Nutrition in children and young people with cancer: RCN guidance
This guidance was originally funded by the Nursing Development Committee of the Royal College of Nursing (RCN). The working group included contributors from the RCN Children and Young People’s Cancer Nurses Community, medical staff involved in paediatric oncology and from the Paediatric Oncology Dietitians Interest Group (PODIG). Further members of all these groups have reviewed and commented on the document at different stages of development.

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This publication is due for review in June 2017. To provide feedback on its content or on your experience of using this publication, please email publications.feedback@rcn.org.uk
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Introduction

This RCN document gives guidance about nutrition for children and young people with cancer, and is aimed at nurses and other health professionals. The recommendations are based on the available evidence where possible and on best practice guidance. There are several areas, however, where there is a lack of evidence and further research is needed – these are highlighted in the text.

The guidance examines the particular problems faced by children with cancer in obtaining good nutrition, and recommends ways in which hospitals can improve food provision to offset some of these problems. It goes on to look in detail at the management of nutrition in young cancer patients.

The importance of nutrition

Nutritional status affects the prognosis for children and young people with cancer (Andreyev et al., 1998; Cunningham and Bell, 2000). Those who are well-nourished are also better able to resist infection and tolerate treatment (Den Broeder et al., 2000).

Adequate nutrition must be sufficient to allow children and young people to maintain their body functions, engage in play and other activities, recover from trauma and illness and continue to grow and develop (Bryant, 2003; RCN, 2014).

It is important that decisions regarding nutrition should involve the child or young person who has cancer and their family, and should take into consideration the child's particular needs. Patients and their families should be given full information about the foods and supplements the patient is receiving and their own role in providing the right nutrition. They should have the opportunity to discuss any issues and be given contact details for further advice (NICE, 2006).

Nutrition issues in oncology

Children in hospital having treatment for cancer have particular dietary needs, and may have issues with eating. The combination of extended duration of treatment, high frequency of admission and prolonged length of stay may impact more severely on this group of children and young people than most others.

It is important that as a health professional, you are aware of the predisposing issues which can lead to inadequate nutrition. Understanding these can help you alleviate some of the predisposing factors, and prompt recognition and treatment may help prevent nutrition becoming a problem for some patients.
Children may present with poor nutritional status at diagnosis, but their nutrition may also be impaired as a consequence of treatment. Patients often experience a lack of appetite which can be exacerbated by nausea and vomiting, mucositis, stomatitis, taste changes, constipation, diarrhoea, pain, fatigue and metabolic abnormalities (Hockenberry, 2004; Skolin et al., 2006). The emotional impact of diagnosis and treatment may also result in psychological factors such as depression, fatigue or anxiety which can interfere with dietary intake (Capra et al., 2001).

Early recognition of children with cachexia is essential, as prompt assessment and aggressive management is thought to improve nutrition and subsequent prognosis. Cachexia is a syndrome of progressive wasting associated with anorexia and metabolic alterations (Capra et al., 2001). It is thought to result from an imbalance between the energy needed by the body versus the energy available due to reduced intake, alongside biochemical alterations (Nitenberg and Raynard, 2000).

Hospital food provision

Children with cancer face many difficulties with nutrition. It is crucial for hospital environments to respond to these particular needs – not only because they are obliged to, but because of the huge negative impact on the child and family that poor food provision can have.

Education

It is vital that hospitals and other health care environments provide education in nutrition to all health care professionals involved in patient care. Education should be relevant to a professional’s post, and should be regularly reviewed and updated.

Nutrition education should cover:

- the importance of providing adequate nutrition, including benefits of good nutrition and risk of malnutrition
- nutritional needs and indications for support
- options available for nutritional support
- how professionals can obtain further help (NICE, 2006).

In addition, it is important that accurate weighing and measuring of children and young people should be covered.

Sources of best practice

Several documents provide information for hospitals and health professionals about the nutritional needs of patients in hospital.

