



CLEAN YOUR PLATE
Improper selection and maintenance of pet food bowls could create an unsafe environment for pets and people.

NUTRITION NOTES

Counseling Clients on Food Bowl Selection: What's the Dish?

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As veterinary professionals are aware, assessing a pet's nutritional status at every routine veterinary examination should be standard practice. This assessment commonly includes obtaining a thorough history on the pet's diet, including the type of diet fed, the quantity fed, and the frequency of feedings. Another factor to consider is *how* the pet is being fed.



Although this may seem like an odd question, countless options for food and water bowls exist. The material of the bowls, combined with how they are maintained, can significantly affect the health of the pet and even human members of the household. Care is needed in helping clients select the options that are best suited for their individual pet and situation.

WHY BOWLS MATTER

A multitude of factors influence a client's choice when it comes to food and drink dishes. Clients may make decisions based on cost, esthetics, ease of use, and availability. Marketing, product placement, and popularity on social media may also drive a client's decision. Veterinary professionals, as advocates for the pet's wellbeing and promoters of public health, have a duty to inform clients of available options and the pros and cons of each.

When discussing recommendations, veterinary professionals should inquire about bowl preferences, feeding location, and budget. The type of food being fed, the volume, and the frequency of feedings will also help determine individual recommendations. Selecting the appropriate dishes, feeding methods, and cleaning and care schedules (see **The Importance of Clean Bowls**) can enhance the overall mealtime experience, strengthen the bond between pets and their owners, and keep the pet and the client safer and healthier.

CHOOSING THE RIGHT MATERIAL

When it comes to counseling clients on choosing bowls, it is important to discuss the pros and cons of the most commonly available materials and emphasize that recommendations are made for the health and wellbeing of the pet and the members of the household. Evidence-based medicine should always be followed, and clients should be made aware of the reasoning behind recommendations made by the veterinary team. A study from Hartpury University in the United Kingdom showed that bowl material, as well as duration of use, influences the quantity and species of bacteria present in pet dishes.² Only 3 materials were examined (plastic, ceramic, and stainless steel), but this study can still be used as a guideline for client discussion. While more research is needed, this study showed that plastic pet dishes contained the most bacteria. Ceramic pet dishes contained the highest bacterial diversity as well as the most pathogenic strains of bacteria, including *Escherichia coli*, salmonella, and

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methicillin-resistant *Staphylococcus aureus* (MRSA), which can pose serious health risks to pets and humans.²

Plastic

Plastic pet food bowls come in many shapes, colors, and sizes that can appeal to consumers. They are lightweight and inexpensive and therefore can be a great option for new pets or travel.

However, plastic may not be suitable for puppies, kittens, or any pets that chew on bowls. It can be easily compromised by chewing, which can result in dangerous sharp edges or ingestion of loose pieces. Likewise, plastic scratches easily, and scratches allow for easy adhesion of bacteria and formation of biofilms. Bowls made of plastic containing bisphenol A (BPA) and phthalates should be avoided, as these chemicals are known to cause serious health concerns in humans, such as disruptions in endocrine function, changes in the nervous system, and altered reproductive physiology and biochemistry. Similar effects are suspected in companion animals, but current research is limited.^{2,4}

Stainless Steel

Stainless steel pet bowls are lightweight, durable, and affordable. Many varieties exist, including options for different species and life stages. Some may be shaped to prevent tipping and spilling, and some may have attached anti-skid rings to prevent them from slipping during mealtimes. Many stainless steel bowls also come in standard sizes that can fit neatly into elevated feeders or be mounted in kennels for travel.

Stainless steel may not be suitable for heavy chewers, as dogs may dent or puncture dishes and may cause oral trauma or damage to their teeth. Some pets may also have an aversion to the appearance or sounds associated with stainless steel dishes.



