U.S. Preventive Services Task Force

Screening for Celiac Disease: Recommendation Statement

As published by the U.S. Preventive Services Task Force.

This summary is one in a series excerpted from the Recommendation Statements released by the USPSTF. These statements address preventive health services for use in primary care clinical settings, including screening tests, counseling, and preventive medications.

The complete version of this statement, including supporting scientific evidence, evidence tables, grading system, members of the USPSTF at the time this recommendation was finalized, and references, is available on the USPSTF website at http://www.uspreventiveservicestaskforce.org/.

This series is coordinated by Sumi Sexton, MD, Associate Deputy Editor.

A collection of USPSTF recommendation statements published in *AFP* is available at http://www.aafp.org/afp/uspstf.

Summary of Recommendation and Evidence

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for celiac disease in asymptomatic persons *(Table 1)*. **I statement.**

Rationale

IMPORTANCE

Celiac disease is a multisystem autoimmune disorder in genetically predisposed adults and children that is triggered by dietary gluten. Ingestion of gluten by persons with celiac disease causes immune-mediated inflammatory damage to the small intestine, which can cause gastrointestinal and nongastrointestinal illness. The clinical presentation, severity of symptoms, and natural history of the disease vary and include asymptomatic (or "silent") celiac disease.

In studies of U.S. populations, the estimated prevalence of celiac disease among adults ranges from 0.40% to 0.95%.[1] Prevalence is higher than average among non-Hispanic whites, persons with a family history of celiac disease, and persons with other autoimmune conditions.[2]

DETECTION

The USPSTF found inadequate evidence regarding the accuracy of screening tests for celiac disease in asymptomatic populations.

BENEFITS OF EARLY DETECTION AND INTERVENTION OR TREATMENT

The USPSTF found inadequate evidence on the effectiveness of screening for celiac

Table 1. Screening for Celiac Disease: Clinical Summary of the USPSTF Recommendation

Population	Asymptomatic adults, adolescents, and children
Recommendation	No recommendation. Grade: I (insufficient evidence)
Risk assessment	Persons at increased risk for celiac disease include those who have a positive family history (e.g., a first- or second-degree relative) and persons with other autoimmune diseases (e.g., type 1 diabetes mellitus, inflammatory luminal gastrointestinal disorders, Down syndrome, Turner syndrome, IgA deficiency, and IgA nephropathy).
Screening tests	Screening for celiac disease is typically not performed in average-risk persons. The standard method of diagnosing celiac disease is the tissue transglutaminase IgA test, followed by intestinal biopsy for histologic confirmation.
Treatment	Treatment of celiac disease is lifelong adherence to a gluten-free diet, which reverses disease manifestations in a majority of patients.
Balance of benefits and harms	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for celiac disease in asymptomatic persons.

NOTE: *For a summary of the evidence systematically reviewed in making this recommendation, the full recommendation statement, and supporting documents, go to http://www.uspreventiveservicestaskforce.org/.*

USPSTF = U.S. Preventive Services Task Force.

disease in asymptomatic adults, adolescents, and children with regard to morbidity, mortality, or quality of life. The USPSTF also found inadequate evidence on the effectiveness of targeted screening in persons who are at increased risk for celiac disease (e.g., persons with family history or other risk factors).

The USPSTF found inadequate evidence on the effectiveness of treatment of screen-detected, asymptomatic celiac disease to improve morbidity, mortality, or quality of life compared with no treatment or treatment initiated after clinical diagnosis.

HARMS OF EARLY DETECTION AND INTERVENTION OR TREATMENT

The USPSTF found inadequate evidence on the harms of screening for or treatment of celiac disease.

USPSTF ASSESSMENT

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for celiac disease in asymptomatic persons. Evidence is lacking, and the balance of benefits and harms cannot be determined.

Clinical Considerations

PATIENT POPULATION UNDER CONSIDERATION

This recommendation applies to adults, adolescents, and children who do not have signs or symptoms of celiac disease.