- **Essence of care: patient focused benchmarks for clinical practice** (DH, 2003a) looked at nutritional needs of patients in hospital, providing benchmarks to identify best practice and improve care across all age ranges.
The RCN’s “Nutrition Now” campaign is a national initiative to raise the standards of nutrition in hospital for patients of all ages. It highlights three main principles (accountability, responsibility and leadership/management) to equip nurses with the practical tools, support and evidence they need to make nutrition a priority in their area of work (RCN, 2007).

The 2014 RCN position statement, *Malnutrition: What nurses working with children and young people need to know and do*, details aspects of malnutrition in children and young people and sets out recommendations for good practice, highlighting the importance of nutritional screening.

The “Fit to Eat” campaign by CLIC Sargent (www.clicsargent.org.uk) aims to eliminate the inconsistencies in hospital food provision for children with cancer. CLIC Sargent is working collaboratively with NHS hospitals to ensure that existing guidelines are implemented so that all children and young people in cancer wards can receive appetising, age-appropriate, nutritious food. The campaign stresses the need for “good” food, in a climate where more than 40 per cent of hospitals were described as providing “poor” or “very poor” quality food when the campaign began (CLIC Sargent, 2008).

### Improving food provision

The most common method of food provision in hospital wards is through a trolley service, providing a range of cooked food or cook-chill food delivered to the ward at set times, and served by housekeepers/nursing staff within a short meal time period. This system has a number of inherent problems:

- limited time for children to eat
- food is not freshly cooked
- food choice may be limited and repetitive
- smells from the food trolley can be off-putting
- food can look unappetising.

Children with cancer can experience greater problems, because:

- their treatments and investigations are often ongoing at meal times
- chemotherapy can induce frequent bouts of nausea
- the times when a child feels able to eat do not always coincide with the arrival of the food trolley
- those on chemotherapy sometimes report taste changes and request strongly-flavoured food
- those taking steroids have an increased appetite or cravings for particular foods at unusual times
- they are often in hospital for extended periods – children who are admitted for long periods frequently develop an aversion to the food trolley and refuse to eat from it.

Parents, carers and guardians who are desperate for their child to eat cope with these problems by bringing in food from home or spending money at hospital food outlets. This is not a satisfactory solution and national documents and Department of Health guidance all state the requirement for hospitals to meet the nutritional needs of children (DH, 2003b; DH, 2004; NICE, 2005).

### How can we encourage children in hospital to eat?

Implementing one of these recommendations can help reduce the particular nutritional issues faced by children and young people with cancer, and give them better quality of life and improved health outcomes.

1. **Provide a dedicated children’s cook-to-order service**

A small number of paediatric oncology centres have implemented such a service where either a chef cooks meals on demand from the ward kitchen, or meals are ordered directly from the catering service as required throughout the day and not just at meal times. This service responds directly to children’s needs and accommodates their treatment times and eating preferences (see Appendix 1).
2. Child-friendly food provision
To make food more attractive and appetising to children, you can provide better choice, variety and flexibility by:

- consulting children about what they would like to see on the menu, and by designing the menu to be age-appropriate
- providing snacks throughout the day for children who prefer to graze or who cannot tolerate full meals
- getting the play team to involve children in making biscuits and snacks, which can encourage children to eat
- taking orders for food as near as possible to the time the food will be delivered to the ward – children’s memories are short and what they ordered yesterday may not be what they want today
- serving food immediately after it is delivered to maximise freshness, flavour and appearance (CLIC, Sargent 2008).

See Appendix 2 for a case study.

3. Protected meal times
For hospitals which cannot provide meals on demand for logistical reasons, ward staff should make every effort to protect the meal time experience:

- organise the ward routine to enable meal times to be respected (for example, scheduling ward rounds at other times)
- do not commence non-essential treatments at meal times
- ensure food is served with age-appropriate cutlery and crockery
- individualise portion sizes to suit each child
- provide a dining area to make the meal time experience a sociable one
- encourage children, when they can, to sit at a table to eat
- enable parents, carers and guardians to eat with their children (DH, 2007).

Managing nutrition in oncology patients

Care pathway

Algorithms have been used successfully in other areas of practice in oncology, especially in managing mouth care (Gibson and Nelson, 2000). There has not been a nationally developed algorithm for nutrition for children and young people with cancer that has been evaluated successfully.

