

(بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ)

مِثْلَ الَّذِیْنَ یَنْفِقُونَ اَمْوَالَهُمْ فِی سَبِیْلِ
اللّٰهِ كَمِثْلِ حَبَّةِ اَنْبِثَّتْ سَبْعَ سَنَابِلٍ فِی كُلِّ
سَنْبَلَةٍ مِائَةٌ حَبَّةٌ وَاللّٰهُ یَضَاعِفُ لِمَنْ
(یَشَاءُ)

صَدَقَ اللّٰهُ الْعَلِیُّ الْعَظِیْمُ

261سورة البقرة اية



Role of Gluten in The Development of Rhuematoid Arithritis



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What is Gluten?

- A sticky protein found in
 - **Wheat**
 - **Rye**
 - **Barley**



Where is gluten found in food?

• These are common sources:

- **Bread**
- **Crackers**
- **Cereal**
- **Pasta**
- **Baked Goods**



Which of the following sources may have gluten?

- Processed meat
- Seasonings
- Salad Dressings
- Soup stock
- Granola bars
- Chips
- Candy



Soy sauce

Toothpaste

Medications

Supplements

Play dough

All of these must be verified by checking the label and/or manufacturer!

- **Gluten** describes several types of protein found in grains such as **rye, barley, and wheat**. Gluten is present in the majority of bread, pasta, and other baked goods unless they are labeled gluten-free.

- The reason it is called “**gluten**” is that it creates a kind of sticky, glue-like texture when grain flour mixes with water. This makes the dough more elastic and gives baked goods their familiar texture.



Why are some people concerned about gluten?

Undigested **gluten** makes its way to the small intestine.

Most people can handle the undigested gluten with no problems. But in some people, gluten can trigger a severe autoimmune response or other unpleasant symptoms.

An autoimmune response to **gluten** is called **celiac disease.**

- **Wheat Allergy**
- **Celiac Disease**
- **Non-Celiac Gluten Sensitivity**



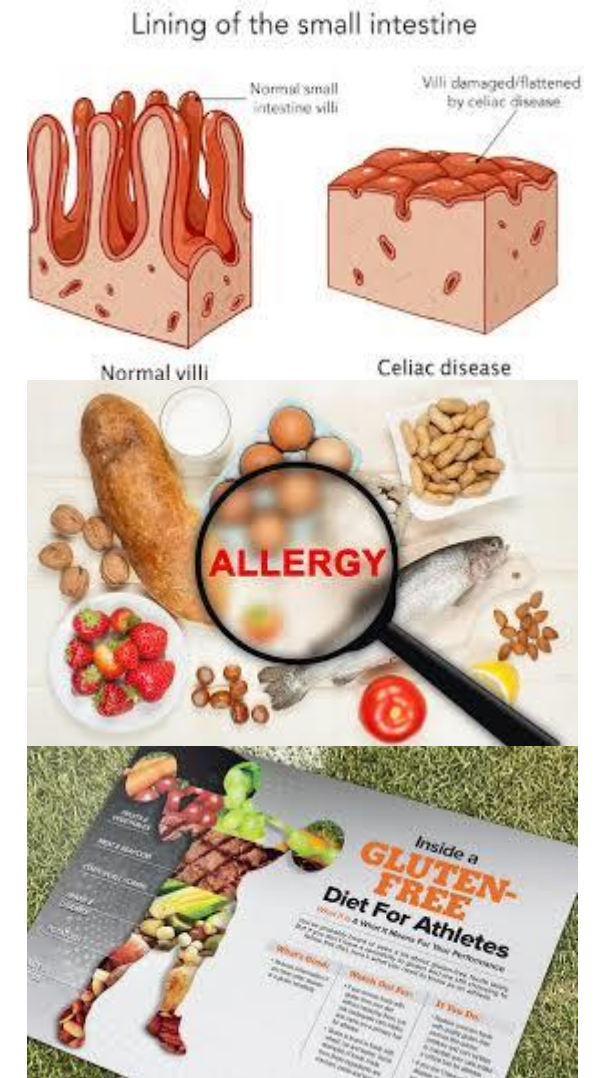
Who should avoid gluten?

