# I only wish this brilliant book was available when I was pregnant DAVINA MCCALL

# PREGNANCY NUTRITION GUIDE

WHAT TO EAT WHEN YOU'RE PREGNANT





HENRIETTA NORTON

#### **CONTENTS**

Cover
About the Book
About the Author
Title Page
Dedication
Introduction

- 1 Nutrition to Support Your Fertility
- 2 You and Your Baby are What You Eat
- 3 Building Your Nutrition in Pregnancy
- 4 Macronutrients: The Building Blocks of Your Diet
- 5 Micronutrients: The Building Blocks of Your Diet
- **6** Foods to Avoid During Pregnancy
- 7 The Benefits of Supplements
- 8 Eating Well When You are Vegetarian or Vegan
- 9 Managing Common Pregnancy Symptoms
- 10 Nutrition to Prepare You for Labour
- 11 Foods for Your Recovery from Birth
- 12 Foods to Boost Breastfeeding
- 13 Nourishing Your Body and Mind with Yoga
- 14 Meal Planners and Recipes

Resources

<u>References</u>

<u>Index</u>

<u>Acknowledgements</u>

**Copyright** 

#### About the Book

Drawing on over a decade of work with mothers-to-be, expert nutritionist Henrietta Norton provides you with clear and practical advice on what to eat during preconception, pregnancy and the early stages of motherhood. You'll find out:

- What to avoid and which supplements to take
- Ways to eat a healthy vegetarian or vegan pregnancy diet
- Which nutrients are important at each trimester
- How to manage symptoms such as morning sickness and fatigue
- Pregnancy and preconception superfoods and recipes
- How to allergy-proof your baby and optimise their development

With meal planners for each trimester, a handy list of food to access on your smart phone and with chapters on preconception, breastfeeding and labour nutrition, let *Your Pregnancy Nutrition Guide* be your close companion on this precious journey.

#### About the Author

Henrietta Norton is a nutritional therapist who specialises in fertility and pregnancy. She has a clinic at the integrated medical practice Grace Belgravia alongside the apothecary to HM The Queen Dr Tim Evans. She is a member of the British Association of Nutritional Therapists (BANT) and an associate member of the Royal Society of Medicine and the Guild of Health Writers. She is also a foresight preconception practitioner, functional medicine AFMCP graduate and is currently completing her MSc in nutritional medicine at the University of Surrey. Henrietta is co-founder of food supplement brand Wild Nutrition and the author of *Take Control of Your Endometriosis*.

In addition, Henrietta is a mother to three young children and understands the trials and tribulations of pregnancy and birth first-hand.

# YOUR PREGNANCY NUTRITION GUIDE

WHAT TO EAT WHEN YOU'RE PREGNANT

HENRIETTA NORTON



# To Alfie, Ned and Oscar Norton. I love you deeply, for all that you are and will become.

#### INTRODUCTION

'Gardeners know that you must nourish the soil if you want healthy plants. You must water the plants adequately, especially when seeds are germinating and sprouting, and they should be planted in a nutrient-rich soil. Why should nutrition matter less in the creation of young humans than it does in young plants?'

#### Ina May Gaskin, Ina May's Guide to Childbirth

You are likely to have picked up this book because you have already entered the nine months transition to motherhood. You have started on the journey that many women have travelled before you and many will do so after you. Pregnancy is a wonderful act of nature and a miraculous time – you and your baby have become part of the natural cycle of life. Whether you are four weeks or four months pregnant, your nurturing relationship with your baby has already begun.

In this book, I offer you advice and information on the valuable nutritional changes that can make you and your growing baby healthier. As a nutritional therapist, I am fortunate to work with many women during an important and treasured time in their lives, from the preconception period (whether supporting fertility treatment or natural fertility) through to pregnancy and the early stages of motherhood. This work, as well as my scientific research on nutrition during pregnancy, compound my passionate belief

that good nutrition has a vital role to play in the health and development of the unborn child.

