



When you are a scientific communication officer, one day or another, you will have to do lectures. I am not complaining here since, in my current position, this is something I really enjoy! It gives me the opportunity to connect with our clients and discuss their questions and concerns. No better way to stay in touch with the field!

When you lecture so often, you tend to become perfectionist. I now focus on many little details I really did not care about when I first started. In 2015, one I will particularly pay attention to: providing our attendees with written notes.

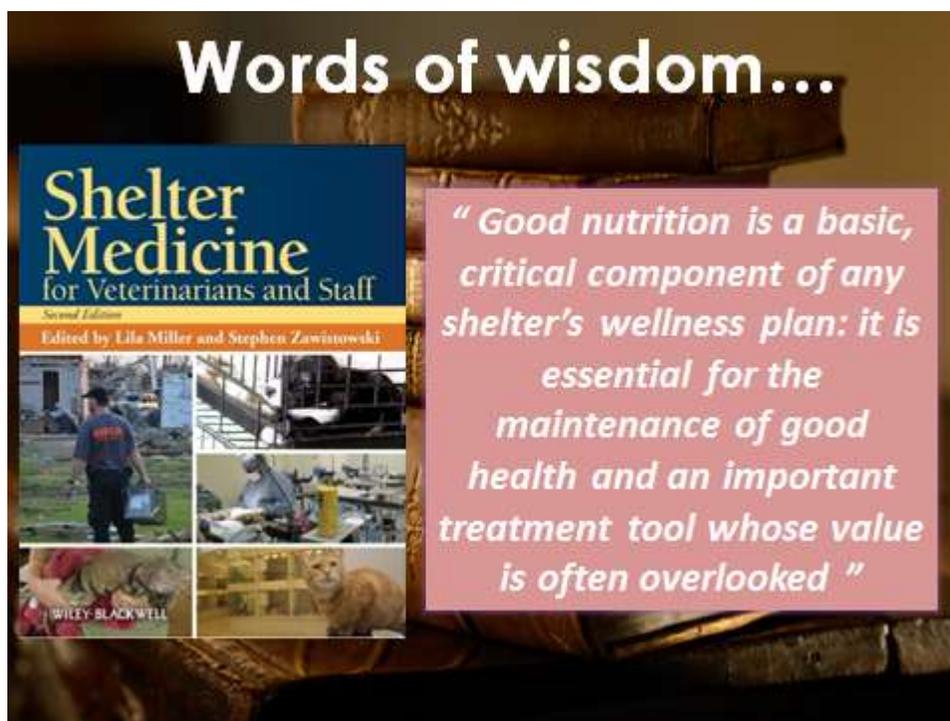
It makes total sense: our lectures usually contain lots of information and, as shown by several studies on human cognitive psychology, we only retain 10% of the content that was presented.

In the past I was sharing a copy of my slides but more and more, these only display pictures: no text, so hard to remember what the message was, especially when you review the slides few days or weeks after the event took place.

All my new presentations will now come with lecture notes in an e-book format. Here is the one from the talk I did during the 2015 International Shelter Convention in Aimargues, France:

“ Food for thought in animal shelters : how good use of nutrition will help you make a difference “

I hope this document will be helpful for you guys, and if you have any comment/idea on how to make the content part of our seminars even better, don't hesitate to let me know, I'm always open to constructive suggestions! You'll find my contact info at the end of this e-book! Good reading !



A long long time ago in a galaxy somehow far away now, I was given what I consider one of the greatest advice I received in my life: read. Read as much as you can on everything you are interested in. For sure, the source matters (yes it does; my two cents: do not always trust Dr Google !). So when I got involved in Shelter Medicine, I went for the textbooks. I found this book you can see on the slide above.

While reading it, I bumped into this sentence :

“Good nutrition is a basic, critical component of any shelter’s wellness plan: it is essential for the maintenance of good health and an important treatment tool whose value is often overlooked”

Words of wisdom here, that’s for sure. Two parts of this sentence really caught my attention:

- **“Overlooked”**: that sounded awfully familiar. I always thought that nutrition was no big deal as long as you used a good diet. My experience in the field taught me I was wrong.
- **“Good nutrition”**: this one, I felt intrigued. What does it exactly mean for the pets? For the shelter staff and the volunteers? I am pretty sure if I was asking all of you, I would probably get many different answers.

