Metabolic.ie
National Centre for Inherited Metabolic Disorders

Temple Street
CHILDREN'S UNIVERSITY HOSPITAL

WEANING YOUR BABY

ON A HCU DIET

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INTRODUCTION

Weaning is the process of gradually introducing solid food in addition to breast milk/infant formula and synthetic protein substitute.

Weaning is a step by step process, allowing you and your baby time to get used to each stage before moving on to the next.

WHEN TO BEGIN

Weaning should begin when your baby is between 4-6 months. If your baby is premature weaning maybe delayed to between 5-7 months from birth.

Introducing solid food before 4 months (17 weeks) is not recommended for nutritional and developmental needs and should not be delayed beyond 6 months as milk alone does not provide enough nutrients and energy to meet your baby's needs. Remember that all babies are different. Some babies may be ready to wean sooner than others.

Signs of Readiness to Wean

Watching others with interest when they are eating

Putting toys and other objects in their mouth

Chewing fists

Being hungry between milk feeds even when larger milk feeds have been offered

Sitting with support and has good neck control

GETTING STARTED

- The first stage of weaning is to allow your baby to get used to taking food from a spoon. For this reason use a small, shallow plastic spoon as this makes the process easier
- Have a good supply of bibs to hand

- Allow your baby to make a mess
- Ensure your baby is well supported in a sitting position - a car seat can be useful to begin with and then progress to a high chair as soon as your baby can manages to sit unsupported
- Go at your baby's pace — don't rush!

- When introducing solids choose a time when both you and your baby are relaxed
- If the food is rejected after a few attempts just try again the next day. Your baby has to adjust from sucking to get milk, to taking food from a spoon, this can be confusing and may take a bit of time
- Start by giving solid food at one feed during the day. Your child may only take 1-2 teaspoons to begin with, you can gradually build up the amount from there
- Try to offer a variety of foods to help your baby develop different tastes
- Enjoy the experience!

FIRST TASTES

Now is the time to introduce vegetables and fruit into your baby's diet. This is 'window of opportunity' where a baby is open to accept a variety of foods with different textures and flavours.

It is important for your baby to develop a taste for vegetables and fruit because eating habits learned in early childhood are likely to continue through life. Remember vegetables and fruit will be a major part of your child's low protein diet.

WHAT TO EXPECT

Your baby will probably make some odd facial expressions when trying a new taste for the first time. Don't be put off by this as it does not necessarily mean babies don't like it. It is simply because they are surprised by the unfamiliar taste.

To help your baby to learn, keep offering the new flavour over a few weeks. If your baby does not accept a new food, **offer it on at least 10 occasions** several days apart before deciding that your baby does not like it. You could try offering this food again after a few weeks.

WHAT TO FEED FIRST

The first foods offered are protein free foods including vegetables and fruit .

Vegetable Purees

Such as those containing carrots, sweet potatoes, swede/turnip, parsnips, butternut squash and cauli-flower, courgette, broccoli, and beetroot

Babies have a natural desire for sweet tastes; therefore it is best practice to introduce savoury purees first.

Fruit Purees

Such as those containing apples, pears, peach-es, nectarines, mangos, plums, banana and mel-on.

Other Foods

Low protein Promin Pastameal and low protein PK Foods Aminex Rusk can all be started at this time.

Pastameal can be given as a 1st food or added to pureed fruit or vegetables to thicken them.

All low protein and baby foods can be softened with water or low protein milk.

Bottlefed Babies	Breastfed Babies
Give a measured amount of regular formula milk.	Give a measured amount of HCU Anamix Infant.
Then offer a Free spoon feed.	Then offer a Free spoon feed
Then followed by HCU Anamix Infant to appetite.	Then followed by Breast Milk to appetite.

WEANING RECIPES

How to make pureed vegetables & fruit

Cook vegetable or fruit until tender and soft. Some ripe fruits need no cooking. Liquidise or pass through a metal sieve with a fork to remove all small lumps and form a smooth texture. Water or low protein milk can be added to the puree to make it more runny.

How to make Promin Low Protein Pasta Meal

Mix 1 tablespoon (10g) of pastameal with 60ml of boiling water or low protein milk. Fruit or vegetables can be added to this to make a sweet or savoury dish. This recipe can be doubled to make a greater quantity.