The Importance of Clean Bowls

Per the National Sanitation Foundation, pet dishes are ranked among the top 5 most contaminated areas of the home.¹ Each time a pet eats or drinks, it deposits microbes (e.g., algae, fungi, bacteria) from its mouth into the food or water dish. These organisms can be inherent to the animal or they may be from the environment. When combined with oils in pet foods, leftover crumbs, and moisture, these organisms flourish. These conditions are often perfect for the formation of biofilms—colonies of microorganisms that stick to surfaces—which can be difficult to eradicate without proper cleaning and disinfection of the dish. Since pet owners often feed their pets in or near the kitchen, there is a high risk of exposure to pathogenic bacteria that may be in these

biofilms—including *Escherichia coli*, salmonella, and methicillin-resistant *Staphylococcus aureus*—for the humans in the household.²

Experts recommend that a clean dish be used for every meal, every time;³ therefore, it is a good idea to advise clients to have extra food and water dishes on hand for the sake of convenience. Many pet dishes are dishwasher safe, and running them through a normal hot wash cycle should thoroughly clean and disinfect them.

When washing dishes by hand, pet owners should follow certain basic precautions:³

- If possible, wash pet dishes separate from other dishes and cookware and away from human food preparation areas.

- Use hot, soapy water. A mild dish detergent is acceptable if dishes are cleaned after each use.
- Do not use scouring pads or other items that could scratch or damage the surface of the bowl.
- Designate “pet only” sponges or cleaning brushes, and do not use them to clean human dishes.
- If desired, dishes can be disinfected using a dilute bleach solution (one tablespoon of bleach in one gallon of water). Care must be taken to ensure the dishes are rinsed well before use.

Clients should also clean and disinfect floors, countertops, and other pet feeding areas regularly using household cleaners.

When choosing a stainless steel bowl, owners should look for products labeled as grade 304 or 18/8 stainless steel. These numbers refer to quality, durability, and resistance to corrosion, and this grade of steel is the most common type used in food preparation.⁵ Some manufacturers may use a lesser grade of stainless steel to decrease costs. This can lead to harmful contaminants in the steel, such as the radioactive material found in pet food bowls in 2012.⁶ Caution should be used with bowls labeled for pet use only, as this is usually an indication of a lesser grade of stainless steel. Owners should opt for products from a company that routinely tests its products for contaminants, ensuring a safer product for pets.

Ceramic or Stoneware

Ceramic or stoneware bowls are often the most esthetically pleasing to pet owners. They come in a wide variety of designs to match any owner’s personal style. Since they are heavier, they are inherently sturdier in the sense that they cannot be easily tipped over, chewed, or carried away by the pet.

However, some ceramic or stoneware may pose a risk to pets. According to the Food and Drug Administration,

lead and cadmium are often found in glazes used on ceramic wear. These components can leach into the food or water if the glaze is improperly formulated, applied, or fired, which poses a significant public health issue.⁷ This is especially a concern with imported goods.⁸ Any bowl that is cracked or chipped should not be used, as these defects could also cause exposure to harmful chemicals. Clients should be advised that if they choose a ceramic bowl, they should look for labeling that states the bowl was made in the United States, is lead free, and is intended for use with food.⁷

Silicone

Silicone is lightweight and flexible, making it an excellent, portable choice for use during travel and recreation. Many silicone bowls are collapsible and have small carabiners attached, making them easy to take on hikes or long walks.

These same properties make silicone a poor choice for everyday use, especially around young animals that may bite, chew, or try to carry their bowl.

At this time, silicone is generally considered a safe material; however, limited studies are available for



reference. Clients should look for products that are labeled as food grade or medical grade.⁹

Glass

Glass is a sturdy, nonporous material that is often quite affordable and easy to clean. Since glass bowls are often transparent, it can be more noticeable to clients when they become dirty.

Disadvantages of glass dishes are that there are not many options available and they can chip or crack easily, posing a safety risk to pets and humans in the household.

SPECIAL CONSIDERATIONS

Some pets require special feeding accommodations based on factors such as breed, health conditions, or genetic predisposition, and owners should be counseled accordingly on appropriate feeding techniques.

Elevated Feeding Platforms

Pets with neck or shoulder pain, herniated cervical discs, arthritis of the spine, or other diseases of the head or neck may benefit from elevated dishes. The elevated platform keeps the pet's head and neck up, eliminating strain on the neck that would be caused by reaching down to a bowl on the floor.