1. Celiac disease : is a genetic autoimmune disease that causes the body to attack the small intestine when a person with the disease eats **gluten**, a protein found in wheat.

2. A wheat allergy: is an allergic reaction to wheat whether it's consumed or inhaled, for instance breathing in particles of wheat flour.

People with **celiac disease** must stay away from all grains with gluten. People with **wheat allergy** often only need to stay away from wheat and can eat the other grains.

So following a **gluten-free diet** may be limiting. But gluten-free foods should be safe for people with wheat allergy.



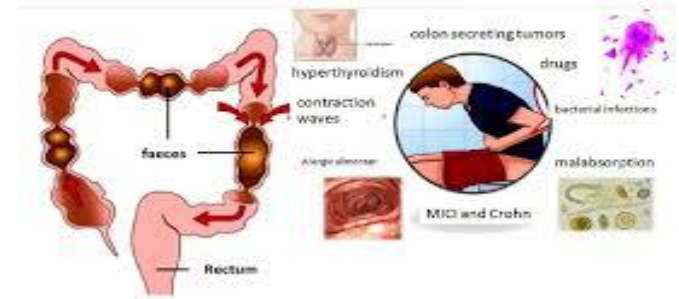
3. Non-Celiac Gluten Sensitivity

- Here are some of the most common symptoms of **non-celiac gluten sensitivity**.
- **Bloating** is when you feel as if your belly is swollen or full of gas after you've eaten.
- **Diarrhea and constipation. ...**
- **Stomach pain. ...**
- **Headaches and migraine. ...**
- **Fatigue. ...**
- **Depression and anxiety. ...**
- **Pain. ...**
- **Brain fog.**

4. Gluten ataxia, a rare neurological autoimmune disorder that causes your body to attack parts of your brain in response to gluten.



Diarrhea and constipation



8 WAYS GLUTEN CAN INFLAME YOUR GI TRACT



Canker Sores
(Mouth)



Esophagitis



Gastritis and
GERD



Celiac Disease
(Small
Intestine)



Ulcerative
Colitis
(Left Large
Intestine)



Crohn's disease
(Right Large
Intestine)



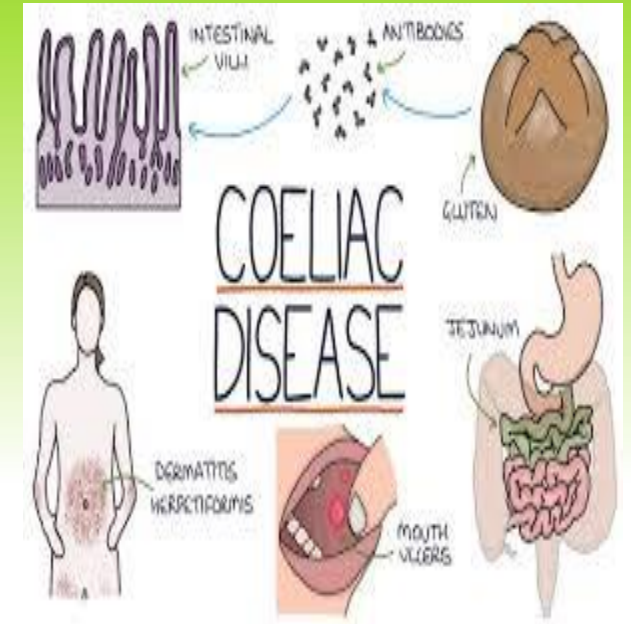
Diverticulitis



Hemorrhoids

Diagnosing Celiac Disease & Gluten Sensitivity

- Not everyone with **celiac disease** experiences the same symptoms. Some people have no digestive complaints whatsoever, yet routine **blood tests reveal low levels of vital nutrients, such as iron, vitamin B12, or vitamin D.**
- **Blood Tests:** high levels of these antibodies like , **tissue transglutaminase IgA (tIgA)**, **endomysial IgA**, and **reticulin IgA** and correlate with the degree of mucosal damage.
- **Upper Endoscopy.**



