The following slides were developed and produced by Jo Marie Reilly, MD, MPH from the Keck School of Medicine of USC for use within the Primary Care Program.

Please reach out to Dr. Reilly for access to the PowerPoint slide (.ppt) format for educational purposes only.

https://primarycare.usc.edu/

Copyright Pending © 2022 Jo Marie Reilly and Ilana Greenberg
Nutrition for Prevention and Chronic Illness Management

Sponsored by Keck School of Medicine Primary Care Program

Keck School of Medicine of USC Primary Care Program
Jo Marie Reilly, MD, MPH
https://primarycare.usc.edu/
Copyright pending © 2022 Jo Marie Reilly and Ilana Greenberg
MyPlate / MiPlato

Sponsored by Keck School of Medicine Primary Care Program: 1
How do we group the foods that we eat into categories? What is MyPlate.gov? What foods belong in each category? How much should we eat of each food in a given category each time we eat? What does your plate look like when you eat? What is your favorite category? What do you eat too much of? What are your “trigger foods”? Note some cultures don’t eat foods on plates (i.e. bowls) and may need to discuss different cultures use of utensils (some cultures may not use forks/knives/spoons or any utensils to eat with).
How does My plate concept help you look at the foods you eat most of? Things to cut down or increase? Sie of the plate you eat on?

Portions of foods you eat?
What areas do you struggle with?
How may you consider changing that?
How can you best balance your portions?
How can you slow down the pace of your eating enough for your stomach to tell your brain “I am full now?”
What size is your plate?
What size is your bowl?
What size is your glass?
How many times do you refill your plate and bowl and glass?
Do you have measuring cups at home?
How are you with your portion sizes?
How many fruits and vegetables do you eat a day?
Is it half your plate?
What fruits and vegetables do you like?
What are whole grains?
What whole grains do you like?
How can you make half your grain intake whole grains?

<table>
<thead>
<tr>
<th>Food To Increase</th>
<th>Alimentos Para Aumentar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make half of your plate fruits and vegetables</td>
<td>Hacer la mitad de su plato frutas y verduras</td>
</tr>
<tr>
<td>Make at least half your grains whole grains (wheat, brown rice)</td>
<td>Hacer al menos la mitad de los granos de cereales integrales</td>
</tr>
</tbody>
</table>
Let’s review our lecture material
Work on motivational interviewing with specific behavior changes.
Have patients leave the class with a specific change they will make between now and the next class?
Consider realistic changes.
Consider how to reduce/limit less healthy habits
Protein and Dairy / Proteina y Lacteos

Sponsored by Keck School of Medicine Primary Care Program: 2

Keck School of Medicine of USC Primary Care Program
Jo Marie Reilly, MD, MPH
https://primarycare.usc.edu/
Copyright pending © 2022 Jo Marie Reilly and Ilana Greenberg
How much of each of our meal plates should contain protein? 
¼ of our plates, on average, should have a protein food source
White meat not dark-take off skin; Watch portion size

Canned tuna-in water not oil-6 oz

Limit red meat
Bake, grill, steam and don’t fry meats.
People eat at fast food. It is cheap. It is accessible. Many live in food deserts. Help people know what they “can eat” if they eat fast foods. Help them understand portions. If I eat at a fast food place, what are the best choices there (i.e. grilled chicken sandwich)? Can people ask for a “lettuce wrap” instead of two pieces of bread?
Not all proteins are meat based.
What are healthy protein options that are not meat?
How can I prepare nonmeat protein options in a healthy way?
People need more calcium as they age, especially women as they become postmenopausal to avoid osteoporosis. Teens and pregnant and breastfeeding women also need more calcium—know the numbers and help patients quantify how much calcium they get daily and if they can’t tolerate milk products, what substitute foods they can use to get enough calcium (i.e., almond milk, goat milk, greens, lentils, etc.)

Milk is also fortified with Vitamin D. Not enough vitamin D is also a source of bone abnormalities. Take vitamin D supplements and check patient vitamin D levels and supplement as needed.

Buy milk products with less fat-2 % or less-nonfat if possible. After 2 years of age you no longer needs full fat milk for growth. Before two years of age, you need full fat milk to opsonize the brain and nerve sheaths.

