

# BabyCues



starting solids

four facts that say when is best

So, your child has reached an age when you're thinking about giving them some solid food. Perhaps you are being told it's a great idea by others to do this at four months of age. Or perhaps someone has told you to introduce food because it will help with reflux. No matter what the reason – it's really important to understand some basic science about how an infant's digestive system functions, before deciding when is the right time for your child.

Currently there are four key aspects of digestive development that categorically show us that solid food, or what is these days is being called complementary food, should be introduced at six months, and ideally not before. So let's take a look at them.

## 1. An infant's pancreas

One of the main organs that needs to develop further for weaning is the pancreas. At around six months, it makes small, very gradual changes, and whilst the pancreas appears mature at birth, the enzyme secretion which it is responsible for, is not. Instead, it's still developing at six months onwards, and is influenced by a variety of internal and external factors,<sup>1</sup> that aid the digestion of carbohydrates, proteins and lipids (fats) when the food is in the duodenum, after it has passed from the stomach.

For example, research on rats points to the pancreatic enzyme amylase, changing in pattern and the amount of secretion when the carbohydrate diet was increased. The same was found with fat and a number of other nutrients. However, research also concludes that, "although dietary factors may modify the pancreatic exocrine response at weaning, they do not appear to be the primary signal for the postnatal increase in pancreatic enzymes."<sup>2</sup>

It is more likely that dietary factors modulate an inherent genetic programme of postnatal pancreatic development."<sup>3</sup> And for us to be truly infant led when weaning, introducing foods at a pace that is compatible with their 'genetic programme' is of course best practice. So as we find out about enzyme development in the pancreas, we begin to see that the introduction of solids is an intricately woven precision of nature's gifted biology FROM six months of age, and that the World Health Organisation's guidelines of starting solids at six months, not before, has some substance.

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This fact alone also makes it very clear that, contrary to what Baby Led Weaning suggests, an infant simply is not ready to digest chunky food, finger food, or eat the same meals as adults when starting solids. Perhaps this is why the World Health Organisation have not advocated for Baby-Led Weaning Practices.

## 2. Amylase

The pancreas is also responsible for producing the enzyme, amylase, which breaks down starch. The complex carbohydrate of starch is broken down into glucose and is used as a primary source of energy. Research shows us that the infant's body does not produce adult levels of amylase, until nine months of age.<sup>4, 5</sup>

At birth amylase is present in human milk and saliva, and by the time your child is three months old, this has increased to approximately two-thirds of adult values. But for infants, the salivary amylase activity is inhibited by gastric acid and normally accounts for only 10% to 15% of total amylase activity in the upper small bowel.<sup>6</sup> So this means our infants simply cannot breakdown starch at the same levels as adults – another reason why [BabyCues Bio-logical Weaning](#) overriding philosophy is Plain + Slow = Gain + Grow, which you can read more about in my guide, and there are no high levels of complex carbohydrates the infant's diet at six months, like baby rice cereal.

## 3. Pepsin

Pepsin is one of the main digestive enzymes and it's essential for digesting proteins. Again, infants do not have the same levels of pepsin in their digestive system as adults do. It is said to take two years for this to reach adult levels, we also know that at nine to sixteen weeks it is approximately at 50% of adult levels.<sup>7</sup> This is part of the reason why so Intolerance many children are experiencing the symptoms of Cow's Milk Protein Allergy/. For they simply do not have the required enzymes to break the casein and whey in the cow's milk down.

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## 4. Absorption

Unlike adults, infants can easily absorb matter through the lining of the digestive tract into the bloodstream. This makes them more susceptible to food reactions as the immune system may treat the food as a foreign body and make antibodies to fight these. As children grow and develop, their immune systems continue to mature and acquire memory after exposure to multiple foreign challenges including from pathogens, food and other environmental components.<sup>8</sup> Therefore the later a food is introduced to your infant, the more mature their gastrointestinal system is and the less likely they will react to food.<sup>9</sup>

Of course I am only too aware that one current school of thinking on allergenic food is that giving it at four months will decrease the chance of an infant having an allergic reaction. But as the above facts suggest, this is a hypothesis that many studies on our early developing digestive system have challenged. And as you will read in my [Bio-logical Weaning Guide](#), the two major studies that are held to say parents should start solids at four months to avoid allergies, have some considerable discrepancies.