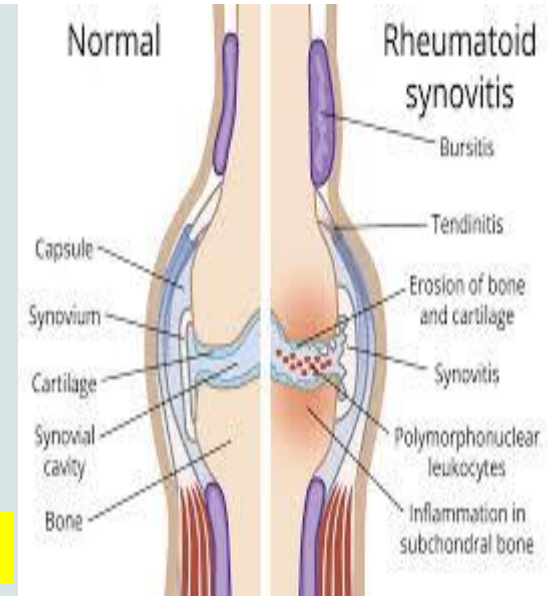
Gluten and autoimmune disorders



- Some people find that removing certain foods, such as those that cause inflammation, from their diet can help them manage their **RA symptoms**. **The foods that cause RA flares can differ from person to person.**

- In some cases, gluten might make **RA inflammation** worse, too. Therefore, avoiding gluten could help people with a gluten intolerance improve their **RA symptoms**.

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What is the link between gluten and rheumatoid arthritis?

Rheumatoid arthritis (RA) is an inflammatory condition. Some people with **a gluten** intolerance may feel that eating **gluten** can impact inflammation and cause their symptoms to flare up.

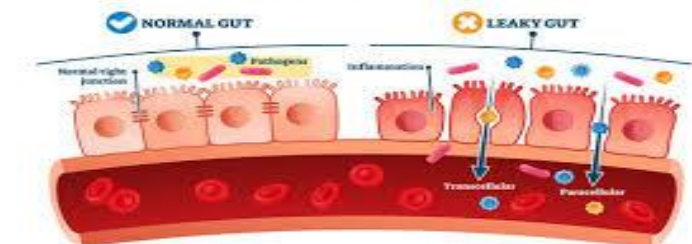
- Research suggests that some people could have **small intestines** that don't work properly. The lining might be too permeable, allowing some **undigested gluten, bacteria or other substances** to go through the lining and into the bloodstream, **causing inflammation.**



RHEUMATOID ARTHRITIS



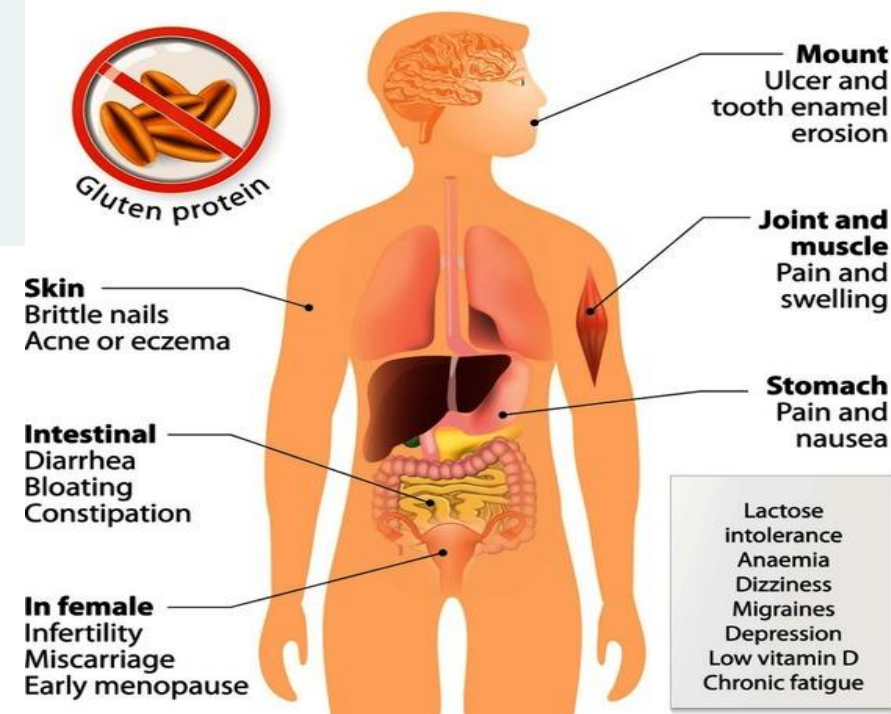
LEAKY GUT



Can gluten affect the joints?