People get lactose intolerance as they age. Certain racial groups have more lactose intolerance than others—more Asians and Latinos.
Let’s review our lecture material
Review meat and non meta based proteins
Review foods with calcium. Note that milk products are an efficient source of calcium and are Vitamin D fortified but there are other calcium sourced foods.
Review calcium sources for someone who is lactose intolerant. Review the best dairy sources for someone who is lactose intolerant (i.e. yogurt better than straight milk)
Healthy Fats / Grasa Saludable

Sponsored by Keck School of Medicine Primary Care Program: 3
What are the sources of fat intake in your diet?
What are healthy fats and why?
What is the difference between a saturated, polyunsaturated and monounsaturated fat?)
Watch how much we use (portions) and what kind of fats we use?
What kind of fast do you use?
What are the “healthiest fats?”
Discuss fats that are often used by our Latino cultures. What are “good vs. bad fats?” If it is solid on the sink, it is solid in your arteries!
Discuss some healthier fat options that contain more omega 3 oils, monounsaturated sources of fats.
Let’s review our lecture material.
Rediscuss and review healthy fats, sources of healthy fats with audience examples
Carbohydrates / Carbohidratos

Sponsored by Keck School of Medicine Primary Care Program: 4

Keck School of Medicine of USC Primary Care Program
Jo Marie Reilly, MD, MPH
https://primarycare.usc.edu/
Copyright pending © 2022 Jo Marie Reilly and Ilana Greenberg
Discuss common carbohydrate sources
Assess portions and quantity for an entire day
Have people “halve” the number they are eating (i.e. go from 8 tortillas a day to four)- 1 piece of toast instead of two-1/2 sandwich instead of a whole, a lettuce wrap instead of a bun
Encourage people to use utensils instead of bread to serve and scoop their food
Corn tortillas instead of flour
Whole wheat pasta and rice instead of “white”
Review My plate and “where carbs fit on MyPlate” and how much of the plate they should “take up”
People need you to be very specific about “what a bread” is and the quantity they should eat.
You need to go through each type of bread with them to help them come up with a plan they can implement that makes sense for their life and is not so restrictive they won’t do it.
Review whole grain bread sources.
Help people understand why whole grains are healthier. Review the bran outer fiber is healthier, has more nutrients, reduces constipation, helps aid a sense of fullness to prevent overeating. Review the endosperm “starch” has the least fiber and the least nutrients. Is more calorie dense.
Let’s review our lecture material.
Re Review portion sizes
Ask participants to recall the differences between whole grain and “white” carbohydrates and why one is better for you than another.
Fruits & Vegetables / Frutas y Verduras

Sponsored by Keck School of Medicine Primary Care Program: 5

Keck School of Medicine of USC Primary Care Program
Jo Marie Reilly, MD, MPH
https://primarycare.usc.edu/
Copyright pending © 2022 Jo Marie Reilly and Ilana Greenberg
How much of our plates should consist of fruits and vegetables at each serving? In general, ½ of a plate should be fruits and vegetables with a little more vegetables than fruit.
Always better to eat the fruit or vegetable than to drink the juice.

It takes 6-8 apples or oranges to make one 8 oz glass of juice. We will never eat 8 oranges or apples in one sitting! High sugar load.

Keep the skin on the fruits and vegetables. It has the fiber. Many people peel it. Constipation is a huge problem with our populations and many could improve it by eating sufficient fiber in their diet rather than taking stool softeners.

Ask patients what are their favorite fruits and vegetables and try to make sure the patients are eating at least a couple of servings of each daily.
Watch portion control with tropical fruits and avoid them if possible. These fruits really spike the blood sugar of our diabetic patients— a high glycemic index. Try less than ½ cup daily if “need these fruits”

What are other tropical fruits [people like to eat (i.e. mangos, guavas, pineapple, papaya, watermelon, cantaloupe)]

Bananas are high in potassium and cheap but a high source of sugar. Consider small bananas or ½ banana a day.
These fruits have a lower glycemic index
We need 2-3 servings daily of fruits
Avoid the juices. Eat the whole fruits.
Want to eat foods with a low glycemic index. These are food that are broken down slowly by the body and do not cause sugar spikes. In general, these are foods with higher fiber and lower sugar content.
Increase the lower glycemic index foods to avoid sugar spikes and maintain a steady blood sugar level.
Decrease the higher glycemic index foods to avoid sugar spikes and maintain a steady blood sugar level.
Green vegetables have a lower sugar content; “orange and yellow” vegetables (ie carrots and squash have more sugar)
Celery has a lot of natural salt
Bitter squash (typical to the Asian communities and some Latino communities ) and nopales (cactus) have known sugar reducing properties in the diabetic communities

