



Preconception, Pregnancy and Postpartum

# Lifestyle Medicine Toolkit



# Table of Contents

Introduction: Making My Health a Priority	3
Pillars of Lifestyle Medicine	3
Lifestyle Behavior Impact	4
Contributors	6
Every Journey Has a Starting Place	7
Patient Questionnaire	
Preconception Health Checklist	
<b>Eat Plants</b>	<b>8</b>
References	15
<b>Move More</b>	<b>16</b>
References	21
<b>Sleep Well</b>	<b>23</b>
References	28
<b>Avoid Harmful Substance</b>	<b>29</b>
References	33
<b>Stress Less and Meaningful Connections</b>	<b>34</b>
References	39
Patient Resources	40
FAM Jumpstart Kit	
Improve Female Sexual Health	
Gestational Diabetes Mellitus	
Polycystic Ovary Syndrome	
Pregestrational Diabetes	
Infant Nutrition	



# Making My Health a Priority

In response to the increasing impact of chronic disease, infertility, and pregnancy complications in reproductive age women between the ages of 15 and 49, the Pregnancy Subcommittee of the Women's Health Member Interest Group of the American College of Lifestyle Medicine developed the "Lifestyle Medicine Toolkit for Reproductive-age Women." The purpose of this toolkit is to provide education and resources on the six pillars of lifestyle medicine to improve the overall health of women in the reproductive years, with a special emphasis on those who are considering or at risk of pregnancy, in an effort to reverse or improve chronic diseases prior to conception, improve pregnancy outcomes, and reduce infertility. The six pillars of lifestyle medicine include nutrition, physical activity, adequate sleep, managing stress, avoiding risky substances, and forming and maintaining strong relationships.

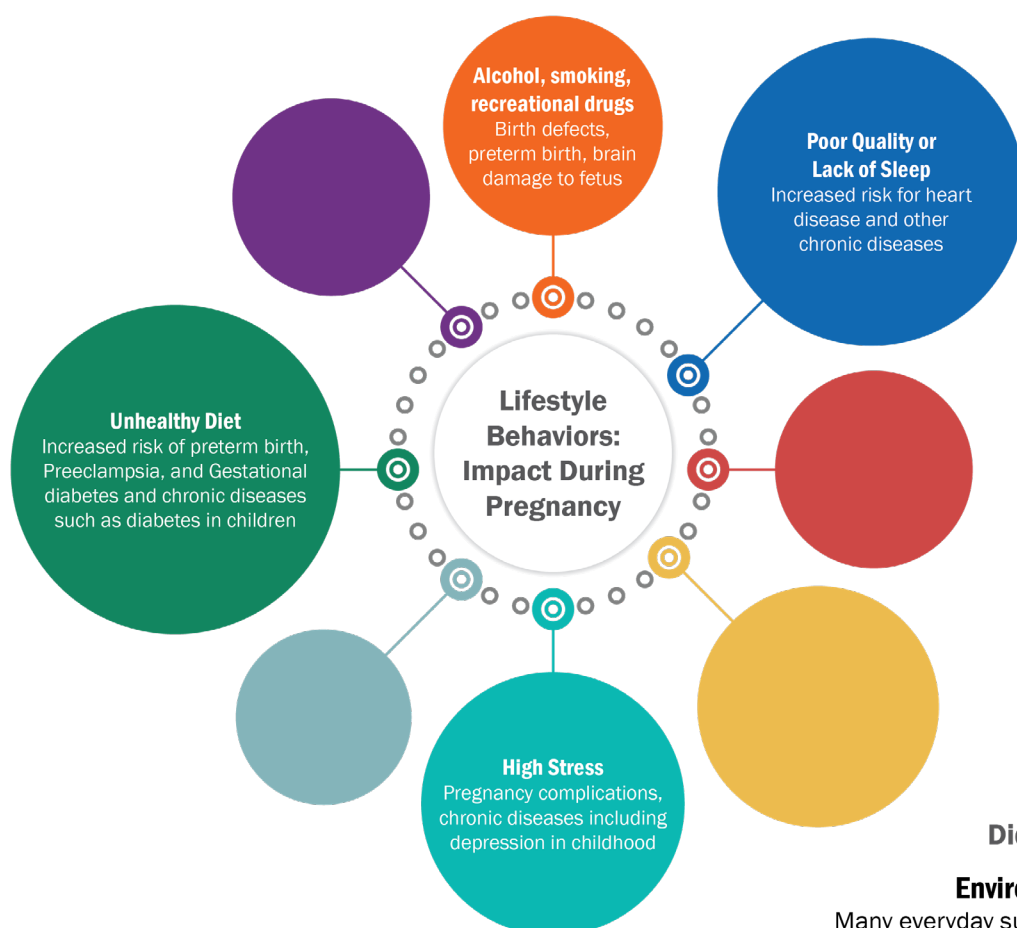
ACLM recognizes that patients have diverse gender identities. In some educational materials, gender-specific terms may be used for text clarity and concordance with the terminology of the referenced studies. Unless stated otherwise, terms such as "women" (and pronouns "she" and "her") are used to describe patients or individuals whose sex assigned at birth was female, regardless of whether they currently identify as female, male, or non-binary.

## Six Pillars of Lifestyle Medicine



# Making My Health a Priority

A woman's lifestyle plays an important role in her health throughout her lifespan; healthy lifestyle habits can prevent, improve and even reverse chronic diseases. But did you know that lifestyle can also improve fertility and play an important role in reproductive health?



## Did you know?

### Environmental toxins

Many everyday substances we are exposed to may be toxic and affect our future risk of developing a chronic disease. And some of these toxins also impact our fertility and the development of future children. To learn more about environmental toxins that may impact pregnancy, please visit the Environmental Working Group website for more information.





# Making My Health a Priority

Incredibly, your lifestyle around the time of conception, and how healthy you are at this time, can affect up to three generations: yourself, your child, and your grandchildren. Adopting a healthy lifestyle is a big responsibility, but the rewards are huge.

This is why it is so important for women who are planning a pregnancy to attempt to improve or reverse chronic conditions before conception. Adopting healthy lifestyle behaviors may help you reach and maintain a healthier weight, improve your insulin sensitivity, reduce your blood pressure, reduce or eliminate medications, and significantly reduce your risk of pregnancy complications. Healthier pregnancies result in healthier children, who will then be less likely to go on to develop chronic diseases later in life.

Even if your health is good now, focusing on healthy lifestyle habits prior to conception means these habits are more likely to continue during and in between your pregnancies and have an important impact on your future health, your pregnancy health, and the health of your future children.

When you are thinking about having a baby, it is important to prioritize a healthy lifestyle to improve your chances of conceiving. But with 50% of pregnancies unplanned, we recommend all women of childbearing age make healthy lifestyle choices a priority every day.

Preparing for a pregnancy is a bit like preparing your home for a houseguest who is moving in for nine months. Your womb is the “home,” and it should be well stocked with all the nutrients your baby is going to need to develop into the healthiest little human. You can think of your entire body as the neighborhood that surrounds your home. That neighborhood needs to be safe for your house guest as well. The foods you eat, the exercise and sleep you get, the stress you experience, even the chemicals that you are exposed to, all play a role in the health and safety of your houseguest (your baby).

Pregnancy can also be seen as a type of stress test for your body. Many pregnancy complications, such as preeclampsia, preterm birth, and gestational diabetes, are a sign that you may be at a higher risk of developing conditions like diabetes, heart disease, and other chronic conditions later in life. In this way, pregnancy complications help identify women for whom lifestyle interventions can prevent or improve future disease before it even starts. These same lifestyle changes also help to reduce your risk of repeat pregnancy complications if you decide to have more children in the future.

The great news is that you have a lot of power to change lifestyle behaviors that can improve your health, the health of your children and future generations. This toolkit offers an opportunity to learn about some of the most effective ways to optimize your total wellbeing now and for years to come.