- In people with **celiac disease**, eating foods that contain **gluten** can cause **sluggishness, bloating, and digestive problems**. It can also cause pain, swelling, and inflammation in many areas of the body, including the joints.
- Increasing research in recent years has also shown that gluten is associated with a variety of **inflammatory illnesses**, and this is not limited to **celiac disease, wheat allergy, or gluten intolerance**.
- Like **celiac disease**, **RA** is an **autoimmune disorder**. In the case of **RA**, the immune system wrongly attacks tissues that produce synovial fluid in the joints. This causes joint pain and inflammation, which can lead to damage and deformity over time without treatment.

CELIAC DISEASE



Evaluation of Gluten Exclusion for the Improvement of Rheumatoid Arthritis in Adults

- There is currently **a growing anti-gluten trend which, except for individuals with coeliac disease and non-coeliac gluten sensitivity (NCGS) for whom its intake is contraindicated,** results in **gluten** (the main protein in wheat and other cereals) being considered harmful to health and excluded from diets, largely due to information distributed through social networks.
- However, in many cases the recommendation **to exclude gluten from the diet** goes beyond personal choice and is promoted by health professionals. This choice and/or recommendation is especially important to individuals with **chronic inflammatory diseases** such as **rheumatoid arthritis (RA)**, for which this exclusion is justified to reduce the symptoms of the disease.



Fig: Rice (1), wheat (2), barley (3), oat (4), sorghum (5), rye (6) and maize (7)



Rheumatoid arthritis (RA) :

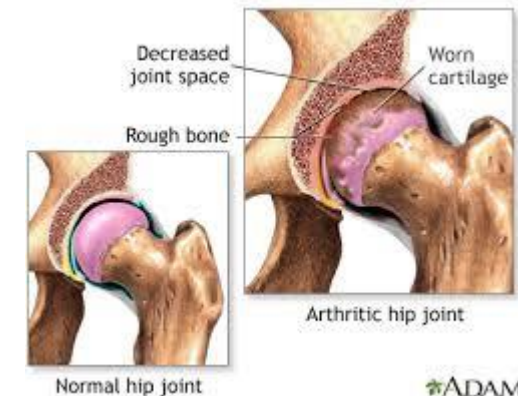
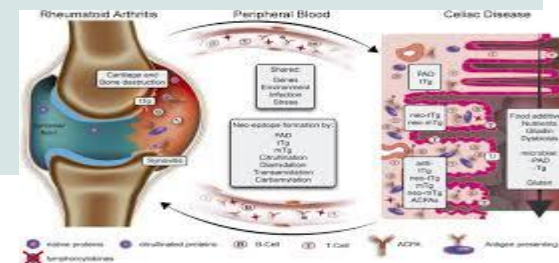
- According to the Spanish Society of Rheumatology, the prevalence of **rheumatoid arthritis (RA)** in **Spain** is estimated at 0.5%, similar to other European countries, and three times more frequent in women
- It is estimated that **RA** affects around **5%** of women **over 55** years of age . **RA** presents as a common form of **arthritis that causes inflammation in the lining of the joints, resulting in warmth and redness, reduced range of motion, swelling, hypersensitivity and pain in the joints, and may cause damage to the cartilage, bones, tendons and ligaments of the joints .**
- The same **gluten**-related inflammatory process may be a contributing factor in this disorder.



