38%, and consuming four servings per day increased the risk by 78%. They can also increase the risk for diabetes and weight gain. Thus, we recommend avoiding diet soda long term, but especially during pregnancy, because preterm birth is one of the major pregnancy complications and can lead to life-long developmental problems and infant mortality.

### 14) Excessive Caffeine

Limited caffeine is safe for most women, but avoid high levels of caffeine (more than 300 mg, or more than 3 cups of coffee or 5 cups of tea per day). Some women may have little or no tolerance for caffeine during pregnancy (sleep disturbances, tremors, anxiety, and/or high blood pressure).

### 15) Highly

#### Processed Food

Consume whole foods (whole grains, vegetables, fruits, nuts, seeds, beans, eggs, meats and milk products etc., if tolerated).

### 16) Processed/

#### Preserved Meats

Many processed deli meats (salami, bacon, hot dogs, etc.) contain high concentrations of nitrate, which is a suspected carcinogen and can cause methemoglobinemia in babies (blue baby syndrome).

### 17) Artificial Colors/Flavors/Sweeteners/Preservatives

Chemical additives in foods have not been well tested for pregnancy, but for preschool children, additives have been shown to be a cause of disruptions in behavior, learning, and emotions.

In fact, the American Academy of Pediatrics acknowledged this and stated: "A preservative-free, coloring-free diet is a reasonable intervention. The overall findings are clear...we as skeptics who long doubted the parental claims of effects of various foods on behavior admit, we might have been wrong."

So, we recommend avoiding artificial colors, flavors, sweeteners and preservatives, including but not limited to MSG, saccharin (sugar twin, Sweet'N Low®), aspartame (Equal®, NutraSweet®), and sucralose (Splenda®).

Instead, it is recommended that pregnant women consume organic, natural, homemade foods with minimal processing. Consider using organic juice, maple syrup, honey, coconut palm sugar or molasses to flavor items instead of sugars and artificial sweeteners.

### 18) Genetically Modified Foods (GMO)

The safety of GMO foods is unclear, with some independent research suggesting they may be unsafe.

Many European countries have already banned them. We recommend avoiding GMO's on a precautionary principle. Some issues are shown below:

"One major study...found that consuming one diet soda per day (containing Aspartame) increased the risk of preterm delivery by 38%, and consuming four servings per day increased the risk by 78%."

- 90% of corn, soybeans, and canola oil grown in the U.S. are GMO. Foods labeled "organic" are also GMO-free, so assume that most non-organic corn, soybeans, and canola oil are GMO.
- Most GMO plants are designed to be more resistant to pesticides, so higher levels of pesticides are often applied to them (resulting in "superweeds" that are resistant to herbicides altogether).
- Some GMO corn is designed to produce a pesticide called Bt-toxin, which can have a negative effect on humans.
- GMO corn is designed to have higher sugar content. 🐦



“...men are encouraged to follow similar recommendations as women in order to increase the quality of their sperm...”

# BASIC NUTRITION DURING PRECONCEPTION FOR MEN

During preconception, men are encouraged to follow similar recommendations as women in order to increase the quality of their sperm (enhance motility and reduce risk of DNA damage) to improve the chance of conception and the chances for a healthy child. This is even more important in men who are 40 years or older.

Eating a healthy diet together encourages both parties to stay committed to nutritious eating and makes the transition easier for both. Nutritional supplements are important to sperm health and successful conception.

## The following can interfere with male fertility:

- Being age 35 and older
- Toxic metal exposure and accumulation (lead, mercury, cadmium, excessive copper).
- Harmful chemical exposures (organochlorine pesticides, Bisphenol A, thalates, dioxins, endocrine disrupters)
- Tobacco smoking
- Alcohol consumption
- Use of recreational drugs including PCP, marijuana, cocaine, heroin, amphetamines, and steroids
- Soy consumption (decreases sperm count)
- Overheating in the gonad area (holding your laptop on your lap)

## Our major dietary recommendations for men are to consume the following:

- A balanced organic diet with half of your plate comprised of vegetables, ¼ as protein, and ¼ as fruits, healthy fats and/or starch (whole grains or potato).
- A wide variety of protein sources, vegetables, and fruits
- Low-mercury seafood one to two times per week ([page 20](#)).
- Healthy oils and fats
- Purified water
- A balanced vitamin/mineral supplement for men that contains at least:

| SOME OF THE MOST COMMON ARE:         |   |
|--------------------------------------|---|
| 100% of the Daily Value for Vitamins | 50-100% of the Daily Value for Other Minerals |
| 200mg of Calcium                     | 100mg of Magnesium                            |




“Moms and dads who carefully consume the right seafood from a pure natural source increase the odds of having a healthy child.”

—Stuart Freedenfeld, M.D.  
NHF Scientific Advisory Board







Taking the right prenatal supplements beginning preconception is paramount.

## PRECONCEPTION AND PRENATAL SUPPLEMENTS

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### What is a vitamin or mineral?

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Vitamins and minerals are nutrients in healthy foods proven by many research studies to be essential for human health. The lack of these nutrients may cause disease or even death. Your body does not produce these nutrients, so you need to consume them from food or supplements. It is especially important that pregnant women consume sufficient nutrients to prevent birth defects and improve their baby's growth and development. Folate and iron are two vitamins/minerals widely known to be important for a healthy pregnancy. Yet, there are many essential vitamins and minerals that are important to optimize your chances of having a healthy pregnancy and a healthy baby.

Much of your baby's initial brain growth and development occurs in the first 12 weeks of pregnancy (4-6 weeks before many women know that they are pregnant). If you have the ability to plan your pregnancy, it's important to begin taking prenatal supplements one to six months prior to conception. If you weren't able to start a prenatal supplement before your pregnancy, start taking a prenatal supplement as soon as you find out that you're pregnant. The sooner you begin, the better the nutrition your baby receives.

During pregnancy and lactation there is a substantial increase for nutrient demand on your body. Before pregnancy, prenatal

vitamins and minerals help build your stores of nutrients to support conception and pregnancy. During pregnancy these supplements help the proper growth and development of your baby.

Vitamin/mineral supplements are the most commonly recommended prenatal supplements, but other supplements including essential omega-3 fatty acids and probiotics are also important.

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### Are all prenatal vitamin supplements the same?

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No. Most "prenatal" supplements do not contain all essential vitamins and minerals your body needs, and the level of vitamins and minerals are often too low. Prenatal supplements generally contain folic acid, most vitamins, and some minerals, but there is no standard. One capsule or tablet cannot include all of the recommended nutrients for pregnancy. Calcium, magnesium, and choline are macronutrients that are needed in large amounts and require two to four capsules, so many manufacturers include only small amounts of these important nutrients.

Any prenatal supplement that is one capsule or tablet will NOT contain a significant amount of calcium, magnesium, or choline.