Even fast food serves salads and apples ; Consider getting these instead of fries if you eat fast food
Many people like to put all their daily fruits and veggies in a blender and then drink their “energy drinks”.
This has its limits as fiber is lost
Also, more fruit is eaten so higher sugar load
Many people like to put all their daily fruits and veggies in a blender and then drink their “energy drinks”. This has its limits as fiber is lost. Also, more fruit is eaten so higher sugar load.
Let’s review our lecture material
How can you eat fruits and vegetables in the healthiest ways?
What is the adequate number of fruits/veggies one should consume in a day (4-6 servings)?
How can you increase the fiber in the fruits and vegetables you consume?
Sugary Beverages / Bebidas Azucaradas

Sponsored by Keck School of Medicine Primary Care Program: 6

Keck School of Medicine of USC Primary Care Program
Jo Marie Reilly, MD, MPH
https://primarycare.usc.edu/
Copyright pending © 2022 Jo Marie Reilly and Ilana Greenberg
What is the healthiest drink of all? WATER!

Consider the calories and sugar you get from what you drink. What do you like to drink and how much daily?

Ways to make water more interesting if people dislike water- cut up cucumbers, lemons, strawberries and oranges; “crystal light” packets

watch calories from drinks and sugar content

watch sizes
Consider diet drinks

consider increased phosphorus in sodas which impact bone growth even if you drink diet drinks.
Sugar is in your drinks-
sugar is in alcohol
Sugar is in the creamers for coffee

10 teaspoons of sugar in a coke-6 oz
How to lower your sugars in what you drink?
Consider the sugar that is in alcohol
Sugar is in your drinks-
sugar is in alcohol
Sugar is in the creamers for coffee

10 teaspoons of sugar in a coke-6 oz
How to lower your sugars in what you drink?
What are the kinds of artificial sugars are out there? What are their pros and cons?

Can use artificial sugars to bake. What is the best one?
Honey is a sugar- even if it comes from bees!
There is a good amount of sugar in alcohol. If we mix it with soda it is even higher. Be thoughtful about alcohol intake.
Water has no calories!
How much water a day do we need 8 8 oz glasses.
What can we do to make water more interesting?
Let’s review our lecture material.
Review how to best drink healthy options daily and enough eater daily and the sugar content in what we drink.
Portion / Porciones

Sponsored by Keck School of Medicine Primary Care Program: 7

Keck School of Medicine of USC Primary Care Program
Jo Marie Reilly, MD, MPH
https://primarycare.usc.edu/
Copyright pending © 2022 Jo Marie Reilly and Ilana Greenberg
Know your portions and help patients understand them by using cups and measuring spoons and encouraging them to buy them. Can buy a cheap set at 99 cent stores and dollar stores.
Review MyPLate and portions of each macronutrient (proteins, carbohydrates, fats) on a plate.
Portion sizes change and updated serving sizes may include larger amounts of food.
Be mindful of limiting portions
Let’s review our lecture material.
Rediscuss plates, glass and bowl sizes and the importance of measuring foods on plates to reduce overeating.
Healthy Snacks / Bocadillos Saludables

Sponsored by Keck School of Medicine Primary Care Program: 8
Try to encourage good snack choices and also be mindful of portions for calorie control.

What are some healthy snacks we can choose that are fruits and vegetables and are healthier?
What snacks do we buy and have in our homes?
Prepackages snacks are less healthy for us.
Examples of some good and less good snacks
What snacks do we have in our houses?
What are the healthiest snacks to eat and the potions of them.
Consider putting chips in a plate instead of eating from the bag. Moderation is important. Consider what snacks we chose, and how we can measure the amounts of them to eat less. Many prepackaged snacks are also high in salt (i.e., chips, crackers) which is not healthy for those who struggle with high blood pressure and kidney problems. Many prepackaged snacks are also high in sugar (i.e., bags of cookies, candy) which are also not healthy.
Important to consider that often healthier options are more expensive than less healthy options.
How can we continue to make healthy food choices and still pay our bills?
Many dollar stores are also selling fruits and vegetables at cheaper prices.
Can we go to where house stores and by quality food at cheaper prices, package and freeze it and defrost as we need it to reduce food costs?
<table>
<thead>
<tr>
<th>Questions/Preguntas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What are some healthy snacks you can try?</td>
</tr>
<tr>
<td>2. How can you eat in moderation?</td>
</tr>
<tr>
<td>3. What are some ways to practice portion control?</td>
</tr>
</tbody>
</table>

