
JOINT CONSENSUS STATEMENT ON WEANING PRETERM BABIES

This is a joint consensus statement from a group of UK and Irish paediatric dietitians and speech and language therapists based on a review of the literature, Delphi questionnaire results and consensus meeting in London on 26th June 2007; it has subsequently been updated in 2011 by a subset of the original group. Members were from the Neonatal Dietitians Interest Group (UK) and the Speech and Language Paediatric Dysphagia Group (UK) and other interested allied health professionals. The aim was to detail and discuss specific issues to assist health professionals giving advice. It is acknowledged that in some cases individual practice differs. This may be due to the absence of robust research evidence in this field. The group recognises the need for more research in this area.

The UK recommendation for weaning term babies is six months; however there is acknowledgement that specialised groups such as preterm babies may need additional guidance and to date there has been no such guidance published. (Scientific Advisory Group on Nutrition (SACN) Jan 27th 2001, www.sacn.gov.uk) The background and supporting references for this statement are published in *Paediatrics and Child Health* 2009 19:9; page 405-414, C King which includes the rationale for choosing the time frame during which to consider weaning preterm babies and why it differs to that for term babies. The results of a Delphi Questionnaire which surveyed current practice will be published elsewhere; details will be posted on the neonatal dietitians' web pages at www.bapm.org/nutrition

In this document the term "weaning" is used to define the introduction of foods other than breast milk or baby formula into a baby's diet, and is sometimes referred to as complementary feeding, spoon feeding or starting solids.

Reference is made to seeking advice from specialist Speech and Language Therapists & Dietitians. Although access to such services is recommended in recent reports (Toolkit for High Quality Neonatal Services, NHS & DH October 2009 (http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107845) and BAPM Service Standards for Hospitals Providing Neonatal Care August 2010 (http://www.bapm.org/publications/documents/guidelines/BAPM_Standards_Final_Aug2010.pdf)) these services are not yet available in all neonatal services in the UK.

SUMMARY

- ★ This statement is primarily aimed at healthy preterm babies with no significant medical or developmental complications.
- ★ For babies at high risk of feeding problems additional support is best given by a multidisciplinary team to include speech and language therapy, dietetics and physiotherapy in conjunction with medical and nursing staff.
- ★ Evidence suggests that the motor development of head control necessary for safe and successful transition to solid foods may not have been achieved until at least 3 months corrected age: the exact age varying from one baby to another.
- ★ It is recognised that a baby's skills and developmental readiness should be assessed individually as there are many factors involved, in addition to age, when considering weaning.
- ★ It is believed that weaning can safely begin somewhere between the ages of 5 and 8 months from the date of birth (uncorrected) on the recognition of appropriate readiness cues from the baby (see below).
- ★ It is expected that few babies will need to be weaned as early as 5 months or as late as 8 months, babies born nearer term may be weaned around 5 months but babies born extremely preterm may be nearer 8 months uncorrected.
- ★ Timing and pace of weaning is individual to each baby, however the process depends on caregivers looking for babies cues around feeding and responding appropriately. There is evidence that preterm babies often have feeding opportunities delayed as their parents consider them too immature to carry out new skills.
- ★ Gentle coaxing may often be required to focus a baby on this new way of feeding but to avoid force feeding, a baby's cues should always be followed and feeding stopped if the baby shows any sign of refusal such as keeping their mouth closed, turning away, actively spitting food out or becoming distressed when food is offered.
- ★ It is recommended that a cup be introduced from 6 months uncorrected age.

READINESS CUES

★ Positioning

- has some head control and a stable head position with or without support
- can be supported easily in a sitting position on a lap, bouncer or high chair
- caution should be taken when starting to wean babies who cannot be assisted to achieve the above skills.

★ Behaviours

- alert and appears ready for a new type of feeding
- showing an interest in others eating

★ Oral Skills

- can breast, bottle or cup feed efficiently. This is desirable though some babies who are not managing milk feeds efficiently can still be tried with weaning foods. A specialist speech and language assessment should be initiated for such babies.
 - has started to bring their hands to their mouth and explore fingers and/or toys with their mouth
 - is demonstrating a 'munching' or up down jaw movement when mouthing non food items.
- ★ Absence of tongue protrusion during feeding was advocated in the 2004 Department of Health Weaning report: however the group noted that tongue protrusion disappears gradually with time and maturity, and should not deter weaning if other cues are present.
- ★ Some factors have been used in the past but are now not recommended
- That a certain target weight is reached
 - Demanding feeds more frequently as this will often be a growth spurt and should be managed initially by offering more milk
- ★ Some factors may only develop once weaning has begun: their absence should not prevent a baby's progression with weaning
- managing to clear the spoon with their lips; this skill develops with experience
 - presence of teeth, as they are not essential for chewing