#### SOUND ADVICE

There is so much conflicting information about what is safe during pregnancy: how much caffeine or alcohol you can have, how to reduce the risk of allergies in your baby, and whether or not you should be taking supplements. This book is not about focusing on what you 'can't have' or scaremongering about getting everything right. It's about providing truly helpful expert information, which is clear rather than confusing, based on the latest research on nutrition during pregnancy. My aim is to support you and offer sound advice and wisdom that I have drawn on from my experience as a nutritional therapist specialising in fertility and pregnancy, as well as a mother of three myself.

Pregnancy is an emotional and spiritual experience, as well as a physical one. Your mental well-being and how to emotionally prepare for the transition from pregnant woman to new mother is discussed throughout the book too.

#### YOUR QUESTIONS ANSWERED

I will show you how easy it is to eat a healthy diet every day. I will answer the all-important questions, such as which foods to eat and which foods to avoid during pregnancy; the important nutrients for each trimester and in which foods to find them; how good nutrition can support symptoms such as morning sickness, and how it can help you prepare for birth and breastfeeding. I'll look at blood-sugar levels and the best way to maintain them, how to supplement your diet with extra vitamins, and how to keep your energy levels up during those exhausting few months after giving birth.

I know that, despite our best intentions, it is not always easy to eat in the most nourishing way. I want to show you how you can make small changes to your diet that can transform your health. By using delicious recipes to do so (see <u>Chapter 14</u>), these changes will feel exciting – and the food you'll be eating will taste great! I'll also give you lots of practical strategies, such as a store-cupboard shopping list and menu plans, to make sure that you always have something nourishing to hand. You can use the downloadable 'foods to avoid' list to make food shopping or eating out simple, and the 'pregnancy superfoods' list as a reminder of the hero foods to look for www.henriettanorton.com/about/books.

Each pregnancy is different and so the suggestions made in this book are not strict guidelines. They are simply an aid to empower you to make choices that you feel are right for the well-being of you and your child.

#### HOW TO USE THIS BOOK

I've designed this book so it's an easy-to-use, handy reference guide for you to dip into over the next few months. There is no need to read it cover to cover in one sitting; instead you may want to take each chapter as you need to, depending on your thirst for information or your stage of pregnancy.

#### CHAPTERS AT A GLANCE

<u>Chapter 1</u>: Discover the simple changes that you can make to support your pregnancy even before you conceive, including foods to boost, those to reduce, and the effects of lifestyle influences such as stress and caffeine.

<u>Chapter 2</u>: Understand why you and your baby are what you eat, and how your food choices and eating patterns

during pregnancy can lay the foundations of good health for both of you. In this chapter, I have summarised the latest research on nutrition and development, and the short- and long-term implications for your health and that of your unborn baby.

<u>Chapter 3</u>: Learn the fundamentals of a healthy diet during pregnancy, and why maintaining a healthy bloodsugar level is so important during pregnancy and early motherhood. We will look at simple ways to maximise your nutrient intake through the way you shop for your food and how you cook it.

<u>Chapter 4</u>: Discover why it is key to good health to get the right balance of macronutrients – fats, protein and carbohydrates. I will answer common questions, such as 'Should I choose margarine over butter?' and 'Should I limit my intake of red meat?'

<u>Chapter 5</u>: Find out why specific vitamins and minerals, known as micronutrients, are needed to support the healthy growth of your baby. Using a why, where and how system, you will learn why you need them, where you can find them and how much you need.

<u>Chapter 6</u>: Familiarise yourself with the complete checklist of foods you need to avoid during pregnancy, including suggestions for helpful substitutes to replace these foods. Also discover how to prepare and store food safely, and how to read nutrition labels.

<u>Chapter 7</u>: A healthy diet is without doubt the most important way to obtain essential nutrients. However, before, during and after pregnancy, there is clear evidence that certain supplements are beneficial. Here I draw on the

expertise I have gathered over the years on taking supplements.

