

## **The Influence of Gluten: Weaning Recommendations for Healthy Children and Children at Risk for Celiac Disease**

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### **Abstract**

In most developed countries, gluten is currently most commonly introduced between 4 and 6 months of age, in spite of little evidence to support this practice. As for infants at risk of developing food allergies, there is clear evidence that introducing solid foods before the end of the 3rd month is detrimental and should be avoided. A recent growing body of evidence however challenges the notion that solids (and among them, gluten-containing foods) should be introduced beyond the 6th month of life. Another important aspect of gluten introduction into the diet has to do with its possible role in causing type-1 diabetes (IDDM). Recently, a large epidemiological investigation in a cohort of children at risk for IDDM found that exposure to cereals (rice, wheat, oats, barley, rye) that occurred early ( $\leq 3$  months) as well as late ( $\geq 7$  months) resulted in a significantly higher risk of the appearance of islet cell autoimmunity compared to the introduction between 4 and 6 months. As for celiac disease, the protective role of breastfeeding can be considered ascertained, especially the protection offered by having gluten introduced while breastfeeding is continued. Evidence is emerging that early ( $\leq 3$  months) and perhaps even late (7 months or after) first exposure to gluten may favor the onset of celiac disease in predisposed individuals. Additionally, large amounts of gluten at weaning are associated with an increased risk of developing celiac disease, as documented in studies from Scandinavian countries. In celiac children observed in our center, we could show that breastfeeding at the time of gluten introduction delays the appearance of celiac disease and makes it less likely that its presentation is predominantly gastrointestinal. Based on current evidence, it appears reasonable to recommend that gluten be introduced in small amounts in the diet between 4 and 6 months, while the infant is breastfed, and that breastfeeding is continued for at least a further 2–3 months.