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ACG Virtual Grand Rounds

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Unleashing the Power of AI in Gastroenterology: Going Beyond Lesion Detection to Transform Clinical Tasks and Everyday Practice
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Moderator: Vladimir Kushnir, MD, FACG
At Noon and 8pm Eastern


Week 33 – Thursday, August 17, 2023
ACG Clinical Guideline: Diagnosis and Management of Gastrointestinal Subepithelial Lesions
Faculty: Brian C. Jacobson, MD, MPH, FACG
Moderator: Katrina B. Greer, MD, MS Epi
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Disclosures

Benjamin Lebwohl, MD, MS

Dr. Lebwohl has no relevant financial relationships with ineligible companies.

Carol E. Semrad, MD, FACG

Dr. Semrad has no relevant financial relationships with ineligible companies.

**All of the relevant financial relationships listed for these individuals have been mitigated*

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American College of Gastroenterology Guidelines Update:

Diagnosis and Management of Celiac Disease

Benjamin Lebwohl MD, MS
Celiac Disease Center, Columbia University

celiac disease™ center at columbia university medical center

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CME

ACG Clinical Guidelines: Diagnosis and Management of Celiac Disease

Alberto Rubio-Tapia, MD[1], Ivor D. Hill, MD[2], Ciarán P. Kelly, MD[3], Audrey H. Calderwood, MD[4] and Joseph A. Murray, MD[1]

This guideline presents recommendations for the diagnosis and management of patients with celiac disease. Celiac disease is an immune-based reaction to dietary gluten (storage protein for wheat, barley, and rye) that primarily affects the small intestine in those with a genetic predisposition and resolves with exclusion of gluten from the diet. There has been a substantial increase in the prevalence of celiac disease over the last 50 years and an increase in the rate of diagnosis in the last 10 years. Celiac disease can present with many symptoms, including typical gastrointestinal symptoms (e.g., diarrhea, steatorrhea, weight loss, bloating, flatulence, abdominal pain) and also non-gastrointestinal abnormalities (e.g., abnormal liver function tests, iron deficiency anemia, bone disease, skin disorders, and many other protean manifestations). Indeed, many individuals with celiac disease may have no symptoms at all. Celiac disease is usually detected by serologic testing of celiac-specific antibodies. The diagnosis is confirmed by duodenal mucosal biopsies. Both serology and biopsy should be performed on a gluten-containing diet. The treatment for celiac disease is primarily a gluten-free diet (GFD), which requires significant patient education, motivation, and follow-up. Non-responsive celiac disease occurs frequently, particularly in those diagnosed in adulthood. Persistent or recurring symptoms should lead to a review of the patient's original diagnosis to exclude alternative diagnoses, a review of the GFD to ensure there is no obvious gluten contamination, and serologic testing to confirm adherence with the GFD. In addition, evaluation for disorders associated with celiac disease that could cause persistent symptoms, such as microscopic colitis, pancreatic exocrine dysfunction, and complications of celiac disease, such as enteropathy-associated lymphoma or refractory celiac disease, should be entertained. Newer therapeutic modalities are being studied in clinical trials, but are not yet approved for use in practice. Given the incomplete response of many patients to a GFD-free diet as well as the difficulty of adherence to the GFD over the long term, development of new effective therapies for symptom control and reversal of inflammation and organ damage are needed. The prevalence of celiac disease is increasing worldwide and many patients with celiac disease remain undiagnosed, highlighting the need for improved strategies in the future for the optimal detection of patients.

Am J Gastroenterol 2013; 108:656–676; doi:10.1038/ajg.2013.79; published online 16 April 2013

INTRODUCTION

This clinical guideline addresses the diagnosis, treatment, and overall management of patients with celiac disease (CD), including an approach to the evaluation of non-responsive CD. While it is primarily directed at the care of adult patients, variations pertinent to the pediatric population have been included.

the negatives and the result of no action. "Conditional" is used when some uncertainty remains about the balance of benefit/potential harm. The quality of the evidence is graded from high to low. "High"-quality evidence indicates that further research is unlikely to change the authors' confidence in the estimate of effect. "Moderate"-quality evidence indicates that

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CME

American College of Gastroenterology Guidelines Update: Diagnosis and Management of Celiac Disease

Alberto Rubio-Tapia, MD[1], Ivor D. Hill, MD[2], Carol Semrad, MD[3], Ciarán P. Kelly, MD[4], Katarina B. Greer, MD, MS[5], Berkeley N. Limketkai, MD, PhD, FACG[6] and Benjamin Lebwohl, MD, MS[7]

This guideline presents an update to the 2013 American College of Gastroenterology Guideline on the Diagnosis and Management of Celiac Disease with updated recommendations for the evaluation and management of patients with celiac disease (CD). CD is defined as a permanent immune-mediated response to gluten present in wheat, barley, and rye. CD has a wide spectrum of clinical manifestations that resemble a multisystemic disorder rather than an isolated intestinal disease, and is characterized by small bowel injury and the presence of specific antibodies. Detection of CD-specific antibodies (e.g., tissue transglutaminase) in the serum is very helpful for the initial screening of patients with suspicion of CD. Intestinal biopsy is required in most patients to confirm the diagnosis. A nonbiopsy strategy for the diagnosis of CD in selected children is suggested and discussed in detail. Current treatment for CD requires strict adherence to a gluten-free diet (GFD) and lifelong medical follow-up. Most patients have excellent clinical response to a GFD. Nonresponsive CD is defined by persistent or recurrent symptoms despite being on a GFD. These patients require a systematic workup to rule out specific conditions that may cause persistent or recurrent symptoms, especially unintentional gluten contamination. Refractory CD is a rare cause of nonresponsive CD often associated with poor prognosis.