<u>Chapter 8</u>: Eating well when you're a vegetarian or vegan can be more of a challenge during pregnancy. In this chapter, discover how to eat well and avoid the common pitfalls of a vegetarian or vegan diet during pregnancy. Learn how to plan your dietary choices to ensure you have the right balance of protein and important nutrients such as iron, vitamin B12 and zinc.

<u>Chapter 9</u>: Not many pregnant women escape the ensuing nine months without experiencing a bout of morning sickness or insomnia, but there are many foods that can help to reduce these symptoms. This chapter offers natural solutions for common pregnancy symptoms including morning sickness, cramps, cravings and constipation.

<u>Chapter 10</u>: Diet can play a significantly supportive role in the body's ability to prepare for labour. Find out how to build your nutrient stores in the last few weeks of pregnancy and prepare your body and your kitchen cupboards for the arrival of your baby.

<u>Chapter 11</u>: Nurturing your health and your baby's continues well beyond pregnancy, so this chapter covers the all-important 'fourth trimester'. We will look at foods to support your healing and help you rebuild your strength after the birth.

<u>Chapter 12</u>: It is well known that breastfeeding can give your baby the best start in life, but by paying attention to your diet you can improve your baby's chances of a healthy future even more. This is a time of high nutrient demand for you, and conserving your energy by making the right food and lifestyle choices is imperative. Discover the best

foods to eat during this time, how to lose weight at a healthy rate during breastfeeding and the lifestyle factors that can influence milk production.

<u>Chapter 13</u>: Regular yoga practice can help to support your journey through pregnancy and early motherhood. This short chapter provides you with a gentle 10-minute yoga practice that you can build easily into your daily routine in the comfort of your own home.

Chapter 14: Now learn how to put all your knowledge into practice! This chapter provides a simple navigation chart to help you plan ahead, template menu plans and ideas on meal combinations that focus on the key nutrients detailed in the book. I have also provided delicious recipes by chef Sophie Wright, and practical cooking tips and ideas on how to 'bulk' cook, for easy suppers in the early weeks of parenting and quick after-work meal ideas for the later months.

My hope is that the information provided in this book will offer you accessible, practical and, above all, encouraging advice on the what, when and how to eat during your pregnancy and the early stages of motherhood. Let *Your Pregnancy Nutrition Guide* be a part of the wonderful opportunity that pregnancy is to prioritise your complete well-being, to re-evaluate how you look after yourself in body and mind, and to start building a nurturing relationship with your baby.

Enjoy this precious journey...

#### CHAPTER 1

## NUTRITION TO SUPPORT YOUR FERTILITY

Whether you are planning your first pregnancy or thinking about having another child, trying to conceive naturally or undergoing fertility treatment, the period of time before you conceive gives you a window of opportunity to evaluate your nutrition and general lifestyle.

Small changes to your diet can help you to optimise your 'fertile' ground. This chapter will look at the food and lifestyle choices you and your partner can make to support a healthy conception.

#### FERTILITY IS PARTNERSHIP

Very often fertility preparation is seen as the preserve of women. In fact, for over half the couples in the UK who experience subfertility (i.e. they are less than normally fertile), it is the result of problems on the male side.

If you and your partner know you want to conceive, you should both try to make some dietary changes three months ahead of that time. During these months, immature eggs, known as oocytes, mature enough to be released during ovulation and sperm cells develop before being ready for ejaculation. Eating a nutritious diet during this time greatly influences the quality and efficiency of this process, and gives you an even greater opportunity to create a healthy pregnancy.

Making dietary changes and improving nutrient stores may also help to correct factors that may be affecting your ability to conceive, such as a low sperm count in men or hormonal imbalances during the menstrual cycle in women.

## NUTRITION IS THE FOUNDATION FOR YOU AND YOUR BABY

Studies have shown that couples who have made changes to their diet and lifestyle improved their chances of having a healthy pregnancy and baby by 80 per cent, but research shows that the benefits extend way beyond this. Indeed, how healthy your diet and lifestyle are during the preconception period is now understood to sow the seeds of health for your growing baby in infancy, such as reducing the risk of atopic conditions such as asthma and eczema, as well as chronic health conditions in adulthood, such as diabetes.

