

CPNP 101-

Canada Prenatal Nutrition Program

Module 2:

Nutrition in Pregnancy



Topics:

- ① Eating for Health in Pregnancy
- ② Healthy Weight Gain During Pregnancy
- ③ Important Nutrients in Pregnancy
- ④ Food Safety Concerns & Foods to Avoid / Limit

Important Considerations:

Inclusive language:

Not all pregnant people will identify as a mother or woman. It is important to address the client in a way that they feel most comfortable with. If you do not know, use general terms suggested below.

- Pregnant person
- Parent/ pregnant parent

Important Considerations:

Sensitive Topics:

Talking about things such as weight gain may be difficult or triggering for some individuals. Some tips to approach these topics in a sensitive matter:

- Ask open ended questions
- Allows the pregnant person to lead the conversation and bring up concerns as they see fit
- Use a “client centered approach”
- Be aware of your own personal biases on certain topics
- Educate yourself

Useful Resources:

[Alberta Health Services LGBTQ2S+ Basics- Presentation – YouTube](#)

- This presentation offers teachings on LGBTQ2S+ basics by AHS

[Healthy Pregnancy Weight Gain – UCalgary CME/CPD Online Learning](#)

- University of Calgary online course: “Healthy Weight Gain During Pregnancy”
- Approximately 1.5 hours
- Certification provided

Guidelines:

The following presentation is based on:

- AHS Nutrition Guidelines, Pregnancy Professional Reference, 2019

[Nutrition Guideline: Pregnancy \(albertahealthservices.ca\)](http://albertahealthservices.ca)

- Health Canada Prenatal Nutrition Website

[healthy-pregnancy-guide.pdf \(canada.ca\)](http://healthy-pregnancy-guide.pdf)

- Healthy Parents Healthy Children

[Eating & Food Safety During Pregnancy - Healthy Parents Healthy Children](http://Healthy Parents Healthy Children)

Eating for Health in Pregnancy



Eat a variety of healthy foods each day

Have plenty
of vegetables
and fruits

Eat protein
foods

Make water
your drink
of choice

Choose
whole grain
foods



Discover your food guide at

Canada.ca/FoodGuide

Eating for Health Prior to Pregnancy

Top Messages:

Individuals who could become pregnant are encouraged to:

- Eat a **variety of foods** every day
 - Choose different colours, textures, preparation methods, etc.
 - Resource: Canadas Food Guide (2019)
- Make **healthy eating** and **physical activity** part of everyday life
 - Resource: 2019 Canadian Guideline for Physical Activity Throughout Pregnancy



Eating for Health Prior to Pregnancy

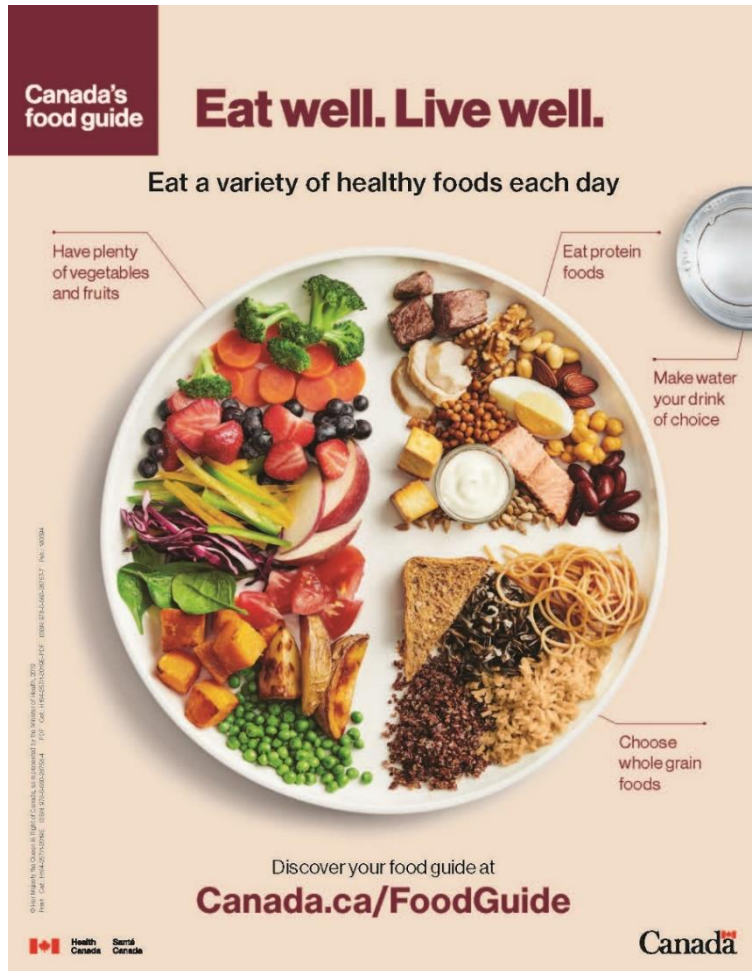
Top Messages:

Individuals who could become pregnant are encouraged to:

- Take a **daily multivitamin** (“prenatal vitamin”)
 - Must contain: 0.4 mg (400 mcg) folic acid
 - Contains iron
 - Start taking at least 3 months prior to conception
- Follow **safe food handling** practices
- Stay **hydrated**



Eating for Health During Pregnancy: Basics of Eating



Eating for Health During Pregnancy: Basics of Eating

What types of foods?

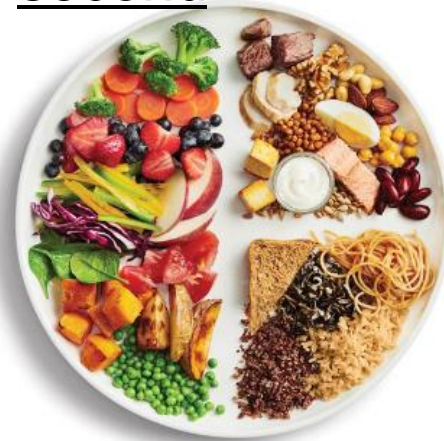
- Getting enough vitamins and minerals is very important to grow a healthy baby

When?

- Eat regularly (every 2-4 hours)

How much?

- Eating for two means eating twice as healthy NOT twice as much!
- Extra energy (calories) is needed only during the second and third trimesters.
- A large snack or small meal is often enough



Examples of Extra Energy:

Salmon Salad: (450 calories)

- Canned salmon: 75g/2.5oz, (deck of cards)
- Mayonnaise: 1 tbsp/15ml
- Whole grain crackers: 6
- One medium fruit
- 2% milk: 1 cup/250ml

Fruit Parfait: (350 calories)

- Yogurt: $\frac{3}{4}$ cup/175g
- Nuts: 2 tbsp/ 30ml
- Sliced fruit: $\frac{1}{2}$ cup/125 ml



Fluids During Pregnancy:

Staying **hydrated** during pregnancy:

- Helps reduce swelling
 - When pregnant, the body can build up 6-9 L of water!
- Helps reduce and manage constipation
- Helps regulate body temperature
- Transports nutrients to the body and baby
- Removes waste products from the body and baby



Fluid Recommendations During Pregnancy:

All pregnant individuals are recommended to:

- Drink 10 cups [2.5 L] of fluids per day
**Additional fluids may be needed if experiencing constipation*
 - Water should be the drink of choice
 - Can include other fluids such as white milk or unsweetened fortified plant based beverages
- Limit juice/sugar sweetened beverages
- Limit coffee/tea (less than 300mg of caffeine per day – 2 cups)



Fluid Recommendations During Pregnancy:

Tips:

- ✓ Carry a water bottle with you
- ✓ Try adding fresh lemon, cucumber, berries, mint, etc. to your water for more flavor
- ✓ Try using a straw- you may find it easier to sip water throughout the day with one!
- ✓ Use an app on your phone to track water intake



Test Your Knowledge: Eating for Health During Pregnancy

Eating for health during Pregnancy includes?

- a) Eating twice as much
- b) Eating extra snacks and meals the moment you find out you are pregnant
- c) Taking a multivitamin supplement that includes iron and folic acid
- d) Avoiding canned and frozen vegetables because fresh are better



ANSWER:

c) Taking a multivitamin supplement that includes iron and folic acid!