SUPPLEMENTARY MATERIAL accompanies this paper at http://links.lww.com/AJG/C755

Am J Gastroenterol 2023;118:59–76. https://doi.org/10.14309/ajg.0000000000002075; published online September 21, 2022

INTRODUCTION

Guiding principles

This document presents official recommendations from the American College of Gastroenterology (ACG) on the diagnosis, management, and follow-up of celiac disease (CD) in children and adults. This guideline was developed in compliance with the Institute of Medicine standards for practice guidelines and uses the Grading of Recommendation Assessment Development and Evaluation (GRADE) approach. The primary objective is to produce high-quality evidence-based clinical practice guidelines to answer common clinical questions and improve health care.

The guideline evaluates a broad spectrum of clinical practice, including indication for CD testing; diagnostic strategies for individuals on a gluten-containing diet or following a gluten-free diet (GFD); role of biopsy for confirmation of the diagnosis; indication for gluten challenge and genetic testing; general approach to management; preventive care such as vaccination; monitoring of GFD adherence including discussion of gluten detection devices, probiotics, goals of therapy, and outcomes; and the differential diagnosis for nonresponsive CD.

The guideline developers from ACG identified key questions that providers face frequently in the diagnosis, management, and follow-up of patients with CD (Tables 1 and 2). This guideline is intended for healthcare providers who care for patients with CD.

Background

This guideline presents an update to the 2013 ACG Guidelines: Diagnosis and Management of CD with updated recommendations for the evaluation and management of patients with CD (1). CD affects nearly 1% of residents of the United States (2). CD is defined as a permanent immune-mediated response to gluten present in wheat, barley, and rye (3). CD has a wide spectrum of clinical manifestations that resemble a multisystemic disorder rather than an isolated intestinal disease. CD is characterized by small bowel injury and the presence of specific antibodies. Detection of CD-specific antibodies (e.g., tissue transglutaminase [TTG]) in the serum is very helpful for the initial screening of patients with suspicion of CD. Intestinal biopsy is required in most patients to confirm the diagnosis. A nonbiopsy strategy for the diagnosis of CD in selected children is suggested and discussed in detail. Current treatment of CD requires strict adherence to a GFD and lifelong medical follow-up. Most patients have excellent clinical response to a GFD. Nonresponsive CD is defined by persistent or recurrent symptoms despite being on a GFD. These patients

bio-Tapia, et al. Am J Gastroenterol 2023;118:59–76.

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Personnel

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- Librarians
  - John Usseglio
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GRADE

- Grading of Recommendations Assessment, Development, and Evaluation
- Method of assessing quality of evidence and strength of recommendations

- Formulation of clinical question (PICO)
- Literature review
- Certainty of evidence

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GRADE Certainty Ratings

Certainty	What it means
Very low	The true effect is probably markedly different from the estimated effect
Low	The true effect might be markedly different from the estimated effect
Moderate	The authors believe that the true effect is probably close to the estimated effect
High	The authors have a lot of confidence that the true effect is similar to the estimated effect

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GRADE Certainty Ratings

Certainty can be rated down for:	Certainty can be rated up for:
• Risk of bias • Imprecision • Inconsistency • Indirectness • Publication bias	• Large magnitude of effect • Dose-response gradient • All residual confounding would decrease magnitude of effect (in situations with an effect)

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PICO

Population of Interest	Intervention	Comparison group	Outcome of Interest
What population are we interested in?	What is your intervention?	What group are we comparing to?	What do we intend to accomplish, measure, improve or affect?

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PICO

Population of Interest	Intervention	Comparison group	Outcome of Interest
What population are we interested in?	What is your intervention?	What group are we comparing to?	What do we intend to accomplish, measure, improve or affect?
Adults and children with celiac disease	A combination of noninvasive serology tests	Duodenal biopsy	Confirmation of diagnosis of celiac disease

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Eight PICO Questions

1) Should a combination of noninvasive serology tests vs duodenal biopsy be used to confirm the diagnosis of celiac disease in children and adults?

2) Should intestinal mucosa healing vs clinical and serological remission be used as a goal of GFD therapy to improve long-term outcomes (5 years or more) such as mortality, cancer risk, and osteoporosis in adults with celiac disease?

3) Should gluten detection devices vs current standard of care be used to monitor adherence to GFD and/or patients' dietary decision-making?

4) In patients with celiac disease, what is the effect of probiotics in addition to GFD on the rates of clinical remission and mucosal healing compared with gluten-free diet alone?

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Eight PICO Questions

5) In patients with newly diagnosed celiac disease, what is the effect of GFD without oats on increasing the rate of clinical remission and mucosal healing compared with GFD with oats?

6) For patients with CD, does the use of pneumococcal vaccine reduce the future risk of serious pneumococcal infection compared with no pneumococcal vaccine?

7) Should case finding vs mass screening be used to improve detection of CD in the general population?

8) Are TTG and DGP antibodies in combination more accurate in diagnosing CD in children younger than 2 years compared with TTG alone?

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Table 2. Summary of Clinical Questions Evaluated using the PICO format

Question	Population	Intervention	Comparison	Outcome
1	Children and adults with CD	Duodenal biopsy	Serology tests	Diagnostic accuracy
2	Adults with CD	Mucosal healing	Clinical/serological remission	Mortality
3	Patient with CD	Use of gluten detection devices	Standard of care[a]	Improve adherence to GFD or help dietary decision making
4	Adults with CD	Probiotic + GFD	GFD alone	Clinical remission/mucosal healing
5	CD patients	Oats	No oats	Clinical remission/mucosal healing
6	Adults with CD	Pneumococcal vaccine	No pneumococcal vaccine	Serious pneumococcal infections
7	General population	Case finding	Mass screening	Rate of detection of CD
8	Children <2 yr old	TTG + deamidated peptide antibodies	TTG alone	Diagnostic accuracy

CD, celiac disease; GFD, gluten-free diet; PICO, patient/population/problem, intervention, comparison, outcome; TTG, tissue transglutaminase.
[a]Definition: regular follow-up without the use of gluten detection devices.