Eating a healthy diet before you conceive can also influence milk production during breastfeeding and reduce the potential of postnatal depression.

## EATING TO SUPPORT YOUR FERTILITY JOURNEY

• Eat protein with every meal. Protein provides the building blocks of the body and is especially important for hormone production and healthy cell development. Good sources of protein include free-range poultry, eggs, yoghurt, fish such as wild salmon and trout, lentils, nuts, seeds, quinoa and grass-fed red meats. If you are vegetarian or vegan, combining pulses and grains provides the optimum amount of vegetarian protein (see <a href="here">here</a>). High-protein sources are ideal providers of iron and of the amino acids L-methionine, L-arginine and Co-

- enzyme Q10. Pulses are also excellent sources of folate (see <u>here</u>).
- Eat healthy fats with every meal. Healthy fats are vitally important for health and fertility as they support hormone production and healthy cell formation. You will find them in avocado, linseed oil, nuts, seeds and fresh oily fish. However, limit oily fish to three portions a week because they may contain pollutants that could affect fertility if consumed in high amounts. These food sources are also excellent sources of vitamin E, vitamin D and important minerals, such as chromium and selenium.
- **Eat wholefoods.** Eat as close to nature as was intended by choosing whole grains such as brown rice, red rice, wild rice, quinoa, millet, buckwheat, rye and oats. These are also excellent sources of the B vitamin family, including B12, and minerals such as manganese, zinc and chromium.
- Eat a rainbow every day. Eating a colourful variety of fruit and vegetables each day naturally increases your intake of important antioxidants and phytochemicals shown to support preconceptual health, such as betacarotene from carrots, sweet potatoes and squashes. Adding spices, such as turmeric and ginger, to your cooking is also an excellent way to achieve this 'rainbow'.
- **Eat green leafy vegetables.** As well as being an excellent source of folate, green leafy vegetables provide a great source of fibre for healthy digestion, which helps to prevent hormonal imbalances. Steam them to retain their nutrients. Increase your intake by using them to make juices, soups and smoothies.
- **Eat every four hours.** Eating at regular intervals supports blood-sugar control. Make eating breakfast a priority because this sets up your body well for the day.
- Eat mindfully. Digestion begins in the mouth and eating too quickly can reduce your ability to absorb and use the

- nutrients the food provides. Equally, eating slowly allows the body the time it needs to register its own appetite signals, making it less likely that you will overeat.
- **Eat seasonally if possible.** Seasonal food grown in sync with nature's cycle can improve the nutrient value of the food. Eating seasonally also means eating warmer foods in the colder, damper winter and autumn days, and lighter, less-cooked foods in the warmer, brighter summer and spring days.

#### FOODS TO BE MINDFUL OF

- Sushi. This is a common source of trace metals, such as mercury, so eat in moderation, in line with the oily fish advice <u>here</u>.
- **Sugar.** Sugar robs vital nutrients from bodily stores and can activate a 'fight or flight' stress response. Sugar is not only found in the obvious foods, such as cakes, biscuits and pastries, so read the labels on foods such as healthy-looking cereals and yoghurts. Look for hidden sugars with names such as maltose, dextrose, high fructose and corn syrup. Substitute sugar with healthier alternatives, such as small amounts of raw or manuka honey, or agave syrup.
- Trans fats. These fats have been shown to have a detrimental effect on many aspects of health. Foods rich in this type of fat include chips, fried foods, many ready meals, pre-packaged popcorn, biscuits, mayonnaise, margarines and many pre-prepared salad dressings. Eating a diet high in trans fats can reduce how well your body uses the group of essential fats called omega-3 (see <a href="here">here</a>). In essence, it is advisable to remove or significantly reduce your intake of these damaged and damaging fats.

DO YOU NEED SUPPLEMENTS?