TASTE DEVELOPMENT

- ★ The beginning of taste acquisition probably occurs in utero with foetal swallowing of amniotic fluid flavoured by the mothers diet.
- ★ Breast fed babies also experience many tastes and smells via their mothers' breast milk. This may enhance a breastfed baby's acceptance of flavours later on.
- ★ Term babies have been found to have a preference for sweet flavours at birth; a shift towards a preference for a slight salt taste has been demonstrated by 4-6 months indicating development of taste sensitivity.
- ★ It is thought that there is a period during which there is a relatively easy acceptance of tastes: probably around mid to latter part of first year after which it can take more time for the acceptance of something new.
- ★ By around 1 year of age familiar food recognition is established; with the onset of neophobia occurring from around 18 months. Neophobia is a normal response to a new food which the child may not view as safe to eat and is variable in its severity.
- ★ Neophobia is strengthened over the next few years which can make it harder to encourage children to try new things. The acceptance of new foods and flavours is still possible, but may take more time, and is easier in certain social contexts for example when the child has meals with family and peers.
- ★ Repeated exposure to a new taste or food without forcing will lead to acceptance in most cases. There is some evidence that around 10 exposures to a new food with a suggested frequency of 2 times per week is needed to encourage acceptance
- ★ Inclusion in family meals gives the baby an opportunity to watch, learn about and imitate eating and drinking.
- ★ Exposure to the sight of a new food alone is not enough to encourage a baby to eat it; babies also need the opportunity to explore, touch and taste new foods. The best way to support this is by encouraging self feeding.
- ★ From the start of weaning the variety of foods offered should be continually widened to include all the usual family foods by around a year of age.
- ★ As with term babies, preterm babies are often happy to take strong tastes and flavours; there is no evidence for a preference for bland flavours.
- ★ Exactly how any sensitive period for taste is affected by preterm birth is not known. However, from data on term babies it seems highly likely that the later a preterm baby is introduced to new tastes the less likely they are to accept them.

PROGRESSION THROUGH TEXTURES

- ★ Most preterm babies will progress normally through the development of eating and drinking skills with responsive input from parents. However, some babies may have delayed development and take longer to acquire skills for spoon feeding and feeding themselves. Where necessary, advice on progression through textures should be given on an individual basis (see below under special considerations)
- ★ Before self feeding starts babies must have adequate developmental skills and they must always be supervised. Foods of sufficiently soft texture should be given initially.
- ★ Self feeding may help acceptance of more varied textures. This approach allows visual and tactile exploration of food before it is put in the mouth.
- ★ When babies start weaning by feeding themselves all solid foods, the term “baby led weaning” is used. This has been advocated for term babies but as yet has not been subject to evaluation. It has been discussed with respect to preterm babies though no guidance is yet available.
- ★ There is no research on the nutritional status of babies following a baby led weaning path so it is important that a diverse range of foods is offered to ensure an adequate nutritional intake and that some spoon feeds are offered if necessary.
- ★ The proponents of baby led weaning do not exclude the feeding of soft food and puree by spoon alongside self feeding, provided the baby’s cues are well observed and followed. This approach may be useful in preterm babies until more evidence is available around baby led weaning in this group.
- ★ Allowing babies to touch and feel food as soon as they show an interest will help the development of self feeding skills using hands and fingers; progression to use of utensils can happen later. More textured foods may be better accepted if given as finger foods as the baby has more control of what goes into their mouth.
- ★ Home cooked foods are easy to modify and control in terms of consistency. Avoid smooth puree with floating lumps as this consistency can result in gagging or choking as the more mature oral skill of holding food in the mouth while simultaneously chewing is needed.
- ★ By 9 months uncorrected age, preterm babies following normal developmental stages should have started finger foods and/or spoon feeds with lumps. After this, acceptance of lumps becomes more difficult.

NUTRITIONAL CONSIDERATIONS

- ★ Preterm babies who are thriving should be treated in the same way as any healthy term baby with respect to their dietary intake during weaning and beyond.
- ★ Preterm babies have no greater risk of food allergy than babies born at term therefore weaning does not need to be delayed or foods introduced “one at a time”. However if there is a strong family history of allergy parents should seek dietetic advice.
- ★ Parents should be reassured that while it is sometimes suggested that new foods are offered ‘one day at a time’ to introduce new flavours and textures gradually, babies may easily proceed more quickly with new foods.
- ★ A good variety of home cooked foods should be encouraged as for babies born at term. Introducing variety to the diet is important to help ensure nutritional adequacy.
- ★ Weaning foods will increasingly replace the nutrients provided by milk feeds. Therefore as weaning progresses it is important to advocate a good nutritional balance by ensuring that the various food groups are represented and provide details of a range of foods which will provide adequate sources of protein, energy, iron, and zinc.
- ★ Additional nutrients may be needed to meet requirements e.g. iron and vitamin supplements for babies on breast milk as their main drink. The need for additional energy is rare and should only be carried out following dietetic assessment.
- ★ Healthy babies are able to regulate their energy intake according to need: therefore it is important that foods of an appropriate energy to protein ratio are offered to ensure sufficient protein is consumed. If foods are very energy dense a child may fill up on these and not obtain sufficient other nutrients, particularly protein.
- ★ Home prepared foods are encouraged and assumed as the norm so advice on combinations of such foods to provide sufficient protein to energy can be helpful. It may be useful to provide details of a minimum nutrient concentration per portion of commercially manufactured food. This is addressed in the Bliss booklet, “Weaning Your Premature Baby”(www.bliss.org.uk)
- ★ It is important to take account of cultural diversity and preferences, e.g. vegetarian diets, and advise on alternative food choices.
- ★ Vegan and macrobiotic diets are not recommended for babies.
- ★ Weighing too frequently can cause anxiety as growth rate slows down over the first year; therefore it is recommended that an appropriate schedule for weight monitoring is devised during the weaning process. Advice on an appropriate growth rate for each baby is helpful in managing parental expectations.
- ★ If poor growth is an issue care should be taken to advise nutrient dense not just energy dense foods