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Should a combination of noninvasive serology tests vs duodenal biopsy be used to confirm the diagnosis of celiac disease in children and adults?

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- We **recommend** EGD with multiple duodenal biopsies for confirmation of diagnosis in both children and adults with suspicion of CD (strong recommendation, moderate quality of evidence).
- We **suggest** a combination of high-level TTG IgA (>10x upper limit of normal) with a positive endomysial antibody (EMA) in a second blood sample as reliable tests for diagnosis of CD in children.
- In symptomatic adults unwilling or unable to undergo upper GI endoscopy, the same criteria may be considered after the fact, as a diagnosis of likely CD (**conditional** recommendation, moderate quality of evidence).

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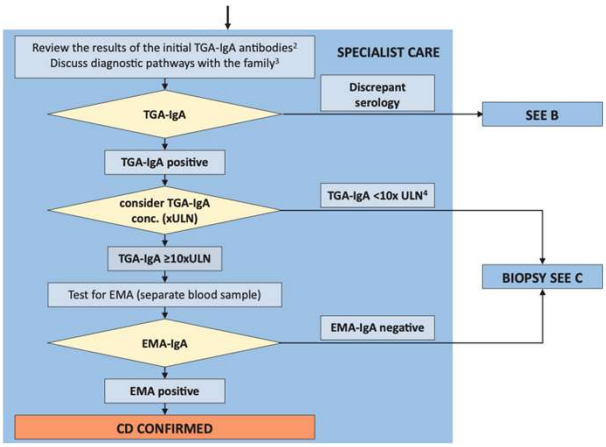
European Society Paediatric Gastroenterology, Hepatology and Nutrition Guidelines for Diagnosing Coeliac Disease 2020



- Biopsy-free diagnosis for children
- TTG and EMA ≥10x ULN
- Recommended in symptomatic children
- Conditionally recommended in asymptomatic children

Husby, et al. J Pediatr Gastroenterol Nutr 2020;70:141-156.

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Non-Biopsy Diagnosis in Adults?

- Relative paucity of data, compared to children
- Emerging data suggests a high positive predictive value of a highly elevated TTG IgA, but not necessarily as high as for children

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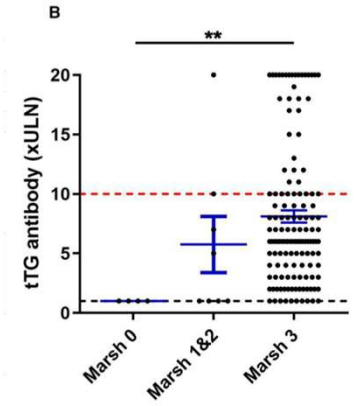
Accuracy of a no-biopsy approach for the diagnosis of coeliac disease across different adult cohorts

- Multicenter cohort (8 countries, 11 labs)
- 42 patients with TTG >10x ULN (29%)
- 40/42 (95%) had villus atrophy



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	≥10x ULN	
	Value	95% CI
Sensitivity	30%	22-38%
Specificity	83%	52-98%
PPV	95.2%	84.6-98.6%
NPV	9.5%	7.4-12.2%

Penny, et al. Gut 2021;70:876-883.

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Do We Hold the Line or Do We Make a Change?

- We are still waiting on data
- But…
  - Endoscopy may not be practical/safe in some scenarios (e.g. cardiovascular or bleeding risk)
  - Reintroduction of gluten after adoption of the gluten-free diet causes severe symptoms in some
- And…
  - Such patients may be left out of
    - Clinical trials
    - Therapeutics

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An "After the Fact" Diagnosis

- Allows us to separate out certain non-biopsied individuals as likely to have celiac disease
- These are stringent criteria!
  - >10x TTG elevation and a separate EMA
  - Symptomatic individuals only

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An "After the Fact" Diagnosis

- An incremental change
- "Conditional" = "weak"!
- Will be most useful when biopsy poses a safety concern (rare)
- Less likely to apply in scenarios when the gluten-free diet has already begun
- What will be the consequences?
  - Fewer biopsies or more biopsies?

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Should intestinal mucosa healing vs clinical and serological remission be used as a goal of GFD therapy to improve long-term outcomes (5 years or more) such as mortality, cancer risk, and osteoporosis in adults with celiac disease?

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Recommendation

- We **suggest** setting a goal of intestinal healing as an end point of GFD therapy. We advocate for individualized discussion of goals of the GFD with the patient beyond clinical and serological remission (**conditional** recommendation, low quality of evidence)

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Key Concepts

1) Upper endoscopy with intestinal biopsies is helpful for monitoring in cases with a lack of clinical response or relapse of symptoms despite a GFD.

Symptomatic

2) Follow-up biopsy could be considered for assessment of mucosal healing in adults in the absence of symptoms after 2 years of starting a GFD after shared decision-making between patient and provider.