# Contributors

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# Every Journey Has a Starting Place

Explore our Preconception Health Assessment resources:

**Table 17.1**  
**Preconception Health Checklist**

Lifestyle Medicine Pillar	Goal	Recommendation
<b>NUTRITION</b>		
Fiber <sup>1</sup>	>25-28 gms/day*	2 c. fruit, 3c. vegetables, 1/2 c. whole grain, 1/2 c. beans/day
Eliminate High Risk Food <sup>2-3</sup>	Avoid processed meat & high mercury fish**	< 12 oz. fish/week www.owg.org
Folate <sup>4</sup>	400ugs/day	beans, lentils, leafy greens, citrus, broccoli, asparagus
Vitamin D <sup>5</sup>	Vitamin D 30-50 ng/ml	check Vitamin D level
BMI <sup>4</sup>	18-24.9	whole food plant-based diet
<b>PHYSICAL ACTIVITY<sup>6</sup></b>		
Total Time	150 min/week of moderate Intensity Activity	brisk walking, jogging, swimming, etc.
Strength Training	2-3 times/week	
<b>SLEEP</b>		
Hours of Sleep <sup>7</sup>	7-9 hrs/night	
Sleep Quality <sup>8</sup>	No insomnia or fatigue	CBT+Coach***
Sleep Apnea Screen <sup>9</sup>	No STOP (snoring, tired, observed apnea, elevated blood pressure)	refer for sleep study if screen is positive
<b>EMOTIONAL WELLNESS</b>		
Stress <sup>10</sup>	Perceived Stress Scale <3	CBT+Coach***
ACE <sup>11</sup>	Screen 1 or less	Academy.org Refer for trauma counseling
Anxiety <sup>12</sup>	GAD-2 <3	If positive refer for evaluation
Depression <sup>13</sup>	PHQ-2 <3	If positive refer for evaluation
<b>AVOID RISKY SUBSTANCES<sup>14</sup></b>		
Tobacco	Discontinue all tobacco products	1-800-NO-BUTTS quitSTART app
Alcohol use	Minimize alcohol intake	
Marijuana	Avoid all	
Illegal substances	Avoid all	
Teratogens	No ACE inhibitors, ARB's, etc.	www.reprotox.org
Environmental toxins	No lead, BPA, etc.	www.owg.org
<b>RELATIONAL CONNECTEDNESS</b>		
Domestic violence screen <sup>15</sup>	Absence of abusive relationships	1-800-799-SAFE
Social support	Good support system	

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Lifestyle Medicine

**Preconception Health Checklist**  
**Click to download!**

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Lifestyle Medicine

**Preconception Health Patient Assessment Form**

**NUTRITION:**

Number of Servings:  
< 2   2-3   4-5   > 5

1. On average, over the last week, how many servings (1 cup) of whole fruit do you eat per day? ☐ < 2   ☐ 2-3   ☐ 4-5   ☐ > 5

2. On average, over the last week, how many servings of vegetables (1 cup) do you eat per day? ☐ < 2   ☐ 2-3   ☐ 4-5   ☐ > 5

3. On average, over the last week, how many servings of whole grains (e.g. quinoa, whole grain rice, farro, whole wheat bread or pasta, etc.) do you eat per day? ☐ < 2   ☐ 2-3   ☐ 4-5   ☐ > 5

4. On average, over the last week, how many servings (1 cup) of beans or legumes (lentils, soybeans, peas) do you eat per day? ☐ < 2   ☐ 2-3   ☐ 4-5   ☐ > 5

5. On average, over the last week, how often do you eat fast food, sugary drinks (e.g. soda, juice, sports drinks) or packaged foods (e.g. crackers, chips, candy) do you eat per day? ☐ Not at all   ☐ Several times a week   ☐ More than once a day

6. On average, over the last week, how many times per day do you eat processed meats (e.g. hot dogs, bacon, sausage, deli meats, jerky)? ☐ < 2   ☐ 2-3   ☐ 4-5   ☐ > 5

7. On average, over the last week, how many servings of fish do you eat per week? ☐ < 2   ☐ 2-3   ☐ 4-5   ☐ > 5

8. Circle any of the following fish that you consume:  
sashimi   tile fish   bluefin tuna   king mackerel   shark   swordfish

9. Do you take folic acid daily? Yes ☐ No ☐ If so how much? \_\_\_\_\_

10. Have you had a vitamin D level check in the last 3-6 months? Yes ☐ No ☐ If so how much? \_\_\_\_\_

11. Are you taking Vitamin D supplement? Yes ☐ No ☐ If so how much? \_\_\_\_\_

Patient Name: \_\_\_\_\_ DOB: \_\_\_\_/\_\_\_\_/\_\_\_\_

page 1 of 4

**Preconception Health Patient Q&A**  
**Click to download!**

[connect.lifestylemedicine.org](https://connect.lifestylemedicine.org)

# Eat Plants

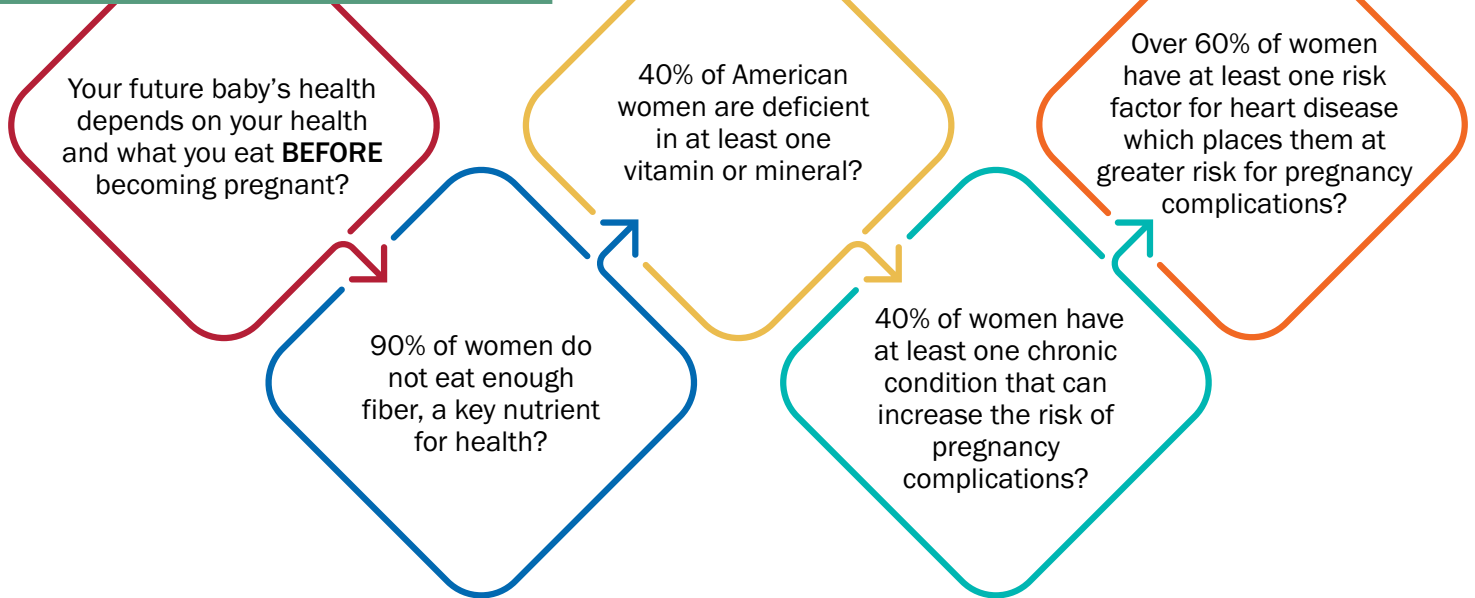
Whole Food, Plant-Based Nutrition





# Preconception Nutrition

## Did you know...



## Benefits of Whole Food, Plant-based Eating:

- Prevents and potentially reverses chronic diseases including obesity (BMI 30 or above), diabetes, and high blood pressure
- Provides fiber and nutrients for optimal health
- Improves your ability to process sugar and react to insulin, which lowers the risk of developing diabetes
- Improves fertility, especially in patients with polycystic ovary syndrome (PCOS)
- Reduces the risk of complications in future pregnancies
- Reduces the risk of future children having chronic diseases

## The key to changing your health destiny (and the health destiny of any future children) is simple:

eat more whole plant foods. In addition to important vitamins, minerals and fiber, plant foods also contain compounds that lower inflammation, repair damaged cells, and support gut health. Adding more plant-based foods is one of the easiest ways to improve your health!