Let’s review our lecture material
Food Labels / Etiquetas De Los Alimentos

Sponsored by Keck School of Medicine Primary Care Program

Keck School of Medicine of USC Primary Care Program
Jo Marie Reilly, MD, MPH
https://primarycare.usc.edu/
Copyright pending © 2022 Jo Marie Reilly and Ilana Greenberg
Teach how to read a food label:

Look at serving size- people often eat a serving size that is too big
Goal is less “than 5” for everything, noting that 20 is particularly high:
1. Concentrate on total fat-especially watching for trans fats (ie less than 5 grams of total fat”
2. Total fiber-want > 20 –helps maintain water, aid digestion, avoid constipation
3. Total cholesterol <20
4. Watch sodium <20
5. Carbohydrates-watch amounts of sugars
Review serving size in how to read a food label. Emphasize that one container isn’t necessarily for one person and one serving size!
Review serving size in how to read a food label. Emphasize that one container isn’t necessarily for one person and one serving size!
### What To Look For?

**¿Qué Buscar?**

- **Focus on both Getting Less and Enough:**
  - Total Fat
  - Saturated and trans fat
  - Sodium
  - Carbohydrates-Sugars
  - Fiber
  - 5% or less is low
  - 20% or more is high

- **Concentrate en obtener menos y lo suficiente:**
  - Grasa total
  - Grasas saturadas y trans
  - Sodio
  - Carbohidratos-Azúcares
  - Fibra
  - 5% o menos es bajo
  - 20% o más es alto

---

Summary points on how to read a food label- key take aways in “too much” and “what is considered a low amount”.

---

Primary Care Program
https://primarycare.usc.edu/
Let’s review our lecture material
Key take away points of how to read a food label
Practice reading a label together
Best to eat foods that don’t need food labels- they are fresh, they are whole foods and healthiest
What is a hemoglobin A1C and how do doctors use it to help manage and assess for diabetes and prediabetes?

What is cholesterol and how do doctors use it to help manage and assess for high cholesterol and risks for heart disease?
Diabetics are asked to check their sugar daily by their doctor and record the level.
Doctors also check a special test called the hemoglobin A1C to see how well your blood sugar has been controlled over time.
- If you have diabetes and your sugar is in good control, we test hemoglobin A1C every 6 months at a doctor's office.
- If hemoglobin A1C is not in good control we test it every 3-4 months.

- Relationship between blood sugar on machine and HGA1C levels.
- High levels of HGA1c are linked to negative effects on eyes, kidneys, nervous system in legs-cramps/burning and tingling.
  High HGA1C can leads to blindness, heart attacks, strokes and end stage kidney disease requiring dialysis.
  No your numbers and your doctors goals for you to stay healthy.

- If you have pre diabetes, you are on the border of diabetes. Take action in your diet and exercise to avoid “crossing the line”.

---

**Primary Care Program**
https://primarycare.usc.edu/

**Keck School of Medicine of USC Primary Care Program**
Jo Marie Reilly, MD, MPH
https://primarycare.usc.edu/

Copyright pending © 2022 Jo Marie Reilly and Iiana Greenberg
What is cholesterol and why is it concerning?
What is HDL, LDL and total cholesterol?
Your best level of cholesterol depends on your other health problems.
If you have no health problems and risks, doctors like the total level to be < 200 with HDL > 40 and LDL < 130.
If you have health problems, like diabetes, doctors like your levels to be lower to protect your heart
Ask your doctor what your levels are and what they should be.
What are the health effects of high cholesterol? Atherosclerosis can lead to heart attacks and strokes and blockages of arteries in the legs which can lead to amputations. In addition to diet, smoking can also cause your cholesterol to be elevated.
“normal” Cholesterol levels vary according to people’s underlying health problems. Discuss with your doctor what your cholesterol levels are and what they should be.
Let’s review our lecture material
Review HGA1C and cholesterol types and numbers with patients.
What are their numbers?
How can they improve their numbers?
What is the impact of having high numbers on their health?
Diabetes and Pre-Diabetes / Diabetes y La Prediabetes