Asymptomatic

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2013 Guidelines

MONITORING OF CD

Recommendations

(1) People with CD should be monitored regularly for residual or new symptoms, adherence to GFD, and assessment for complications. In children, special attention to assure normal growth and development is recommended. (Strong recommendation, moderate level of evidence)

(2) Periodic medical follow-up should be performed by a health-care practitioner with knowledge of CD. Consultation with a dietitian should be offered if gluten contamination is suspected. (Strong recommendation, moderate level of evidence)

(3) Monitoring of adherence to GFD should be based on a combination of history and serology (IgA TTG or IgA (or IgG) DGP antibodies). (Strong recommendation, moderate level of evidence)

(4) Upper endoscopy with intestinal biopsies is recommended for monitoring in cases with lack of clinical response or relapse of symptoms despite a GFD. (Strong recommendation, moderate level of evidence)

(5) Monitoring of people with CD should include verification of normalization of laboratory abnormalities detected during initial laboratory investigation. (Strong recommendation, moderate level of evidence)

Symptomatic

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2013 Guidelines

Patients with persistent or recurrent symptoms despite GFD require additional work-up to investigate the presence of disorders commonly associated with NRCD (see "Evaluation of nonresponsive CD" for details) (228). Observational experience from referral centers supports the role of upper endoscopy with intestinal biopsies for evaluation of NRCD (218,219,229). Intestinal biopsies are the only way to document healing of the intestine. In adults, the intestine will often fail to heal despite negative serology and absence of symptoms (73,224,230). This lack of healing may increase the risk of lymphoma, bone disease, and ultimately the development of refractory CD (73,231). A large Swedish study demonstrated no risk of lymphoma (hazard ratio (HR) = 0.97; 95% CI = 0.44–2.14) among patients with normal histology, suggesting that mucosal healing could be the goal to consider during follow-up (232). Among a group of 381 patients with baseline and follow-up biopsy after GFD, mucosal healing was associated with a borderline lower risk of death (HR = 0.13; 95% CI: 0.02–1.06; $P = 0.06$) adjusted for age and sex (73). A much larger study from Sweden failed to confirm a protective role of mucosal healing on mortality risk, yet mortality risk was significantly lower among patients who underwent follow-up biopsy (233). Follow-up biopsy could be considered for assessment of mucosal healing in adults with negative serology and absence of symptoms. In a US study, the median time from onset of GFD to achieve mucosal healing was 3 years (73). It is reasonable to do a follow-up biopsy in adults after 2 years of starting a GFD to assess for mucosal healing. Mucosal healing was observed in 95% of children within 2 years of starting a GFD (230). Follow-up biopsy is not recommended as a routine in children,

Asymptomatic

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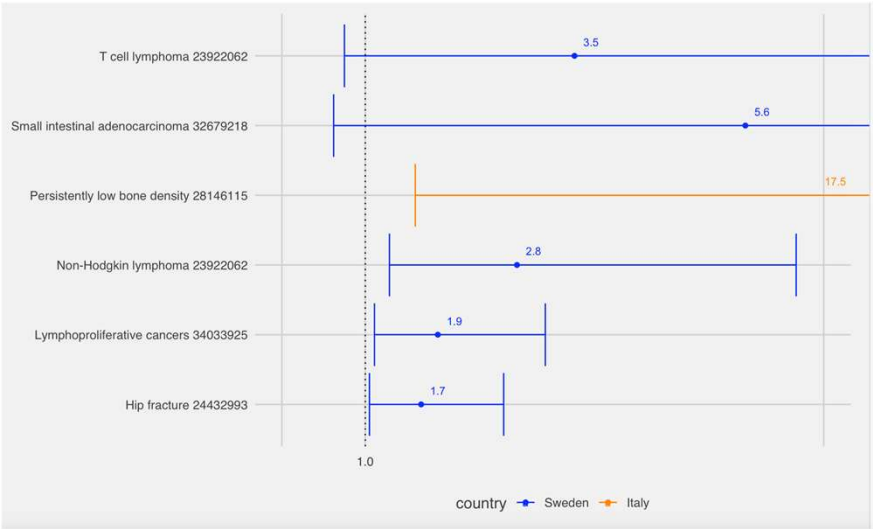
Persistent Villus Atrophy: Associations With Adverse Outcomes



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Should We Confirm Mucosal Healing?

- Pros:
  - Association between persistent villus atrophy and lymphoma, osteoporotic fracture
  - There is no accurate non-invasive marker for mucosal healing
- Cons:
  - No clear association with mortality
  - Observational studies, prone to selection bias
    - Who gets a biopsy and why
  - Will the result change our management?

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In patients with newly diagnosed celiac disease, what is the effect of GFD without oats on increasing the rate of clinical remission and mucosal healing compared with GFD with oats?

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Oats and the Gluten-Free Diet

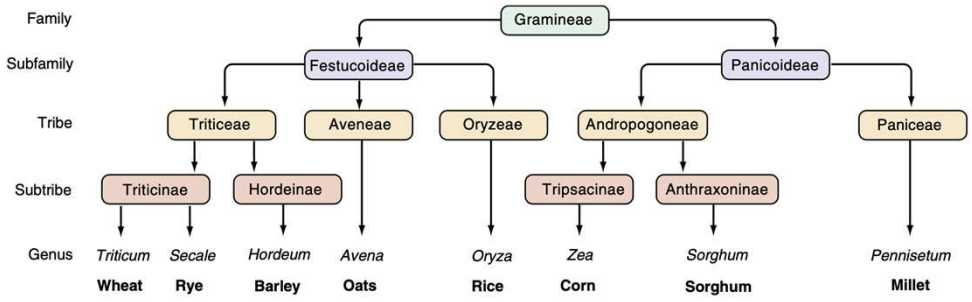

Fig. 107.3 Taxonomic relationships of the major cereal grains. (From Kasarda DD, Okita TW, Bernardin JE, et al. Nucleic acid [cDNA] and amino acid sequences of α-type gliadin from wheat [Triticum aestivum]. Proc Natl Acad Sci USA 1984; 81:4712–5.)