## What supplements do you recommend?

We recommend the following general levels of vitamins/minerals. Some people may need more or less, depending on their diet and health, so discuss with your physician and/or dietitian/nutritionist. **On the NHF website, [www.neurologicalhealth.org](http://www.neurologicalhealth.org) we provide a comparison of several leading brands and our ratings of them.**

| VITAMIN OR MINERAL | NHF RECOMMENDATION | COMMENT   |
|--------------------|--------------------|---|
| Vitamin A          | 8000 IU            | Mostly as mixed carotenoids   |
| Vitamin C          | 100mg              |   |
| Vitamin D3         | 3000 IU            | Too low in most supplements, and especially important for women who don't get one to two hours of sunlight exposure each day  |
| Vitamin E          | 50 IU              | We recommend Vitamin E as mixed tocopherols, not only alpha-tocopherol  |
| Vitamin K          | 100mcg             |   |
| Thiamin            | 15mg               |   |
| Riboflavin         | 15mg               |   |
| Niacin             | 50mg               |   |
| Vitamin B6         | 15mg               |   |
| Folate             | 1000mcg            | We strongly recommend folinic or methyltetrahydrofolate instead of folic acid, which is an artificial form of folate not found in nature and which some people cannot easily convert to the active form |
| Vitamin B12        | 250mcg             | Preferably methylcobalamin  |
| Biotin             | 300mcg             |   |
| Pantothenic Acid   | 50mg               |   |
| Calcium            | 250mg              | Some people need more if they do not consume milk products or a diet rich in vegetables   |
| Iron               | 30mg               | More may be needed during the third trimester depending on testing  |
| Iodine             | 150mcg             |   |
| Magnesium          | 250mg              |   |
| Zinc               | 20mg               |   |
| Selenium           | 50mcg              |   |
| Copper             | 1mg                |   |
| Manganese          | 1mg                |   |
| Chromium           | 150mcg             |   |
| Molybdenum         | 40mcg              |   |
| Potassium          | 100mg              |   |
| Choline            | 250mg              | Choline is not yet included in most prenatal vitamins, but new research shows it is essential for neurological development and it is now recommended by the U.S. National Academy of Sciences           |
| Inositol           |                    |   |



### Watch “We Can Greatly Reduce the Risk of Autism”

**Dr. James Adams**, Chair of the NHF Scientific Advisory Board, discusses his personal motivation for decreasing the incidence of autism, ADHD and neurological conditions in children.

“We are now at the state of scientific knowledge where we can reduce the risk of preterm births, miscarriage, developmental and neurological conditions in children. The Neurological Health Foundation empowers parents to make lifestyle changes that increase the odds of having a healthy, happy child.”



## What tests should I do during my pregnancy to check if I need extra vitamins/minerals?

Many women are deficient in iron and Vitamin D without knowing it, so we strongly recommend measuring these levels and taking supplements to correct any deficiencies if needed. **Iron should be tested at preconception and retested during the third trimester. Due to making many new red blood cells for their baby, 40% of women develop iron deficiency during the third trimester.**

- Vitamin D should be tested before pregnancy (test for 25 hydroxy Vitamin D3), and retested after starting supplements if it was low.
- Homocysteine can be measured to test for needed extra folate and/or Vitamin B12.
- You can discuss with your doctor if tests for other nutrients are needed in your case.

### Discuss with your physician, nutritionist, or dietician

If you are taking prescription medications, ask your doctor if they affect your nutritional needs (some medications deplete certain vitamins or minerals).

### Omega-3 Fatty Acids

The omega-3 fatty acids—EPA and DHA—are significantly beneficial to conception, fertilization and fetal development. These fatty acids are critical to brain structure and function, vision, cognition, immunity, hormone metabolism, and skin health. Seafood is the primary food source for omega 3 fatty acids, but they are also present in nuts and seeds, especially flax seed.

We recommend two to three servings of low-mercury seafood per week instead of supplements. Seafood appears to be the best source of omega-3 fatty acids. If you cannot tolerate seafood, a daily fish oil supplement with 1000 mg of omega 3's (produced using a solvent-free molecular distillation and containing an antioxidant) should provide some benefit. People who eat hydrogenated oils/trans fatty acids or have deficiencies in magnesium and/or Vitamin B6 may need more omega-3 fatty acids.

### Probiotics

We recommend 10 to 20 billion CFU (Colony Forming Units) of a mixture of strains especially including *Bifidus infantis* and other *Bifidobacterium* species. Probiotics via fermented foods and supplements provide beneficial bacteria which help with digestion. These “good bacteria” improve systemic immunity, food digestion and nutrient absorption in the mother. Taking probiotics during pregnancy has demonstrated a reduction in the risk of gestational diabetes and pre-eclampsia.

Some studies have shown that probiotics have the potential to prevent infant asthma, allergies, eczema, digestive infections and illnesses in the infant. The addition of probiotics is particularly important in infants born by Caesarean section, since they are not exposed to the mother's protective flora (microbiome) during a normal birth.

**At 12 weeks, 90% of a child's gut bacteria are *Bifidus infantis*, but if a child is delivered by C-section then they are often lacking in this crucial bacteria.** Thus, we recommend giving a probiotic with *B. Infantalis* to infants, especially those born by C-section.

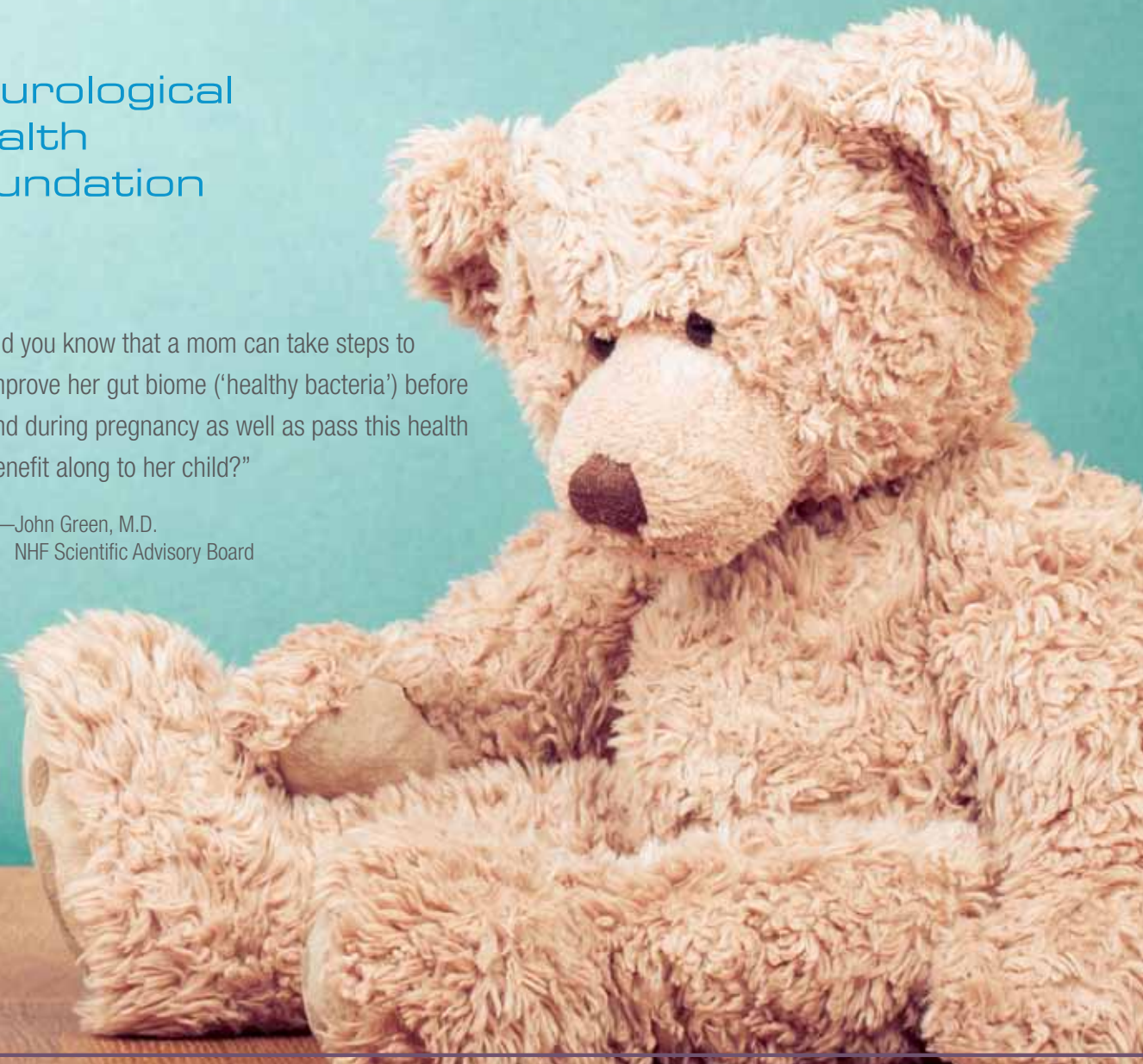
The potential for improvement is significant when taking probiotics and/or consuming fermented foods in order to optimize the digestive gut bacteria. ✔





“Did you know that a mom can take steps to improve her gut biome (‘healthy bacteria’) before and during pregnancy as well as pass this health benefit along to her child?”