Sponsored by Keck School of Medicine Primary Care Program: 11

Keck School of Medicine of USC Primary Care Program
Jo Marie Reilly, MD, MPH
https://primarycare.usc.edu/
Copyright pending © 2022 Jo Marie Reilly and Ilana Greenberg
Diabetes is a chronic disease that impacts the body’s ability to breakdown the sugars in our body. Much of our sugar regulation is controlled by the pancreas gland, which is part of our digestive system.
A healthy pancreas produces insulin. Insulin is the key that is needed to move the glucose into the cell so it can be converted to energy. The cells are able to receive the glucose and turn it into energy for the body to use.
In diabetes the pancreas is worn out. It cannot make enough insulin. As a result, the sugar levels in the body are higher than they should be; thus, it remains in the blood causing damage and inflammation to tissues and organs.

People are more vulnerable to this problem if they have a family history, a genetic history, or they are overweight.
In diabetes the pancreas is worn out. It cannot make enough insulin. As a result, the sugar levels in the body are higher than they should be; thus, it remains in the blood causing damage and inflammation to tissues and organs.

People are more vulnerable to this problem if they have a family history, a genetic history, or they are overweight.
If you have prediabetes, your sugar is on the borderline of diabetes and your pancreas is overworking, but you do not yet have diabetes. We measure blood sugar in the laboratory by looking at fasting blood sugar levels, blood sugar levels after drinking a sweet soda, and blood sugar levels over the past three months, called a hemoglobin A1C.

If you have prediabetes, you can make better dietary choices and increase your physical activity to prevent from becoming diabetic. Conversely, not changing your dietary and physical activity habits may lead to diabetes. This class can help you make those changes!
Rather than check the glucose at one point in time like the OGTT and FPG, the Hgb A1c is look back on the last 3 months. This test helps us monitor the control of a person with diabetes. There is no need to fast for this test.
Rather than check the glucose at one point in time like the OGTT and FPG, the Hgb A1c is look back on the last 3 months. This test helps us monitor the control of a person with diabetes. There is no need to fast for this test.
Rather than check the glucose at one point in time like the OGTT and FPG, the Hgb A1c is look back on the last 3 months. This test helps us monitor the control of a person with diabetes. There is no need to fast for this test.
What are good levels of HGA1C?
This chart helps us see what levels we should aim for to best help our body not suffer the effects of diabetes.
The chart also tells us how our blood sugar levels match up to an A1C level.
Eating food in the “red Zone” increase our A1C
Eating foods in the “yellow zone” may be ok, but we need to watch the amounts and how often we eat them
Eating foods in the “green zone” foods are ok and will generally not increase our A1C
Ask your doctor what your A1C level is so that you can monitor it and know what dietary changes you need to make.
Diabetes can affect many organs in the body. It can impact vision, the kidneys, the heart, and be a cause of heart attacks, and strokes. It can also cause increased thirst and urination, and cause nausea, vomiting and abdominal pain. If sugars are very high, they cause a fruit breath smell and problems with breathing and weight.
Let’s review the ways you can take control of your health and lower your blood sugar.
Let’s review the ways you can take control of your health and lower your blood sugar.
If you have diabetes, your immune system is lower and your body needs extra protection to help fight against infection. It is important to make sure you are current on your vaccinations. Important vaccines to receive are listed on this slide.
Let’s review the material from this lecture
There are some chronic diseases that are very much affected by our nutrition. We can do a lot to prevent these diseases.
The heart pumps blood into the blood vessels putting force against them. This is systolic blood pressure. Diastolic blood pressure is when it relaxes. When blood pressure is too high, it causes the vessels to become damaged and can lead to heart attacks and strokes.
The heart pumps blood into the blood vessels putting force against them. This is systolic blood pressure. Diastolic blood pressure is when it relaxes. When blood pressure is too high, it causes the vessels to become damaged and can lead to heart attacks and strokes.
Let’s review the levels for high blood pressure.
Most insurances now cover a blood pressure cuff and you can take your own blood pressure and monitor it in your home.

