Assisted Feeding
Eleanor Haskey BSc(hons) RVN VTS(ECC) VPAC A1

Introduction

For patients that cannot meet their resting energy requirements by eating normally then methods of assisted feeding may need to be initiated.

Reasons for inadequate nutrition can include:

- Anorexia
- Inadequate diet/nutrition
- Difficulty/inability to feed
- Nausea
- Stress
- Inability to digest/absorb

Inadequate nutrition can lead to the following problems:

- Reduced immune function
- Increased risk of sepsis
- Decreased tissue synthesis and repair
- Delayed wound healing
- Altered drug metabolism

If we think about any patient in the hospital they are likely to be subject to at least one of the problems associated with inadequate nutrition. For this reason it is vital that we instigate feeding methods as soon as we perceive that the patient is not meeting their RER.

Our aims of providing nutritional support include the following:

1. Providing a minimum of 50% of the RER
2. Supporting a patient during a disease process
3. Supply adequate nutrition for recovery
4. Preventing catabolism and stress starvation
5. Preventing the effects of inadequate nutrition

Reduced protein levels can be associated with reduced heart muscle, decreased pulmonary function and compromised immune function. We want to ultimately get the patient meeting it’s RER in it’s own environment.

Assessing the patient

We need to get a detailed history from the owner regarding the patient’s normal diet. It is important to ask what the pet usually eats at home, how often, at what times and out of what type of bowl. It can be useful to find out if they are a private eater so that they can be offered food in a quiet place with minimal distractions/interruptions.

It is also important to quantify how much weight has been lost and over what time period. Daily weight measurements should be taken whilst the patient is in the hospital and a body condition score system can also be used. A weight loss of more than 3% per week is clinical and should be investigated.

Body condition score systems assess the animal’s weight and its relative proportions of muscle and fat. The assessment is made by eye and running your hands over the patient to feel for prominent structures such as ribs. Each animal is graded out of 5 or 9.
Who needs assisted feeding?

Patients that don’t receive their daily RER for three days or more will require some intervention. This may be that they have had a period of inappetance or anorexia or that we anticipate going forwards that they are likely to have a period of either for 3 days or more. Patients which are physically unable to eat such as those with multiple jaw fractures will need a suitable feeding tube placed.

Recent weight loss of more than 10%, or poor body condition is also indications for assisted feeding. Nutritional losses due to severe trauma or burns may need to be addressed with a feeding tube so that nutrition can be maximised in order to support the patient whilst they are healing.

When we have decided that a patient is a candidate for assisted feeding we need to ensure that they have a diagnosis and treatment of any underlying disease that may be contributing to the inappetance/anorexia. The duration of nutritional support will depend upon the individual and the factors discussed above such as the anticipated length of support. Other important things that we need to factor in to our decisions are the urgency of starting nutritional support and contraindications for the individual. Once we have thought about all of these factors then we can make a decision as to the best form of support for the patient.

Methods of assisted feeding

Steps to support the patient will often follow the flowchart above. In some situations you may be able to meet the patients RER with tempting to eat and the use of an appetite stimulant. In critically ill patients they may be too unstable to withstand anaesthesia for a feeding tube and so a decision to give parenteral nutrition may be made.

Hand feeding

Many patients respond well to hand feeding. Where possible a desirable diet should be fed but often we start tempting patients with anything that they seem interested in. Strong smelling foods and warmed foods can be tried to get the patient started with eating. Animals should be taken out of their bed to a separate area in the hospital where they can be given some TLC and tempted to eat. Moistening gums and wiping a little food on
the nose sometimes develops some interest. Faces should be kept clean and clear of discharges as this will help improve smell which is an important part of taste. Food should always be removed in between attempts so that the patient does not develop an aversion – if at any point the patient is showing signs of aversion then you should stop, remove all food and report the problems to the veterinary surgeon.

Syringe feeding

Similar principles apply to hand feeding. CARE should be taken not to cause a food aversion and not to feed the patient too quickly. In the hospital where the author works we have adopted a policy not to syringe feed patients. We would start with tempting, try an appetite stimulant (if appropriate) or place a suitable feeding tube.

Appetite Stimulants

These can be useful at also trying to get patients started with eating. They are often used as a short term measure and the patient. There are some contraindications in some patients and there is no licenced product for cats and dogs. Once an appetite stimulant has been administered then the nurse can attempt to hand feed the patient and encourage intake of food.

The most commonly used appetite stimulant is Mirtazapine. It is an antidepressant drug that increases appetite. The dose is: Cat dose – ¼ tablet every 3rd day. Dog dose – 15mg tablet per 15/20kg once daily for 3 days. Care should be taken as animals can develop serotonin syndrome and become dysphoric!