—John Green, M.D.  
NHF Scientific Advisory Board



NHF recommends that women take probiotics beginning at preconception.



Watch “[The Invisibile Universe of The Human Microbiome](#)”

The NHF Scientific Advisory Board recommends in *The Healthy Child Guide* that beginning at preconception women take probiotics to restore healthy gut bacteria. This has been shown to have a healthy influence on both the mother and the baby.

To learn more, watch this video and pay careful attention when the video reaches 45 seconds as well as 3 minutes and 30 seconds.

CLICK TO SEE NHF VIDEOS:



# Toxins

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## REDUCING TOXIC EXPOSURES (See [page 30](#) for further details)

### GENERAL TOXINS

- \_\_\_ Avoid alcohol, smoking and recreational drugs.
- \_\_\_ **Avoid Toxic Chemicals:** Pesticides within or outside the home; certain paints, stains and varnishes (select VOC when possible); gasoline and similar crude oil products
- \_\_\_ **Avoid New Plastics:** Emit chemicals that are hazardous including new flooring, cushions, shower curtains, styrofoam (coffee cups, take out containers, etc.)
- \_\_\_ Avoid asbestos, stain guards and other chemical exposures.

### HOME AND HOME CLEANING

- \_\_\_ **Clean Air:** Air out your home once a week for at least several hours and use a HEPA filter. Houseplants can help purify air as well.
- \_\_\_ **Cleaning Products:** Check the EWG website ([www.ewg.org](http://www.ewg.org)) for safe suggestions, including do-it-yourself recipes that are less expensive.
- \_\_\_ **Dust:** Dust and vacuum regularly with a HEPA filter in your vacuum cleaner.
- \_\_\_ **Lighting:** Avoid compact fluorescent light (CFL) bulbs because if they break they may release mercury into the home.
- \_\_\_ **Electronics:** Limit exposure to electromagnetic field (EMF) including Wi-Fi devices such as cell phones and laptops.

### PERSONAL CARE

- \_\_\_ **Natural, Organic or Toxin-Free Cosmetics:** This includes sunscreen, hair and nail products, antiperspirants, dry cleaning and fragrances.
- \_\_\_ Avoid anti-bacterial soaps and hand sanitizers.

### NUTRITION AND FOOD PREPARATIONS

- \_\_\_ **Water:** Drink water purified with a high-end filter or from uncontaminated spring water. Almost all cities have a distributor of quality spring water brands and most can be purchased in 5-gallon glass jugs which is more economical in terms of cost.
- \_\_\_ **Plastics:** Avoid microwaving/heating food in plastic.
- \_\_\_ **Cookware:** Avoid Teflon® and other non-stick coatings and aluminum. Some good alternatives to use are stainless steel, cast iron, glass, ceramic, porcelain, or enamel.
- \_\_\_ **Canned Food:** Avoid or reduce the use of canned foods and buy organic fresh or frozen instead.
- \_\_\_ **Food Storage:** Store food and drinks in glass or ceramic containers with airtight lids instead of plastic containers, baggies or plastic wrap.
- \_\_\_ **Pesticides:** Eat organic food to avoid consuming synthetic pesticides and herbicides. If eating conventional (non-organic) produce, wash and peel the skins first.

### PET CARE

- \_\_\_ **Flea Collars/Shampoos:** Use only natural products.
- \_\_\_ **Pet Stool:** Avoid contact with cat litterbox or dog's stool.

*We recommend you print this page, post it on your refrigerator, and check it against your household toxins regularly.*



**Neurological  
Health  
Foundation**



# ENDOCRINE (HORMONE) DISRUPTORS

- 1 Whenever possible, store all food and drinks in glass containers for both pantry and fridge.
- 2 If using a microwave, only heat foods or liquids in a microwave-safe glass or ceramic container (avoiding plastic, regardless of what the package recommends).
- 3 Avoid non-stick cookware (see prior page for a list of alternatives).
- 4 When using a dishwasher, use phosphate-free and/or fragrant-free detergents.
- 5 For handwashing and general household cleaning, avoid anti-bacterials. Instead, use eco-friendly products and consider non-toxic ingredients such as castile soap, lemon and vinegar or basic soap and water.
- 6 Choose meats that are fresh, organic grass-fed animals without antibiotics or growth hormones. Keep in mind, conventionally-raised (non-organic) animals store toxins in their fat, which then gets passed on to humans when consumed.
- 7 All organic food has a much greater possibility of being free of hormone-disrupting chemicals than foods using conventional pesticides and herbicides.
- 8 Avoid canned foods and canned drinks (which may be lined with BPA, an endocrine or hormone disruptor).

8 ways  
to avoid  
endocrine  
(hormone)  
disruptors.

“The human endocrine system is composed of glands and hormones that directly influences every major organ in the body including but not limited to sexual development/ characteristics, growth and behavior. Hormones are naturally produced by the human body in minuscule amounts (parts per billion) and transmit messages instructing a vast array of cells on what to do and when to do it.

Endocrine disruptors (a.k.a. hormone disruptors) are modern-day, synthetic chemicals that have been manufactured because of their unique properties. They are used in common consumer products such as personal care products, herbicides, pesticides, plastics, flame retardants, and household cleaners.

Exposure to hormone disrupting chemicals during fetal development has the potential to produce chronic health disorders in children such as neurodegenerative and neurodevelopmental diseases, cancer, immune disorders as well as other unintended consequences.”

—Prof. Richard Frye, MD, Ph.D.  
Child Neurologist and  
Chief Scientist  
NHF Scientific Advisory Board

Use steel, cast iron,  
glass or ceramic  
cookware





# Toxins

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One major study found over 287 toxic chemicals in newborn umbilical cord blood, including carcinogens, neurotoxins, and developmental toxins, all of which are harmful to a baby's growth and development. There are many studies that show that exposures to toxic chemicals during pregnancy can be very harmful to a developing fetus.

In her pediatric practice, Dr. Debby Hamilton is asked almost daily about toxins in our food and environment. Understanding which toxins disrupt our cellular function, immune system, hormone systems and neurotransmitters can be complicated. *The Healthy Child Guide* helps parents find up to date scientific information on toxins in our food and environment. Learn more at [www.neurologicalhealth.org](http://www.neurologicalhealth.org).

Watch "[Toxins in Our Environment](#)"



# REDUCING TOXIC EXPOSURES

Your fetus is exposed to all of the toxins in your food, water, air, and personal care products. Fetuses are generally much more susceptible to these toxins because their body is rapidly developing. While avoiding all toxic exposures may be difficult, there are many steps that you can take to reduce your exposure and protect your baby. Below are our recommendations for you.

