Background: Celiac disease is a chronic disease in which the intestinal mucosa is damaged by gluten exposure, and the only treatment is a lifelong gluten-free diet. The disease affects about 1% of the population worldwide, but the majority are undiagnosed. Ingestion of gluten and the genotype HLA-DQ2/8 are required for disease development, although additional genetic and environmental factors are believed to be of importance. One hypothesis is that timing of gluten introduction in infants affects the disease risk. Today, gradual introduction of gluten from 4 to 6 months of age during continued breast-feeding is recommended.

Objective: To evaluate the scientific evidence of whether timing of gluten introduction affects the risk of celiac disease in high-risk children.

Search strategy: Searches were performed in the databases PubMed, Cochrane Library, and Scopus, using the search terms celiac disease, gluten introduction, prevention and feeding.

Selection criteria: RCTs published as original articles. The study population was to be infants with an increased risk of disease caused by genetic predisposition (HLA-DQ2/8) as well as at least one first-degree relative with celiac disease. The intervention should include gluten exposure at different time points. Articles written in languages other than Swedish or English were excluded.

Data collection and analysis: The search yielded three articles and the quality of the studies was evaluated according to SBU’s grading templates. One study was excluded because of its low study quality. For the remaining studies, a modified GRADE system was used in order to assess the quality of evidence for the selected outcome (celiac disease).

Main results: None of the studies detected any significant differences with respect to disease risk of early compared to late gluten introduction, although early exposure to gluten was associated with an earlier onset of disease and an earlier immune response as evidenced by elevated levels of disease specific antibodies.

Conclusions: There is moderate evidence (+++) that timing of gluten introduction does not affect the risk of celiac disease during childhood in high-risk children. Thus, the result of this systematic literature review does not support the current recommendation of gluten introduction for infants with respect to reducing the risk of celiac disease. Further research on additional factors that may affect the disease risk is needed in order to determine whether the dietary recommendation should be adjusted.