## What should I do if I am planning for a pregnancy?

1. Begin taking a prenatal vitamin with at least 400µg of folate or folic acid and 150µg of iodine.
2. Consider preconception counseling, especially if you have a chronic condition such as obesity, high blood pressure, or diabetes, or if you are taking any medications.
3. Ask your provider to refer you to a registered dietitian (ideally one who is knowledgeable about plant-based nutrition) who can help optimize your nutrition in preparation for a pregnancy.

### VITAMIN D

- A normal Vitamin D level is needed for proper immune and bone health
- Ask your doctor to check a Vitamin D level
- Vitamin D supplementation is recommended to maintain Vitamin D levels. The recommended dose is 2000 IU for women with a BMI < 30 and 6,000-10,000 IU for women with a BMI > 30



## Key Nutrients to Know:

### Fiber

Fiber is one of the most important nutrients, yet most people in the United States do not get enough. Fiber helps keep blood sugar and energy levels steady, supports the immune system and gut health, lowers cholesterol, helps to maintain a healthy weight, and promotes a feeling of fullness and satisfaction after meals. Fiber improves overall health and can help prevent or lower the risk of developing chronic disease before trying to become pregnant.

**Recommendation:** Women should get at least 25 grams of fiber per day

**Tips:**

- Aim to fill at least half your plate with whole grains, beans, lentils, vegetables, and fruits.
- Increase how much fiber you eat slowly, because increasing the amount in your diet too quickly can lead to gas, bloating, and constipation. Slowly increasing your fiber intake, along with drinking plenty of water every day will help your body adjust to digesting all of that healthy fiber and improve your body's ability to absorb the nutrients and minerals from your food.

Iron helps your body transport oxygen and supports your immune system to keep you healthy. It is common for women of reproductive age to be deficient in iron.

**Recommendation:** 18mg of iron per day

**Tips:**

- Eat iron-rich dark leafy greens, beans, and unsweetened dried fruit regularly
- Pair iron-rich foods with vitamin C-rich foods like bell peppers, citrus fruits, strawberries, and tomatoes to increase iron absorption
- Avoid coffee, tea, and calcium supplements during meals as they can interfere with iron absorption
- Have your body's iron level checked, and consider taking a supplement if your stores are low

### Iron

### Folate

Getting enough folate is critical in the earliest days of pregnancy to support development and prevent neural tube defects involving the brain and spinal cord. If you are a reproductive aged woman, or are thinking about becoming pregnant, it is recommended that you add a folate supplement to your diet several months in advance.

**Recommendation:** 400µg of folate per day

**Tips:**

- Eat folate-rich dark leafy green vegetables regularly
- Choose whole grain breads and cereals that are fortified with folate
- Consider a daily supplement of 400-800µg of folic acid if planning a pregnancy



## Nutrients to Know Continued:

Choline is a key “brain-building” nutrient for baby’s development at all stages. Early and additional supplementation is important as most prenatal vitamins do not contain the recommended choline amounts.

**Recommendation:** at least 425mg of choline per day

**Tips:**

- Eat choline-rich quinoa, soy, broccoli, brussels sprouts, potatoes, beans, and shiitake mushrooms regularly

### Choline

### Omega-3 Essential Fatty Acids

Omega-3s are known as essential fatty acids, which means they can’t be created by the body and must be included in your daily diet in order to meet your body’s needs. Certain types of omega-3s called EPA and DHA are particularly important for brain and eye health, promote a higher likelihood of becoming pregnant, and are associated with lowering the risk of cardiovascular disease, PMS cramps, endometriosis, and reducing inflammation.

**Recommendation:** at least 200mg of DHA per day

**Tips:**

- Eat 2 tablespoons of ground flaxseed or chia seeds, or ¼ cup walnuts everyday
- Consider taking an algae-based EPA/DHA supplement of about 200-300mg per day

Iodine is important for optimizing your thyroid health. This essential nutrient promotes healthy thyroid hormones which promote appropriate brain development and growth of a baby during early pregnancy.

**Recommendation:** 150µg of iodine per day

**Tips:**

- Use small amounts (¼ tsp.) of iodized salt in cooking and seasoning
- Consider taking a supplement that contains 75-150µg of iodine a few times per week
- Eat small servings of seaweed 2-3 times per week

### Iodine

### Zinc

Zinc is a mineral involved in many different processes in the body, so optimizing levels is important.

**Recommendation:** 8mg of zinc per day

**How to get enough:**

- Choose whole grain breads that use yeast, sourdough breads, or sprouted grain breads
- Sprinkle wheat germ on oatmeal or add to smoothies

Vitamin B12 (if vegan or predominantly plant based) is critical for the health of your nervous system as well as your overall health, and deficiency is extremely dangerous.

**Recommendation:** 2.4µg of B12 per day

**Tips:**

- If you eat a 100% plant-based diet, taking a daily B12 supplement of at least 25µg is absolutely required

### Vitamin B12



# Nutrition During Pregnancy

## Healthy eating during pregnancy is an important gift you can give to yourself and your baby.

- Lowers your risk of pregnancy complications
- Impacts the future health of up to three generations
- Provides the vitamins and minerals your baby needs
- Decreases the risk of chronic diseases over a lifetime

### What is a healthy diet for pregnancy?

**The simple answer:** a diet that is centered around whole plant based foods, that meets your increasing calorie needs, and provides all the nutrients you need. According to the Academy of Nutrition and Dietetics, a well-planned vegetarian (plant-based) diet is safe and appropriate for all stages of life, including during pregnancy and lactation.

## What should I eat during pregnancy?

### Energy Requirements:

Eating additional food is important to help your baby grow, but your needs might not be quite as high as you think.

no  
additional  
calories

FIRST  
TRIMESTER

+340  
calories  
per day

SECOND  
TRIMESTER

+450  
calories  
per day

THIRD  
TRIMESTER

Meet these needs by adding an extra minimeal to your day or by serving yourself a little extra at your main meals and adding an extra snack. Because your needs for many vitamins and minerals increase during pregnancy, it's important to try to get your additional energy from nutrient-dense foods like fruits, vegetables, whole grains, beans, lentils, nuts, and seeds.

### FOODS TO AVOID FOR SAFETY

- Raw or undercooked meat, poultry, fish (including sashimi)
- Refrigerated smoked seafood, pate, or meat spread
- Cold deli meats and uncooked hot dogs
- Raw or undercooked eggs or food containing them (such as Caesar dressing, hollandaise sauce, raw Eggnog, raw cookie batter)
- Soft cheeses and other unpasteurized dairy foods (such as Brie, feta, blue cheese, raw milk)
- Unpasteurized juices
- Raw sprouts (such as bean or alfalfa sprouts)
- Fish with high levels of mercury or those with lower levels in excess of EPA recommendations
- Liver (risk of Vitamin A toxicity)

### Important Nutrients:

#### FATS

Aim to get at least 20% of your daily calories from foods that contain healthy fats. To increase intake of healthy fats, include small servings of nuts, olives, seeds, or avocado with meals.

#### PROTEIN

You need an additional 28 grams of protein per day during pregnancy. To get enough protein, include a serving of protein-rich beans, lentils, soy, nuts, or seeds with every meal.

#### FIBER

Fiber is a key nutrient, yet most people do not get enough. Aim to eat at least 28 grams of fiber in the first trimester, 34 grams in the second trimester, and 36 grams in the third trimester. The easiest way to get plenty of fiber is to fill half your plate with minimally processed plant-based foods.

#### OTHER IMPORTANT NUTRIENTS TO KNOW

It is recommended to take a prenatal vitamin as soon as you begin planning a pregnancy or find out you are pregnant to top off nutrient stores and help avoid deficiencies.

#### VITAMIN D

Vitamin D supplementation can decrease your risk of having a low birth weight infant, preeclampsia or gestational diabetes by half. Ask your doctor to check a Vitamin D level. Women with a normal Vitamin D level should take 1,500- 2000 IU of vitamin D daily. Women with a BMI > 30 should take 6,000-10,000IU. Higher doses may be needed if your Vitamin D level is low.