## Common Toxins to Avoid:

- Alcohol
- Smoking
- Recreational drugs
- Toxic chemicals
- Gasoline and similar crude oil products. Typical exposures occur during vehicle refueling. Have someone else fill your gas tank or move away while it is being filled. Gasoline and similar oil products include many toxic and carcinogenic chemicals. For example, 10-20% of gasoline is benzene, which evaporates easily and is a known carcinogen that also causes anemia and decreased blood platelets.

## CHECK HOUSEHOLD FOR THESE:

### Water Quality

- Compare the approximate quality of your local water vs national averages by entering your zip code at the upper-right corner of <http://www.ewg.org/tap-water/home>. Maximum allowable contaminants levels in drinking water could be found by [downloading this EPA PDF](#).

*NOTE: By law, water utilities are required to provide reports to consumers. However, this often equates to only one sample being analyzed every three months, which may not reflect the daily variations in water quality.*

- In most cases, use tap water purified with an activated carbon filter (either on the tap or with a pitcher filter). Avoid reverse osmosis since it removes roughly 98% of essential minerals (calcium, magnesium, etc).

An activated carbon filter can remove most of the organic contaminants found in tap water, in tap water, while permitting essential minerals (calcium, magnesium, etc.) to pass through.

*NOTE: Remember to replace filters regularly; as once they are filled they become inactive.* Natural spring water from an uncontaminated source may also be safe. Ask your local city water company to test a sample.

- Avoid bottled water in plastic bottles, since they will slowly release chemicals into the water (even BPA-free plastics release some harmful chemicals).
- Store water in glass or stainless steel.
- Consider adding an activated carbon shower filter or minimize prolonged showers to reduce inhalation of water disinfection by-products released during hot showers.

### Clean Air

Fresh air is important. Air out your home at least one time per week. Indoor air quality is generally much worse than outside. Use a HEPA filter to remove particulates. Minimize exposure to polluted outside air. Information about the permitted air contaminant levels can be found at <http://www3.epa.gov/ttn/naaqs/criteria.html>.



### Houseplants

A NASA-sponsored study found that most houseplants are effective at removing harmful chemicals such as trichloroethylene, benzene, and formaldehyde from the air.

### Cleaning Products

Check the EWG website ([www.ewg.org](http://www.ewg.org)) for safe suggestions, including do-it-yourself recipes that are less expensive.

### Dust

Keep dust levels to a minimum by cleaning weekly, preferably with a wet mop and a HEPA-filter vacuum cleaner. Many toxins, such as flame-retardants and pesticide residues, accumulate in dust. Regular vacuums often blow some of the dust back into the air where it may be inhaled.

### Pesticides in Home or Outside

Use only natural products. If you are leasing, do NOT allow your landlord to exterminate indoors. Many pesticide companies claim that pesticides are plant-based, but most are actually synthetically-derived and have been associated with adverse health effects.

- For personal use, see EWG report on bug repellents at <http://www.ewg.org/research/ewgs-guide-bug-repellents>

# REDUCING TOXIC EXPOSURES

## Paint/Stain/Varnish

- Pre-1978 paint contains lead, so do not scrape or sand (lead dust is very dangerous).
- If painting, use paint with low VOC (volatile organic compounds) and limit exposure (have someone else paint, air out the house, stay away until paint odor is gone).
- Avoid brilliantly colored or fluorescent paints because they often contain PCBs—choose low-pigmented paints or paints derived from natural minerals.

## New Plastics

New plastics emit chemicals that are hazardous, including new carpet, plastic/vinyl flooring, glue for carpet/flooring, furniture (especially foam cushions), plastic shower curtains, styrofoam, etc.). For safer options, see [www.greenhomeguide.com](http://www.greenhomeguide.com).

## OTHER CHEMICAL EXPOSURES, INCLUDING:

### Artificial Fragrances

Use natural/organic ones instead, including essential oils and plant-derived fragrances.

### Avoid Stain Guards on furniture

### Asbestos

It is in insulation, vinyl floor tiles and sheeting, roofing and siding, textured paint, hot water pipe coating, oil and coal furnace gaskets. Asbestos continues to be used in the United States. It can still be found in vinyl floor tiles, disc brake pads, roofing felts, sealant tape and other products.

### Lighting

**Compact Fluorescent Light Bulbs (CFLs):** If CFL bulbs break they may release mercury into the home. Some states forbid putting them in landfills. NHF recommends light emitting diodes (LED) instead due to their efficiency and safety.

### EMF (Electromagnetic Fields)

Consider reducing exposure to electromagnetic fields (EMF). Research at this time is unclear, but it may be helpful to reduce exposure to EMF. This is easy to do at night, when electronics including Wi-Fi can be turned off. For cell phones, use speaker mode or headset. Avoid “bluetooth” sets as these produce high levels of EMF. Keep laptops on desks and away from pregnant bellies. Males should also avoid exposure to EMFs including avoiding use of a Wi-Fi connected laptop on the lap.

### Personal Care

- **Cosmetics:** Use natural cosmetics because many cosmetics are a major source of phthalates, bisphenol A, parabens, toxic metals, and other toxins—see the EWG Skin Deep Cosmetics Database at [www.ewg.org](http://www.ewg.org) for safe ones. This is especially important for lipstick since a significant amount is ingested, and roughly 60% of lipsticks contain lead.
- **Sunscreen:** Some sunscreens are much safer than others; avoid nano particle zinc oxide (regular zinc oxide is okay). See recommendations at [www.ewg.org](http://www.ewg.org).
- **Antiperspirants:** Use aluminum-free, paraben-free antiperspirants.

## FOLLOW NHF:



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/NHFHEALTHYCHILD





“Embrace beauty products that contain whole, organic ingredients. Reduce exposure to synthetic chemicals in personal care products before and during pregnancy.”

—Pamela J. Lein, Ph.D.  
Professor of Neurotoxicology  
and Vice-Chair at University  
of California, Davis  
NHF Scientific Advisory Board

- **Dry Cleaning:** Find dry cleaners that do not use “PERC” (perchloroethylene) to clean your clothes. This is a toxic substance that stays in your clothes for days. If you cannot avoid PERC, air the clothing out with the plastic bag removed, outside the house for 24-48 hours. Consider purchasing clothing that doesn’t require dry cleaning. Avoid wrinkle-free clothing which often contains formaldehyde.
- **Hair Treatments/Nail Treatments:** Reduce or avoid additional chemical exposures, especially during preconception and pregnancy. There are organic hair products and a few organic nail products.

## Cooking

- Avoid microwaving/heating food or drinks in plastic (including styrofoam) as the chemicals in the plastics dissolve into the food. Use microwave-safe glass or ceramic dishware.
- Avoid Teflon®/non-stick coatings and aluminum. Instead use stainless steel, cast iron, glass, ceramic, porcelain, or enamel.
- Avoid or reduce using canned food and instead buy organic fresh or frozen foods. BPA (Bisphenol A) is used in most canned food lining and leaches into foods.
- Store food in glass or ceramic containers with airtight lids.
- Avoid pesticides by eating organic food. If eating conventional (non-organic) food, wash and peel the skins. Repeated soaking in clean warm water with small amounts of natural vinegar and baking soda helps remove most pesticides.

See EWG for the “Dirty Dozen Plus” foods with the most pesticides and the “Clean Fifteen” with the least pesticides <http://www.ewg.org/foodnews/summary.php>.

## Pet Care

- **Flea Collars/Shampoos:** Use only natural products.
- Avoid contact with cat litter or dog’s stool. 🐾

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CLICK TO SEE OUR CHANNEL:



.....