2% Risk in men **4%** Risk in women

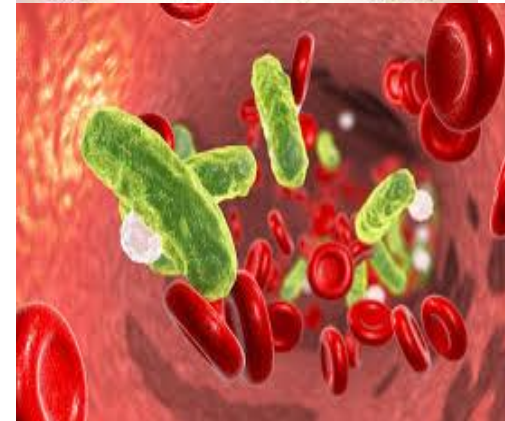
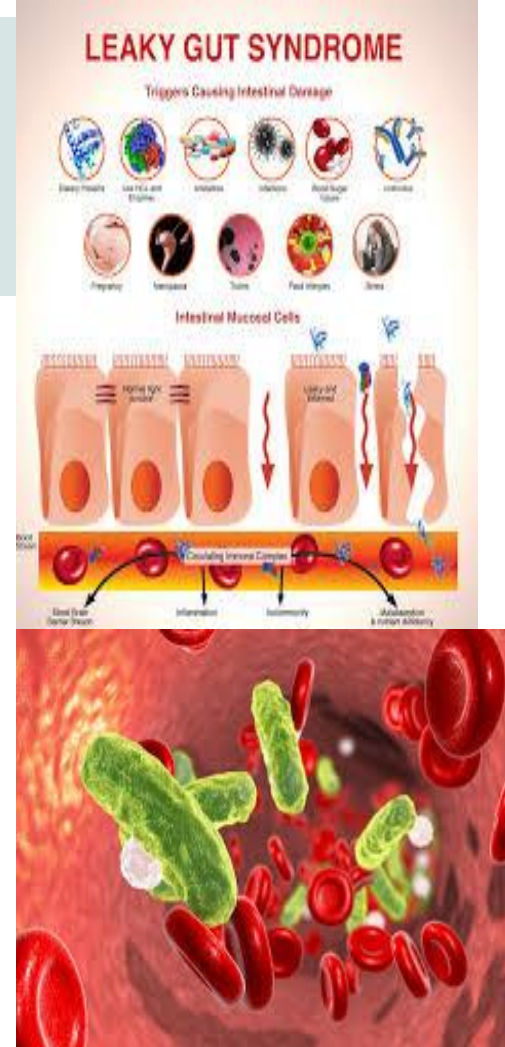
RA generally starts in women the ages of **30 & 60** (slightly later for men)

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Can gluten make RA symptoms worse?

- The link between **diet** and **RA** is not completely clear. However, there is suggesting that certain components of **gluten** may trigger **leaky gut syndrome (LGS)** in some people.
- While not all physicians yet recognize **LGS** as a formal diagnosis, research indicates that **LGS may create openings in the intestinal walls for bacteria and toxins to come out into a person's blood. This leads to a microbial imbalance and inflammation in the body.**
- While researchers have not determined a single cause of **RA**, they do speculate that **LGS**-related inflammation may be a factor.
- In addition, according to research, people who have **RA** have more **antigluten antibodies** than people who do not, which suggests an inflammatory immune response related to gluten.



Foods to eat :People with **RA** may benefit from removing or lowering foods that contain **gluten** from their diets. This may seem difficult at first, but it should become easier over time. **Gluten-free alternatives** to common foods are becoming much more widely available.

Most major food groups contain no gluten, including:

vegetables

fruits

seafood

red meat

dairy

poultry

beans and legumes

nuts



Grains are the only source of gluten, yet not all grains contain gluten. Naturally gluten-free grains include:

- rice
- corn
- sorghum
- quinoa
- millet
- amaranth
- gluten-free oats
- buckwheat groats



rice and corn



sorghum



quino



amaranth

It is also still helpful to follow other guidelines about **diet** and **RA**. One study recommends that people with **RA** avoid eating foods that may cause inflammation, such as:

- Salty foods
- processed foods
- vegetable oils
- butter
- sugar
- animal products