Feeding Tubes

<table>
<thead>
<tr>
<th>Tube</th>
<th>Length of Stay</th>
<th>Contraindications</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naso-oesophageal</td>
<td>3 – 7 days</td>
<td>Nasal, oral or pharyngeal disease</td>
<td>Left in situ or placed for feed</td>
<td>Often block</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vomiting</td>
<td>Useful in cats</td>
<td>Limited diets will pass down the tube</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Regurgitation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oesophageal disease/ dysfunction</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disease of the stomach</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lateral Recumbency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oesophagostomy</td>
<td>6 – 12 days</td>
<td>Vomiting</td>
<td>Very well tolerated</td>
<td>Must Check placement prior to feeding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-functional GIT</td>
<td>Can be managed at home</td>
<td>Requires a GA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rarely become blocked</td>
<td></td>
</tr>
<tr>
<td>Pharyngostomy</td>
<td>6 – 12 days</td>
<td>Pharyngeal trauma</td>
<td></td>
<td>These tubes have been superseded by oesophageal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-functional GIT</td>
<td></td>
<td>tubes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vomiting</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unconsciousness</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Coagulopathies are also contraindications for the placement of feeding tubes.

**Care and maintenance of tubes**

Tubes should always be kept sealed to prevent entry of air. It is advisable that patients wear a buster collar to prevent interference with their tube. It is good practice to handle all feeding tubes with gloves as they are invasive devices that can be linked with nosocomial infections. The tube should be examined twice daily for signs of complications. Skin incision sites should be cleaned at this point with iodine. If any discharge is noted then the site should be swabbed and the sample sent for culture and sensitivity so that appropriate antibiotics can be started.

**Feeding**

A nutritional plan should be calculated for the individual. All feeds should be recorded on the hospital record for the individual. Tubes should be checked for placement prior to feeding. With gastrostomy tubes, the stomach contents should be aspirated to check that there is not more than 20% of the previous feed. If there is then the current feed should be delayed for a few hours. Tubes should be flushed before and after the feed with water. If tubes become blocked then they can be flushed with a carbonate drink such as ‘Coca Cola’ to disperse the blockage. Feeds and flush should be warmed to a minimum of room temperature so as not to shock the stomach and cause discomfort. They should be administered slowly over 10 – 15 minutes to prevent the patient vomiting or regurgitating.

Patients can be offered food orally whilst they have a tube in situ. Once they have been meeting their RER for several days eating orally then a decision will be made to remove the tube.

| Gastrostomy | Minimum 10 days | Vomiting | Can be placed endoscopically or via surgery | Wait 24 hours to use
| --- | --- | --- | --- | --- |
| | Long term use | | Feed normal food blended | Has to be in for a minimum of 10 days
| | | Very well tolerated | Can go home with them | Must check fluid in stomach prior to feeding
| | | | | Requires a GA

| Jejunostomy | Short term | Malabsorptive disorders | Bypasses the stomach | Easily dislodged
| --- | --- | --- | --- | Returned to the stomach via reverse peristalsis
| | | | Often become blocked | Requires a GA
| | | | Peritonitis | Must be fed a CRI as no reservoir for food

*Coagulopathies are also contraindications for the placement of feeding tubes*
Removal of Tubes

Remove any sutures or glue. Ensure that the tube is capped so that the patient is not likely to aspirate any food from the tube. Gently pull the tube out in a smooth constant motion. Bath the exit site with some iodine and dress with a small primapore.

Parenteral Nutrition

Partial parenteral nutrition can be given via a peripheral IV catheter and is likely to meet about 40% of the patient’s RER. Total parenteral nutrition must be given via a central line as the osmolality of the solution is very high and can meet 70-90% of the patients RER. All catheters must be handled in an aseptic manner as there is a high risk of infection. Bags and bottles should be changed every 24 hours also to minimise the risk of infection. PPN and TPN are often a short term option and it is important that patients are monitored closely for signs of haemodilution, volume overload and also electrolyte disturbances. Infusions contain a mixture of amino acids, intralipids, electrolytes and vitamins. They can be bought as pre-packaged human preparations or in some large specialist centres they will make up the infusion based on the individual’s requirements. Indications for PPN/TPN include: IBD, Pancreatitis, Parvovirus, Peritonitis, Comatosed Patients and Hepatic Lipidosis.

Refeeding Syndrome

This syndrome consists of metabolic disturbances that occur as a result of reinstitution of nutrition in patients who have suffered severe malnutrition. It was first noticed in World War 2 prisoners and is nowadays associated with eating disorders. Most of the effects result from a sudden shift from fat to carbohydrate metabolism and a subsequent increase in insulin levels after refeeding. Intracellular movement of electrolytes occurs along with a fall in the serum electrolytes including phosphate, potassium, magnesium, glucose, and thiamine. Significant risks arising from refeeding syndrome include confusion, coma, convulsions, and death.