“This is especially important for lipstick since a significant amount is ingested, and roughly 60% of lipsticks contain lead.”



# MEDICAL RECOMMENDATIONS

## Medications

- Discuss all medications you are taking with your physician and ask about safety during pregnancy. Some medications like acne medications with retinoic acid (Accutane®) should absolutely be avoided. Minimize use of other medications such as antibiotics and psychoactive medications.
- Minimize over-the-counter medications (discuss all with your physician and reduce/avoid if possible).
- Minimize use of acetaminophen (in Tylenol® and other products). Acetaminophen has been linked to increased risk of having a child with ADHD, developmental problems (communication, gross motor skills, behavior issues), and possibly linked to an increased risk of having a child with autism.
- Avoid other over-the-counter pain medications during pregnancy, especially during the third trimester, including aspirin and non-steroidal anti-inflammatory drugs (NSAID) like ibuprofen (Advil®, Motrin®), naproxen (Aleve®). Talk to your doctor carefully about pain control during pregnancy.

## Individualized Testing and Treatment at Preconception

We recommend you ask your physician to conduct the following tests to check for hidden health problems. It is best to do this prior to conception, but otherwise do it as soon as possible during your pregnancy. Also, prior to conception, ask your physician about relevant tests for the father based on his health status.

### We recommend the following evaluations:

- Complete gynecological exam, including PAP smear for HPV (human papilloma virus), preconception testing for CMV and Group B Streptococcus
- Check all medications, over-the-counter medications, and supplements (including your prenatal supplement) with your Ob/Gyn.
- Blood tests
  - Complete Blood Count (CBC)
  - Blood type and Rh
  - Blood Chemistry Panel (glucose, electrolytes, kidney and liver function)
  - Sexually-transmitted diseases, toxoplasmosis, HSV, HIV
  - Immunity to Rubella and Chicken Pox—if vaccination is needed, we recommend getting vaccinated prior to pregnancy

- CRP (C-Reactive Protein)
- Glucose (fasting) and HbA1C
- Vitamin D as 25(OH)D
- Iron panel (serum iron, IBC, % saturation, serum ferritin)
- Thyroid (TSH or more extensive thyroid panel)
- Homocysteine (total fasting plasma; give extra Vitamin B12 and folic acid if indicated)
- Toxic metals (urine recommended, but hair can be done if hair is untreated by chemicals)—elevated levels may suggest ongoing exposure to toxins; reducing exposure as discussed in other sections (organic food, pure water, etc.) may be helpful
- Visual check of stool—should be medium/dark brown, formed, at least once a day—if not, discuss with your physician and consider a probiotic since half your stool is intestinal bacteria
- Nutritionist consult to improve diet

### Additional tests to consider for high-risk groups

- Genetic abnormalities—consult a genetic counselor, medical geneticist, or biochemical genetics specialist
- Oxidative Stress Panel (urinary isoprostanes, ratio of reduced: oxidized glutathione)
- Essential Fatty Acids (especially if low seafood/fish oil consumption)
- Organic Acids (urine) for identifying cellular enzyme and nutrient functions
- Plasma carnitine panel—(especially if low beef consumption)—fasting
- Plasma Amino Acids (especially if low protein consumption and pre-albumin is low)—fasting
- Methylmalonic acid in urine (for Vitamin B12—first morning urine)
- Formimino-glutaric acid (FIGLU) in urine (for folate status)—first morning urine
- CRP (C-Reactive Protein) to check for inflammation

## Dental Recommendations

- Continue preventive dental cleanings and examinations every three to six months depending on your oral health.
- Avoid placement or removal of mercury amalgam fillings (mercury is a major neurotoxin); instead, ask for porcelain, gold, or BPA-free composites.
- Avoid placement of root canals (due to chemical exposures from the ingredients).

Drinking and cooking with pure water increases the likelihood you and the developing baby will not be exposed to excess fluoride. You should also consider *not* whitening your teeth before and during pregnancy.





# MEDICAL RECOMMENDATIONS

## “Discuss risk vs benefits of prescribed medications.”


- Minimize anesthesia—use only if needed. Local anesthesia is usually preferred over general.
- If antibiotics are needed, discuss with the dentist those that are safe during pregnancy (category B (not C, D, or X)) and have not caused you any reactions in the past.

### Medical Care During Pregnancy

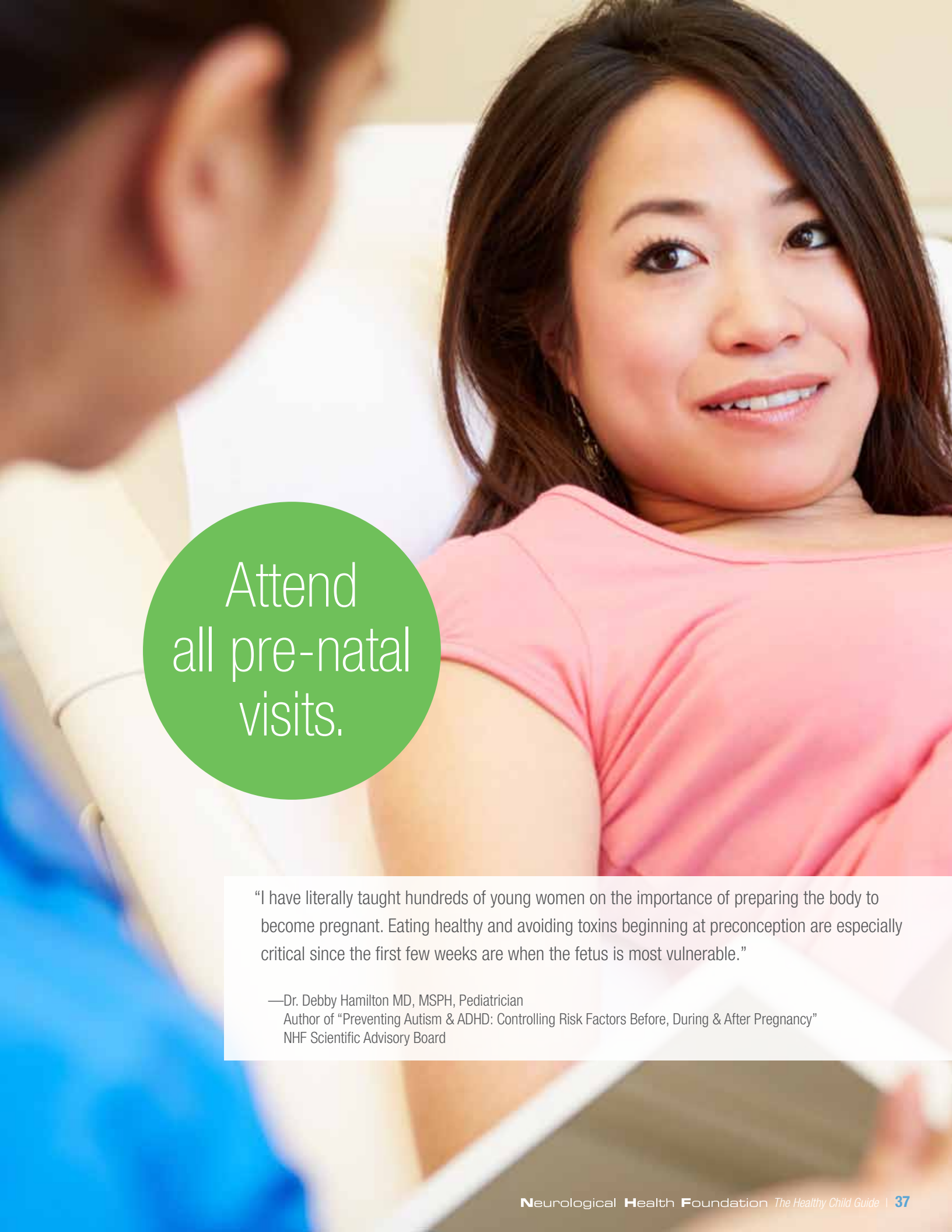
- Attend all prenatal care visits
- Collect personal and family medical history data
- Discuss risk vs. benefits of prescribed medications and consider discontinuing some
- Attend childbirth classes, consider natural childbirth