Elevated feeders may also help minimize the risk of aspiration of food and water, which is beneficial in pets diagnosed or suspected of having laryngeal paralysis or other neuromuscular diseases. They may also help brachycephalic pets, whose anatomy puts them at a higher risk for aspiration and developing secondary aspiration pneumonia.

Some veterinary professionals believe that feeding large- or giant-breed dogs from elevated feeders may help minimize the risk of developing gastric dilation and volvulus (GDV), as pets are less likely to swallow as much air while eating. However, recent research shows that there is no evidence that using elevated feeders reduces the risk of GDV.¹⁰ Clients with dogs at risk for GDV should make an informed decision on bowl height with input from the veterinary team.

If clients are considering elevated feeding platforms, it is beneficial to discuss the optimal feeding height for each individual pet. Measurements taken of the pet in

the clinic can help guide these recommendations. Generally, dogs should be measured while standing, and ideal bowl height is slightly below the level of the withers. Cats prefer to eat in a crouched position; therefore, their elevated platforms tend to be at about the level of their stifles.

Some pets with very specific needs may require specially designed elevated feeding stations. Dogs with megaesophagus, for example, should be fed vertically to allow gravity to assist the passage of food from the oral cavity into the stomach. The ideal way to feed these pets is by using a Bailey Chair (baileychairs4dogs.com), which is a device constructed to hold the dog upright during feedings. If purchasing one of these chairs is not feasible, the veterinary team can help the client come up with a similar solution.

Shallow Bowls

Brachycephalic breeds of dogs and cats may have issues reaching into a bowl for food or water. For these breeds, it may be best to offer wide, shallow bowls so they can still visualize their surroundings while eating and more easily access the bowl's contents. Shallow, tilted bowls that allow food to slide toward the front of the bowl, allowing easier access, are commercially available.

Although not a medical condition or diagnosis, some pet owners and veterinary professionals believe that cats may experience "whisker fatigue" (also referred to as "whisker stress"). It is speculated that the large number of nerve endings associated with a cat's vibrissae may overstimulate the nervous system when the whiskers touch the sides of food and water dishes, thereby causing the cat stress. While this is only a theory, and more research is needed to determine if cats are truly at risk, it is beneficial to inform cat owners so that they can switch to a shallow, more whisker-friendly bowl, saucer, or plate if they believe their cat has a preference or that it would benefit their pet.¹¹

Food Dispensers

Many pets, including young dogs, high-energy dog breeds, cats, pets with physical restrictions due to illness or injury, or pets that eat too quickly, may benefit from use of a snuffle mat, slow feeder bowl, puzzle feeder, or other food-dispensing toy. Many cats enjoy "hunting" and can be easily taught to work to extract their food from toys. Likewise, many dogs enjoy



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the mental stimulation involved in working for their food. Food-dispensing toys can also increase total daily activity time in pets and therefore can be quite beneficial in weight-loss programs.¹² Care should be taken when selecting the appropriate food toy for each pet, and the pet should always be supervised while using the food toy to prevent destruction or accidental ingestion of the toy itself. It may be helpful for the veterinary team to compile a list of favorite toys for each species to help guide clients in their selection. There are also plenty of creative do-it-yourself versions if clients prefer to make their own.

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Shannon earned her bachelor of science degree in veterinary technology from Michigan State University. Since she became credentialed, her clinical experience has been exclusively in specialty practices in services such as emergency, critical care, internal medicine, surgery, and anesthesia. She is Fear Free- and Human-Animal Bond-certified and is a member of many professional organizations and groups. Shannon serves as a member-at-large for the North Carolina Association of Veterinary Technicians. She is passionate about learning and teaching others and empowering pet owners through education. Shannon is also the vice president of education for The Bridge Club.



CONCLUSION

Pet owners are often overwhelmed by options and clever marketing schemes when it comes to selecting products for their pets, and food and water dishes are no exception to this rule. As part of the nutritional assessment during routine visits, clients should be questioned on how they are feeding their pets, including what type of dishes they are using, where they are located, and how often they are being cleaned. It is the duty of the veterinary team to ensure that pet owners are aware of the inherent risks to pets and people in the household caused by pet food dishes and feeding areas, and to provide them with reasonable alternatives to keep their families and their beloved pets safe and healthy. **TVN**

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