PK Aminex Rusk

Place rusk in bowl, add approximately 50ml of hot water or low protein milk and stir until you have a smooth paste.

INTRODUCING PROTEIN

Once your baby is managing to take approximately 10 spoons of food, you can think about swapping this to a protein containing spoon feed.

You now need to talk to your Dietitian about removing some breast milk/ regular formula milk from your babies diet and replacing it with a protein containing food.

Do not be tempted to start a second spoon feed yet.

The protein in food is counted as *exchanges*. An exchange is an amount of food which provides 1g of protein.

1g PROTEIN = 1 EXCHANGE (1ex)

Up to now all exchanges have been provided by the breast milk/regular formula milk. If one exchange of protein is given as food, then one exchange of breast milk/regular formula milk must be dropped.

Formula Milk

40ml Aptamil First = ½ ex.

80ml Aptamil First = 1ex.

Offer the spoon feed containing an exchange first. Follow with HCU Anamix Infant to appetite.

Breast Milk

If you are breast feeding offer ½ - 1 exchange as solids before putting your baby to the breast and they should naturally take less.

Suitable First 1 Exchange Foods	Moving On Exchange Foods
• 2 Tbsp* Ready Brek • 1 Egg Sized Potato (55g, cooked) • ½ Weetabix • 1 Liga/Rusk (original) • 1 Level Big Blue Scoop Milupa Organic Baby Rice • ⅓ Avocado *See Baby Weaning Foods Protein Exchange List*	• 1 Tsp* Red Split Lentils (uncooked) • 2 Heaped tsp* or 11 Kidney Beans (cooked) • 1 Tbsp* or 14 Chickpeas (cooked) • 1 Tbsp* or 7 Butter Beans (cooked) • 2 Level Tbsp* Porridge (uncooked) • 2 Level Tbsp* Peas (cooked) • 1 Potato Waffle** • 1 Big Blue Scoop Tinned Spaghetti • Bread sticks and Rice Cakes**

* Tbsp=tablespoon/ tsp=teaspoon **Check the label

INCREASING THE SPOON FEEDS

Now that your baby is managing to take one protein containing spoon feed and their Breast milk/Formula Milk has been reduced, you can consider introducing a second spoon feed in the day.

When starting the second spoon feed you will follow the same procedure as you did when introducing the first spoon feed.

Once the second spoon feed is fully established you can consider introducing a third spoon feed. Again you will follow the same procedure as you did when introducing the first and second spoon feed.

Protein free foods can be mixed into meals with exchange foods.

THE NEXT STEP: CHANGING THEIR SYNTHETIC PROTEIN

Well done your baby in now taking 3 spoons feeds/day and eating a combination of both exchange and free foods. Some or maybe all the exchanges are being given as food. You are making good progress with your baby so now we can think about weaning your baby off their bottle.

At present your baby is getting all of their synthetic protein from their HCU Anamix Infant. From the age of 6 months an alternative can be introduced. This type of synthetic protein substitute is given off the spoon. This is called HCU Gel.

Your Dietitian will talk to you about this when you attend the Outpatient Department.

INTRODUCING THE BEAKER (6-9 MONTHS)

It is now time to start thinking about introducing your baby to a beaker, so that by the time your baby has reached their first birthday he/she will either be taking their synthetic protein from a beaker or off the spoon or a combination of both.

The type of beaker used should be free flowing so that when your baby gentle sucks at the spout liquid comes out easily. The beaker should also have a handle on both sides so the your baby can hold it steady using both hands.

At first your baby will find it difficult to drink from a beaker but with some practice (at every meal) they will quickly learn to drink successfully from it.

Spills and accidents will occur, but this is all part of the learning process. Remain patient and positive

What Should You Put in the Beaker

HCU Anamix Infant

Cool boiled water

Avoid giving juice of any type to your baby, getting them used to drinking water as this early age will get them into good habits for life. It will also reduce their risk of developing tooth decay

MOVING ON WITH SPOONFEEDS:

6-9 MONTHS

Once your baby becomes used to pureed foods, its time to move on to stronger flavours and thicker textures.

Soft mashed foods containing soft lumps can now be introduced. It may take some time for your baby to get used to different textures, so be patient.