- **Recheck iron status at third trimester—40% of women become anemic during third trimester due to large production of blood for fetus and placenta.**
- Do a complete iron panel (serum iron, IBC, % saturation and serum ferritin)

### Additional Tests That May Be Recommended

- Amniocentesis, Chorionic Villus Sampling, or blood test (for Down syndrome, Cystic Fibrosis, Spina Bifida)—but be aware of the risks of some of these procedures.
- Biophysical Profile
- First trimester screen (Chromosomal abnormalities)
- Quad Screen (maternal) 





Attend  
all pre-natal  
visits.

“I have literally taught hundreds of young women on the importance of preparing the body to become pregnant. Eating healthy and avoiding toxins beginning at preconception are especially critical since the first few weeks are when the fetus is most vulnerable.”

—Dr. Debby Hamilton MD, MSPH, Pediatrician  
Author of “Preventing Autism & ADHD: Controlling Risk Factors Before, During & After Pregnancy”  
NHF Scientific Advisory Board

# Exercise

## SET YOUR FITNESS GOALS NOW

### PRECONCEPTION

Try to achieve the following goals (gradually increase your activity level to achieve them)

- \_\_\_ 150 minutes per week of moderate-intensity aerobic activity (such as fast walking or swimming) AND muscle strengthening activities (such as circuit training/high-intensity aerobics, resistance training/strength training, or yoga) on two or more days a week, OR
- \_\_\_ 75 minutes per week of vigorous-intensity aerobic activity (such as jogging) AND muscle strengthening activities on two or more days a week, OR
- \_\_\_ An equivalent mix of moderate and vigorous intensity activity and muscle strengthening activities on two or more days a week.

### PREGNANCY

Try to achieve 150 minutes per week of moderate-intensity aerobic activity AND muscle strengthening activities on two or more days a week. Gradually increase your activity level to this if you are not at this level.

### POSTPARTUM

Discuss with your physician when you should start exercising again. Gradually increase your exercise level to reach the goals listed in the two previous sections.

| CURRENT LEVEL OF EXERCISE |               |
|---------------------------|---------------|
| MINUTES PER DAY           | DAYS PER WEEK |
|                           |               |
| YOUR GOAL FOR EXERCISE    |               |
| MINUTES PER DAY           | DAYS PER WEEK |
|                           |               |

*We recommend you print this page, post it on your refrigerator, and check it against your exercise regimen regularly.*

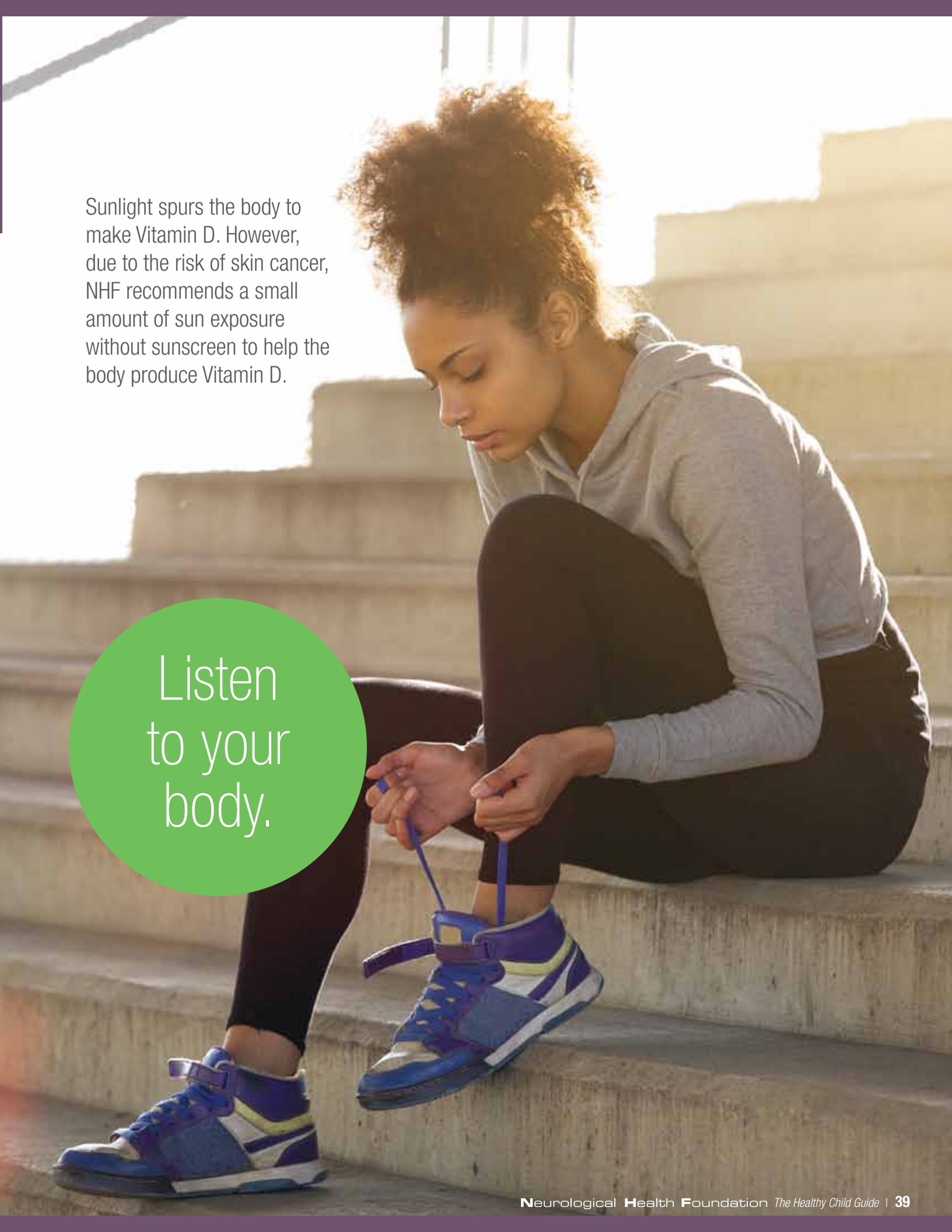


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The Neurological Health Foundation (NHF) is a 501(c)3 nonprofit, tax-exempt organization designated by the Internal Revenue Code. Your tax-deductible donation to NHF will fund programs that educate and empower parents to have healthier children free of chronic neurological illness.





Sunlight spurs the body to make Vitamin D. However, due to the risk of skin cancer, NHF recommends a small amount of sun exposure without sunscreen to help the body produce Vitamin D.

Listen  
to your  
body.



“...regular physical activity should be a major part of a woman’s life prior to pregnancy.”

# Exercise

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## DURING PRECONCEPTION

Everyone knows that exercise is important for good health. This is true before, during, and after pregnancy. Pregnancy is a physical stress on the body and exercise alleviates some of the physical discomforts of pregnancy and makes labor much easier. Being active before pregnancy also helps bring you to a healthier weight, which is associated with improved rates of conception and healthier pregnancy and delivery outcomes.