The Paediatric Oncology Dieticians Interest Group (PODIG), in collaboration with the working group producing this guidance document, has therefore developed a new algorithm which is set out here. This allows patients to be screened and to follow an appropriate nutritional care pathway which reflects their individual needs. The asterisks (*) in the pathway indicate that further information is available in this guidance document.
Nutritional Screening Tool*

High nutritional risk

• Limited fruit and vegetable intake
• Concern re. weight gain with steroids

Refer to dietician

Nutritional Intervention Criteria*

Gut working

• Vitamin supplement advice*
• Healthy eating advice

No change in nutritional status
• advice on energy dense foods
• nutritional supplements

Change in nutritional status
• enteral tube feeding
Consider gastrostomy criteria*

Poor tolerance
• consider hydrolystate or amino acid based formula
• consider nasojejunal feeding

Parenteral nutrition
Providing gut dysfunction likely to be ≥5days
Consider monitoring criteria*

Low nutritional risk

• Nausea, vomiting, diarrhoea, mucositis, dysphagia, food aversion, constipation

General Nutrition Information*

Keep under review

Oral intake improved

Treat symptoms

Gut not working

No improvement

YES

YES

NO

NO

YES

Gut working

NO

YES
Patient information

You should ensure that every family receives both verbal and written information about nutrition at the time when the child/young person is first diagnosed and during the first course of treatment. This is also a good time for you to highlight general nutrition aspects such as healthy eating and food safety. Whether information is given out by nursing or dietetic staff, a record should be made that it has been provided.

You could provide written information developed by your oncology centre, or available from national sources – for example, The Children’s Cancer and Leukaemia Group’s Helping your child to eat (Henry & CCLG, 2012), or information from the CLIC Sargent website (www.clicsargent.org.uk). Information must be written in straightforward language and avoid clinical terminology. It should be provided in other languages for people whose first language is not English.

Nutrition information should include:
• the importance of maintaining the child’s nutritional status during treatment
• potential side effects of treatment that may interfere with an adequate oral intake
• practical advice on nutritional problems associated with cancer and its treatment/referral to dietician
• advice on the use of high calorie/energy dense foods if patient has poor appetite and/or poor weight gain
• the variety of nutritional support methods available and when they would be recommended
• general food safety guidelines.

Nutritional screening

Nutritional screening is essential to identify patients who are already malnourished or at risk of becoming so (NICE, 2006). It should be the responsibility of all professionals involved in the care of children and young people. The National Service Framework for Children and Young People recommends that a nutritional assessment is undertaken on every patient and that this leads to a nutrition plan (DH, 2004).

You should screen each patient on admission (including day case/clinic attendance) and then at least weekly if the patient is staying in hospital. Basic documentation should include:

✦ height and weight, recorded weekly for inpatients and monthly for clinic patients in their medical and nursing notes and plotted on centile charts
✦ for patients referred to, and reviewed by, a dietician: weight, height, percentage weight loss from diagnosis, body mass index (BMI) or percentage weight for height, mid upper arm circumference (Brennan, 2003; RCN, 2013).

There is no nutrition screening tool for children and young people that has been specifically assessed for use in oncology. A useful tool that is quick and easy to complete is more likely to be used by all professionals and benefit the patient. The feasibility of one such tool used in general paediatrics has recently been successfully investigated in the Netherlands and a second in the UK (Hulst et al., 2010; Gerasimidis, 2012).

In the UK, the Screening Tool For Assessment Of Malnutrition In Paediatrics (STAMP) (Central Manchester and Manchester Children’s University Hospitals NHS Trust, 2008, available from www.stampscreeningtool.org) is available, but does not feature specific indicators for cancer patients. To make this tool more applicable to oncology, the working group has developed a specific diagnostic section for paediatric oncology using work by Han Marky (2000) and Ward (2007), which is set out below. We recommend using this supplementary tool to replace step one of the STAMP screening tool.

Note that this supplementary tool has not yet been audited and evaluated for its effectiveness in this specialty.