SUGGESTIONS FOR PRACTICE REGARDING THE I STATEMENT

Potential Preventable Burden. Classic celiac disease is associated with symptoms of malabsorption, including diarrhea, abdominal pain, and weight loss. It may also manifest as nonspecific, nongastrointestinal symptoms, including anemia, osteoporosis, chronic fatigue, peripheral neuropathy or ataxia, and short stature.[3] Data from the United States suggest that some patients may have symptoms for years before being diagnosed.[4] Evidence also suggests that celiac disease is associated with excess mortality, intestinal adenocarcinoma, and lymphoma; however, evidence is insufficient as to whether silent, or asymptomatic, disease has the same risk as symptomatic disease.[2,5-7]

In 3 U.S.-based studies, the prevalence of laboratory-confirmed celiac disease ranged from 0.40% to 0.95% among adults.[1] Some variations in prevalence can be attributed in part to the method used to confirm diagnosis.[2] For example, some population-based studies on prevalence rely on serologic testing without histologic confirmation, which may result in false-positive diagnoses and overestimate prevalence. However, in a systematic review of 38 studies from North America and Western Europe, prevalence of celiac disease was similar among studies that included biopsy confirmation (0.15% to 1.90%) and among studies that did not include biopsy confirmation (0.15% to 2.70%).[1]

Celiac disease affects children, adolescents, and adults. Seroconversion to antibodies associated with celiac disease may occur at any time, and disease progression can take months or years, if it occurs at all. Data suggest that the average age at diagnosis is now in the fourth to sixth decade of life.[8,9] Data are limited on the proportion of persons with silent celiac disease (positive histology findings but no symptoms) or potential celiac disease (positive serology findings but mild or no intestinal damage on biopsy) who later develop symptomatic celiac disease. Three long-term studies of U.S. adults with follow-up ranging from 10 to 45 years reported rates of progression from positive serology findings to clinical diagnosis of celiac disease of 0% to 15%.[10-12]

Persons at increased risk for celiac disease include those who have a positive family history (e.g., a first- or second-degree relative), with an estimated prevalence of 5% to 20%,[13] and persons with other autoimmune diseases (e.g., type 1 diabetes mellitus, inflammatory luminal gastrointestinal disorders, Down syndrome, Turner syndrome, IgA deficiency, and IgA nephropathy).[14] Several specialty societies recommend screening in these populations.[15-17] Reported prevalence among racial/ethnic minorities is lower than among non-Hispanic whites.[2,5]

Potential Harms. Potential harms of screening for celiac disease in asymptomatic populations include false-positive, inconclusive, or unnecessary serologic test results and biopsies, with possible anxiety or complications from testing. Based on estimated likelihood ratios in the general population,[2] the positive predictive value of serologic testing for celiac disease is 12% to 40%, assuming a prevalence of approximately 1%. In a higher-risk population, the positive predictive value is 40% to 80%, depending on the serologic test used and whether the assumed prevalence is 5% or 10%. Some patients with positive serology findings who do not undergo histologic confirmation may make efforts to avoid dietary gluten, which can increase costs and burdens and may result in limitations on quality of life. Limited evidence from 5 long-term follow-up studies (3 studies of patients with positive serology findings; 2 studies of children with biopsy confirmation) has shown that some persons who are diagnosed with celiac disease may never develop symptoms or complications; thus, overdiagnosis is also a potential concern.[10-12,18,19]

Current Practice. Reliable data on the frequency of screening for celiac disease in asymptomatic persons in clinical practice are not available.[20] It is not known how

many patients with positive serology findings without biopsy confirmation are treated with a gluten-free diet.

SCREENING TESTS

Screening for celiac disease is typically not performed in average-risk persons.[2] The standard method of diagnosing celiac disease in symptomatic persons older than 2 years is the tissue transglutaminase (tTG) IgA test, followed by intestinal biopsy for histologic confirmation.[2]

TREATMENT AND INTERVENTIONS

Treatment of celiac disease is lifelong adherence to a gluten-free diet, which reverses disease manifestations in a majority of patients.[2]

ADDITIONAL APPROACHES TO PREVENTION

The National Institute of Diabetes and Digestive and Kidney Diseases provides current, comprehensive, science-based information about the symptoms, diagnosis, and treatment of celiac disease.[21]

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The "Other Considerations," "Discussion," and "Recommendations of Others" sections of this recommendation statement are available at https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/celiac-disease-screening.

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