Soft finger foods can be given from 6-9 months of age. Ensure your baby is fully supported and in an upright position. Never leave your baby alone when eating in case of choking.

Give your baby a spoon with a thick handle to grasp while you are spoon feeding with another spoon.

Sample Meal Plan:

Breakfast

Cereal e.g. Low protein original hot breakfast, Weetabix, Readybrek, porridge made with prozero milk

HCU Anamix Infant formula from a beaker

Mid – morning

HCU Gel

Lunch

Mashed Potato with vegetables or

Homemade vegetable soup with mashed in Low Protein bread.

HCU Anamix Infant from a beaker

Mid afternoon

HCU Gel

Teatime

Mashed stewed vegetable/fruit thickened with Promin Pastameal or babyrice, banana, avocado, tinned spaghetti, peas, beans, Xotic yoghurt if exchanges needed

Supper

HCU Anamix Infant

Suitable Finger foods:

Soft ripe vegetables and fruits e.g. parboiled carrots, sweet potato, parsnip sticks, broccoli and cauliflower florets, melon, orange, apple, pear, peach, kiwi, batons of protein free cheese (Violife)

Aminex low protein rusks, mini rice cakes, low protein toast fingers, low protein/regular mini bread sticks

REMEMBER!

Offer the HCU Anamix Infant from a beaker/ sippy cup

MOVING ON WITH SPOONFEEDS:

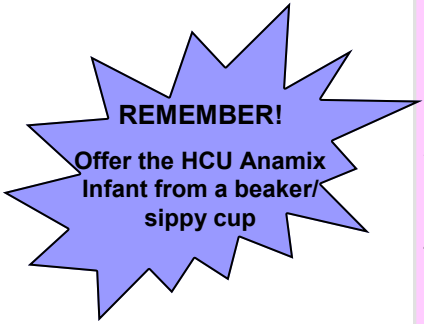
9-12 MONTHS

Now is the time to further increase the variety of foods and tastes.

Introduce chunky mashed texture moving onto chopped, bite size pieces.

Aim to use suitable family foods for your baby, ensuring there is no added salt or sugar.

Encourage self feeding where possible.



Sample Meal Plan:

Breakfast

Cereal e.g. Weetabix, Readybrek, porridge, low protein original hot breakfast with prozero milk, fruit & HCU Anamix Infant

Mid – morning

HCU Gel & offer finger food

Lunch

Low protein pasta, couscous, rice with vegetables and protein exchange food e.g. potatoes, peas, chickpeas, tinned spaghetti, beans, & finger foods. HCU Anamix Infant from a beaker

Mid afternoon

HCU Gel & finger food

Teatime

Low protein pasta, couscous, rice, low protein bread, low protein French toast, low protein custard, low protein pancakes, low protein pasta bake with vegetables/fruit & protein exchange food e.g. ordinary rice, vegetable finger, chopped avocado, banana, Philadelphia cheese, Xotic yoghurts & HCU Anamix Infant

Suitable Finger foods:

Continue to offer soft ripe vegetables and fruits. Include protein free cheese, low protein soft cooked pasta, low protein pancakes, low protein toast fingers, low protein/ regular mini breadsticks, low protein cheese scone, low protein garlic bread, low protein rusks, mini rice cakes.

For recipes ask your Dietitian

	BIRTH to 4 MONTHS	4 to 6 MONTHS
YOUR BABY CAN ...	• Suck and swallow liquids • Push tongue out	• Sit with support • Hold head steady • Keep food in mouth and swallow
FOOD OPTIONS	Avoid all solid food until at least 17 weeks.	• Protein free pureed vegetables • Protein free pureed fruit • Low protein foods mixed with water or Prozero milk e.g.. Promin Pastameal or PK Foods Aminex Rusk • Talk to your dietitian about pureed exchange foods
FOOD PREPERATION		• Mix these low protein foods with water or Prozero milk • Mix pureed fruit and veg with water or Prozero milk
DRINKS/ SYNTHETIC PROTEIN	• Measured amount of regular infant formula and HCU Anamix Infant to appetite **OR** • Measured amount of HCU Anamix Infant then breastfeed to appetite	• Measured amount of regular infant formula and HCU Anamix Infant to appetite **OR** • Measured amount of HCU Anamix Infant then breastfeed to appetite Between feeds, cool boiled water if warm weather or constipated
TEXTURE		• Smooth, thin puree with no lumps