So, if you'd like to nurture your infant's digestive health in accordance to their biological development, that says it takes two years for the digestive system to fully function like an adults<sup>10</sup>, then you may want to read more about my method of [Bio-logical Weaning](#) that has a child focused approach of Plain + Slow = Gain + Grow.

However, no matter what methods you decide to adopt, please know that I wish you well on your journey of solid food with your child. Nurturing them through their first forays of solid food is, on the whole, an amazing time as you introduce different tastes and textures, watch the funny faces they can make with each new food, and soak up the messy exploration.

So ENJOY!

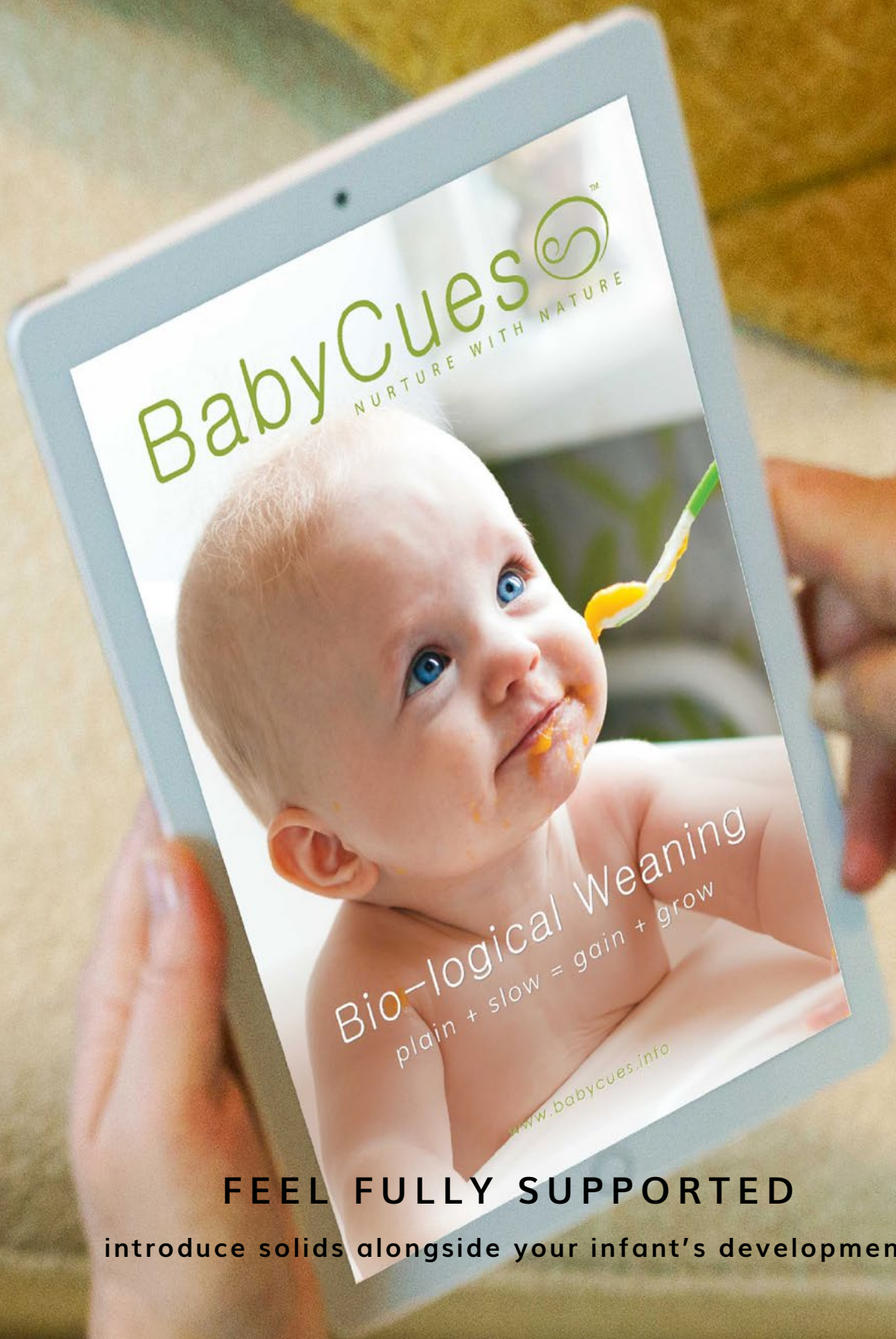
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## References