If you have two or more blood pressure readings of 140/90 at least 6 hours a part, you may have high blood pressure.
Let’s review the levels for high blood pressure.
Most insurances now cover a blood pressure cuff and you can take your own blood pressure and monitor it in your home.

If you have two or more blood pressure readings of 140/90 at least 6 hours a part, you may have high blood pressure.
Blood pressure that is not well controlled can cause problems to your body. These problems include Blindness, renal failure, heart attack, stroke.
What are some ways you can control your blood pressure?
Watching salt may help lower blood pressure.
Some people are more sensitive to salt than others.
Watching salt may help lower blood pressure.
Some people are more sensitive to salt than others.
Follow previous recommendations and review salt content on food labels. Try to reach for low sodium options.
Let’s review the material we have learned in this lecture.
Chronic Diseases / Enfermedades Crónicas
Fatty liver is a condition where extra fatty deposits build up in the liver

https://www.gastroconsa.com/patient-education/fatty-liver-disease/

Why do we care about fatty liver?
Fatty liver can lead to inflammation of the liver if not addressed. Further damage to the liver can lead to cirrhosis and death from liver failure.
Fatty liver, if not addressed, can cause serious health implications
Fatty liver, if not addressed, can cause serious health implications.
Doctors can test for it by looking at liver blood tests and getting an ultrasound of the liver.
Generally people have no symptoms.
Doctors can test for it by looking at liver blood tests and getting an ultrasound of the liver. Generally people have no symptoms.
A healthy pancreas produces insulin. Insulin is the key that is needed to move the glucose into the cell so it can be converted to energy. The cells are able to receive the glucose and turn it into energy for the body to use.
This is a skin condition that is often a sign that your body has insulin resistance. It may be associated with overweight/obesity and also diabetes and hypothyroidism.

It has darkening of the skin in body folds like the neck, armpits, groin, and navel.
This is a skin condition that is often a sign that your body has insulin resistance. It may be associated with overweight/obesity and also diabetes and hypothyroidism. It has darkening of the skin in body folds like the neck, armpits, groin, and navel.
Credit: Learning About Diabetes, Inc. 2014

This is a health condition which includes: a large waist/overweight, high blood pressure, high fats in the body (high triglycerides) and diabetes/prediabetes
This is a health condition which includes: a large waist/overweight, high blood pressure, high fats in the body (high triglycerides) and diabetes/prediabetes.

<table>
<thead>
<tr>
<th>Factores de Riesgo*</th>
<th>Nivel del Problema</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cintura grande (Estómago)</td>
<td></td>
</tr>
<tr>
<td>Varones</td>
<td>Tamaño de la cintura 40 pulgadas (&gt;102 cm) o más</td>
</tr>
<tr>
<td>Mujeres</td>
<td>35 pulgadas (&gt;88 cm o más)</td>
</tr>
<tr>
<td>Triglicéridos altos</td>
<td>150 mg/dL o más</td>
</tr>
<tr>
<td>HDL-C bajo (colesterol Bueno)</td>
<td></td>
</tr>
<tr>
<td>Varones</td>
<td>Menos de 40 mg/dL</td>
</tr>
<tr>
<td>Mujeres</td>
<td>Menos de 50 mg/dL</td>
</tr>
<tr>
<td>Presión de la sangre alta</td>
<td>130/85 o más</td>
</tr>
<tr>
<td>Diabetes o</td>
<td>126 mg/dL o más (en ayunas)</td>
</tr>
<tr>
<td>Prediabetes</td>
<td>100 a 125 mg/dL (en ayunas)</td>
</tr>
</tbody>
</table>

*También cuenta como factor de riesgo si usted recibe tratamiento por cualquiera de estas condiciones.
These are multiple health conditions associated with metabolic syndrome that can have serious health affects.
The metabolic syndrome creates inflammation and the perfect conditions for a heart attack or stroke.
How can you live healthier with chronic illnesses?
What healthier choices can you make?
Questions/Preguntas

1. What are three ways you can prevent chronic illness?
2. What are some symptoms of fatty liver disease?
3. What diseases can metabolic syndrome lead to?