6 to 7 MONTHS	7 to 9 MONTHS	9 to 12 MONTHS
• Sit without support • Begin to chew food	• Use a cup with help • Grasp and hold onto things	• Grasp and hold onto things • Begin to self-feed
• Suitable thick pureed free and exchange vegetables/fruit • Suitable protein exchange cereals e.g. Weetabix, Readybrek, baby rice	• Starting with mashed free and exchange vegatables/ fruit and progressing to soft finger food e.g. well cooked carrot batons • Low protein crispbread • Rice cakes (exchanges)	• Cooked chopped vegetables • Chopped fruits • Low protein soft cooked pasta • Fingers of low protein bread toasted/buttered.
• Don't add salt or sugar to any foods • Promin Pastameal can be added to foods to make a thicker consistency	• Try to cut soft fruit and vegetables into batons as they are easier for your baby to hold	• Offer finger foods at each meal • Allow baby to hold own spoon whilst feeding them
• Start offering your baby HCU Anamix Infant from a small sippy cup Synthetic spoon feed: Your dietitian may recommend starting some synthetic protein from a spoon	• HCU Anamix Infant (reduce the volume as per dietitians advice • Water Synthetic spoon feed: Your dietitian will recommend a set amount of synthetic protein to be taken from the spoon.	• HCU Anamix Infant (reduce the volume as per dietitians advice) • Water Synthetic spoon feed: Your dietitian will recommend a set amount of synthetic protein to be taken from the spoon.
• Thicker puree	• Minced/mashed with soft lumps • Soft finger food	• Chopped up foods • Harder finger foods

READING FOOD LABELS

Reading food labels can be confusing so follow these instructions and hopefully you will feel a little more confident.

- Firstly look at the ingredients to see what the product contains.
- Then check how much protein there is per portion.
- Sometimes the nutritional information states that some protein is present within the product. However, if you look at the ingredients you may see that all the ingredients present in that product are foods allowed freely. In this situation the product can be given freely.
- An example of this is a 'Baby Food' Mango, Apple & Peach 100% Fruit Pouch. The ingredients are: Mango, Apple, Peach. The nutritional information states that there is 0.5g protein/100g pouch. However, this item should be classified as free because it is made entirely of protein free fruit.
- If the product contains exchange containing foods e.g. rice, potato, beans, peas then the protein should be counted as per the nutrition label.
- Be careful: In some cases the name of the product can give the impression that it could be protein free, but when you look at the ingredients list it contains a food which has to be counted.
- An example of this would be 'Baby Food' Apple & Blueberry Dessert (125g jar). Ingredients: Apples, Blueberries, Ground Rice. Apples & blueberries are free foods but rice is an exchange food so this needs to be counted according to the nutritional label. Each 125g jar provides 0.6g protein therefore it would be counted as ½ an exchange.

If a food contains protein you will need to work out how many exchanges are in a portion.

Use the guide below to help you.

Protein content per portion	Number of Exchanges
0 –0.3g	Free
0.4g -0.7g	½
0.8g –1.2g	1
1.3g –1.7g	1 ½
1.8g –2.2g	2

If the protein content per portion is not listed you can calculate this yourself using the information provided on the nutrition label. To do this you will need to know 2 things:

- The weight/amount of the food to be eaten
- The protein content per 100g of the food

This is how it is done:

$$\frac{\textit{Weight of food to be eaten} \times \textit{Protein content per 100g}}{100}$$

The next few pages contain examples of how to read nutritional labels.

Example 1:

‘Baby Food’ Carrots & Parsnips

Ingredients: Carrots, Parsnips

120 g jar

Nutritional information	**Per 100 g**	**Per jar**
Typical Values		
Energy (kJ)	201kJ	241kJ
Energy (kcal)	48kcal	58kcal
Fat	<0.5g	<0.5g
(of which saturates)	0.2g	0.2g
Carbohydrate	10.1g	12.1g
(of which sugars)	9.2g	11.0g
Fibre	1.4g	1.7g
Protein	0.5g	0.5g
Salt	0.04g	0.05g

Step 1: Look at the ingredients. Carrots and parsnips are both ‘free’ foods. These are the only ingredients so this Baby Food is a ‘free’ food and you do not need to use the nutritional label to check the protein content.