1. Archives of Disease in Childhood 1993; 68: 62-65 REGULAR REVIEW Ontogeny of human pancreatic exocrine function P McClean, L T Weaver
2. Lee PC, Kim OK, Lebenthal E. Effect of early weaning and prolonged nursing on development of the rat pancreas. *PediatrRes* 1982;16:470-3
3. Weaver LT, Landymore-Lim L, Lucas A. Neonatal gastrointestinal growth and function: are they regulated by composition of feeds? *Biol Neonate* 1991 ;59:336-45.
4. Lebenthal E, Lee PC. Development of functional responses in human exocrine pancreas. *Pediatrics* 1980;66: 556-60.
5. Zheng B, Khin-Maung-U, Lu R, Hill ID, Lebenthal E. Age-related changes in exocrine pancreatic function in infants and children. *Int Pediatr* 1996;11:23-6.
6. Lankisch PG, Otto J. Salivary isoamylase in duodenal aspirates. *Dig Dis Sci* 1986;3h 1299-302.
7. P Rodbro, P Krasilnikoff, V Bitsch: Gastric secretion of pepsin in early childhood. *Scand J Gastroenterol* 2:257-260, 1967 96. Klumpp TG, Neale AV: The gastric and duodenal content
8. Simon A., Hollander G., McMichael A. Evolution of the immune system in humans from infancy to old age. *Proc. R. Soc. B.* 2015;282:20143085. doi: 10.1098/rspb.2014.3085. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
9. Synergea Family Health Centre in Calgary
10. Peter R. Durie, M.D., FRCPC Professor, Department of Pediatrics University of Toronto Division of Gastroenterology/Nutrition Head, CF Research Group, The Research Institute The Hospital for Sick Children