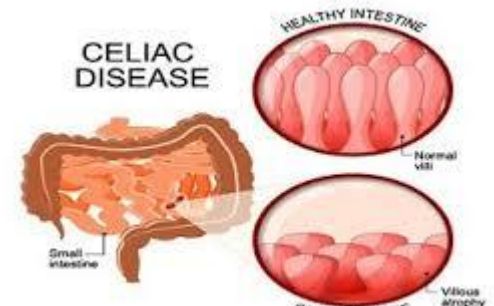
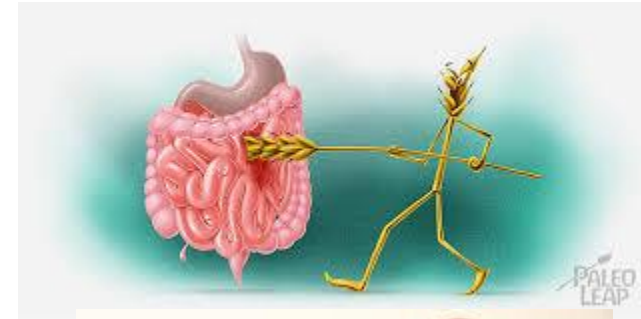


What to ask a doctor

- Any person with **RA** who suspects **gluten** may be contributing to their symptoms may want to **consult with a doctor**, who can make a recommendation on whether a person should avoid gluten.
- If possible, a person should bring a food diary to the medical appointment or keep a food diary with the help of a healthcare professional.
- A **food diary** contains a list of the foods a person has eaten, along with the symptoms they triggered. Having access to this could help the doctor or nutritionist identify any trends.

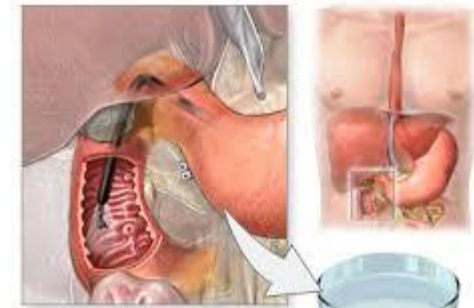
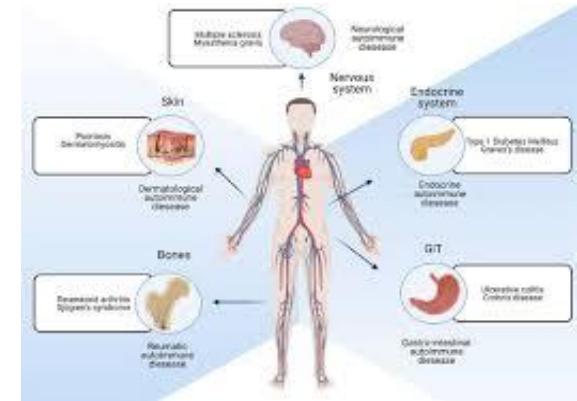


- For some people, **eliminating certain foods from their diet can help improve RA symptoms**. Increasing research indicates **that gluten can disrupt the gut microbiome, which can lead to a variety of inflammatory symptoms**.
- Some research suggests **that people with RA are more likely to also have celiac disease**. For this reason, eliminating **gluten** from the diet may be able to reduce inflammation and improve symptoms.
- However, the effect of a **gluten-free diet** may be different from person to person. A person should speak with a doctor before deciding to avoid gluten.
- In general, **diet tips for people with RA include eating a wide variety of healthy, whole foods and cutting out processed and sugary foods**.



How can a person know if gluten is making their RA symptoms worse?

- If a person notices that their symptoms get worse after eating foods containing gluten, then gluten may be a factor in their symptoms.
- A person can try to **avoid gluten** to see if their symptoms improve. A doctor can also order a blood test to check if a person has **celiac disease** or **nonceliac gluten sensitivity**.
- Generally, having higher levels of certain antibodies or inflammation markers in the blood can indicate that a person may have one of these conditions in addition to RA.
- In some cases, the doctor may need to take a **biopsy of tissue** in the small bowel to confirm the diagnosis.



Tissue is removed from the duodenum to make a culture for analysis

Should a person avoid gluten if they have RA?