Healthy Weight Gain During Pregnancy



Body Mass Index (BMI):

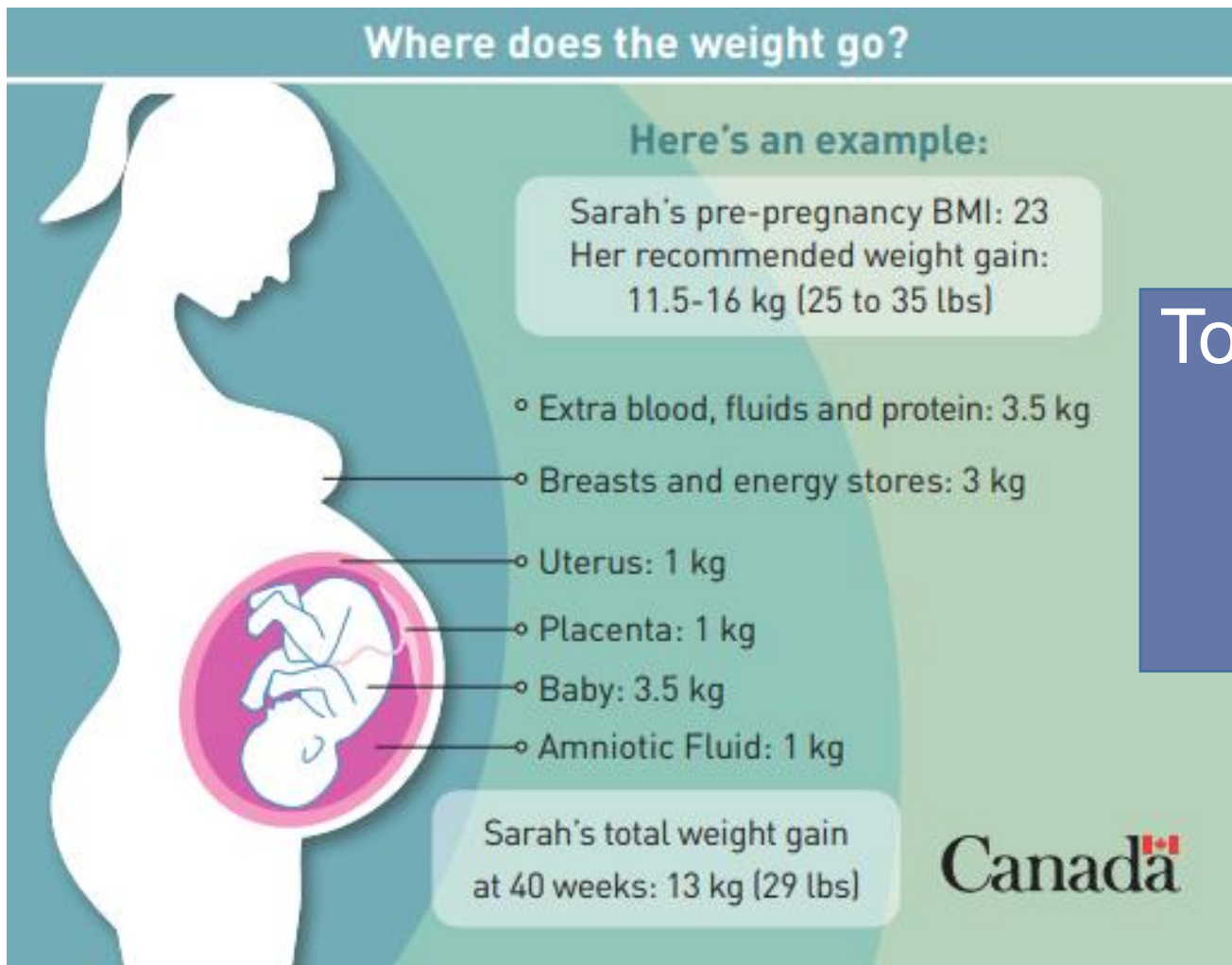
$$= \frac{\text{Weight (kg)}}{\text{Height (m}^2\text{)}}$$