1. ¿Cuáles son las tres formas en que puede prevenir enfermedades crónicas?
2. ¿Cuáles son algunos de los síntomas de la enfermedad del hígado graso?
3. ¿A qué enfermedades puede conducir el síndrome metabólico?
Vitamin Supplements / Vitaminas Supplementarias

Sponsored by Keck School of Medicine Primary Care Program: 14

Keck School of Medicine of USC Primary Care Program
Jo Marie Reilly, MD, MPH
https://primarycare.usc.edu/
Copyright pending © 2022 Jo Marie Reilly and Ilana Greenberg
How do vitamins work in your body and what sources do they come from?
What are the vitamins which need supplements because the diet alone isn’t enough.
En algunos casos, sería preferido tomar suplementos:

- Vitamina D (pocas fuentes alimentarias)
- Calcio durante el embarazo/lactancia materna and y para mujeres postmenopásicas
- Hierro para pacientes con anemia por deficiencia de hierro
- Vitamina B12 para los veganos/vegetarianos (se encuentra en productos de animales)
- Ácido fólico durante el embarazo
- Personas que no comen o no pueden comer una dieta saludable
What are water soluble vitamins? Why are they important
What are water soluble vitamins? Why are they important?
What are fat soluble vitamins and why are they important? We can get too much of them which can cause toxic body problems.
What are fat soluble vitamins and why are they important?
We can get too much of them which can cause toxic body problems
What are the important sources of calcium and what conditions and times in our life cycle is calcium most important?
Post menopausal women need extra calcium and vitamin d in their diets to help keep their bones strong.
What are the important sources of calcium and what conditions and times in our life cycle is calcium most important?
Post menopausal women need extra calcium and vitamin d in their diets to help keep their bones strong.
What are important sources of vitamin D and how does it impact our health? Vitamin D levels can be determined by a blood test.
What are important sources of vitamin D and how does it impact our health? Vitamin D levels can be determined by a blood test.
What is the role of iron in our diet?
There are meat based sources of iron and vegetable sources of iron
The meat sources are a little easier to absorb from our bodies but the plant/grain based sources are also good sources.

Women who are menstruating need to make sure they have adequate iron stores.
What is the role of iron in our diet?
There are meat based sources of iron and vegetable sources of iron
The meat sources are a little easier to absorb from our bodies but the plant/grain based sources are also good sources.

Women who are menstruating need to make sure they have adequate iron stores.
Vitamin B12 is necessary for blood and nerve cells in our body. Certain medical conditions and medications can lower the level. Those taking the diabetes medication metformin should have their vitamin B12 level checked periodically as the medication can lower the B12 level.
Vitamin B12 is necessary for blood and nerve cells in our body. Certain medical conditions and medications can lower the level. Those taking the diabetes medication metformin should have their vitamin B12 level checked periodically as the medication can lower the B12 level.

<table>
<thead>
<tr>
<th>Vitamin B12 dosis:</th>
</tr>
</thead>
<tbody>
<tr>
<td>adultos: 2,4mcg/dia</td>
</tr>
<tr>
<td>durante el embarazo: 2,6mcg/dia</td>
</tr>
<tr>
<td>durante la lactancia materna: 2,8 mcg/dia</td>
</tr>
</tbody>
</table>

- Se usa para prevenir la anemia porque fortalece los glóbulos rojos de la sangre. También es necesario para mantener el sistema nervioso.

- **Fuentes alimentarias:** carne de res, leche, huevos, pollo, pavo, cereales fortificados, almejas, cangrejo, salmon
Folate is another vitamin that is especially important for women of childbearing age as it presents birth defects. All women considering becoming pregnant should be taking adequate folate. Folate is in the foods we eat but it is available over the counter as a supplement and in prenatal vitamins.
Folate is another vitamin that is especially important for women of child bearing age as it presents birth defects.
All women considering becoming pregnant should be taking adequate folate.
Folate is in the foods we eat but it is available over the counter as a supplement and in prenatal vitamins.
Let’s review the material we have learned in this lecture.
Images Used

- Reference to specific commercial products, manufacturers, companies, or trademarks does not constitute its endorsement or recommendation by the U.S. Government, Department of Health and Human Services, or Centers for Disease Control and Prevention.

- Images used are either within the public domain, covered by license (i.e. Pikabay License / Pexels License / PowerPoint Stock Images), or have received permission and cited in slide notes.
Contact Us

https://primarycare.usc.edu/