It is now medically accepted that certain vitamins and minerals can increase your chances of getting and staying pregnant by supporting hormone balance, as well as healthy egg and sperm development. However, increasingly research is showing us that today's environment is not as fertile-friendly for both plant and human as it once was. Many of the foods we eat have been grown on exhausted soil, intensively farmed, picked before they are ripe and transported many miles from source before reaching our plates. As a result, a large proportion of our food is lacking in much-needed trace minerals and vitamins.

Studies have shown that couples who took nutritional supplements to support a healthy diet, had quicker conception rates than those who did not. Below are the nutrients that have been shown to support fertility in both men and women, so look for them when choosing your fertility supplement.

- **B vitamins**. The entire B vitamin family is important during conception and pregnancy. However, vitamin B6 has been shown to support cycle regularity and redress imbalances in hormonal conditions such as fibroids, endometriosis and PMS. Research has shown that giving B6 to women who have trouble conceiving increases fertility. Vitamin B12 has been shown to improve low sperm count and reduce blood stickiness (this is where the blood is thicker than normal and can hinder blood flow).
- Zinc. Contributes to normal fertility and reproduction, cell division and protection of cells from general wear and tear. Zinc also contributes to normal DNA synthesis the genetic material that forms the basis of all of us. Zinc deficiency is common (especially in those women with a history of taking the contraceptive pill) and can affect sperm and egg production.

- **L-methionine.** All amino acids perform a vital role in good health and egg production. However, L-methionine is an essential amino acid that plays a role in hormone stability and therefore supports a regular menstrual cycle. It also protects cellular DNA from damage in the months before you conceive.
- **Beta-carotene.** Because of its status as a fat-soluble nutrient, there has been concern about excess intake of vitamin A in the form of retinol during pregnancy. The vegetable source of vitamin A, beta-carotene, is converted to vitamin A in the body as and when your body needs it, so there is no risk of an excess amount being produced. The corpus luteum, a hormonal structure that produces progesterone after a woman has ovulated, has the highest concentration of beta-carotene in the body and beta-carotene can influence cycle regularity and the early stages of pregnancy.
- **Vitamin D.** The latest research has demonstrated how important sufficient vitamin D is for a healthy conception and pregnancy, as well as to reduce the risk of gestational diabetes (see <a href="here">here</a>). Getting enough vitamin D can be hard through diet and sunshine alone (especially if you live in the northern hemisphere) and so supplements can be a good support.
- **Vitamin E.** This is another antioxidant shown to benefit fertility in both men and women. Supplementing with vitamin E during IVF treatment has been found to improve fertilisation rates.
- **Selenium.** A healthy level of this trace mineral has been shown to improve low sperm count and healthy sperm formation. As an antioxidant it also reduces the risk of miscarriage caused by chromosomal abnormalities.
- **Folic acid.** Along with other members of the B vitamin family, such as vitamin B12, folic acid is used to produce the important genetic material of the egg and the sperm in the three months prior to conception. Folic acid is one

part of this group of folates and deficiency in this has been linked to a developmental abnormality known as a neural tube defect (such as spina bifida), which arises between the 24th to 28th day after conception. Supplementation in the three months before you conceive and during the first 12 weeks of pregnancy reduces this risk by 70 per cent, as well as reducing the risk of 'small for gestational age' babies, and cleft lip and palate. The recommendation is for folate to be taken in the 12 weeks prior to conception because once you are pregnant your baby's supply of folate is drawn from the reserves you have built up over the three months before you conceive.

- **Vitamin C.** This is an antioxidant shown to reduce excess histamine, which has been shown to reduce the body's production of cervical mucus. This mucus supports the sperm in reaching the cervix. Vitamin C also acts as a protectant against sperm damage.
- **Chromium & inositol.** These lesser-known nutrients play a role in blood sugar management. Imbalances in blood sugar create a 'stress' response in the body (see <a href="here">here</a>).
- **Choline.** This member of the B vitamin family supports normal liver function and how well your body breaks down fats. Liver health significantly affects hormone balance in both men and women. Choline also plays a central role in the unborn baby's brain development.
- Co-enzyme Q10. Recent research has shown that Coenzyme Q10 protects eggs and sperm from damage, as well as supporting healthy cell division in the first stages of pregnancy.
- Omega-3 fatty acids. These essential fats support hormone balance and the absorption of fat-soluble nutrients, such as vitamins E, D and K. They also form a large part of the heads of sperm and can therefore influence sperm quality and mobility.