- BMI is a screening method used to assess risk of developing chronic diseases/complications
- Use an online BMI calculator to find BMI
- BMI can be used to determine healthy pregnancy weight gain
- Use a person's pre-pregnancy weight to calculate BMI
- There are four BMI categories

Weight Gain Recommendations:

| Pre-pregnancy BMI | Total Weight Gain Recommendations (lb) |
|--------------------------|--|
| Below 18.5 (underweight) | 28 – 40 lb |
| 18.5 - 24.9 (normal) | 25 – 35 lb |
| 25.0 - 29.9 (overweight) | 15 – 25 lb |
| 30 or higher (obese) | 11 – 20 lb |

Healthy Weight Gain: Example



Total weight
gain=
25-35
pounds

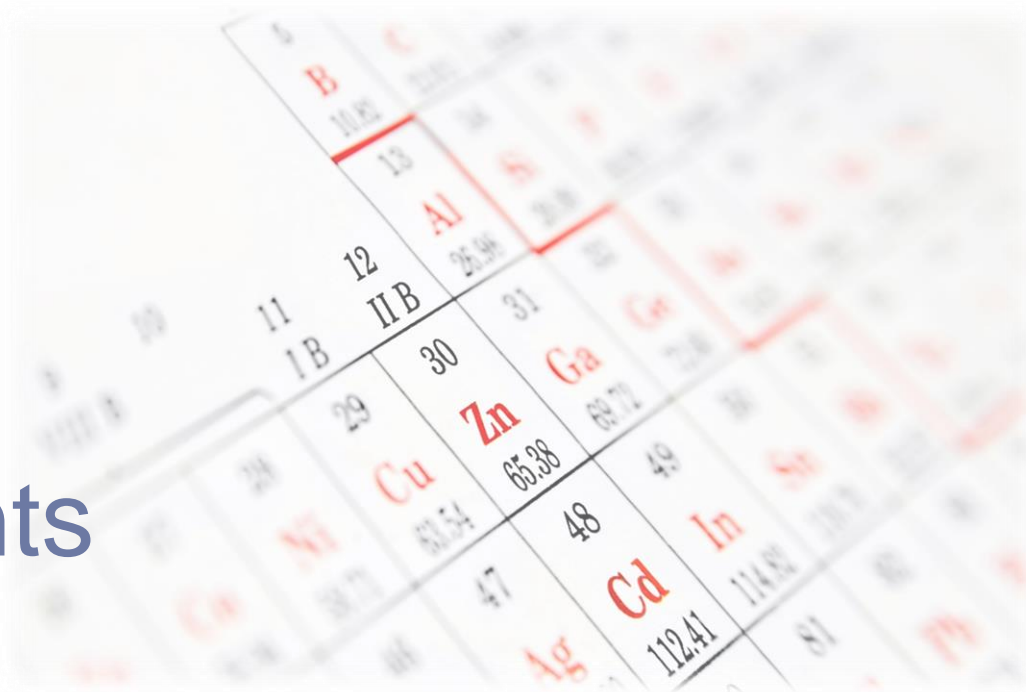
| Weight Gain Below the Recommended Range | Weight Gain Above the Recommended Range |
|--|---|
| <ul style="list-style-type: none"> • Low birth weight babies • Preterm infants/ early births • Poor fetal/child development | <ul style="list-style-type: none"> • High birth weight babies • Troubles with birthing • Increased risk of caesarean birth (c-section) • Increased risk of gestational diabetes • Increased risk of high blood pressure during pregnancy • Increased risk of obesity and diabetes for child later in life |

SUMMARY:

Healthy Weight Gain:

- Weight gain is a normal and healthy part of pregnancy
- Pregnancy is not a time to lose weight!
- BMI can be used to determine healthy pregnancy weight gain
- Gaining a healthy amount of weight helps to prevent complications during pregnancy and helps with child development
- REMINDER: approach this topic with sensitivity and be mindful of the language you are using

Important Nutrients in Pregnancy



Important Nutrients in Pregnancy

Pregnant individuals need higher amounts of several important nutrients including:

- Folic Acid
- Calcium
- Vitamin D
- Iron
- Omega 3 Fatty Acids



Folic Acid (Folate):

Prevents Birth
Defects

What is Folic Acid?