# Nutrition During Pregnancy

## Benefits of diets centered around whole plant foods:

1

High in vitamins and minerals

2

High in fiber, antioxidants, & phytonutrients (nutrients found only in plants)

3

Shown to lower pregnancy complications

4

Protective against excessive weight gain

5

Long-term health for you and your baby

### Nutrient Recommendations

#### Omega-3 Essential Fatty Acids

Omega-3s are known as essential fatty acids, which means they can't be made by your body and must be obtained through your daily diet in order to meet increased nutritional needs. Certain types of omega-3s called EPA and DHA are important for your baby's brain development.

**Recommendation:** at least 200mg DHA per day

**How to get enough:**

- Eat 2 tablespoons of ground flaxseed or chia seeds, or ¼ cup walnuts everyday
- Take an EPA/DHA supplement of about 200-300mg per day

Getting enough magnesium can help reduce some pregnancy symptoms like leg cramps and constipation.

**Recommendation:** 350-400mg per day

**How to get enough:**

- Many plant-based foods are high in magnesium including nuts, seeds, beans, whole grains, and potatoes

#### Magnesium

#### Calcium

Although calcium needs do not increase during pregnancy, calcium is important for healthy bones and teeth for both you and baby.

**Recommendation:** 1,000mg of calcium per day

**How to get enough:**

- Choose plant-based milks that are fortified with calcium (shake well! The calcium will settle to the bottom)
- Eat calcium-rich dark leafy greens, tahini paste, almonds, and dried figs regularly
- Choose calcium-set tofu (look for "calcium sulfate" in the ingredients list)
- Try to include one calcium-rich food with each meal to maximize absorption throughout the day

Folate is critical in the earliest days of pregnancy to support the development of the brain and spinal cord, and prevent neural tube defects.

**Recommendation:** 600µg of folate per day

**How to get enough:**

- Eat folate-rich dark leafy green vegetables daily
- Choose whole grain breads and cereals that are fortified with folate
- Take a daily supplement of 400-800µg of folic acid

#### Folate



## Nutrient Recommendations Continued:

### Iron and Vitamin C

Iron needs almost double during pregnancy to accommodate increased blood supply and tissue growth. Vitamin C, which helps the body absorb more iron, also increases slightly during pregnancy.

**Recommendation:** 27mg of iron per day, 80-120 mg vitamin C per day

**How to get enough:**

- Eat iron-rich dark leafy greens, beans, unsweetened dried fruit, and tofu regularly
- Pair with vitamin C-rich foods like bell peppers, citrus fruits, strawberries, and tomatoes
- Avoid coffee, tea, and calcium supplements during meals since they can interfere with iron absorption
- Ask your doctor to check your iron levels, and consider a supplement if your stores are low

Choline is important for the health of the placenta and brain development of your baby at all stages - embryo, fetus, and infant.

**Recommendation:** at least 450mg of choline per day

**How to get enough:**

- Eat choline-rich quinoa, soy, broccoli, brussels sprouts, potatoes, beans, and shiitake mushrooms regularly

### Choline

### Iodine

Iodine is important for your baby's developing brain and general growth by supporting your thyroid health.

**Recommendation:** 220µg of iodine per day

**How to get enough:**

- Take a prenatal supplement that contains at least 150µg of iodine
- Use small amounts of iodized salt in cooking and seasoning

Vitamin A, E, and K are known as fat-soluble vitamins. Only vitamin A needs increase during pregnancy, but it's important to get enough of all of these vitamins for optimal health for you and your baby.

**How to get enough:**

- Eat a variety of fruits and vegetables daily, especially dark green, red, and orange varieties
- Include small portions of nuts, seeds, and avocados daily

**Note:** It is best to get these nutrients from whole plant foods. Vitamin A and E supplements are not recommended during pregnancy. Consult your doctor before starting any supplements.

### Vitamins A, E, and K

### Vitamin B12

Your B12 needs increase slightly during pregnancy. Most prenatal vitamins contain B12, but it may not be enough if you are eating a 100% plant-based diet.

**Recommendation:** 2.6µg per day

**How to get enough:**

- If you eat a 100% plant-based diet, take a daily B12 supplement of at least 25µg (supplementation is much higher than recommended daily intake to maximize absorption)

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# Move More

## Physical Activity





# Physical Activity for Preconception Health

*In general,*

## THOSE WHO EXERCISE REPORT:

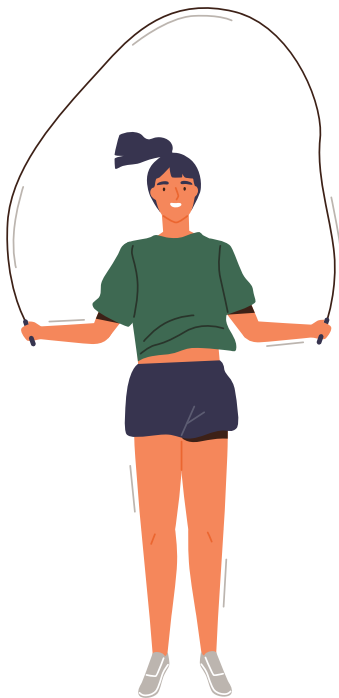
Fewer  
symptoms  
from PMS

Less pain  
during periods

Better sleep

Better mental  
health and overall  
quality of life

Less chronic disease,  
like high blood  
pressure, heart  
disease, and cancer



Those who exercise regularly are less likely to struggle with infertility. This is especially true for those with PCOS or overweight/obesity. 30-60 minutes of exercise per day increases pregnancy rates, including for those receiving fertility treatment.



## Exercising BEFORE pregnancy can help:

- Increase fertility
- Establish an exercise routine that can be continued into pregnancy
- Improve physical conditioning for pregnancy, making normal changes in your body easier to tolerate and reducing pregnancy discomforts
- Support a more normal weight prior to pregnancy and healthy weight gain once pregnant
- Reduce blood pressure prior to pregnancy, which may reduce the risk of high blood pressure in pregnancy
- Improve blood sugar control and reduce the risk of gestational diabetes
- Improve your mood and reduce symptoms of anxiety or depression prior to pregnancy



# Physical Activity for Preconception Health

## What kind of exercise is best?

**Try to get at least 30 minutes of moderate-intensity exercise 5-7 days of the week.**

- If being active is new to you, start with a few minutes and slowly work your way up.
- Moderate intensity: You can talk, but cannot “sing”
  - (Example:) Brisk walking, slow biking, general gardening



**Include muscle strengthening exercises at least 2 days a week.**

**Choose what you will look forward to doing!**



**Include some vigorous activity if you can.**

- Vigorous: You can say no more than a few words at a time
  - (Example:) Jogging or running, swimming laps, singles tennis, fast bicycling, jumping rope

**Try mindfulness and breathing exercises.**

**If you become pregnant, try to maintain your exercise routine.**

- Exercises to stop during pregnancy:
  - Contact sports or exercises where you could fall, temperatures that are too high like “hot yoga,” very high altitude >6,000 ft (if you don’t already live there), scuba diving



Exercise during a normal pregnancy does not harm the baby and may reduce your risk of complications.

### Pelvic Floor

Pelvic floor exercises (kegels) can help prevent problems with bladder control. This is especially true if you also do aerobic activity!

### Have diabetes or hypertension?

Exercising before pregnancy can provide better control of these conditions before you get pregnant, making them easier to manage and reducing complications of these conditions in pregnancy.





# Physical Activity in Pregnancy

Tips to

## START EXERCISING IN PREGNANCY:

Start with low-intensity activity for a few minutes 3 times a week and gradually increase the time and intensity. The goal is to get to 30-60 minutes of moderate-intensity activity per session but take your time, listen to your body, and go slow.

Choose an activity you enjoy, such as casual walking, dancing, light jogging, swimming, or using an elliptical machine.

Stay hydrated.