Chapter 12 will give you more information on how to choose quality supplements.

## BEYOND NUTRITION: THE INFLUENCE OF LIFESTYLE CHOICES

Becoming as healthy as possible before you conceive is about nourishing your mind as well as your body.

#### **STRESS**

Stress is not the preserve of the overworked, as often thought. Factors such as under-achieving, dissatisfaction with where you are in your life, and exercising too little or too much, are all potential 'stressors' to the body. Whatever the reason for your stress, following the nutritional advice in this book can improve how well your body responds to it.

When you are stressed, your body adopts a 'fight or flight' response. This triggers the release of the stress hormones cortisol and adrenaline, which affects digestion, blood pressure, circulation and brain function, and, over time, other areas of health such as hormone balance and nutrient levels.

Teaching yourself to relax, whether by doing yoga (see <u>Chapter 13</u>), massage, meditation or making small tweaks to your everyday routine, such as walking in your lunch hour or going to bed earlier, can provide opportunities to unwind. This is especially helpful during the fertility journey but also during pregnancy and parenthood.

#### **CAFFEINE**

Caffeine, especially in the form of coffee, has been shown to have a direct effect on fertility in some men and women. Although government guidelines suggest an intake of 200 mg of caffeine a day (the equivalent of two cups of instant coffee) is regarded as unharmful, studies have shown that

drinking as little as one cup of coffee a day can decrease fertility and increase the risk of miscarriage by up to 50 per cent. Caffeine has been found to adversely affect sperm count and motility, and increase sperm abnormalities.

As well as coffee, caffeine is found in tea and fizzy drinks. There is also research into other ingredients found in these drinks, such as the stimulant theobromine, which is also present in decaffeinated versions. If you are trying to conceive, I recommend that you and your partner reduce your consumption of caffeine-containing and decaffeinated drinks, including coffee, colas, diet colas, chocolate, and tea.

#### **ALCOHOL**

Alcohol can affect both male and female fertility. The *British Medical Journal* reported that women who had fewer than five units of alcohol a week were twice as likely to become pregnant in a six-month period than those women who drank more than this. Current recommendations by the Food Standards Agency (FSA) suggest limiting alcohol intake altogether during the preconception period and, if you do drink, have no more than 1–2 units (see <a href="here">here</a>) once a week.

In men, alcohol can affect sperm count, motility and quality, and I recommend drinking fewer than four units per week.

Additionally, alcohol can affect hormone balance, as well as reducing nutrient stores of key minerals for fertility, such as zinc (see <a href="here">here</a>).

There are times when a having a lovely glass of wine can be part of a balanced lifestyle – when you are celebrating a special occasion, for example – but my advice is to treat alcohol mindfully. Respect the research highlighted above and, when you do drink alcohol, never do so on an empty stomach - this can adversely affect how well your body responds to and metabolises it.

#### **ENVIRONMENTAL FACTORS**

Environmental exposure to toxins from pesticides and plastics has been shown to impact on hormone balance and sperm production. The main culprit is a group of chemicals called xenoestrogens, which have a similar structure to the natural hormone oestrogen and contribute to hormonal imbalance. One of the best ways to eliminate an excess intake of these in the months before you conceive is to eat organic produce – particularly grains, fruit and vegetables you do not peel, such as berries and broccoli – as well as meat and dairy.