- Folate = Vitamin B9
- Important for the development of our neural tube (brain, spine, skull)
 - This develops during the first four weeks of pregnancy

Why do I need folic acid?

- Reduces risk of neural tube defects (NTD's)
- Reduces pre-pregnancy, during, and postpartum complications

How much folic acid should I be taking?

- 3 months prior to conception, during pregnancy, and breastfeeding: take one daily multivitamin containing 0.4mg of folic acid

Folic Acid (Folate):

Prevents Birth
Defects

How much folic acid should I be taking?

Special Considerations:

- Personal or family history of neural tube defects
- History of neural tube defect in pregnancy
- Type 1 or 2 Diabetes
- Crohn's disease
- Celiac disease
- Medications that change folic acid metabolism

[Folic acid – Pregnancy Info](#) (link)

- Society of Obstetricians and Gynaecologists of Canada
- Guidelines for folic acid
- Based on low, moderate, and high-risk categories

Folic Acid (Folate):

Most individuals do not get enough folate from food

Sources of Folate:

- Beans and lentils
- Dark green vegetables
- Oranges
- Fortified foods (folate has been added in):
 - Cereals
 - Enriched pasta
 - Enriched flours
 - Enriched corn meal



Calcium:

What is Calcium?

- A mineral that is important for building bones and teeth of both pregnant individual and baby

Calcium Functions:

- Helps with muscle function and nerve action
- Aids in hormone production

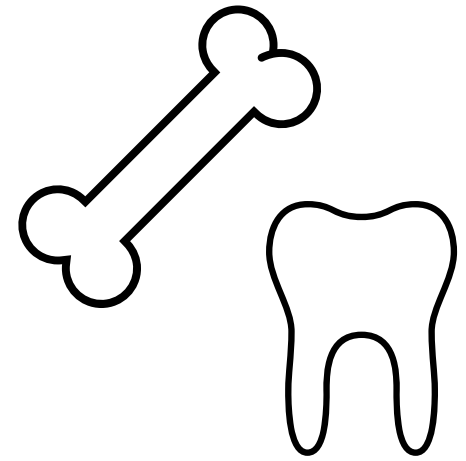
How much calcium do I need?

- 1000mg/day – most people should be able to get enough from food
- Same as non-pregnant individual

Calcium:

Sources of Calcium:

- The best sources of calcium are dairy foods:
 - Cows milk
 - Skim milk powder
 - Hard/firm cheese (i.e.. Cheddar, parmesan, Swiss)
 - Yogurt
 - Tofu with calcium
- Also found in:
 - Canned fish with bones
 - “Calcium fortified” plant-based beverages
 - Almonds/almond butter
 - Beans
 - Bannock made with baking powder



Vitamin D:

Promotes Bone Strength

What is Vitamin D?

- Very important fat-soluble vitamin

Vitamin D Functions:

- Vitamin D helps with calcium absorption
- Helps with bone and teeth formation
- Assists in nerve and muscle activity
- Supports immune system
- Fetal tissue development

How much do I need?

- 600 IU per day from food and/or supplements
- Same as non-pregnant individual



Vitamin D:

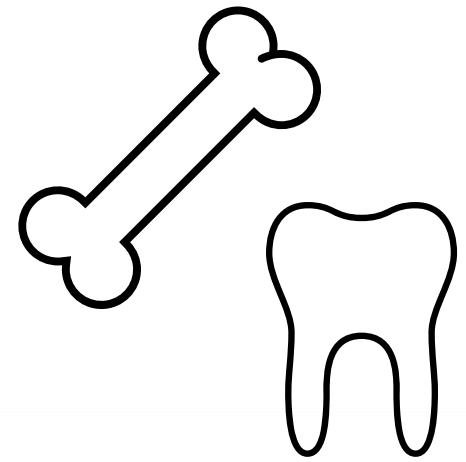
Sources of Vitamin D:

600 IU/day from food and supplements

Limited food sources of Vitamin D:

- Fortified cow's milk/plant based beverage
- Fortified yogurt
- Fortified margarine
- Fatty fish
- Eggs
- We can also make vitamin D from sunshine in the summer months through our skin!

