Anorexia is defined as the lack or loss of appetite for food. In veterinary medicine, it is one of the most common presenting complaints for a myriad of disease processes with greatly varying pathogenesis. Given this variation in cause, one set of guidelines cannot be applicable to all anorexic patients; however, certain standard approaches that do not use assisted feeding may still prove helpful in differing diseases. The following article discusses these approaches and, where appropriate, highlights some disease-specific recommendations. In addition, guidelines for when to turn to assisted feeding are provided.

ANOREXIA VERSUS HYPOREXIA

Before beginning a discussion on the management of anorexia, it might prove useful to introduce the term hyporexia, because it may be more descriptive of the condition that many veterinary patients who may benefit from this article are actually experiencing. Hyporexia, although not classically defined, means a reduction in appetite rather than a total loss. It is the experience of this author that canine and feline patients that are completely unwilling to eat anything voluntarily can rarely be made to eat enough to meet their energy requirement despite using the techniques and approaches that follow. These patients typically have an underlying reason for their anorexia that may need other therapeutics and time before they even become hyporexic. In the interim, they need to be supported with assisted feeding (nutrition provided parenterally or by feeding tube) until they become hyporexic, which then may be manageable without assisted feeding. Thus, a more accurate title for this article might be management of hyporexia.
FEEDING STRATEGIES TO ENHANCE ORAL INTAKE

Before attempting any of the following techniques or approaches to get patients to eat, medical therapy should have been implemented to correct electrolyte abnormalities, rehydrate the patient, reduce uremic toxins, and reduce pain. It should be noted that opiates commonly used in pain management have antimotility effects that can result in anorexia. Therefore, a balanced approach to pain management and anorexia should be used, with pain management favored during the initial care of patients.

Although a common nutritional quote is “...it is always better for a patient to eat some of the ‘wrong’ diet than none of the ‘right’ diet,” there are many exceptions to this statement. For example, it is not advisable to give an extremely high-protein meal to a uremic patient, a high-fat meal to a pancreatitis patient, a high-salt treat to a patient with pulmonary edema or ascites attributable to congestive heart failure, or a high organ meat meal to a hepatoencephalopathic patient. Thus, caution should be practiced when using an approach or nutritional strategy that may be effective in getting a patient to eat a single meal but may make the patient’s condition worse, and may consequently prevent subsequent more appropriate meals from being consumed.

Creating Ambiance and Improving Service

Although the most commonly used strategy to get an anorexic pet to eat is to increase the palatability of the food offered, this is probably not where one should start. A restaurant’s success can hinge as much on ambiance and service as its food. A restaurant that rudely served the most delicious food at odd hours, had no place to sit, and insisted on loudly playing bad music is unlikely to have many diners. Unfortunately, this type of dining experience is not uncommon in veterinary practice. Therefore, an attempt should be made to create a place to feed patients wherein stressors are minimized. This may be achievable in the patient’s cage or run; however, a special place may often need to be used. Ideally, this area would be quiet and comfortable. Although comfort can mean different things to different pets, it typically means using an area that more similarly mimics the feeding circumstances of the pet at home. Many areas and places in which a pet is typically fed parallel possible locations in most veterinary practices, such as a laundry area, kitchen, office, outside patio, or yard.

Finding a quiet and less foreign feeding area should not be the only strategy pursued. Attempts to normalize feeding times may also be helpful. Many dogs have fixed times for feedings in their home that should be followed. Care should be taken to ensure environmental cues that indicate time are retained as much as possible. Twenty-four-hour lighting should be avoided, and light-dark cycles should be considered, because not only does this provide visual cues as to time for the pets, but some pets, such as cats, can have different consumption patterns during the light or dark cycle [1]. Efforts should also be made not to have food bowls located right next to the area for defecation or urination, because this location does not increase a food’s acceptance.
Finally, addressing food service can be quite important. Do not attempt to “poke” or restrain a patient every time the cage or run door is opened. The practice of “poking” or restraining can elicit fear in the patient and is likely to reduce the chance of a patient eating. At the same time, the actual food server may be significant. It has been the experience of this author that the likelihood of patients eating from a server increases in direct proportion to the time that they have spent or spend with the server in a nonstressed situation. Thus, the following order for preferred servers is ideal for feeding success: (1) client, (2) technician (assuming he or she is not the main “poker” or restrainer), and (3) kennel person. Alternately, kennel personnel should be favored over technical staff if the former are the most frequently encountered people who are providing comfort. There is one caveat to client feeding. This author is reluctant to have a client feed a pet if he or she is basing life and death decisions on whether a patient eats or not. This creates a stressful environment for all involved and should be avoided. Thus, the first step in attempting to get an anorexic patient to eat does not involve food but rather involves creating an environment that only enhances the likelihood of a patient eating when offered a highly palatable food.

**Increasing Palatability**

After appropriate medical therapy, the most common initial strategy to get a patient to eat is to increase the palatability of the meal offered. Several methods that can be used to improve palatability are discussed.