Being pregnant and becoming a mother are some of the biggest changes you will encounter in your lifetime. Having an exercise routine during this time is an important step toward alleviating that stress.

For the mother, regular physical activity participation (150 minutes per week of moderate-intensity physical activity) may decrease risk for chronic disease including stroke, breast cancer, diabetes, and high blood pressure. Regular physical activity also helps mothers manage their weight, contributes to healthy bones, and reduces symptoms associated with depression and anxiety. For the baby, regular physical activity improves baby's birth weight and stress response. Therefore, regular physical activity participation should be a major part of a woman's life prior to pregnancy.

Be sure to speak to your physician about the importance of exercise as part of your preconception health.

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How much physical activity do I need to do to achieve a healthy weight for my pregnancy?

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According to the Centers for Disease Control, it is recommended that one should participate in either:

- 1) 150 minutes per week of moderate-intensity aerobic activity AND muscle strengthening activities on two or more days a week, OR
- 2) 75 minutes per week of vigorous-intensity aerobic activity AND muscle strengthening activities on two or more days a week, OR
- 3) An equivalent mix of moderate and vigorous intensity activity and muscle strengthening activities on two or more days a week

Some women may need more and others less activity depending on diet, genetics, and daily leisure activity. To lose weight and keep it off you will need a high amount of physical activity and a reduction in caloric consumption (eating and drinking). To manage weight long-term requires both regular physical activity and a healthy eating plan.

---

### How should I get started?

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#### Tips To Getting Started Include (But Not Limited To):

- 1) **Set Goals For Physical Activity.** Short-term goals should be set to achieve a long-term weight loss/weight management goal, yet should be achievable and manageable. For example, "I will exercise 30 minutes for three days each week". Once this is achieved regularly, another goal can be set to increase the time or number of days until the appropriate amount of activity is achieved. Consider keeping a checklist to encourage yourself.
- 2) **Take Opportunities to Reduce Your Sitting Time.** Examples of this may be using a sitting/standing working station and alternate sitting and standing during your workday every 30 minutes. Additionally, park farther from your destination to walk, or use public transportation. Use of public transportation encourages more daily activity.
- 3) **Engage In Activity with Others and/or Engage a Support Network.** Take the time to find other women like you to walk together or participate in group exercise. This will help you stay motivated and accountable for your activity.

For more tips, see *Staying Motivated* ([page 44.](#))

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### Does exercise help reduce my stress?

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The exercise recommendations above are the best way to lessen stress as you prepare for pregnancy. Regular physical activity is effective for reducing fatigue, improving alertness and enhancing overall cognitive function. Exercise makes you feel energized and healthy, and even five minutes has anti-anxiety effects. If you are especially concerned with your stress levels, make sure to share this with your physician. Additionally, consider more mindful activities such as yoga, Qigong, or Tai Chi. ✓



## DURING PREGNANCY

It is important to check with your health care provider, and receive their “OK”, before you begin a physical activity program during pregnancy. You should always communicate with your health care provider about your activity including exercise history, goals, and perceived benefits.

Ask your health care provider about warning signs that you should be aware of for discontinuing physical activity. The more you communicate with your health care provider, the easier it will be to assure they are able to give you the best prenatal care.

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### Should all women participate in physical activity during pregnancy?

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Research suggests that participation in physical activity during pregnancy has minimal risks and is safe for both the mother and baby. However, some women may have conditions in which physical activity is unsafe. Communicate with your health care provider about physical activity participation.

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### What are the benefits of physical activity during pregnancy?

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Benefits include: improving or maintaining cardiorespiratory fitness, healthy weight gain, alleviation of pregnancy discomfort (constipation, backaches, varicose veins), prevention of gestational diabetes and/or preeclampsia, reduced stress, better sleep, and easier labor and delivery.

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### What are the recommended guidelines for physical activity?

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- 1) Healthy women should participate in 150 minutes per week of moderate-intensity physical activity (30 minutes on most, if not all days of the week).
- 2) If you WERE NOT regularly active prior to pregnancy, begin slowly build up to 10 minutes, then 15 minutes. Continue until you have worked up to 30 minutes daily. Refer to the CDC for more tips at [www.cdc.gov/physicalactivity/everyone/guidelines/pregnancy.html](http://www.cdc.gov/physicalactivity/everyone/guidelines/pregnancy.html)
- 3) If you WERE regularly active prior to pregnancy you should continue your physical activity regimen and work with your health care provider to adjust physical activity as the pregnancy progresses. See exercises to avoid below.

- 4) **A Good Rule of Thumb:** Make sure that the intensity of the activity allows you to maintain a conversation (equivalent to a brisk walk). If you can't have a conversation you are probably working too hard. As your pregnancy progresses your activity intensity level in which you can keep a conversation may decrease. Again, work with your health care provider to adjust your physical activity as the pregnancy progresses.

## What exercises are safe during pregnancy?

| SAFE PREGNANCY EXERCISES: |   |
|---------------------------|---|
| Walking                   | Yoga  |
| Swimming/Aqua Aerobics    | Strength training (light weights with more repetition). Heavy weightlifting is NOT recommended. |
| Rowing                    | Stretching  |
| Stationary bicycle        |   |

Other activities may be safe if the activity was performed regularly prior to the pregnancy (e.g., running) but check with your health care professional

### Activity to Avoid During Pregnancy:

- Avoid physical activities that force you to lie flat on your back
- Avoid contact sports and activities that pose a high risk of falling
- Avoid outdoor cycling, downhill skiing, gymnastics, and horseback riding
- Only participate in tennis moderately, and, if you played before your pregnancy

### Other Tips:

- Listen to your body
- Drink lots of pure water
- Wear comfortable clothing and shoes

### Changes in Your Body During Pregnancy That May Affect Your Physical Activity Participation:

- **Breathing:** You need more oxygen when you're pregnant, especially in your second and third trimesters. Your growing belly puts pressure on your lungs, making them work harder in a smaller space. You may even find yourself feeling short of breath at times.
- **Heart Rate:** Your heart works harder and beats quicker during pregnancy to get oxygen to your baby. You may have less energy for exercise.
- **Balance:** Your sense of balance will change as your pregnancy progresses. You may notice that you lose your balance more easily.
- **Joints:** Your hormones are at high levels during pregnancy. This can make the tissues in your body more relaxed and at higher risk for injury. Try to avoid any movements that may strain or hurt your joints.

Drink  
lots of  
pure water.

# DURING PREGNANCY

## Staying Motivated

You're more likely to maintain physical activity (before, during, or after pregnancy) if you consider these simple tips:

### 1) Stop the Excuses

Plan ahead so you don't make excuses for physical activity. Schedule physical activity into your daily schedule (i.e., schedule a meeting with yourself everyday to be active) and make it part of your lifestyle (i.e., always take the stairs or park farther from your destination).

### 2) Give Up on Guilt

Make yourself a priority. Once the baby arrives it will be more difficult to make time for yourself. Remember that your health affects your children and physical activity is part of your health.

### 3) Set Goals

Make sure to set goals that you can attain. If you are just starting physical activity, set smaller goals. As you attain your goals you will feel more confident in your ability to participate in physical activity.

### 4) Conduct an Environmental Inventory

Make sure your environment is conducive to physical activity. What "items" in your environment will motivate you and enable you to be active? For example, pack your walking shoes in your bag each day before you go to work or make sure you have music with you to listen to during your activity.

### 5) Gather Support

Talk to your partner about supporting your desire to be active during the pregnancy. Maybe your partner can join you in physical activity. Physical activity can be more enjoyable if you have a friend or family member to participate with you.