****Taking a daily multivitamin containing 400IU of Vitamin D is recommended for pregnant individuals**



Iron:

Prevents Iron
Deficiency
Anemia

What is Iron?

- Important mineral used in many roles
- Two types of iron
 - Animal sources (heme iron): easily absorbed
 - Plant sources (non-heme iron): less easily absorbed

Iron Functions:

- Oxygen transport
- Immune function
- Growth and development

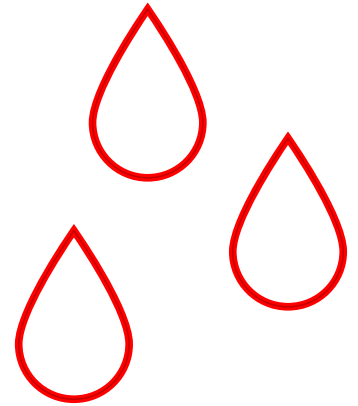
How much iron do I need?

- 27mg/day from food and/or supplements
- During pregnancy, the body will make an extra litre of blood to support baby's growth

Iron:

Risks of Anemia During Pregnancy:

- Preterm birth
- Low birth weight
- Baby developing anemia
- Blood loss during labour



During pregnancy, babies store away the iron that they will need for the first 6 months of life. This is why iron intake during pregnancy is so important!

Iron Deficiency Anemia:
Low iron leads to a lack of healthy red blood cells in the body

Iron:

Sources of Iron:

27 mg/day from food and supplements

Food Sources:

- Beef
- Elk
- Moose
- Enriched Grains (bread, pasta, hot/cold cereal, crackers)
- Chickpeas, lentils, beans
- Tofu

Eating foods that contain vitamin C can help your body use iron better

- Oranges, strawberries, tomatoes
- Potatoes, broccoli, tomatoes/tomato sauce



Omega-3:

What is Omega-3?

- A type of polyunsaturated fatty acid

Brain and
Eye
Development

Omega-3 Functions:

- Tissue development (brain and eyes)

How much Omega-3 do I need?

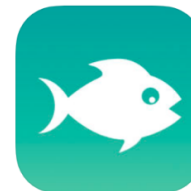
- Try to eat fish twice a week in pregnancy to meet requirements
 - 5oz (150grams) of fatty fish per week

Mercury Safety:

- Choose fish that are low in mercury: Salmon, herring, Atlantic mackerel, rainbow trout, sardines
- Find what local fish are safe using:
 - mywildalberta.com,
 - 780-310-0000
 - “Should I Eat This Fish?” app

App Store Preview

This app is only available on the App Store.



Should I Eat This Fish?

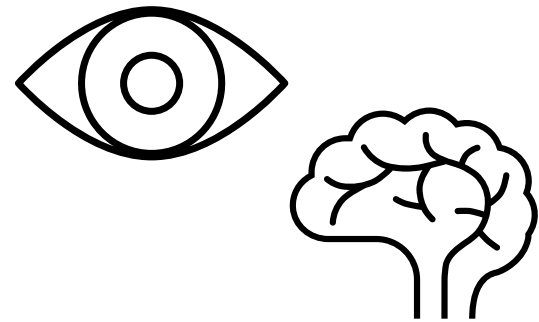
The Government of Alberta

Free

Omega-3:

Sources of Omega-3:

- Fish
 - Salmon (farmed and wild)
 - Herring
 - Atlantic mackerel
 - Rainbow trout
 - Canned light tuna
- Shellfish
 - Shrimp
 - Clams
 - Oysters
 - Mussels
- Omega-3 eggs



Multivitamin for Pregnancy



A Multivitamin (prenatal) should include:

- ✓ Folic acid (0.4mg or 400mcg)
 - ✓ Iron (16-20mg)
 - ✓ Vitamin B₁₂
 - ✓ Vitamin D (400IU)
-
- NIHB covers multivitamins for pre and postnatal individuals of childbearing age (12-50 years). Prior approval is not required.
 - A multivitamin does not replace the need for a healthy diet – both are needed to meet needs of pregnant person and baby!