*Increasing moisture*

Switching from a dry food to a canned or pouched food may be an effective means of increasing palatability. Although the major difference between dry and canned or pouched foods is moisture level (∼10% versus ∼75%), it should be noted that canned or pouched foods are also typically higher in fat and protein. Increasing fat and protein may also improve palatability, but care should be taken to ensure that there are no adverse effects from increasing fat or protein, as discussed previously. In addition, the clinician should not assume that the canned or pouched version of a commercial food, including therapeutic formulations, is the same as the dry food. Thus, just because a dry food has been tolerated, the clinician cannot assume that the canned or pouched form is also going to be equally tolerated. An alternative to switching to a canned or pouched food is to simply soak dry kibble. Although most kibble absorbs an equal volume of water, this does not represent a moisture content equivalent to most canned or pouched foods, which would require at least 2.5 parts water to 1 part kibble. Finally, caution should be taken when increasing the moisture of foods fed to cats. Cats raised lifelong on dry food may not find higher moisture foods more palatable but rather less palatable because of a learned texture preference for dry kibble.

*Increasing fat*

The second most commonly used strategy to improve palatability is to increase dietary fat. This strategy is commonly used in therapeutic foods and increases
the energy density so that less food can be consumed to meet a patient’s energy requirement. Although this strategy can be quite effective, it should be used cautiously, because fat is not innocuous. Concerns include those for patients with pancreatitis (although the role of dietary fat in pancreatitis cats remains controversial) and slowing of gastric emptying and overall gastrointestinal (GI) transit time in patients at risk of aspirating or with ileus. In general, this author prefers not to increase the dietary fat content of foods offered to patients as an initial strategy and to do so only when there is good evidence that the patient is not experiencing or at risk for pancreatitis and there are no concerns regarding GI motility.

*Increasing protein*
Increasing dietary protein may be beneficial in some pets, but it can be difficult to determine whether the effect of protein is independent of the frequent concurrent increase in moisture and fat. There is evidence that dogs select foods with a higher dietary protein level [2]. In addition, certain amino acids present in protein may increase a food’s palatability. Much like increasing dietary fat, care should be taken when increasing dietary protein in certain disease processes, such as hepatic failure with hepatic encephalopathy and renal failure with acute uremia.

*Sweet and salty*
Adding a sweet flavor with the use of sugars or syrups as a top dressing can increase the palatability of a food for dogs [2]. Artificial sweeteners should be avoided because they have little to no nutritive value and a common artificial sweetener, xylitol, can cause a hypoglycemic crisis in dogs [3]. This strategy is not effective in cats because they do not have sweet receptors [4], and it should be noted that the use of sucrose (fructose plus glucose) or syrups containing fructose (eg, corn syrup) should not be used in cats because it can cause fructosuria [5]. Although the addition of carbohydrates is generally better tolerated than increasing fat or protein, caution should be exercised in the diabetic patient. One should also be aware of the concept of caloric dilution of nutrients. This occurs when an incomplete and unbalanced food is added to a complete and balanced food in a large enough amount to reduce the amount of essential nutrients a patient consumes to a point that results in a deficiency. This occurs because patients eating or being fed to meet their energy requirement consequently take in less of other nutrients per day. Thus, sugar or syrup added to the patient’s food should constitute less than 10% of the total daily calories. It has been the experience of this author that many dogs need to have a small amount of sugar- or syrup-enhanced food placed under their lip to realize that their food has been sweetened.

Adding salt or using a salty food can also be effective in getting some dogs to eat. Cats seem to be insensitive to the addition of salt. Again, caution should be used in adding salt to foods fed to patients with hypertension, edema, ascites, or renal disease. Although included here, this author has not personally found the
addition of salt to be an effective strategy and believes that the reported preference some patients have for “salty” foods (eg, potato chips, salted nuts, peanut butter) may, in fact, be a preference for fat or treats in general that is somewhat independent of the food’s salt level.

**Freshness, aroma, and food temperature**

Although much more difficult to quantify, clinical experience indicates that a food’s freshness can play a role in increasing a patient’s appetite. The effectiveness of fresh canned food or even nonprocessed foods, such as freshly prepared human meats and starches, in getting patients to eat may be related to freshness, which may also be tied to aroma, because more chemicals are released for sensing. In a similar grain, warming food (to no greater than body temperature to prevent burning the patient’s mouth) may be quite helpful, possibly because of the additional release of aromas. This may play an even greater role in patients with a diminished sense of smell, such as older patients, because it has been shown that the sense of smell is reduced in elderly human beings [6]. In addition, the sense of smell may be reduced in certain disease states, such as chronic renal failure, based on human data [7]. Therefore, enhancing the aroma or smell of foods may be helpful in getting patients to eat.

This also supports the need to keep food fresh during storage at a clinic or hospital and during feeding. Leaving a meal of canned food with a patient all day should be avoided, because it is likely that the food becomes less palatable with time and dehydration.