Using this supplementary diagnostic tool, you would combine its diagnosis score with the STAMP screening tool score for nutritional intake, weight and height. Patients scoring four or more should be referred to a dietician for further input.
### Intervention criteria

If a child is at high nutritional risk, then you should consider early nutritional intervention to prevent deterioration. The decision should involve discussion with the dietician, family and the multidisciplinary team, and will depend on several factors. The level of intervention will vary depending on the patient’s nutritional status, and could be supplemental, enteral or parenteral.

**1. Supplemental: patient has reduced intake but no change in nutritional status**

- Provide advice on energy dense foods/how to increase calories using high fat/high calorie foods.
- Provide advice on age-appropriate dietary supplements (which will vary depending on local provision).
- Continue to monitor intake and weight.
- Agree cut-off weight for progressing to enteral feeding if change in nutritional status.

**2. Enteral: patient has reduced intake and changed nutritional status**

The team should consider prophylactic enteral feeding (tube feeding) for patients classified as at high nutritional risk, especially in children who are malnourished at diagnosis. Enteral feeding works well if the patient’s gut is functioning and if they can tolerate it. It preserves the integrity of the intestinal mucosa by keeping it functioning (Nitenberg and Raynard, 2000). Early enteral intervention can prevent nutritional decline during treatment (Ward et al., 2009).

The criteria for starting enteral feeding are:

- weight two centiles below height centile
- percentage weight for height <90% of the ideal
- decrease in current percentiles for weight (or height) of two centiles
- total weight loss ≥5% since diagnosis
- reduced oral intake of <70% of estimated average requirement for >5 days.

### Supplementary diagnostic tool for malnutrition in paediatric oncology patients for use with the STAMP document (step one)

<table>
<thead>
<tr>
<th>High nutritional risk (definite nutritional implications): score 3</th>
<th>Low nutritional risk (possible nutritional implications): score 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced disease during initial intense treatment</td>
<td>ALL – regimen A patients</td>
</tr>
<tr>
<td>High risk neuroblastoma</td>
<td>Non-metastatic solid tumours</td>
</tr>
<tr>
<td>Stage III and IV Wilm’s tumour</td>
<td>Retinoblastoma</td>
</tr>
<tr>
<td>Rhabdomyosarcoma</td>
<td>Hodgkin’s disease</td>
</tr>
<tr>
<td>Ewing’s sarcoma/primitive neuroectodermal tumour (PNET)</td>
<td>Germ cell tumours</td>
</tr>
<tr>
<td>Osteosarcoma</td>
<td>Advance diseases in remission</td>
</tr>
<tr>
<td>Medulloblastoma/CNS PNET</td>
<td>During maintenance treatment</td>
</tr>
<tr>
<td>Nasopharyngeal tumours</td>
<td></td>
</tr>
<tr>
<td>B-cell non-Hodgkin’s lymphoma</td>
<td></td>
</tr>
<tr>
<td>Acute myeloid leukaemia</td>
<td></td>
</tr>
<tr>
<td>Some acute lymphoblastic leukaemia (ALL)</td>
<td></td>
</tr>
<tr>
<td>• infants and adolescents</td>
<td></td>
</tr>
<tr>
<td>• regimen A, short dexamethasone</td>
<td></td>
</tr>
<tr>
<td>• regimen B and C patients</td>
<td></td>
</tr>
<tr>
<td>• relapsed ALL</td>
<td></td>
</tr>
<tr>
<td>Bone marrow transplant patients</td>
<td></td>
</tr>
<tr>
<td>High dose therapy and PBSCT patients</td>
<td></td>
</tr>
</tbody>
</table>

(Han Marky, 2000; Ward, 2007)
Enteral feeding
Enteral feeding can be given via a nasogastric tube, or via a gastrostomy. Patients who could be given gastrostomies are those:

- with a diagnosis requiring treatment on intensive treatment protocols (see below) who are prone to mucositis and high emetogenicity
- undergoing head/neck radiotherapy
- who require long term nutritional support (>2 months)
- unwilling to accept or tolerate a nasogastric tube
- older patients who would prefer this route.