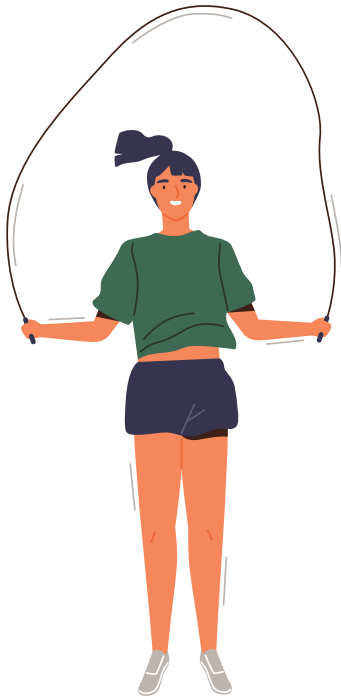
Breathe, exhale on exertion.

## How does exercise benefit your pregnancy?

- Helps you gain the right amount of weight & lose it more easily later.
- Improves mood and reduces anxiety.
- Reduces pregnancy discomforts like back pain, pelvic pain, and swelling.
- Reduces the risk of gestational diabetes, preeclampsia, and other complications that require more doctor visits and testing.
- Reduces the risk of early birth, abnormal birth weight (too low or too high) & C-section.
- Prepares your body for delivery, may shorten labor & help with handling pain.
- Reduces your baby's risk of future asthma, allergies, obesity, diabetes, & high blood pressure.

Myth: Exercise can be harmful during pregnancy.

**Truth: For most pregnant people, exercise is safe and improves the health of mother and baby!**





# Physical Activity in Pregnancy

## Already active before pregnancy?

- Keep it up as much as you can! Try to reach at least 30 minutes of moderate-intensity activity 5 times per week.
- Examples of safe activities are fast walking, swimming, dancing, stationary bike, yoga/pilates, tennis doubles, running, and resistance and stretching exercises.
- If you are already practicing vigorous-intensity activity, you can continue these activities during and after pregnancy.



**Remember that your body will undergo incredible changes. Listen to your body and modify the exercises as necessary.**

- Avoid exercises that involve pushing out your belly or lying on your back for long periods of time especially after 5 months.
- Avoid activities with a risk of falling, contact sports, scuba diving, and/or extreme temperature, like hot yoga, or high altitudes >2,500 meters.

**Did you know that more than 50% of pregnant women experience low back or pelvic pain?**



**While this can be normal, here are tips to help with pain and to prevent issues with bladder control:**

- Add Kegel exercises to your exercise routine ideally on a daily basis. This involves squeezing and lifting the pelvic floor muscles similar to stopping the flow of urine. Hold for 5 seconds then relax for 5 seconds. Keep the abdomen, hips, and pelvis relaxed while doing Kegels.
- Maintain good posture and positioning. A good exercise for pelvic stability is the Cat-Cow. Start on all fours with your arms directly under your shoulders. Exhale while slowly arching your back toward the ceiling, inhale and slowly sag your back down to the floor, and repeat.
- Include strengthening and balance exercises. Stand against a wall (or, while sitting): exhale and contract pelvic floor muscles (Kegel's) and gently tighten and pull in the abdominal muscles. You can feel the tension above your pubic bone.
- Stop exercising and call your doctor if any of the following occur: Vaginal bleeding, abdominal pain, regular and painful contractions, vaginal fluid leakage, difficulty breathing, chest pain, headache, loss of balance, or calf pain or swelling.



**Talk to your doctor or midwife to set personalized and safe goals, particularly if you have any medical condition or pregnancy complications.**



## Tips as you think about postpartum:

- Postpartum activity is also beneficial for your heart health, sleep, mood, and quality of life.
- As soon as medically cleared, you can gradually increase your activity. After 6 weeks postpartum, you should be able to reach at least 150 minutes of moderate activity per week.
- Look out for home exercise programs ([backafterbaby.com](https://backafterbaby.com))! Video-based classes are an excellent option, especially on busy days.



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# Sleep Well

Restorative Sleep



# Importance of Sleep for Preconception

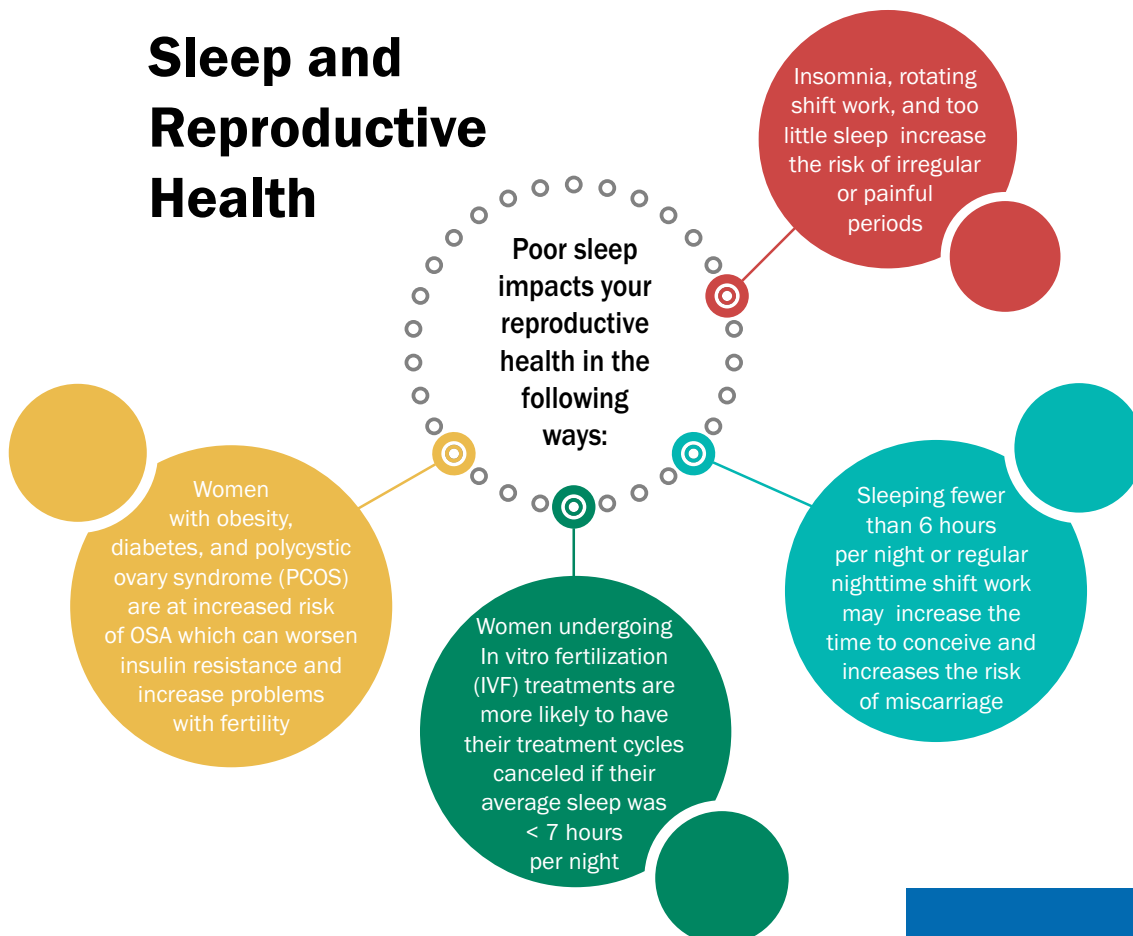
## Why is Sleep So Important?

### Did you know?

- Women are 40-50% more likely to have insomnia than men?
- Poor sleep can impact your reproductive health including the ability to get pregnant?
- Blue light from computers, phones, and TVs can interfere with your ability to fall asleep?
- Trouble falling asleep and short sleep time increase your risk of breast and uterine cancers?

Poor sleep is common and affects a third of young adults. Unrefreshing sleep can result from too little time in bed, insomnia (difficulty falling asleep or staying asleep), rotating shift work, or other sleep disorders such as obstructive sleep apnea (OSA). Sleep deprivation has a negative impact on memory, mood, and the ability to handle stress, in addition to a higher risk of diabetes, heart disease, breast and uterine cancer. But did you know that sleep can also impact your reproductive health?

## Sleep and Reproductive Health



### What to look for

Making improvements to the quality and amount of your sleep can reduce your risk for chronic diseases and infertility. If you have disturbed sleep patterns you may benefit from a sleep evaluation test.