- If a person knows they also have **celiac disease** or **gluten sensitivity** in addition to **RA**, they should avoid gluten. If not, gluten may still play a role in the **degree** of a **person's RA symptoms**.
- A person can choose to try a gluten-free diet to see if their symptoms improve.
- **What other foods aggravate RA?**
- In addition to foods that **contain gluten**, other foods and drinks that may cause RA flares include **alcohol, sugary foods, processed foods that contain trans fats, and foods with artificial additives**.



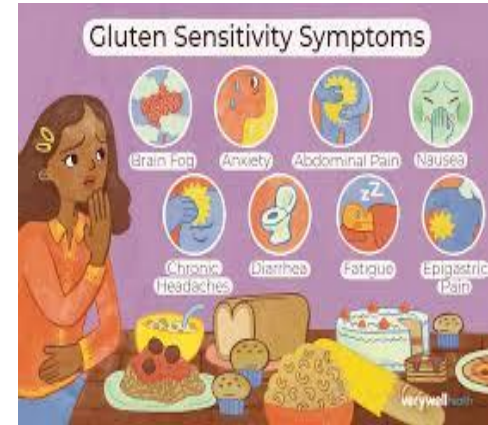
What is the best treatment for gluten intolerance?

- A strict, lifelong gluten-free diet is the only way to manage celiac disease. Besides wheat, foods that contain gluten include: Barley.



Gluten causes significant concerns for some people :

- Most people are able to digest **gluten just fine**. That said, **a small proportion of people cannot tolerate it.**
- A serious form of **gluten intolerance** is called **celiac disease**. Celiac is a hereditary autoimmune disease. For individuals with **celiac disease**, **gluten can cause diarrhea, stomach pain, excessive gas, and skin rashes.** Over time, it can cause damage to the intestines, which impairs their ability to absorb certain nutrients .
- However, some people **test negative for celiac disease** but still react to gluten. This is referred to as **non-celiac gluten sensitivity.**
- **The symptoms are similar to celiac disease, but without the autoimmune response.** People with **non-celiac gluten sensitivity** may experience diarrhea, bloating, and gas, along with joint pain and brain fog.

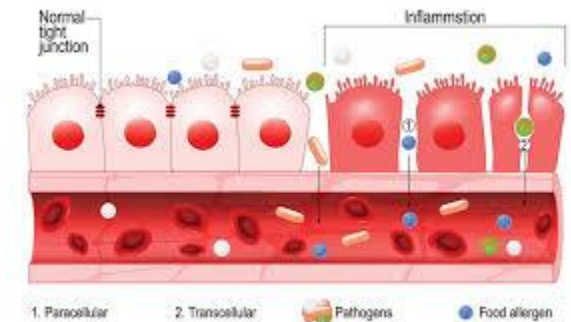
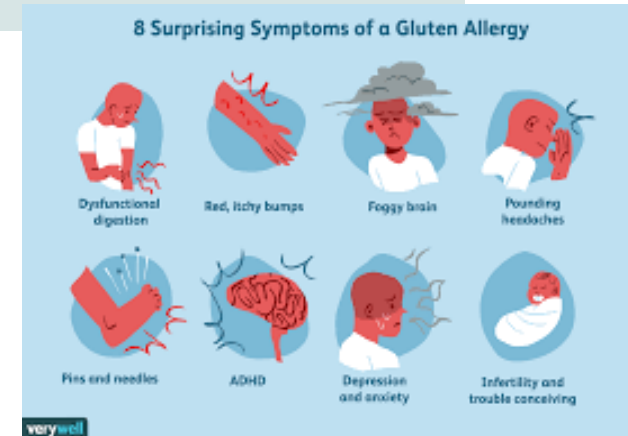


- There's currently no clinical method of diagnosing **non-celiac gluten sensitivity**. If you react negatively to gluten and your symptoms are relieved with a gluten-free diet, you probably have **gluten sensitivity** .
- **The topic of gluten remains highly debated. Some medical professionals believe that gluten is harmless unless you have celiac disease.**
- Others claim that **gluten** is the root cause of all kinds of health conditions and autoimmune disorders.



Gluten activates zonulin, the regulator of intestinal permeability?

