ROYAL CANIN

Why Enteral Nutrition is a Cornerstone for Your Hospitalized Patient

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There are a variety of things the veterinary professional has to consider, in order to optimize the medical care of the critically ill patient. This includes heart rate, glucose, blood pressure, fluid balance, electrolytes, acid base status and nutrition. Nutrition plays a very important role in the management of critically ill patients. Numerous human and veterinary studies have shown a direct correlation between implementation of early nutrition and patient outcome.[1-5] In other words, increased intake of energy and protein appear to be associated with improved clinical outcomes in hospitalized patients.

Why Nutrition Should be Implemented Early

Hospitalized patients generally have many risk factors that contribute to malnutrition, including reduced dietary intake, reduced gastrointestinal absorption, increased gastrointestinal loss and increased energy expenditure. These may occur because of the primary disease process or as a consequence of their medical intervention. Consequences of malnutrition include but are not limited to:

Depleted fat and protein stores may lead to impaired immune function and neuromuscular impairment.[6,7]

Increases in the basal metabolic rate, which increases protein metabolism- leading to more significant complications, including an increased mortality rate.[6,7]

Increased intestinal permeability leading to bacterial translocation and sepsis. [1,7]

Delayed wound healing as a result of depleted protein stores and decreased immune function.[8]

However, the significant adverse effects of malnutrition can be avoided/reversed by providing early nutrition to hospitalized dogs and cats. [6,8,9] The goals of nutritional support are to provide the patient's ongoing nutritional needs, prevent or correct nutritional deficiencies, minimize metabolic derangements and prevent further catabolism of body tissue.[10]

Why Enteral Nutrition is Superior to Parenteral Nutrition

The enteral route (providing nutrition through the gastrointestinal tract) is the best way to provide nutrition to hospitalized patients. It is easy to administer, inexpensive and is the most physiologic way of providing assisted nutrition. Enteral nutrition helps maintain intestinal structure and function, it decreases the risks of bacterial permeability and helps improves gastrointestinal immune function.[10]

Parenteral nutrition (intravenous) nutrition can be considered for a select group of patients (patients with irretractable vomiting/regurgitation, patients with altered mentation which puts them at a high risk of aspiration pneumonia or patients with significant malabsoptive disease). Parenteral nutrition is infrequently utilized in hospitalized patients due to its significant disadvantages. Disadvantages of parenteral nutrition includes increased cost, increased risk of infection and the loss of the physiologic benefits provided by enteral nutrition.

How to Provide Enteral Nutrition

Assisted nutrition can be easily implemented in hospitalized patients using feeding tubes. Short-term feeding tubes (nasogastric or nasoephageal tubes) are easy to place, relatively inexpensive and are well tolerated by dogs and cats. They can be placed with minimal sedation (if required) and can be utilized for prolonged hospitalization (5-7 days). Due to the size of nasoesophageal and nasogastric tubes (3.5Fr to 10Fr), their use is limited to liquid diets (such as the Royal Canin liquid diets).

Long-term feeding tubes can also be utilized in hospitalized patients (i.e. esophageal tube, gastrostomy tube) but the patient has to be stable enough for general anesthesia, which is required to place these tubes. Long-term feeding tubes are also usually placed in patients that are going to be discharged with a feeding tube in place. Thus, nasogastric/nasoesophageal tubes are utilized early in hospitalization and the patient is then transitioned to a long term feeding tube if they remain anorexic.

When to Provide Enteral Nutrition

Assisted feeding, via enteral nutrition, should **immediately** become part of a patient's plan when one or more of the following requirements have been met.

Anorexia for ≥ 3 days. This includes the number of days the patient had not eaten before presenting to the veterinary practice.

Hepatic lipidosis or diabetic ketoacidosis

Impaired ability to eat (jaw fractures, neurologic cases with normal gag reflex)

Enteral nutrition should be initiated once the patient is hemodynamically stable, rehydrated and all electrolyte abnormalities have been corrected.[10,11]

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