# Importance of Sleep for Preconception

**Talk with your doctor if you experience any of the following:**

Average < 7 or > 9 hours of sleep per night

Have difficulty falling or staying asleep

Irritability or mood disturbances

Difficulty concentrating, paying attention, or remembering things

Snoring

Excessive daytime sleepiness or fatigue

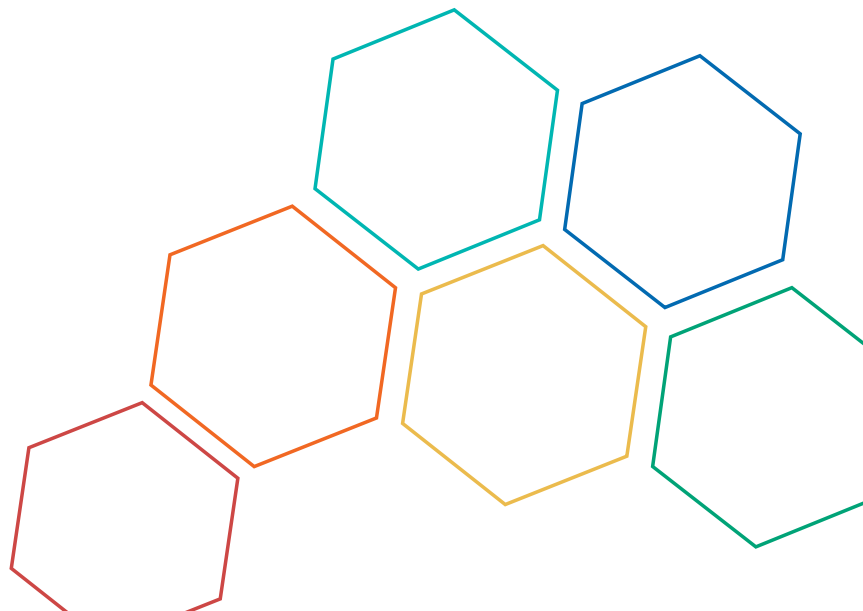
Have an urge to move your legs at rest, especially at night, along with tingling, burning, aching, throbbing, or creeping sensations

Irregular sleep timing especially rotating or night shift work

Women with depression, PCOS, metabolic syndrome & fibromyalgia are more likely to have disturbed sleep including obstructive sleep apnea

## Tips for better sleeping:

- Keep a consistent bedtime routine. Wind down work and activities 1.5 hours before bedtime.
- Take a warm bath or shower before bedtime.
- Keep your bedroom cool.
- Dim the lights and avoid using electronics such as TV, computer, or phone at least 1 hour before bedtime.
- The use of blue light blocking glasses or lenses may be helpful.
- Increase your magnesium by eating more plants such as leafy greens and beans.
- Decrease your consumption of sugar and processed food.
- Exercise daily, especially late afternoon and early evening.
- Avoid alcohol within 3 hours of bedtime.
- Avoid late night eating and nighttime caffeine.
- Minimize stress. Try mindfulness-based stress reduction and meditation.





# Supporting Healthy Sleep During Pregnancy

## Why is Sleep So Important in Pregnancy?

### Common Sleep Complaints

- Takes a long time to fall asleep
- Waking up in the middle of the night with difficulty getting back to sleep
- Snoring
- Waking up gasping for air at night
- Restless legs and frequent tossing and turning
- Heartburn or reflux

Sleep impacts the health of both mother and baby. Studies show that long-term lack of sleep can impact the **immune system**, which can worsen pregnancy outcomes. Sleep also plays an important role in **decision-making, memory, mood, and ability to handle stress**. All of these functions are important when caring for a newborn baby. **Regular and adequate sleep** should be a top priority for all pregnant women.

Take Control

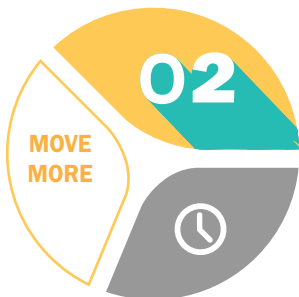
## Lifestyle Medicine for Good Sleep During Pregnancy



### Nutritious Eating

Eating fiber-rich minimally processed plant foods such as fruits, vegetables, whole grains, beans, nuts and seeds and avoiding refined flour/refined sugar foods such as cakes, donuts, pastries and candy may improve sleep quality.

Avoiding high fat meals, or large meals close to bedtime may help with acid reflux symptoms at night. Avoiding caffeine consumption in the afternoon can also help improve sleep.



### Physical Activity

Regular movement and physical activity during pregnancy can improve mood sleep and wellbeing. Walking, swimming and riding a stationary bike are all considered safe activities for most pregnant women. Aim for 30 minutes of activity on most days.



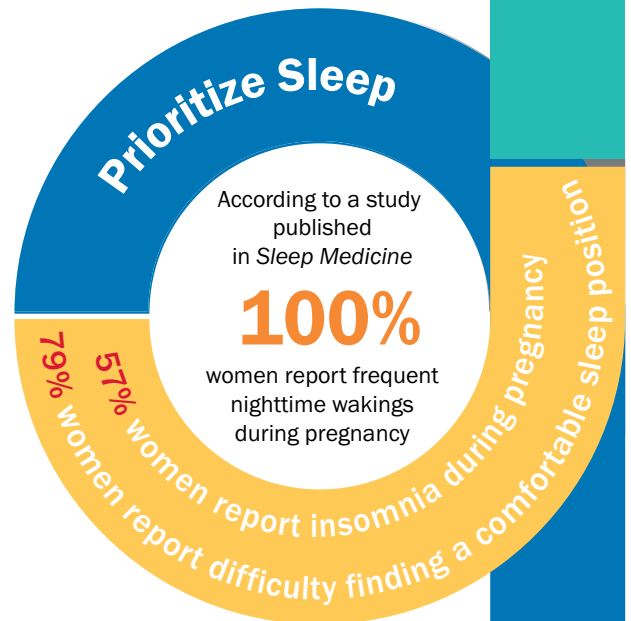
### Social Connection

Talk to your doctor about pregnancy support groups. Connect with a community group that shares some of your interests and hobbies. Take time to connect with close family and friends.



### Stress Management

Gentle breathing techniques and journaling can help calm your mind before sleep. If you are having difficulty managing worries or stress, reach out to your provider for support and/or referral.



### Risks of Poor Sleep Health

- Weight gain
- Fatigue and sleepiness during daytime
- Reduced daytime function
- Gestational diabetes (high blood sugar)
- Preeclampsia
- Increased risk of low birth weight, C-section delivery, pre-term birth
- Sleep problems and crying in babies after birth
- Depression and anxiety in post-partum women

Risk Factors



# Supporting Healthy Sleep During Pregnancy

## Obstructive Sleep Apnea in Pregnancy

### What is OSA?

Obstructive Sleep Apnea (OSA) is when your breathing starts and stops while you sleep because your airway closes.

1

Among obese pregnant women, 15%-20% have OSA.  
Pre-pregnancy obesity and pregnancy-related weight gain are risk factors.

2

Symptoms overlap common pregnancy symptoms, such as headaches, heartburn, and morning nausea, anxiety and depression, feeling tired, snoring, breathing pauses, shortness of breath in sleep or gasping for air in sleep.

3

OSA deprives the body of oxygen. This is very unhealthy for the mother and the unborn baby. OSA can increase your risk of high blood pressure, high blood sugar, gestational diabetes, and preeclampsia.



### Healthy Sleep Behaviors

Keep your bedroom dark, quiet and at a cool temperature to improve sleep. Avoiding screen time (tv, phone, iPad) before bed which may interfere with sleep.

Keep track of your sleep behaviors and patterns using a sleep log so you can determine what seems to work best for you.

### Talk to Your Provider

#### Managing Obstructive Sleep Apnea (OSA)

Maintaining a healthy weight helps reduce the risk and severity of OSA. Continuous positive airway pressure (CPAP) therapy is a safe and effective way to manage OSA before, during and after pregnancy. Talk to a sleep specialist about CPAP therapy and good sleeping positions to make sure your body is getting enough oxygen during sleep.