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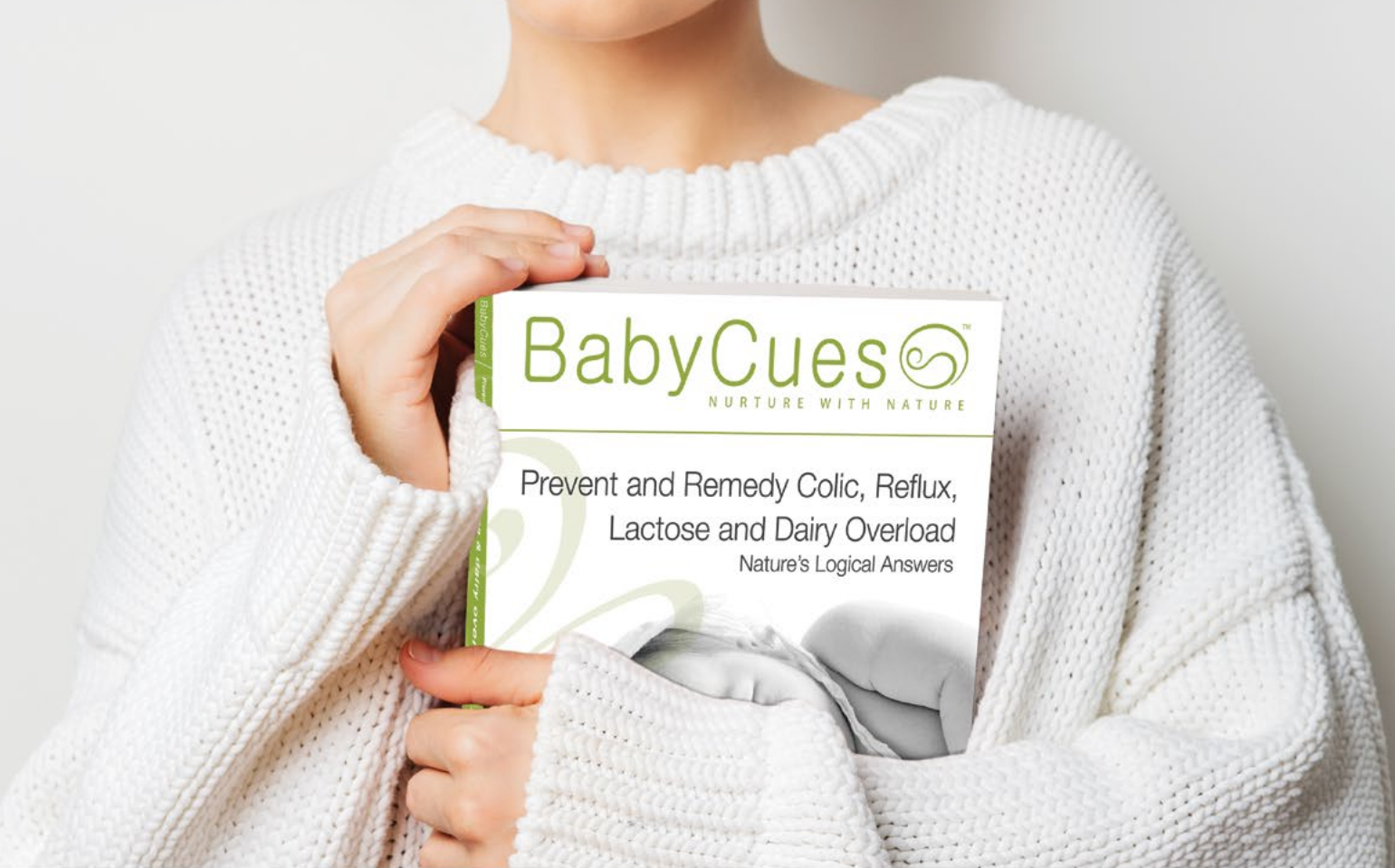
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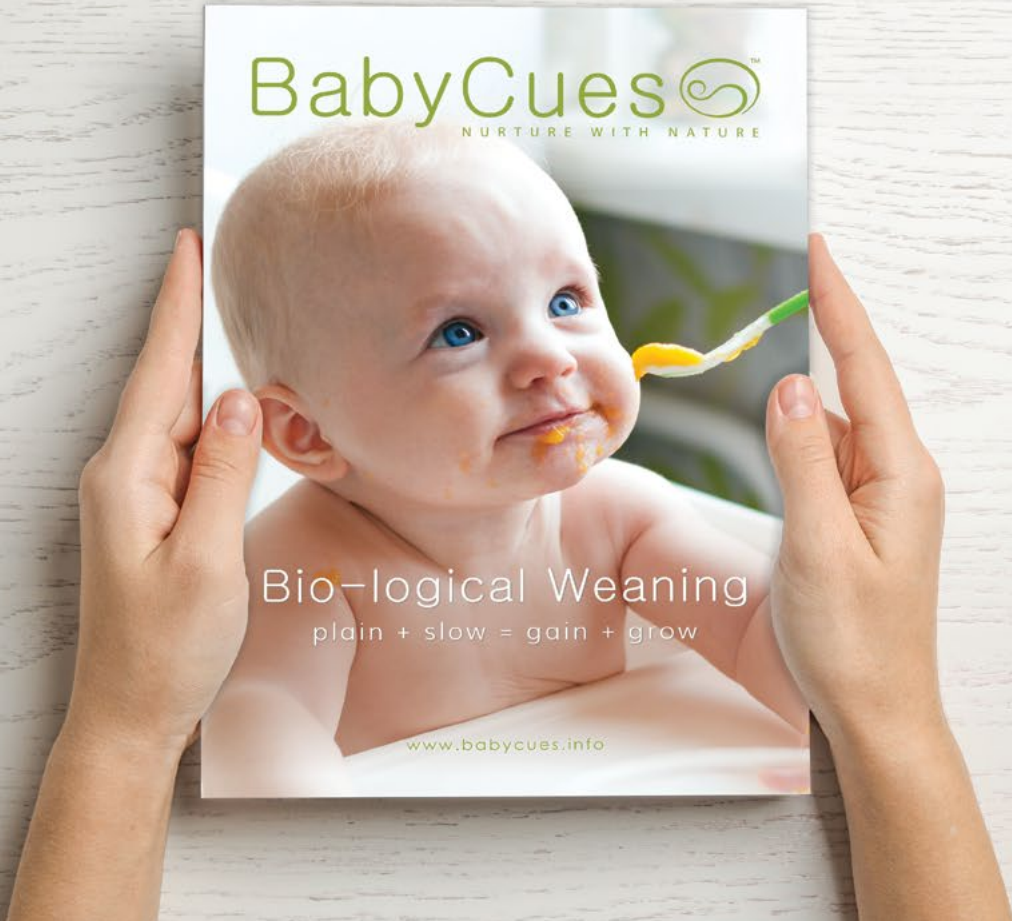
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*Philippa x*

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