Diagnoses requiring intensive treatment protocols:

- neuro-oncology patients (especially medulloblastoma)
- osteosarcoma
- Ewing’s sarcoma/primitive neuroectodermal tumour
- nasopharyngeal tumours
- high risk rhabdomyosarcoma
- high risk neuroblastoma
- patients with abdominal disease who may respond poorly or slowly to treatment (although some abdominal disease may be a contra-indication for PEG insertion).

3. Parenteral: Patient has anticipated gut dysfunction for 5 days
Parenteral nutrition (feeding a patient intravenously) should be commenced if the team anticipates that the patient will have gut dysfunction for more than five days. This may include patients with any of the following:

- severe mucositis and enteritis
- typhilitis
- neutropenic enterocolitis
- ileus
- bowel obstruction
- chylous ascites following surgery
- severe graft versus host disease of the gut.

Parenteral feeding
The preferred method of administering parenteral nutrition is via a central venous access device. This allows the use of more concentrated solutions to maximise a patient’s nutritional intake, particularly when fluid for parenteral nutrition is limited due to large drug volumes, or blood and platelet transfusions (Han-Markey, 2000).

There are risks associated with parenteral nutrition, including fluid overload and metabolic, vascular and septic episodes, so monitoring is important (Glynn, 2001; Koletzko et al., 2005).

Enteral feeding preserves the integrity of the intestinal mucosa and reduces the risk of bacterial translocation (Han-Markey, 2000; Nitenberg and Raynard, 2000; DeSwarte-Wallace et al., 2001; Lipkins et al., 2005). If feasible, therefore, it can be advantageous for the patient if they are given a minimal amount of enteral feed (2–5ml/hour) alongside total parenteral nutrition (TPN).

Parenteral monitoring criteria
Most oncology centres have their own criteria for monitoring parenteral nutrition. The table below gives one such strategy, though others are in use. No one strategy has clearly been demonstrated to be more beneficial than another.

<table>
<thead>
<tr>
<th>Investigation</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium</td>
<td>Daily until stabilised then reduce depending on stability</td>
</tr>
<tr>
<td>Potassium</td>
<td></td>
</tr>
<tr>
<td>Urea</td>
<td></td>
</tr>
<tr>
<td>Creatinine</td>
<td></td>
</tr>
<tr>
<td>Blood glucose</td>
<td>Daily until stabilised then twice a week</td>
</tr>
<tr>
<td>Albumin</td>
<td>Daily initially and then reduce to three times weekly if stable</td>
</tr>
<tr>
<td>Bilirubin</td>
<td>Daily until stabilised then alternative days</td>
</tr>
<tr>
<td>Liver enzymes</td>
<td></td>
</tr>
<tr>
<td>Calcium</td>
<td></td>
</tr>
<tr>
<td>Magnesium</td>
<td></td>
</tr>
<tr>
<td>Phosphate</td>
<td></td>
</tr>
<tr>
<td>Serum lipids</td>
<td>Weekly</td>
</tr>
<tr>
<td>Fluid balance and weight</td>
<td>Daily</td>
</tr>
<tr>
<td>For TPN &gt;2 weeks duration</td>
<td>Monthly</td>
</tr>
<tr>
<td>Copper</td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td></td>
</tr>
<tr>
<td>Selenium</td>
<td></td>
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<tr>
<td>Manganese</td>
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</tbody>
</table>
Vitamin supplements
There is controversy about whether or not patients should be given vitamin supplements. Some authors suggest supplements are needed to compensate for the reduction in antioxidant status as a result of a tumour or treatment, and that supplements help to reduce the side effects of treatment. However, giving antioxidants during chemotherapy may interfere with the normal action of the chemotherapy drugs on the tumour, reducing their efficacy, or may interfere with the rate at which the drugs are able to work (Labriola and Livingstone, 1999; Lawenda et al., 2008).

There are few studies looking at vitamin status and the use of vitamin supplements in children undergoing treatment for cancer and some of these studies only involved a small number of patients (Kokkonen et al., 2002; Kennedy et al., 2004, Dagdemir et al., 2004; Kennedy et al., 2005; Mazor et al., 2008). More research is required.

However, the Paediatric Oncology Dieticians Interest Group (PODIG) has produced the following guidance in lieu of an evidence-based guideline, which you may find helpful.