SPECIAL CONSIDERATIONS WHEN WEANING PRETERM BABIES WITH ADDITIONAL MEDICAL PROBLEMS

The following is a brief summary of situations where weaning may need more support and would benefit from being managed within a multidisciplinary setting. The aim is to support parents understand, respond to and communicate with their child, and to advise on appropriate feeding techniques.

- Weaning earlier than 5 months uncorrected should be a rare occurrence and only embarked on after full discussion within a multidisciplinary team however it may occasionally be appropriate.
- ★ Babies with neurological impairments may present with feeding difficulties early on. If they have any known aspiration risk, swallowing difficulties or oro-motor problems then referral for specialist speech and language therapy assessment is indicated.
- ★ Babies with chronic lung disease may have more problems co-ordinating sucking and swallowing with breathing when taking milk feeds and may find solid food easier to manage. However if the introduction of solid food is to be considered before 5 months uncorrected they should have a specialist speech and language therapy assessment. Although some of these babies may need additional energy, this should be provided under the supervision of a specialist dietitian in a balanced way, taking into account the effect on the nutrient density of the diet.
- ★ Babies who have had limited or negative early oral feeding experiences, e.g. those who have been tube fed for prolonged periods or have gastro-oesophageal reflux disease (GORD) may develop sensory based feeding aversion. This may impact upon how they respond to weaning and a more graded approach may be needed to gradually desensitise them.
- ★ With GORD the early introduction of solids has been thought to help reduce symptoms, however there is a lack of evidence for this
- ★ Faltering weight/growth is sometimes cited as a reason for early weaning. However as many weaning foods are less energy dense than milk feeds, and may take longer for the baby to consume, weaning may not be an appropriate approach. Referral to a specialist dietitian is recommended.

The following is practical advice for preterm babies who are more sensitive to change and less able to feed themselves

- ★ In these more sensitive babies smooth puree is the easiest texture to offer when the baby indicates readiness for weaning, with a gradual progression through the range of textures.
- ★ If the baby has an immature suckle pattern in response to solids, smooth puree is easy to suck and swallow and is less likely to cause gagging or vomiting.
- ★ Despite starting with a less difficult texture these babies may still respond well to strong flavours, which may help with acceptance of new foods.
- ★ For babies who are very sensitive to change, it may be useful to alter texture and taste separately.

- ★ Once munching or chewing is evident, puree can be gradually thickened though remaining smooth; this stays in the mouth slightly longer giving the baby time to practice more chewing movements. Mash with moist soft lumps follows next as the baby starts more chewing. (A Guide to Food and Drink Textures by the Speech and Language Therapy SIG in Paediatric Dysphagia London & the South East November 2010)

WHEN TO SEEK FURTHER ADVICE AND SUPPORT

Further advice from the baby's local specialist medical team should be sought if the baby:

- has poor weight gain
- has an established or emerging neurological disorder
- has poor head control
- is difficult to position or seat
- chokes persistently during eating or drinking
- gags and/or vomits persistently with eating or drinking
- is very sensitive to touch around their mouth and face
- has an aversive reaction to the introduction of food and/or oral stimulation
- experiences excessive spillage of food from their mouth during feed times
- has marked tongue protrusion, well into the second half of the first year
- falls asleep frequently when being fed
- is consuming a narrow range of foods for social, cultural, or behavioural reasons

ACKNOWLEDGEMENTS

Collated and edited following the joint meeting on 26th June 2007 and updated in 2011 by Caroline King and Annie Aloysius (both Queen Charlottes & Chelsea Neonatal Unit Imperial Health Care London). Thanks to all those who contributed to this update.

Sue Bell (Dietitian Stoke)
Shona Brennan (Dietitian Sheffield)
Charlotte Buswell (Speech and Language Therapist Newcastle)
Elizabeth Erasmus (Dietitian UCLH London)
Katie Cullinan (Speech and Language Therapist UCLH London)
Chris Jarvis (Dietitian Nottingham)
Roberta McCarthy (Dietitian Dublin)
Anne Maclean – (Dietitian Glasgow)
Ana O'Reilly- Marshall (Dietitian Galway)
Sue Strudwick (Speech and Language Therapist Kingston London)

POSTED August 2011 FOR REVIEW August 2013