Toxic metals such as mercury and lead may also impact fertility in both men and women. These can be found in pesticides, heavy consumption of oily fish (see <a href="here">here</a>), and there is a small amount in amalgam dental fillings. Additionally, exposure to other chemicals and toxic metals found in cigarettes, have also been shown to impact on healthy development of the unborn baby. This is the ideal time to find the support you need to give up smoking for both you, your baby and your partner.

Medication can influence our nutrient levels too. For example, metformin, a drug given to people with Type 2 diabetes, can reduce stores of vitamin B12, the contraceptive pill can reduce vitamin B6 and healthy bacteria in the gut, and statin medication for high cholesterol reduces Co-enzyme Q10 stores.

For more information on these important environmental factors, I recommend you look at the website for foresight preconception (see <a href="here">here</a>).

GOOD LIVER HEALTH: THE ENGINE ROOM

The hormonal balance needed for fertility depends on good liver function. Aside from its daily task of detoxifying substances, such as caffeine and environmental toxins, the liver also chemically alters an excess of or used hormones. If this process does not happen effectively, hormonal imbalances can occur affecting fertility and other health concerns such as endometriosis, acne, premenstrual syndrome (PMS) and polycystic ovary syndrome (PCOS). A gentle liver-cleansing programme with the help of a nutritional therapist or naturopath prior to conception can be a great starting point for some women and men.

. . .

It's my heartfelt belief that building a relationship with your baby can start before you conceive. Investing in and caring for your health during the preconception period will provide your baby with a nutrient-rich environment in which to thrive from day one of pregnancy. It is the window of opportunity for you to start building the nutrient reserves for your experience of a healthy pregnancy too, to minimise your experience of common pregnancy ailments and make pregnancy the enjoyable, blossoming journey that it can be.

#### CHAPTER 2

#### YOU AND YOUR BABY ARE WHAT YOU EAT

Your unborn baby begins to develop at conception. At the moment the sperm penetrates the egg, a new organism is created with its own unique combination of over 20,000 genes. Development from this moment and during the first trimester is rapid and quite miraculous – by day 23 your baby's heart has formed. I firmly believe that you become a mother not when your baby is placed into your arms for the first time, but at the moment of conception. Nurturing your baby begins from this day on and is a life-changing and sometimes daunting responsibility. The first nurturing responsibility is to grow your baby from seed to bump to a healthy newborn.

#### **GETTING IT RIGHT**

All pregnant women share a common desire: to have a healthy baby. During this formative time they just want to get things right and to know that they have done everything within their power to achieve it. Many of us know that eating well during pregnancy is a good thing – both for your baby's health, as well as your own. Looking after your own well-being can only have a positive effect on your unborn child. Eating well is also a wonderful opportunity to begin the nurturing relationship that will continue once your child is born. It is a very powerful and

demanding time for your body and feeding it with the right fuel is incredibly important.

Nutrition before conception and during pregnancy has been of great interest to researchers for some time. More recently, however, research has looked more deeply into the impact of diet during pregnancy and its effects on long-term health. It is such an important area that it became a subject of research for the British Nutrition Foundation Task Force in 2013.

Research has shown that the quality of a mother's diet before she conceives and during pregnancy produces lifelong effects that can improve her baby's resistance to infection and degenerative disease later in life. Eating well in pregnancy is thought not only to benefit that baby but her subsequent children too. It is a comforting thought that by eating a healthy and nutritious diet you are supporting your baby's future health and that of her children too.

Not only has research confirmed the importance of good nutrition in pregnancy, but the link between nutrition and health has generated some incredible and ground-breaking findings. The most significant of these are foetal programming and epigenetics, which I explain below. Both areas of research have totally transformed the way we look at inherited 'good' or 'bad' health.

#### FOETAL PROGRAMMING

Foetal programming is defined as a process whereby an environmental stimulus, such as nutrient deficiencies (for example, folate deficiency – see <a href="here">here</a>), at a critical phase of development, result in long-term changes in the development of the baby while in the womb. This concept was introduced by Professor David Barker and his colleagues at the University of Southampton in 1989. His ground-breaking work took research into the development of human disease to another level, proposing that a