Multivitamin for Pregnancy:

Side Effects

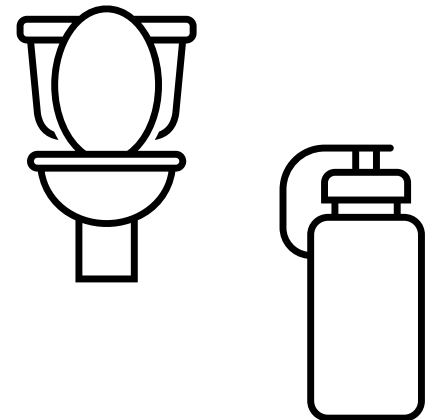
Suggestions for potential side effects of a multivitamin:

Nausea:

- Take pill before bed instead of in the morning
- Take pill with food
- Split the pill into two- take one half in AM and other half in PM
- Talk with your health care team for more suggestions!

Constipation:

- Choose high fiber foods
- Stay hydrated
- Stay physically active



Test Your Knowledge: Important Nutrients in Pregnancy

True or False:

1. Folic acid, found in multivitamins for pregnancy, is needed to prevent neural tube defects.

TRUE

2. Most people don't get enough calcium from food and should take multivitamin supplements to achieve adequate amounts.

FALSE

3. Beef, chicken, wild meat, beans, and cream of wheat are all high iron foods that you can recommend to your CPNP clients.

TRUE

Test Your Knowledge: Important Nutrients in Pregnancy

4. Omega-3-fatty acids are important for the growing baby because it helps with brain and eye development.

TRUE

5. If a multivitamin supplement is causing a person to have nausea then they should stop taking it.

FALSE



Food Safety & Foods to Avoid/Limit



Food Safety:

Foods to Avoid

- Pregnancy hormones can lower the body's immunity
- Some types of food poisoning can reach the baby too
- Risks can include miscarriage or premature births
- Prevent food poisoning by avoiding some commonly eaten foods:

| | |
|---|--|
| Raw or under cooked fish , shellfish, meats and poultry | Cold hotdogs and deli meats |
| Foods that have raw or undercooked flour like dough or batters | Raw eggs and foods that have undercooked eggs like cookie dough and cake batter |

Food Safety Tips:

- ✓ Wash your hands before cooking and eating
- ✓ Prevent cross-contamination
 - ✓ Avoid using the same utensils/cutting boards for raw meat and other foods
- ✓ Check expiry dates for items such as: raw meats, poultry, fish, and seafood
- ✓ Refrigerate leftovers and do not reheat more than once!

Food Safety:

Caffeine & Tea

Limit caffeine to **300mg or less** per day from all sources

- About 2 cups (500ml) of coffee = 300mg caffeine
- Avoid caffeinated energy drinks

Other sources containing small-moderate amounts of caffeine:

- Caffeinated tea, cola beverages, chocolate

WHY do we need to monitor caffeine intake?

Risk of harmful effects on the baby if caffeine is consumed in amounts above the recommended intake.



Food Safety: Caffeine & Tea

Herbal Teas:

SAFE teas during pregnancy: black, green, ginger root, orange peel, bitter orange, peppermint leaf, citrus peel, rose hip

AVOID during pregnancy: chamomile, red raspberry leaf, juniper berry, kombucha tea, fennel, rooibos, lemon balm



Artificial Sweeteners:

Which ones are safe during pregnancy & breastfeeding?

Artificial sweeteners make food and drinks taste sweet without adding sugar or calories.



These artificial Sweeteners are SAFE during pregnancy and breastfeeding, when taken in amounts up to the Acceptable Daily Intake*:

| Aspartame (NutraSweet, Equal) | Sucralose (Splenda) | Acesulfame Potassium (Ace-k, Sunett, Sweet One) |
|--|--|---|
|    |    |    |
| Steviol glycosides (Stevia, Truvia) | Saccharin (Hermesetas) | <div> <p>*The Acceptable Daily Intake for safe sweeteners is based on your weight. Talk to your dietitian to learn more.</p> </div> |
|    |  | |



Caution: Cyclamate is an artificial sweetener that is safe in very small amounts during pregnancy and breastfeeding*:



DID YOU KNOW?