#### Managing Restless Leg Syndrome (RLS)

- Soaking your legs in a warm bath or massaging them can help relax muscles and improve symptoms of RLS. Alternating warm and cool packs can also lessen the sensation for RLS. Consider using a foot wrap that is designed for RLS.
- Dark leafy greens such as kale, Swiss chard and spinach that are rich in iron, magnesium and folate may help with restless leg syndrome.
- Movement and stretching may also help reduce restless leg syndrome

#### Managing Insomnia

If you are experiencing insomnia, talk to your doctor about Cognitive Behavioral Therapy for insomnia (CBT-i) which can help you identify thought and feelings that are associated with sleeplessness. Your provider may offer other ways to help improve your sleep.

#### Key Resource:

<https://www.sleepfoundation.org/pregnancy>



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# Avoid Risky Substances

Avoidance of Risky Substances



# Preconception Risky Substances

## What types of substances should you avoid when planning a pregnancy?

1. All forms of nicotine including: cigarettes, e-cigs and vaping, smokeless tobacco, nicotine replacement medications
2. Alcohol
3. Marijuana (even if legal in some places)
4. Narcotics not prescribed to you
5. Other drugs or medicines not prescribed to you



It's important to think about your exposures before pregnancy because 50% of pregnancies are unplanned.

If you are planning a pregnancy, it is important to reduce the number of medicines and other substances you use. For example, smoking and drinking alcohol can harm a pregnancy. It is best to stop these before you try to get pregnant. Other medicines may need to continue in pregnancy for your own health. It is a good idea to make a plan with your doctor before getting pregnant. **But if your pregnancy is a surprise, don't panic!**

## What about prescription medicines?

1. You should talk with your doctor about your medicines BEFORE getting pregnant. Try to have a plan for your medicines in advance.
2. If you have an unplanned pregnancy, contact your doctor for advice about your medicines. Do NOT stop your medicines unless you are told to do so.
3. Many medicines can be continued in pregnancy if needed for your health.
4. If you are planning to change medicines, it is usually better to switch to your new medicine a few months before trying to get pregnant. This way you know it is working the way it should.

## What should you do if you get pregnant while using a substance or medication unsafe for pregnancy?

- First, do not panic.
- If you are using a non-prescribed substance, stop using it right away.
- If you use narcotics often, see your doctor to discuss using a safer option in pregnancy.
- If you are using a prescription medication and aren't sure if you should continue it, reach out to your doctor.
- Most exposures that happen right at the beginning of pregnancy (around conception or in the first 2 weeks) either cause miscarriage or no impact at all. This time of pregnancy is called "all-or-none".
- Exposures 4-8 weeks after pregnancy begins (6-10 weeks after your last period) cause the biggest risk for problems with development. But most pregnancies still develop normally. If you had an exposure during this time, you should talk to a specialist about your risks and pregnancy options.



Be honest with your OB provider about any exposures you had in early pregnancy. This is not to judge you! This information is important for planning how to monitor your pregnancy.



# Risky Substance Use and Pregnancy

Risky substances can damage your health and are especially risky during pregnancy. They may also make it harder for you to stick to other healthy lifestyle changes during pregnancy.

## What are some of the common substances I should avoid in pregnancy and why?

### Nicotine:

- **Harm to pregnancy can happen with all forms: cigarette smoking, e-cig and vaping, smokeless tobacco, and nicotine replacement medications.**
- Decreases the flow of blood and oxygen to the baby.
- Some risks from exposure in pregnancy include:
  - *During pregnancy* - higher chance of miscarriage, preterm birth, or having a baby that is too small.
  - *In childhood* - higher chance of sudden infant death syndrome (SIDS), asthma, lung and ear infections, or behavior problems.
  - *Later in life* - more nicotine addiction and other health complications.
- The amount of exposure is very important!
  - Using less nicotine means less risk to the pregnancy.
  - The biggest improvement is when stopped before 15 weeks of pregnancy.

### Alcohol:

- **There is no “safe” amount of alcohol use in pregnancy. Even small amounts can have harmful effects.**
- “Fetal alcohol syndrome” (FAS) causes birth defects, changes in the appearance of a baby’s face, slow growth, and mental disabilities. Some babies have only some of the effects.
- It is hard to predict which babies will develop FAS. The biggest risk is with *more alcohol* use during pregnancy and with *binge drinking*.
- Problems can also happen in childhood or later in life. There may be a risk of SIDS, childhood leukemia, trouble with behavior and school, mental health conditions, and substance use.

### Marijuana:

- May cause slow growth of the baby, preterm birth, or stillbirth. After birth, babies may be more irritable and have abnormal sleep or other behaviors. These risks are mostly with very heavy use.
- Later in life babies have a higher chance for SIDS, behavior problems, learning problems, and substance use. There may be an increased chance of autism.



# Risky Substance Use and Pregnancy

## Opioids:

- As a group this may include opioids prescribed by a doctor (like pain pills) or types bought on the street (like heroin, fentanyl, or pain pills not prescribed by a doctor).
- Risks to pregnancy are much higher with street drugs. Using opioids in that way can lead to more “ups and downs” (highs and withdrawals), more overdoses, less prenatal care, and dangers from needle sharing and living or using in an unsafe environment.
- Opioids do not cause birth defects. Babies exposed in pregnancy do have a risk of withdrawal after birth. They may need to stay in the hospital longer after birth for treatment.



For women with a medical need for opioids it is often safer to continue treatment in pregnancy, but they should be cared for by a specialist that can prescribe a steady treatment plan to avoid withdrawal symptoms

## Stimulants:

- Usually refers to street drugs like cocaine and methamphetamines. Use of these substances often goes hand-in-hand with other lifestyle changes that make risks even higher.
- Some people take prescription stimulants. The risk of these is lower than for street drugs but should be discussed with your doctor.
- Stimulants increase the risk of birth defects, slow growth, stillbirth, and preterm birth.
- Mothers have a risk of high blood pressure, heart attacks, strokes, and infections.
- Later in life babies may have behavior problems and learning challenges.

**If your baby is already exposed to substances before birth, don't panic!**

Let your provider know and remember that the care they receive after birth can help them have the best possible long-term outcome. The most important goal is to give them a stable and safe living environment after birth. They may also need social and school support.

Talk with your doctor about any concerns you have about exposure to risky substances before or during your pregnancy. Your doctor can help you find the resources you need to help reduce your risk and improve your health.



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# Stress Less

Stress Management

# Meaningful Connections

Social Connection





**Your mental and emotional health play a huge role in your physical health. When planning for pregnancy you should try to get your mind, body, and spirit all ready!**

## Mental Health and Pregnancy Planning

**People with stress, anxiety, or depression have an increased risk of:**

- Less fertility
- Less response to fertility treatments
- Less prenatal care once pregnant
- Less healthy nutrition in pregnancy
- More chance of gaining too much or too little weight in pregnancy
- More substance use
- More pregnancy symptoms like nausea, pain, or insomnia
- More pregnancy complications, like preterm birth or high blood pressure

**All women should try to improve their emotional wellness in preparation for pregnancy**

- Try stress-reduction and mindfulness techniques
- Eat a variety of plant foods to provide enough vitamins, minerals, fiber, and other nutrients found only in plants
- Increase your physical activity
- Spend more time outdoors or doing activities you enjoy
- Seek out social or family support

### Did you know?

**Mental illness and chronic disease go hand-in-hand.**

- Depression is much more common in people with chronic medical conditions (high blood pressure, diabetes, etc) than it is in healthy people.
- People with a diagnosis of a mental health condition have a 2-3 times higher chance of developing a chronic disease later in life.
- Both mental health and medical conditions can lead to more pregnancy complications and more difficulty coping with the changes of pregnancy.
- Mental and emotional wellness before pregnancy can help improve medical conditions and lower pregnancy risks.

**If you have a mental health condition, it is best to get your symptoms under good control BEFORE attempting pregnancy**

- Seek out therapy with a psychologist or therapist
- Attend support groups or mental health classes
- Use medicine when necessary
- Most mental health medicines can be continued in pregnancy if important for your health. Talk with your doctor to make a plan for your medicines while trying to conceive and during pregnancy.
- Use the least medicines and lowest doses that still control your symptoms
- If you plan to change your medicine, do this before pregnancy. Make sure you are doing well for a few months on your new medicine before getting pregnant.