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The Pros and Cons of Oats in a Gluten-Free Diet

- Pros
  - Adds palatability to the diet
  - Beneficial nutrients (soluble fiber, polyunsaturated oil, B vitamins, Fe, thiamine)
  - Laxation benefit
- Cons
  - Contamination with wheat
  - Innate ability of the avenin protein to trigger an immune reaction (rare)
  - Varieties of oats with variable toxicity (Finnish pure oats and *Avena sativa* safe)
  - Requires monitoring for tolerance

Courtesy of Carol Semrad, MD

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Evidence to Support Gluten-free Oats in a Gluten-free Diet for CeD

- Pinto-Sanchez et al. SSCD. Gastroenterology 2017;153:395
  - Systematic Review and Meta-analysis
  - 28 studies, 661 patients (6 randomized control trials)
  - Oats consumed for 12 months: no effect on symptoms, histology, serology
  - Lack of type/quantity oats, small number randomized controlled
- Aaltonen et al. Finland. Nutrients 2017;9:611
  - Cross-sectional study, 869 pts, long-term consumption oats (median 10 yrs)
  - Compared pure/uncontaminated oats vs no-oats in the GF diet
  - No difference: diet adherence, sxs, +EMA, histology at 1 yr, cancer, bone disease/fractures
  - Better health score in those eating oats in a GF diet
- Lionetti et al. Italy. J Pediatr 2018;194:116
  - Safety of oats in children with CeD
  - Double-blinded, randomized, cross-over, placebo-controlled trial, 177 children
  - Irina and Potenza (*Avena sativa*) – no *in vitro* immune reaction in CeD
  - No significant oat effect: clinical sxs, serology, intestinal permeability.

Courtesy of Carol Semrad, MD

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Recommendations: Oats in a GFD for Celiac Disease

- Strong Recommendation, moderate quality of evidence, dissent 0
  - Consume gluten-free oats in the diet
  - Patients require monitoring for oat tolerance due to
    - Gluten contamination of oats
    - Variable toxicity in different varieties of oats
    - Small risk for an immune reaction to avenin in oats
- Key Concepts
  - Oat consumption is likely safe for most but may be immunogenic
  - Tolerance to oats may be related to origin/harvesting, quantity consumed
  - Intervals for monitoring for sxs, serology unknown

Courtesy of Carol Semrad, MD

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For patients with CeD, does the use of pneumococcal vaccine reduce the future risk of serious pneumococcal infection compared with no pneumococcal vaccine?

- Background
  - CeD adults and children have significantly higher risk of pneumococcal infections
  - Hyposplenism found in 1/3 of those with CeD (pitted RBCs)
  - Simons et al Am J Med 2018;131:83
    - Systematic review and meta-analysis
    - 2-fold increased risk of pneumococcal infection in CeD vs general population

Grainge et al. Am J Gastroenterol 2011;106:933
Thomas et al. Eur J Gastroenterol Hepatol 2008;20:624
Ludvigsson et al. Gut 2008;57:1074
Canova et al. Dig Liver Dis 2019;51:1101
DiSabatino et al. Clin Gastroenterol Hepatol 2006;4:179
Corazza et al. Am J Gastroenterol 1999;94:391
McKinley et al. J clin Gastroenterol 1995;20:113

Courtesy of Carol Semrad, MD

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Recommendations: Pneumococcal Vaccine for CeD Patients

- Conditional recommendation, low quality of evidence
  - Vaccination suggested to prevent pneumococcal disease
- Key Concepts
  - Safe and effective
  - Already recommended for children < 2 yrs, adults > 65 yrs, smokers, others
  - Uncertain if vaccine effective in those with CeD and asplenia

Courtesy of Carol Semrad, MD

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More Recommendations

3. Should gluten detection devices vs current standard of care be used to monitor adherence to GFD and/or patients' dietary decision-making?			
We suggest against routine use of gluten detection devices in food or biospecimens among patients with CD.	Low	Conditional	1
4. In patients with CD, what is the effect of probiotics in addition to GFD on the rates of clinical remission and mucosal healing compared with GFD alone?			
There is insufficient evidence to recommend for or against the use of probiotics for the treatment of CD.	Very low	Evidence gap	1
7. Should case finding vs mass screening be used to improve detection of CD in the general population?			
A. We recommend case finding to increase detection of CD in clinical practice	Low	Strong	0
B. We recommend against mass screening for CD in the community	Low	Strong	0
8. Are TTG and DGP antibodies in combination more accurate in diagnosing CD in children younger than 2 yr compared with TTG alone?			
A. We recommend the immunoglobulin IgA anti-TTGA-IgA as the preferred single test for detection of CD in children younger than 2 yr who are not IgA deficient	Moderate	Strong	0
B. We recommend that testing for CD in children with IgA deficiency be performed using IgG-based antibodies (DGP-IgG or TTG-IgG)	Moderate	Strong	0