- Artificial sweeteners are helpful for people with diabetes because they do not raise blood sugar levels.
- It is important to eat a healthy diet when pregnant or breastfeeding. Foods and drinks with sweeteners should not replace more nutritious foods.

Courtesy of Health Start for Mom and Me. Updated February 2019. References: PEN (2019). Canadian Diabetes Association (2019): Sugar and Sweeteners (<http://www.diabetes.ca/diabetes-and-you/healthy-living-resources/diet-nutrition/sugar-sweeteners>)

Food Safety:

Vitamin A

Although there are many benefits of vitamin A, such as vision and immune support, too much of it can pose potential risks for the pregnant person and birth defects for the baby.

Recommendations:

- Limit liver to 2.5 oz (75 gram/size of a deck of cards) for every two weeks.
- Do not take fish liver oil supplements
- Avoid taking additional supplements that contain Vitamin A (other than a multivitamin for pregnancy), you get enough from food alone!



TOOLS

Prenatal Bingo Tool:

- A fun interactive tool to use with prenatal clients in group session
- Covers a wide range of common prenatal topics including body basics, include more (section on important foods during pregnancy), vitamins & minerals, food safety, breastfeeding & formula feeding.
- Topics and caller cards encourage open discussions and questions throughout
- Included with the tool:
 - Player cards (40-word bingo)
 - Multiple card sizes for printing options
 - Caller cards with information on each prenatal topic
 - Online app used to draw squares

TOOLS

| PRENATAL NUTRITION | | | | | PRENATAL NUTRITION | | | | |
|---------------------------|-------------------------|------------------------------------|----------------------------------|-----------------------|---------------------------|-------------------------|-----------------------|----------------------------------|------------------------------|
| B | I | N | G | O | B | I | N | G | O |
| Diabetes | Calcium | Card.Bingo Sugar Substitutes | Vitamin A | Vitamin D: Infants | Eating for Health | Folic Acid | Card.Bingo Omega-3 | Colostrum | Self-Care |
| Healthy Weight Gain | Vegetable s & Fruits | Smoking | Benefits of Breastfeed ing | Skin-to- Skin | Healthy Weight Gain | Whole Grains | Fatigue | Benefits of Breastfeed ing | Formula Feeding |
| Eating for Health | Multivitamin ins | Free | Expiry & Best Before | Let-down | Healthy Snacks | Calcium | Free | Alcohol | Formula Feeding Safety |
| Constipation | Whole Grains | Iron | Colostrum | Formula Feeding | Diabetes | Vegetable s & Fruits | Iron | Latching | Let-down |
| Nausea/Vo miting | Folic Acid | Omega-3 | Latching | Protein Foods | Constipation | Multivitamin ins | Sugar Substitutes | Vitamin A | Vitamin D: Infants |

Include More

Whole Grains

Benefits:

- Contain important nutrients such as fiber, antioxidants, vitamins, and minerals.
- Whole grain foods contain more fiber than white grains.
- Fiber helps with constipation and lowering blood sugars.

Sources of Whole Grains:

- Quinoa
- Whole grain rice
- Whole grain pasta
- Barley
- Pita
- Oats

Try this!

- ✓ Aim to have ¼ of your plate be whole grain foods.
- ✓ Add a can of beans to soups or stews.
- ✓ Add into salads or bowls.
- ✓ Use wholegrain flour when possible.












TOOLS

- <https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-iron-foods-pregnancy.pdf>
- <https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-eating-fish-pregnancy.pdf>
- <https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-dairy-foods-pregnancy.pdf>
- Multivitamin for Pregnancy: under development
- Food Safety Conversation Cards: under development

is to some features. [view permissions](#)

Iron Foods for Pregnancy

Iron helps give you energy. Iron helps your baby's body and brain grow.
Eat foods with iron every day. Take your prenatal vitamin daily.

| | | | |
|---|--|--|--|
| Animal foods with iron | |  Wild meat (moose, elk, venison) |  Pork |
|  Lamb and goat |  Egg |  Chicken, turkey, goose, and duck | |
|  Fish, light tuna, shellfish (cooked) | |  Beef | |
| Plant foods with iron | |  Fortified grains and flours, hot or cold cereal |  Chickpeas, beans, and lentils |

Questions?



Thank you!