**Guidance on vitamin supplementation**
- Children who are eating well and include a good variety of foods in their diet will not need to take a vitamin supplement.
- Children currently having tube feeds will not require an additional vitamin supplement as their requirements will be met by the feed.
- Children taking nutritionally complete sip feeds will not require an additional vitamin supplement as their requirements will be met by the sip feed.
- Children not on any additional feeds or supplements and who only eat a limited variety of foods may benefit from a general multivitamin supplement. It is preferable, however, for a child to receive the vitamins they need from food, therefore, the family should be given advice on how to incorporate more fruit and vegetables into the child’s diet.

**What type of vitamin supplement?**
- Vitamins given in excess can be toxic, so giving mega-doses of a single vitamin or combination of vitamins should be discouraged.
- A general age-appropriate multivitamin which does not give above the recommended daily amount (RDA) is suitable to use.
- Children receiving blood transfusions will receive iron from them and therefore do not need an additional source. A vitamin supplement should be chosen which does not contain any iron or a small amount only (no more than 15% RDA).
- The effect of taking vitamins alongside chemotherapy is not clear, so is generally advised that children should not take supplements alongside intensive chemotherapy.
Weight gain and healthy eating

Weight gain caused by taking steroids is usually temporary while the drugs are being taken. Most children revert to their usual weight on completion of the therapy. There is good general advice available in *Dexamethasone, a self help guide for parents* (CCLG, 2008).

If a child has excessive weight gain, give them and their family advice on general healthy eating. A good model on which to base a healthy diet on is the Food Standards Agency “Eat Well Plate” model (www.eatwell.gov.uk). Eating a combination of foods from all the food groups gives all the nutrients needed by the body. A balanced diet should include:

- **fruit and vegetables** – at every meal, aiming for at least five servings a day
- **bread, rice, potatoes, pasta and cereals** – at least one food from this group with each meal
- **milk and dairy foods** – at least three servings of milk, yoghurt or cheese each day
- **foods high in fat and sugar** – individuals who have a good appetite and a weight within the normal range for their height or who have gained weight with steroids should eat these foods in small amounts. They are high in calories but have very few nutrients
- **meat, fish, eggs, beans, pulses and nuts** – foods from this group twice a day.

Conclusion

The guidance should enable all treatment centres to consider and implement improved food provision and nutritional support for children and young people with cancer. By following the guidance, hospitals and individual practitioners can help ensure that all patients and families receive a minimum standard of nutritional care no matter where they are treated; that patients are given full nutritional assessment; and that they are provided with appropriate information about the nutritional consequences of their disease and treatment.

Every health care provider should provide education about patients’ nutritional needs, and should carry out regular audit and evaluation of practice. In these ways, best practice will be achieved and new evidence embedded into daily practice.

During the course of research for this document, we have identified several areas where evidence is still required to support practice, including the evaluation of the specific nutritional screening tool for this patient group (set out above), and the use of the care pathway algorithm and its impact on practice and vitamin supplementation.

By following this guidance, providers will ensure that they maximise each individual’s nutritional status so that patients benefit from improved resistance to infection and tolerance of cancer treatment.
Appendix 1: 
Employing a ward chef at Addenbrookes

In April 2003, the regional paediatric oncology ward at Cambridge University Hospitals NHS Foundation Trust undertook a parent/carer satisfaction survey looking at various aspects of care in the unit. One major finding from the survey was a high level of dissatisfaction with food provision and food intake – it was clearly an area for action.

The food trolley service was unable to provide the flexibility of meals or timing to meet the individual needs of each child. Initial interventions, such as changing menus, monitoring food wastage and providing a larger availability of snack foods had little effect – the children still were not eating.

So the modern matron and ward manager of the unit worked together with the dietetic team and the catering department to address the issue. They came up with the innovative idea of a ward-based cook, who would become an integrated member of the ward team and provide meals freshly cooked for this group of patients.

The ward-based cook initiative was trialled for a period of a month. During this time, we surveyed the views of the children and their parents, carers and guardians; while continuing to monitor waste and record the meals served. It was clear after only the first week that this change was proving an enormous success – the children were now eating, and at a time that suited them individually. The cook was able to spend time discussing food preferences, and ensure that appropriate foods were available.