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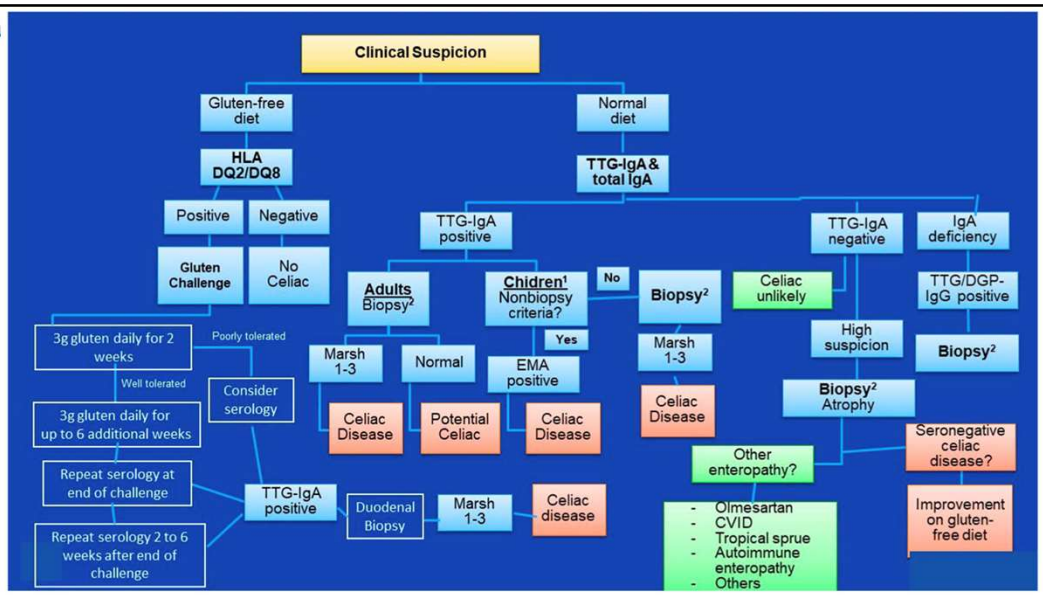

Figure 1. CD diagnostic testing algorithm. (**1**) Nonbiopsy criteria in children requires high-level TTG IgA (>10× upper limit of normal) with a positive EMA in a second blood sample in children only if family agrees with no-biopsy strategy. (**2**) Duodenum sampling recommended: 1 or 2 biopsies from bulb and 4 biopsies from distal duodenum. CD, celiac disease; CVID, common variable immune deficiency; DGP, deamidated gliadin peptide; EMA, endomysial antibody; HLA, human leukocyte antigen; IgA, immunoglobulin A; IgG, immunoglobulin G; TTGA, tissue transglutaminase antibody.

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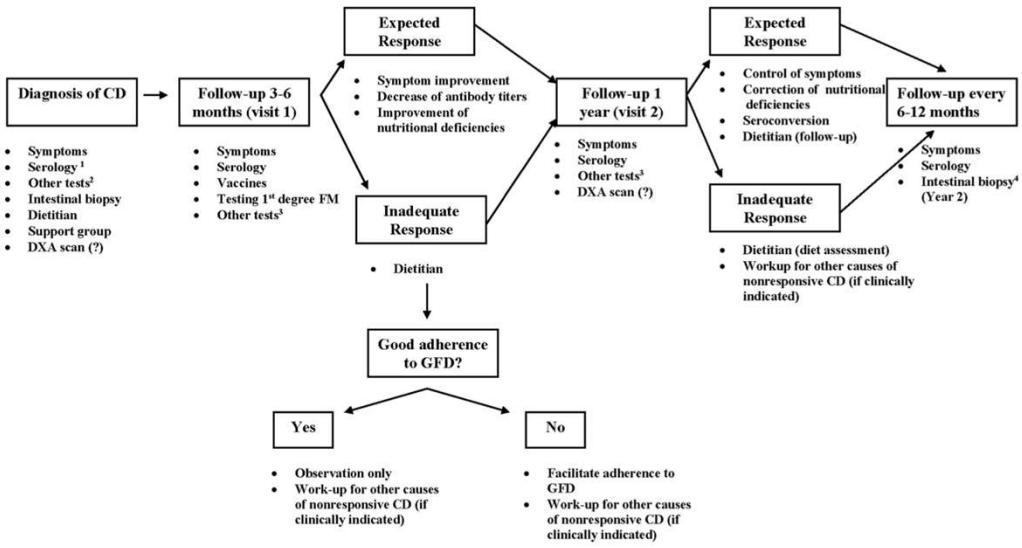

Figure 2. An approach to monitoring CD. (**1**) TTG and DGP can be used for monitoring CD considering the availability of test at baseline before initiation of the GFD. (**2**) Other tests may include complete blood count, alanine aminotransferase, aspartate aminotransferase, vitamins (A, D, E, B12), copper, zinc, folic acid, ferritin, and iron. (**3**) Blood tests at follow-up should be individualized to verify correction of laboratory tests that were abnormal at baseline. (**4**) The role of biopsy for monitoring CD and to check for mucosal healing (suggested at year 2 following the GFD) is discussed in detail in the text. CD, celiac disease; DGP, deamidated gliadin peptide; DXA, dual-energy x-ray absorptiometry; GFD, gluten-free diet; TTG, tissue transglutaminase.