**Rarity**

Many patients may be more likely to eat a food that is rare but not completely foreign. A rare food may be more enticing than a common food; however, it can be helpful to try first to feed the patient’s regular food if a learned aversion is not suspected or likely to develop. It has been shown in cats that rarity can lead cats to eat a food more readily. Interestingly, it has also been shown that a seemingly palatable food, such as raw beef (this author does not advocate feeding raw meat), is refused by cats that have not been exposed to it previously [8]. This is further supported by the clinical experience of cats fed dry food exclusively refusing canned or pouched food as discussed previously. Therefore, uncommon or rare food can be offered, but types of food that are completely novel may not be the best choice.

**Variety**

A common approach to feeding the anorexic patient is the cafeteria-style feeding method, where numerous foods are offered to patients so as to allow them to select a food they are interested in. This can be an effective “shotgun” approach, and there is supportive canine and human data that variety can increase food intake in healthy subjects [2,9]. There are a couple of cautionary points when using this feeding approach, however. First, a careful measure of the amount of each “cafeteria item” should be made to allow for accurate accounting of
food intake. This should prevent positive or negative assumptions from being made regarding the effectiveness of this feeding strategy. Second, this approach should not be used in patients with diseases that commonly have a learned food aversion as a sequela or have limited commercial therapeutic food options. For example, providing a patient with renal failure in the midst of a uremic crisis with all the available commercial therapeutic foods for sampling should be avoided. This minimizes the likelihood of a patient developing a learned aversion to all the foods that the patient may need to be fed in the long term.

**Polypharmacy Avoidance**

Many commonly used drugs can affect appetite by causing nausea or altering smell or taste. Common pain medications, antibiotics, antifungals, diuretics, anti-inflammatories, immunosuppressives, and chemotherapeutics can reduce appetite. This brief article cannot provide a comprehensive list of all potentially offending medications but can recommend that the potential effects of medications on appetite be reviewed in anorexic patients. Although certain medications may be necessary, dose alterations may be possible or alternative medications or routes of administration may be used that might mitigate some medications’ adverse effects on appetite. Redundant drugs or drugs unnecessary for patient short-term management should be stopped to determine if they may be having adverse effects on appetite. In addition, awareness of a drug’s potential adverse effect on appetite may be helpful, simply because it may improve the patient’s perceived prognosis.

**Eliminating Physical Barriers to Eating**

Although it may seem intuitive, it is this author’s clinical experience that physical barriers to eating are often unrecognized as preventing or reducing food intake. Examples of barriers include Elizabethan collars (E-collars), poor bowl location, and dental or oral pain. It is recommended that E-collars be removed at meals with close observance that the patient eats and does not use this freedom to disturb areas protected by the E-collar. In addition, bowls should be easily accessible, accounting for any limitations in movement the patient may have. This may mean raising bowls for large dogs or moving bowls closer to immobile patients. Finally, poor appetite because of dental or oral pain may be somewhat improved in the short term with higher moisture foods, including slurries and liquid foods.

**Appetite-Stimulating Drugs**

The commonly used or reported appetite-stimulating drugs diazepam, cyproheptadine, and low-dose propofol [10] are not used by this author because their effects seem to be unpredictable, intermittent, and short lasting. Therefore, this author recommends that the previously discussed techniques or approaches be attempted; if they do not work, assisted feeding may be used.

**GUIDELINES FOR WHEN TO INITIATE ASSISTED FEEDING**

Despite perfect execution of these approaches in getting an anorexic patient to eat, some patients do not eat and assisted feeding should be initiated. Although
there is debate as to when assisted feeding should be begun, assisted feeding is generally indicated in dogs and cats when consumption is less than the resting energy requirement \[\text{RER} = 70 \times (\text{body weight}_{\text{kg}}^{0.75})\] for greater than 3 to 5 days with no trend toward improving. Three to 5 days is arbitrary and based loosely on when a patient has exhausted carbohydrate reserves, such as glycogen, and altered metabolism to generate glucose primarily from fat and some protein through gluconeogenesis. This time frame should be shortened if the patient’s body condition score is low or the patient shows other signs of malnutrition, if the patient is growing, if the disease process is expected to worsen without nutritional support (eg, hepatic lipidosis), or to inhibit voluntary intake for a protracted length of time (eg, severe pancreatitis).

**SUMMARY**

The management of anorexia should center first on the urgent and emergent medical management of the patient and be followed by feeding of a highly palatable food in a low-stress environment and manner. Diet palatability can potentially be improved by increasing dietary moisture, fat, or protein and, in the dog, by adding sugar or salt as well as by using a variety of fresh pleasantly aromatic and uncommon foods. Caution should be used when increasing or adding nutrients that may be harmful to patients with specific diseases. Concurrent drug therapy that may reduce appetite should be minimized, and physical barriers to eating should be removed. Patients that consume less than their RER for greater than 3 to 5 days with no trend toward improving should receive parenteral or enteral nutrition.

**References**