Example 2:

‘Baby Food’ Broccoli, Peas and Pears

Ingredients: Broccoli, Peas, Pears

120 g pouch

Nutritional in-formation	**Per 100 g**	**Per Pack**
Typical Values		
Energy (kJ)	219kJ	263kJ
Energy (kcal)	52kcal	62kcal
Fat	<0.5g	0.5g
(of which saturates)	<0.1g	<0.1g
Carbohydrate	10.1g	12.1g
(of which sugars)	7.9g	9.5g
Fibre	2.8g	3.4g
Protein	1.0g	1.2g
Salt	0.03g	0.03g

Step 1: Look at the ingredients. Broccoli and pears are both ‘free’ foods. However, peas are an exchange food. Therefore, you need to use the nutritional label to work out the protein content.

Step 2: Looking at the nutritional label.

1 pack = 1.2 g protein

Therefore, 1 pack = 1 exchange

Example 3:

‘Baby Food’ Carrot and Potato

Ingredients: Carrots, Potatoes, Ground Rice **125 g jar**

Nutritional information	**Per 100 g**
Typical Values	
Energy (kJ)	205
Energy (kcal)	51
Fat	1.1
(of which saturates)	0.005
Carbohydrate	7.4
(of which sugars)	2.8
Fibre	2.3
Protein	1.1
Salt	0.05

Step 1: Look at the ingredients. Carrots are a ‘free’ food. Potatoes and rice are both exchange foods. Therefore, you need to use the nutritional label to work out the protein content.

Step 2: Looking at the nutritional label.

Protein per 100 g = 1.1 g protein. However, the jar is 125 g.

Step 3. Use the formula to work out how many exchanges in the full jar.

$$\frac{\text{Protein content per 100 g (1.1 g)} \times \text{Weight of product to be eaten (125 g)}}{100}$$

1 jar = 1.3 g protein, therefore, 1 jar = 1 ½ exchanges

Example 4:

‘Baby Food’ Apple Rice cakes

Ingredients: Wholegrain Rice, Apple juice, Cinnamon

Nutritional information	**Per 100 g**	**6 g (Per 3 cakes)**
Typical Values		
Energy (kJ)	1660J	100kJ
Energy (kcal)	393kcal	24kcal
Fat	2.6g	0.2g
(of which saturates)	0.5g	Trace
Carbohydrate	83.2g	5.0g
(of which sugars)	14.1g	0.8g
Fibre	3.1g	0.2g
Protein	7.5g	0.5g
Salt	0.03g	Trace

Step 1: Look at the ingredients. Rice is an exchange food. Therefore, you need to use the nutritional label to work out the protein content.

Step 2: Looking at the nutritional label.

3 cakes = 0.5 g protein = ½ exchange

6 cakes = 1g protein = 1 exchange

Additional Information on Reading Labels

Some foods that are not on our exchange lists, you might need to work out the amount of food that is 1 exchange e.g. cereal, baby rice

Weight of Product That is 1 Exchange:

$$\frac{1 \times 100}{\text{Protein content per 100 g}}$$

Weight of Product For Your Required Number of Exchanges:

$$\frac{\text{No. of Exchanges} \times 100}{\text{Protein content per 100 g}}$$

The following example shows you how to use this information

Example 5:

‘Baby Food’ Rice

Ingredients: Organic Rice

Nutritional information	**Per 100 g**
Typical Values	
Energy (kJ)	1643
Energy (kcal)	387
Fat	1.0
(of which saturates)	0.4
Carbohydrate	86.7
(of which sugars)	Trace
Fibre	1.8
Protein	6.9
Salt	0.04

Step 1: Look at the ingredients. Rice is an exchange food. Therefore, you need to use the nutritional label to work out the protein content.

Step 2: Looking at the nutritional label. Protein per 100 g = 6.9 g protein.

Step 3: Use the formula to work out how many grams of this baby rice is 1 exchange.

$\frac{1 \times 100}{6.9}$ = 14 g of this baby rice for 1 exchange

$\frac{2 \times 100}{6.9}$ = 29 g of this baby rice for 2 exchanges

You would need to weigh out this product.

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