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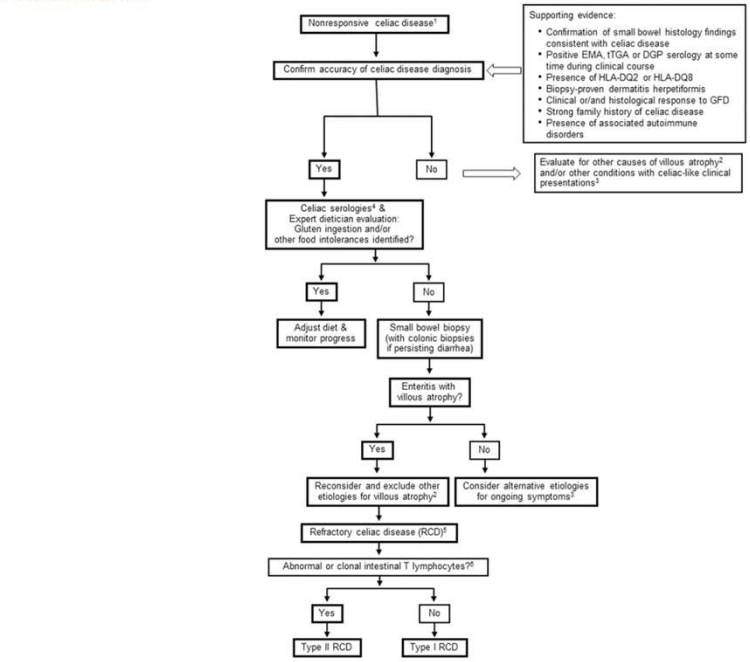

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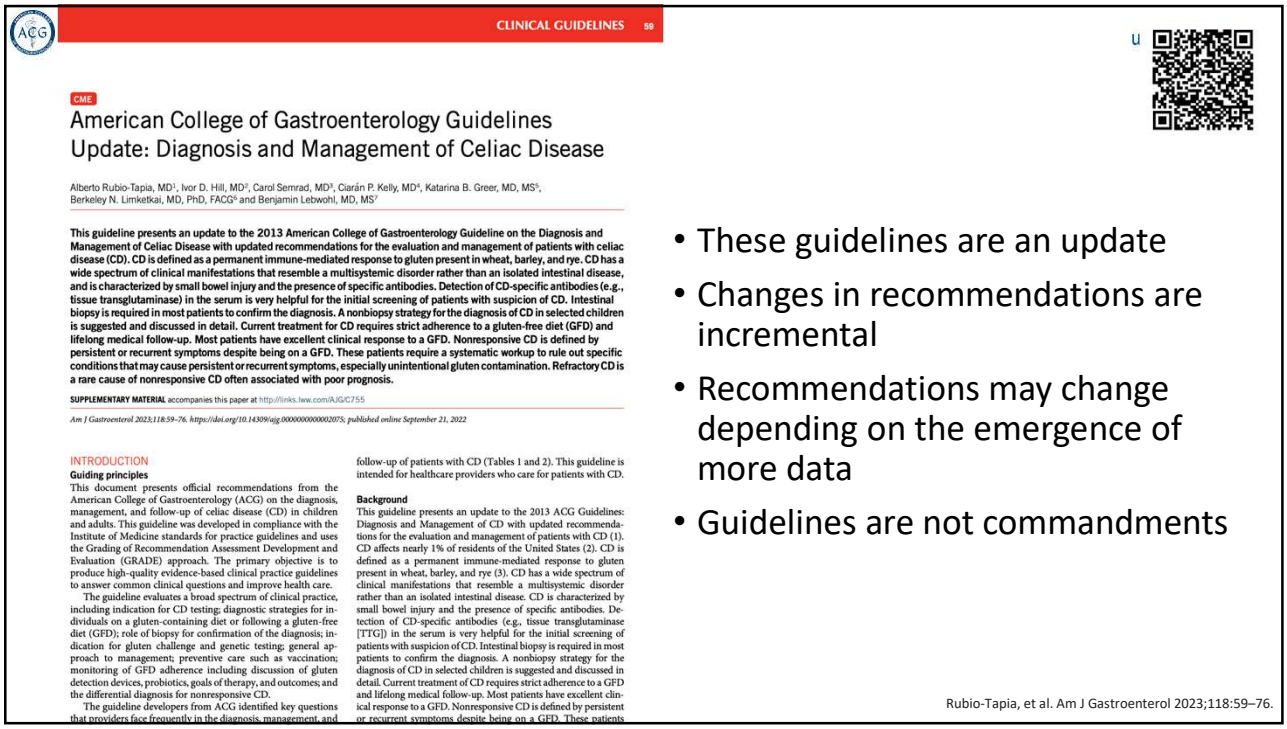

CLINICAL GUIDELINES 59

CME

American College of Gastroenterology Guidelines Update: Diagnosis and Management of Celiac Disease

Alberto Rubio-Tapia, MD[1], Ivor D. Hill, MD[2], Carol Semrad, MD[3], Ciarán P. Kelly, MD[4], Katarina B. Greer, MD, MS[5], Berkeley N. Limketkai, MD, PhD, FACG[6] and Benjamin Lebwohl, MD, MS[7]

This guideline presents an update to the 2013 American College of Gastroenterology Guideline on the Diagnosis and Management of Celiac Disease with updated recommendations for the evaluation and management of patients with celiac disease (CD). CD is defined as a permanent immune-mediated response to gluten present in wheat, barley, and rye. CD has a wide spectrum of clinical manifestations that resemble a multisystemic disorder rather than an isolated intestinal disease, and is characterized by small bowel injury and the presence of specific antibodies. Detection of CD-specific antibodies (e.g., tissue transglutaminase) in the serum is very helpful for the initial screening of patients with suspicion of CD. Intestinal biopsy is required in most patients to confirm the diagnosis. A nonbiopsy strategy for the diagnosis of CD in selected children is suggested and discussed in detail. Current treatment for CD requires strict adherence to a gluten-free diet (GFD) and lifelong medical follow-up. Most patients have excellent clinical response to a GFD. Nonresponsive CD is defined by persistent or recurrent symptoms despite being on a GFD. These patients require a systematic workup to rule out specific conditions that may cause persistent or recurrent symptoms, especially unintentional gluten contamination. Refractory CD is a rare cause of nonresponsive CD often associated with poor prognosis.