- Several studies have shown that **gluten** can increase **intestinal permeability** and cause an **immune response in the body** .
- The immune system responds to substances it recognizes as harmful by causing inflammation. **Inflammation** is one of the body's natural self-protection mechanism, though persistent inflammation can be associated with multiple chronic conditions.
- In individuals with **a sensitivity to gluten**, the protein is deemed a foreign invader by the body. This leads to inflammation.
- However, there is conflicting evidence regarding gluten and intestinal permeability.



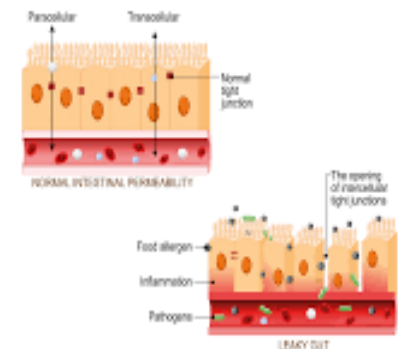


- **Zonulin**, the only known physiologic modulator of intercellular **tight junction TJ** described so far, increased understanding of the intricate mechanisms that regulate the intestinal epithelial paracellular pathway and led us appreciate that its up-regulation in genetically susceptible individuals leads to autoimmune diseases.



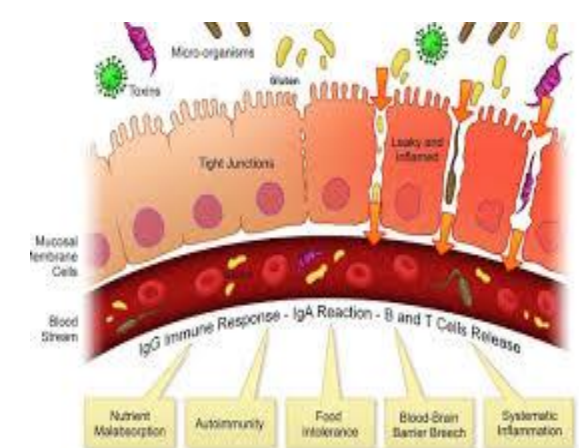
Does Gluten Cause Leaky Gut Syndrome

Increased intestinal permeability



Factors that contribute to leaky gut syndrome:

- **Gluten** may play a role in the development of **leaky gut syndrome** in those with **celiac disease** or **IBS**, but it's certainly not the only cause.
- Medical professionals are still trying to understand exactly what causes **leaky gut syndrome**. However,
- a few factors are known to contribute to the condition.
- **Some contributing factors are:**
- **Unhealthy diet.** A diet high in fat and refined carbs may increase intestinal permeability .
- **Stress.** Prolonged **stress** can alter the **gut-brain interaction** and lead to all kinds of gastrointestinal issues, including increased intestinal permeability .
- **Nonsteroidal anti-inflammatory drugs (NSAIDs):** Overuse of **NSAIDs, such as ibuprofen**, can increase intestinal permeability .
- **Inflammation:** Chronic widespread inflammation contributes to multiple chronic conditions, as well as increased intestinal permeability .
- **Poor gut flora:** When the balance between the beneficial and harmful bacteria lining the gut is compromised, it can contribute to leaky gut syndrome .
- **Zinc deficiency:** A lack of zinc in the diet can alter intestinal permeability and contribute to multiple gastrointestinal concerns.
- **Yeast:** Yeast is naturally present in the intestinal tract. When the growth of yeast, mainly *Candida*, gets out of hand, it causes health concerns .



Here are some ways to improve your gut health:

- **Take probiotics:** Probiotics are **beneficial bacteria** that can improve gut health. **Probiotics** are found in foods like **yogurt, kefir, sauerkraut, and kimchi**. They're also available in a supplement form .
- **Avoid refined carbs:** Avoid sugar-sweetened beverages and foods with added sugars or refined wheat flour. **The harmful bacteria in your gut thrive on these foods .**
- **Eat plenty of fiber-rich foods.** Fruits, vegetables, and legumes are high in soluble fiber, which feeds the good bacteria in your gut .



What you should know before gluten free

consult with your doctor first.
consult diditation.
consider with other family
members.





Thanks for your listen