We identified the following benefits for the dietetic service:

1. the dietician works closely with the chef to discuss and meet the individual needs of children.
2. working with the specialist dietician, the chef is now available to fortify normal foods with additional sources of energy and to trial dietician-prescribed nutritional supplements for their presentation and acceptance
3. the specialist dietician is now receiving more appropriate referrals – children are no longer referred simply because they dislike the food. Referrals for artificial nutritional support are far more selective and linked to treatment programmes
4. the specialist dietician no longer has to spend time completing menus and attempting to find non-trolley food for children. This has enabled them to re-channel their resources towards improving management of children who require supplementary and artificial nutritional support as a result of their treatment. This support can now extend from the ward environment to the home setting, with more time to liaise with local dieticians regarding ongoing care and more regular clinic follow-up time.

The service now has the required flexibility to cater for individual children’s needs, and the positive feedback and associated publicity within the trust has enabled the initiative to continue.

Benefits for patients, families and staff include:

1. the flexibility to cater for the individual children’s needs by providing food that is wanted, when it is wanted
2. food is more available, through regular “food walks” where drinks and food are offered. The provision of small frequent meals has significantly improved the children’s nutritional intake. Interestingly, few meals are now taken at conventional meal times; the busiest times of day are mid-morning and mid-afternoon
3. the range of food available has increased. Children are able to discuss their food likes and dislikes, and choose ones they like
4. food presentation is much improved, thereby improving uptake.

5. children’s meals times are often stressful even when a child is well. Parents, carers and guardians of unwell children are even more aware of the need for their child to eat well, but problems with the previous food service had resulted in very high stress levels at meal times. The new chef service has removed the stressful atmosphere on the ward at meal times, for patients, staff and parents, carers and guardians.

The project is a clear example of a direct response to client needs, making a direct difference to the care and experience of children and their families within our unit. We have completely eliminated complaints relating to food and nutritional issues, and demonstrated effective team working between departments and health professionals for the benefit of patients. It is also an initiative which can potentially be extended to other wards and areas.

During 2013, following patient experience metrics, there are positive comments about the chef in almost every month, especially around the flexibility of meal times and choice of foods available. The only negative comments regarding food is when the chef is not working as there is no cover on these days for his role.

Appendix 2: Cook to Order – the Oxford solution

To find a solution to poorly-evaluated food provision on the haematology oncology ward at the Children’s Hospital in Oxford, we formed a multidisciplinary group comprising a dietician, catering manager, ward nurses and support staff. We met weekly to analyse the problems, and decided to visit another principal treatment centre, where a ward-based chef had successfully been implemented in response to a similar series of concerns and complaints. The visit showed that although the ward-based chef proved an ideal solution at the other centre, the initiative would not work in our small ward with no kitchen. But on the journey home, the team came up with the idea of a “cook-to-order” telephone hotline.

The hotline to the hospital’s main kitchen is open from 10.30am until 7.00pm. Ward staff telephone orders through, and the kitchen gives a guaranteed turn-around time of 30 minutes. Children can choose anything from a specially constructed menu. Portion sizes are clearly stated, so a particularly hungry child or teenager could order double portions. This reduces waste and ensures that children are provided with what they really want to eat. As well as the cook-to-order menu, a snack box is available 24 hours a day.

The cook-to-order menu and the snack boxes were developed in conjunction with children and teenagers. For example, one of the changes was to include branded products (such as “Quavers” rather than “cheesy puffs”), because the children felt this would help them make choices, enabling them to decide if food would be the same as home and whether it would be of a good quality.
Once the changes were made, the team continued to meet regularly to evaluate the changes and make amendments as necessary. It must be recognised that this new delivery system is more expensive, mainly in terms of the additional costs associated with staffing the hotline and delivering food to the ward areas on demand. However, the service has been well evaluated, the amount of waste has gone down and patients’ need for additional nutritional support reduced. Securing long term funding for the initiative remains a challenge, but the team are committed to securing the project’s future.

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