SUPPLEMENTARY MATERIAL accompanies this paper at http://links.lww.com/AJG/C755

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INTRODUCTION

Guiding principles

This document presents official recommendations from the American College of Gastroenterology (ACG) on the diagnosis, management, and follow-up of celiac disease (CD) in children and adults. This guideline was developed in compliance with the Institute of Medicine standards for practice guidelines and uses the Grading of Recommendation Assessment Development and Evaluation (GRADE) approach. The primary objective is to produce high-quality evidence-based clinical practice guidelines to answer common clinical questions and improve health care.

The guideline evaluates a broad spectrum of clinical practice, including indication for CD testing; diagnostic strategies for individuals on a gluten-containing diet or following a gluten-free diet (GFD); role of biopsy for confirmation of the diagnosis; indication for gluten challenge and genetic testing; general approach to management; preventive care such as vaccination; monitoring of GFD adherence including discussion of gluten detection devices, probiotics, goals of therapy, and outcomes; and the differential diagnosis for nonresponsive CD.

The guideline developers from ACG identified key questions that providers face frequently in the diagnosis, management, and follow-up of patients with CD (Tables 1 and 2). This guideline is intended for healthcare providers who care for patients with CD.

Background

This guideline presents an update to the 2013 ACG Guidelines: Diagnosis and Management of CD with updated recommendations for the evaluation and management of patients with CD (1). CD affects nearly 1% of residents of the United States (2). CD is defined as a permanent immune-mediated response to gluten present in wheat, barley, and rye (3). CD has a wide spectrum of clinical manifestations that resemble a multisystemic disorder rather than an isolated intestinal disease. CD is characterized by small bowel injury and the presence of specific antibodies. Detection of CD-specific antibodies (e.g., tissue transglutaminase [TTG]) in the serum is very helpful for the initial screening of patients with suspicion of CD. Intestinal biopsy is required in most patients to confirm the diagnosis. A nonbiopsy strategy for the diagnosis of CD in selected children is suggested and discussed in detail. Current treatment of CD requires strict adherence to a GFD and lifelong medical follow-up. Most patients have excellent clinical response to a GFD. Nonresponsive CD is defined by persistent or recurrent symptoms despite being on a GFD. These patients

- These guidelines are an update
- Changes in recommendations are incremental
- Recommendations may change depending on the emergence of more data
- Guidelines are not commandments

Rubio-Tapia, et al. Am J Gastroenterol 2023;118:59–76.

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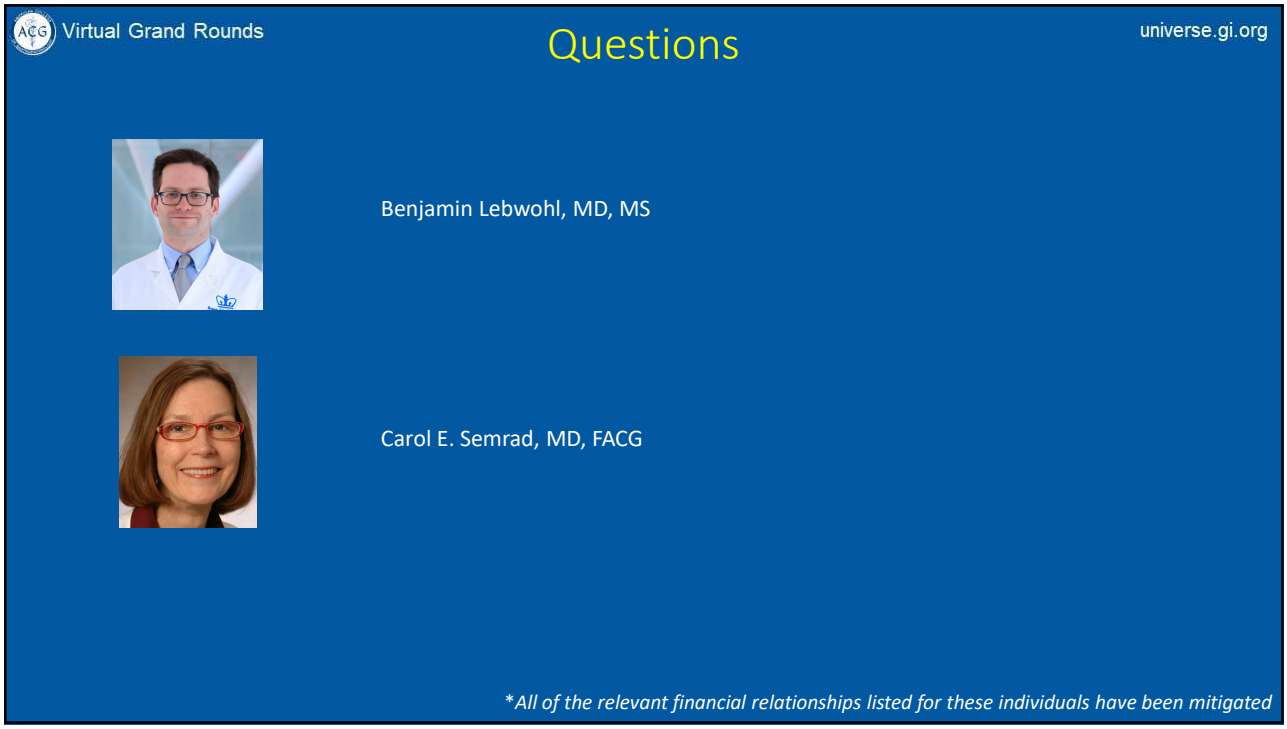

Virtual Grand Rounds

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Questions

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**All of the relevant financial relationships listed for these individuals have been mitigated*

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