# Social & Emotional Health & Stress Reduction for Preconception

## What if I have been exposed to trauma?

- People exposed to physical or emotional trauma during their lives also have an increased chance for pregnancy complications. This may be true even if the events are not recent.
- If you have had experiences with childhood trauma, neglect, intimate partner violence (IPV), racism, or other traumatic life events you may benefit from:
  - Be honest with your care team about your concerns. Many health systems now have special programs to help people cope with trauma.
  - Joining a trauma-focused peer support group.
  - Look for a trauma-informed counseling program.

## Resources

### **Emotional Wellness Toolkit (NIH):**

<https://www.nih.gov/health-information/emotional-wellness-toolkit-more-resources>

### **The Mental Wellness Awareness Association:**

<http://mentalwellnessawareness.org/resources/>

### **Peer Support Groups (Women in Transition):**

<https://www.helpwomen.org/peer-support-groups>

### **Headspace:**

<https://www.headspace.com/>

### **Mindfulness-Based Stress Reduction:**

<https://www.mindfulleader.org/>

### **Mother to Baby: Mental Health:**

<https://mothertobaby.org/pregnancy-breastfeeding-exposures/mental-health/>

### **Smart phone apps**

Headspace  
Calm  
The Tapping Solution  
Ten Percent Happier  
MyStrength  
MindShift CBT  
Happify

### **Other resources**

National Suicide and Crisis Lifeline: 988 or  
<https://988lifeline.org>  
National Domestic Violence Hotline:  
1-800-799-SAFE





# Social and Emotional Health and Stress Reduction for Pregnancy

**Everyone knows that pregnancy will change your body. Did you know it can also change your brain? Your emotional wellness and mental health go hand-in-hand with the health of your body. It is important to care for your body and brain in pregnancy.**

## Mental Health Conditions in Pregnancy

**Some women have mental health conditions known before pregnancy. Others may develop new symptoms during pregnancy.**

- Depression
- Anxiety
- Bipolar disorder
- Post-traumatic stress disorder
- Schizophrenia

**Mental health conditions increase the risk of pregnancy complications, especially if not under control**

- Weight gain above or below normal
- More nausea, sleep difficulties, and physical pain
- High blood pressure
- Preterm birth
- Trouble breastfeeding
- Trouble bonding with the infant
- Postpartum depression and other mental health difficulties after delivery

**Women with a known or suspected mental health condition in pregnancy should be cared for by a specialist with experience treating these conditions in pregnancy.**

**Strategies for treatment may include:**

- Eat a plant-strong diet. Avoid or limit processed or fast foods.
- Get regular physical activity.
- Stress reduction techniques.
- Counseling with a psychologist or therapist.
- Attending support groups and mental health classes.
- Using medication when needed for significant symptoms.
  - In many cases, medications are safer than the risk of untreated symptoms in pregnancy. The decision about whether to start or continue treatment in pregnancy should be discussed with your mental health and pregnancy providers.

### Why does this matter?

**Stress, negative emotions, and lack of social support may lead to:**

- Less prenatal care and prenatal education
- More pregnancy complications, including preterm birth and high blood pressure
- More delivery challenges like induced labor, use of pain medicine in labor, or C-section delivery
- More difficulty with breastfeeding and postpartum recovery





# Social and Emotional Health and Stress Reduction for Pregnancy

## What can I do?

### Find a source of social support

- Pregnancy support groups
- Group prenatal care programs
- Other social groups (church groups, book clubs, etc)
- Ask about talking to a social worker if you need more intensive support

### Stress-reduction techniques

- Increase your physical activity
- Spend more time outdoors
- Consider meditation, yoga, tai chi, or a focused activity such as art

## Stress and negative feelings are common in pregnancy! These may come from:

- Stress and anxiety about pregnancy and delivery
- Feeling vulnerable or like you have lost control of your body
- Physical challenges of pregnancy that may make emotional stress worse
- Nausea, vomiting, or changes in how you eat
- Discomforts from the pregnancy (back, abdominal or pelvic pain, muscle pain, frequent urination, swelling, heartburn, headaches)
- It may be harder to walk or exercise
- It may be harder to sleep
- Family and relationship challenges

## Intimate Partner Violence (IPV)

- IPV is a crime. No matter the situation, IPV is never justified.
- Unfortunately, IPV is more common in pregnancy. This can lead to injuries, emotional stress, social isolation, and pregnancy complications.
- If you are or have been exposed to IPV, notify your provider who can help you find an IPV program for special support and resources.

## Resources

### CDC: Depression during and after pregnancy:

<https://www.cdc.gov/reproductivehealth/features/maternal-depression/index.html>

### Mental Health America: Maternal Mental Health:

<https://www.mhanational.org/maternal-mental-health>

### MGH Center for Women's Mental Health Reproductive Psychiatry Resource and Information Center:

<https://womensmentalhealth.org/specialty-clinics/psychiatric-disorders-during-pregnancy/>

### Mother to Baby: Mental Health:

<https://mothertobaby.org/pregnancy-breastfeeding-exposures/mental-health/>

### National Perinatal Association: Intimate Partner Violence:

[http://www.nationalperinatal.org/Intimate\\_Partner\\_Violence](http://www.nationalperinatal.org/Intimate_Partner_Violence)

### Centering Pregnancy:

<https://www.centeringhealthcare.org/>

### Smart phone apps

Expectful  
Baby2Body  
Mindful Mamas

### Other resources

National Maternal Mental Health Hotline:  
1-833-9-HELP4MOMS (1-833-943-5746)  
National Suicide and Crisis Lifeline: 988 or  
<https://988lifeline.org>  
National Domestic Violence Hotline:  
1-800-799-SAFE

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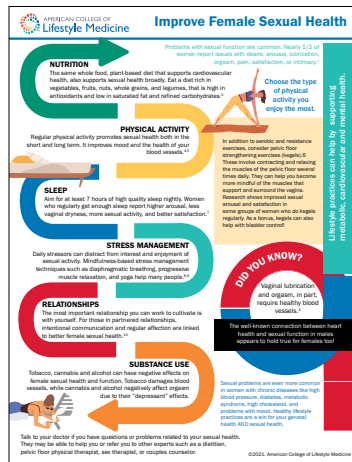
Zamani P, Ziaie T, Lakeh NM, Leili EK. The correlation between perceived social support and childbirth experience in pregnant women. *Midwifery*. 2019;75:146-151.

# Patient Resources



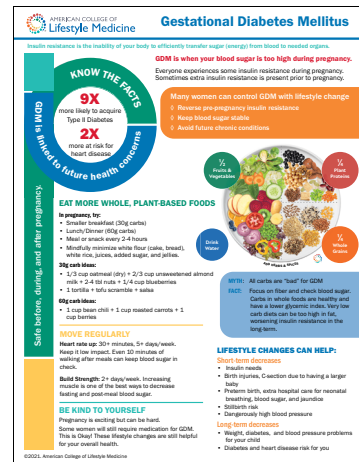
## Food As Medicine Jumpstart Guide

[Click here to download!](#)



## Improve Female Sexual Health Handout

[Click here to download!](#)



## Gestational Diabetes Mellitus Handout

[Click here to download!](#)



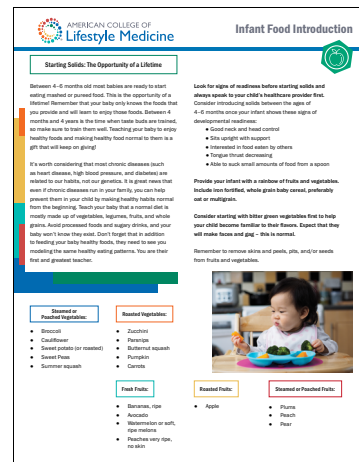
## Polycystic Ovary Syndrome Handout

[Click here to download!](#)



## Pregestational Diabetes Handout

[Click here to download!](#)



## Infant Nutrition Handout

[Click here to download!](#)

# Suggested Reading for Providers

Tollefson M, Eriksen N, Pathak N, eds. *Improving Women's Health across the Lifespan*. Boca Raton: CRC Press; 2022.

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