### 6) Go on a Date with Physical Activity Until You "Find the One"

Find an activity that you truly enjoy and that is safe during pregnancy. If you are new to physical activity you may have to try a few different types before you discover the activity you enjoy most.

### 7) Give Yourself Permission to Rest

Your tolerance for physical activity will probably decrease as your pregnancy progresses. It is ok to rest; however, even low intensity physical activity (i.e., slow walk through the park) will help you to feel less fatigue, swelling, backache, and other symptoms of pregnancy.

### 8) Listen to Your Body. Stop Exercising if You Notice:

- Dizziness
- Headache
- Shortness of breath
- Chest pain
- Abdominal pain
- Vaginal bleeding
- If your signs and symptoms continue after you stop exercising, contact your health care provider. 🐦



Packing your bag each day before you go to work will help you from putting off getting some exercise.



# POSTPARTUM

Exercise is important before and during pregnancy but also very important postpartum. Speak with your physician about the best time for you to start or return to physical activity post-partum.

After birth, avoid vigorous activity for 5-6 months.

## What is the benefit of physical activity postpartum?

Beginning or returning to regular physical activity participation has many benefits including: weight loss (return to pre-pregnancy weight), improvements in cardiovascular fitness, restore muscle strength, restore abdominal and core muscles (e.g., pelvic floor musculature), reduce lower back pain, boost energy, improve mood, relieve stress, and prevention/recovery from postpartum depression.

## I am worried I may have postpartum depression. Will physical activity help me with this?

One of the most important reasons to participate in physical activity during postpartum is the beneficial effect on mood, stress, and anxiety. Additionally, physical activity helps women to return to pre-pregnancy weight, which has beneficial effects on self-esteem and body image, further enhancing mood and improving feelings of anxiety and depression.

Keep in mind that if you are having symptoms of depression, it may be harder to be motivated to be active. Speak to your physician about the way you are feeling. Also refer to *Staying Motivated* (mentioned on the prior page) for strategies to help you feel more motivated to be active.

## Will physical activity impact breastfeeding?

Research studies suggest that women who are active produce the same amount of milk as women who don't exercise. This means that meeting moderate levels of physical activity recommendation postpartum (in addition to drinking water before and after your exercise) will help to ensure you are producing the milk you need to support the healthy growth of your baby.

It is best to avoid vigorous activity until five or six months after birth, to allow your body to adjust to providing enough milk for your baby, and to give your body time to recover.

### BENEFITS:

Pre-pregnancy Weight

Cardiovascular Fitness

Restore Muscle Strength

Restore Abdominal  
and Core Muscles

Reduce Back Pain

Boost Energy

Improve Mood

Relieve Stress

Prevention or Recovery  
from Postpartum  
Depression



“Following the recommendations in NHF’s *Healthy Child Guide* is making the law of quality averages work in your favor. One healthy habit from The Guide is great...but when you put all of them into practice, the benefits to you and your child increase exponentially.”

—Prof. Richard Frye, MD, Ph.D.  
Child Neurologist and Chief Scientist  
NHF Scientific Advisory Board



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## When is the best time to start or return to physical activity postpartum?

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For many years, physicians have recommended that women wait until they are six weeks postpartum to start or return to moderate physical activity. More recent research suggests that women may not need to wait, and can instead return slowly to activity as soon as they feel ready.

If you had a C-section or any complications a physician may alter recommendations for when you should start or return to physical activity. It is always best to talk to your physician about when is the best time for you to start/return to physical activity.

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## How can I start or return to physical activity in the postpartum considering my responsibilities with my new baby?

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Fatigue, stress, lack of time, and getting used to new responsibilities all may play a role in the inability to be physically active postpartum. However, physical activity will help with fatigue and stress.

Additionally, there are ways to incorporate physical activity with your new baby so that you have time to be active.

### Here are some examples:

- 1) Use a stroller and go for a walk with baby.
- 2) Join a new mothers exercise group (e.g., stroller strides) to meet other women who are trying to be active and share similar goals.
- 3) Schedule a nap during baby's nap time.
- 4) Participate in activity with your baby. For example, use your baby as a weight and hold the baby while you do squats or lunges or raise the baby up and down to exercise your shoulders.
- 5) Purchase in-home, indoor exercise equipment so that you can be flexible and use any opportunity to be active as compared to having to drive somewhere or needing childcare. ✔



Schedule your exercise during baby's nap time



# Helpful Websites

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## **CDC**

<http://www.cdc.gov/physicalactivity/everyone/guidelines/pregnancy.html>

## **Life Factory**

<https://www.lifefactory.com>

## **Dr. Bronner**

<https://www.drbronner.com>

## **Pathways for Health**

<http://pathways4health.org/resources>

## **March of Dimes (MOD)**

[http://www.marchofdimes.com/pregnancy/physicalactivity\\_indepth.html](http://www.marchofdimes.com/pregnancy/physicalactivity_indepth.html)

## **Baby Center**

[http://www.babycenter.com/0\\_the-best-kinds-of-exercise-for-pregnancy\\_7880.bc?page=2](http://www.babycenter.com/0_the-best-kinds-of-exercise-for-pregnancy_7880.bc?page=2)

## **Mayo Clinic**

<http://www.mayoclinic.com/health/exercise-during-pregnancy/AN01560>

## **Health.gov**

<http://www.health.gov/paguidelines/guidelines/chapter7.aspx>

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# Get Involved

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The Neurological Health Foundation (NHF) is a 501(c)3 nonprofit, tax-exempt organization designated by the Internal Revenue Code. Your tax-deductible donation to NHF will fund programs that educate and empower parents to have healthier children free of chronic neurological illness.



NHF has formed a Scientific Advisory Board composed of practicing medical doctors, nutritionists, neuroscientists as well as professors at major universities to develop specific, evidence-based regimens and recommendations that women and couples can follow utilizing *The Healthy Child Guide*.

**JAMES B. ADAMS, PH.D.** Director of Autism/Asperger's Research Program, Arizona State University Chair, Scientific Advisory Board of the Neurological Health Foundation

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**JOHN GREEN, MD** Physician, The Evergreen Center, Oregon City, Oregon

**DEBBY HAMILTON, MD, MSPH** Pediatrician at Holistic Pediatric Consulting in Denver, Colorado and author of "Preventing Autism & ADHD: Controlling Risk Factors Before, During and After Pregnancy"

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**RAYMOND PALMER, PH.D.** Associate Professor of Family and Community Medicine, University of Texas Health Science Center at San Antonio

**KATHRYN RECORDS, Ph.D., RN, FAAN** Professor, College of Nursing at University of Missouri - St. Louis

Read more about the NHF Scientific Advisory Board by clicking here: [neurologicalhealth.org/scientific-advisors/](http://neurologicalhealth.org/scientific-advisors/)

**LYNNE KENNEY, PSYD** Contributing Editor of *The Healthy Child Guide*

**CHRIS WILLHITE** Contributing Editor of *The Healthy Child Guide*, Chairman of the Board of Directors, NHF



### Watch "The Healthy Child Guide"

Child Neurologist and Chief Scientist, **Prof. Richard Frye, MD, Ph.D.**, discusses the fact that there is an increase in neurodevelopmental disorders of childhood. The causes are an interaction between genetics and the environment. *The Healthy Child Guide* provides research-based nutritional and lifestyle recommendations that increase the probability of reducing neurological and developmental conditions in children.

The NHF Scientific Advisory Board will be offering CME training for health care professionals as well as virtual conferences for the general public beginning in 2016.

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**You**Tube

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**Neurological  
Health  
Foundation**

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