



# What is Celiac Disease?

Celiac disease is an autoimmune digestive disease that damages the villi of the small intestine and interferes with absorption of nutrients from food.

Celiac disease is triggered by consumption of the protein called gluten, which is found in wheat, barley and rye. While this genetic disorder can sometimes emerge in childhood, celiac disease can also be triggered by events such as surgery, pregnancy, childbirth, viral infection, or severe emotional stress.

Roughly one out of every 133 Americans has celiac disease, but 97% remain undiagnosed. This means that almost three million Americans have celiac disease and only about 100,000 know they have it.

Left untreated, people with celiac disease can develop further complications such as other autoimmune diseases, osteoporosis, thyroid disease, and cancer. Additionally, there are a number of medical problems that are associated with undiagnosed celiac disease including cancer, osteoporosis, diabetes Type 1, thyroid problems and reproductive health issues.

## What are the symptoms?

Symptoms of celiac disease can affect any system in the body and may not necessarily occur in the digestive system.

### Some of the most common symptoms of celiac disease include:

- Bloating
- Gas
- Diarrhea
- Constipation
- Fatigue
- Itchy Skin Rash
- Tingling/Numbness
- Headache
- Canker Sores
- Joint Pain
- Delayed Growth
- Poor Weight Gain
- Osteoporosis
- Infertility
- Depression
- Discolored Teeth

## What is the treatment?

The only treatment for celiac disease is a lifelong gluten-free diet. A gluten-free diet means avoiding all foods that contain wheat (including spelt, triticale, and kamut), rye, and barley.

# For the Pharmacist

## Gluten in Medication

Gluten is used in many medications as an excipient, so it is important for people with celiac disease to check with the manufacturer to be sure that each medication they take is gluten-free. Some patients may ask their pharmacist's help in reading the list of ingredients or contacting the manufacturer.

It's also important for pharmacists to be aware that medications may not work as expected in people with undiagnosed celiac disease, due to problems with malabsorption.

### The problem:

- There are currently NO requirements for labeling gluten or common allergens found in drug ingredients.
- There are NO specific precautions for individuals with celiac disease in labeling.
- Potential sources of gluten in medication excipients are NOT well-recognized by health professionals or patients.
- Botanical source of starch may not be specified.
- Generic formulations may include different excipients than the brand-name drug.

### Starches found in medications:

- |  |  |   |
|--|--|---|
| ■ Corn (most common)                     | ■ Pregelatinized starch (source not specified) | ■ Pregelatinized modified starch (source not specified) |
| ■ Modified starch (source not specified) | ■ Wheat  |   |
| ■ Potato                                 | ■ Tapioca                                      |   |

### Starch derivatives:

- Dextrates (source not specified)
- Dextrin (source not specified but usually corn or potato)

### Other excipients:

- Dextrimaltose (when barley malt is used)
- Caramel coloring (when barley malt is used)

## Resources for more information about gluten in medications

### Manufacturers

Some drug manufacturers can advise a patient who contacts them about the gluten content of a particular medication.

### On the Web

[www.glutenfreedrugs.com](http://www.glutenfreedrugs.com) (Maintained by a pharmacist at Nationwide Children's Hospital, Columbus, Ohio)

### In Print

*A Guide through the Medicine Cabinet*

A book developed to give those who suffer with Celiac Disease the tools to choose medications and supplements that meet special dietary requirements.

### Literature

Crowe, J. P., & Falini, N. P. (2001). Gluten in pharmaceutical products. *American Journal of Health-System Pharmacists*, 58, 396-401.

Parrish, C. R. (2007). Medications and celiac disease: Tips from a pharmacist. *Practical Gastroenterology*. January, 58-64.



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Information provided by the **National Foundation for Celiac Awareness**  
and the **American Society of Health-System Pharmacists**.