Clarifying what “good nutrition” is: that will be our goal today. Along the way, we will also share practical tips so that, when you are back in your structures, you can optimize your feeding practices. And get the best out of it.



Before we dive deeper into this topic, there is something I would like to emphasize. I just wrote down on the previous page that in the past, I used to think that nutrition was no big deal as long as you used a good diet for your dogs and cats. I was sssso wrong.

I am sure we can argue for a while on the definition of what a good diet is. So many trends these days, so many buzz words that surround us (think of the “holistic”, “organic”, “raw feeding” thing of the world,...). I am sure we could have an interesting, even entertaining debate. That’s however not the point I want to make here.

Think about it for a second. Do you think the diet alone will make a difference for the pets ? Obviously not. This is also about the use we make of it, right? That is my point.

Nutrition should always be considered as a whole.

For sure, the diet you feed your animals will play a role. You need to find something that fulfills their nutritional needs. My 2 cents : think nutrients first (proteins, lipids, vitamins, minerals,...), not ingredients. Don't look for something that appeals to yourself. Look for something that will show results on your pets.

In shelters it is also about how your staff, your volunteers, use these diets to promote the health of those animals you have in your care.

Two sides of a coin. None should be neglected.



I spend a lot of time in the field. I visit structures like yours. I discuss with the animal lovers who work there. And I constantly learn from them. No doubt about that: in shelters, there are challenges to face. Nutrition can eventually be one of them.

To be able to feed their pets, many structures rely heavily on donations. Donations are great, and I would never recommend turning them down. When it comes to pet food however, products donated

can eventually vary a lot, leading to frequent changes in the animals' diet. Not something so well tolerated by the digestive tract of our dogs and cats. I therefore think it is always important to observe what I call the "consistency principle" (see our blog post on this topic here <http://royalcaninshelterprogram.ning.com/profiles/blogs/nutrition-in-animal-shelters-the-consistency-principle>). Feed a consistent diet during the stay of the animal: that will definitely be a first pre-requisite to optimize digestive tolerance.

One of the most interesting question I like to answer is the following one : "Which diet(s) should we carry then ?". Why? Because each shelter is unique ((see more here <http://royalcaninshelterprogram.ning.com/profiles/blogs/which-diet-s-for-your-animal-shelter>). There is therefore no standardized answer. Each structure should be properly appreciated.

To make the best decision, it is important to do some homework then.



When you walk into a pet store or your veterinary clinic, you might sometimes feel overwhelmed by the number of different diets available. It might seem complex, but this apparent complexity is just the reflection of our always growing knowledge in animal nutrition. We are aiming more and more towards individualized nutrition for our pets. That's great news for them. But for evident financial reasons, this is often incompatible with your reality in shelters.

Start by making a snapshot of your shelter's pet population (don't forget to include your foster network!) and categorize the animals :

—> Think size : if cats somehow represent a very homogenous population regarding that matter, there are definitely more variations observed on the dog's side. And the size of the dog does have an influence on how they digest their food (i.e small dogs are more prone to constipation, large & giant breeds are more prone to softer stools, ...).

—> Think lifestage : adults will benefit from an appropriate maintenance diet but birth & growth solutions (milk replacers, growth diets) are definitely something to carry if you often deal with puppies & kittens.

—> Think Spay & Neuter : pet overpopulation is a problem and the spay & neuter programs run by shelters definitely contribute to a better control. However, spaying & neutering comes with modified nutritional needs (20-30% decrease in energy needs), with overweight as a frequently observed side-effect. This is something you guys need to have in mind for your spayed & neutered population. It is also something you absolutely need to mention to the pet owners.

Always categorize your population first. Then, go from there and crunch some numbers.



**2/ Focus on
palatability**

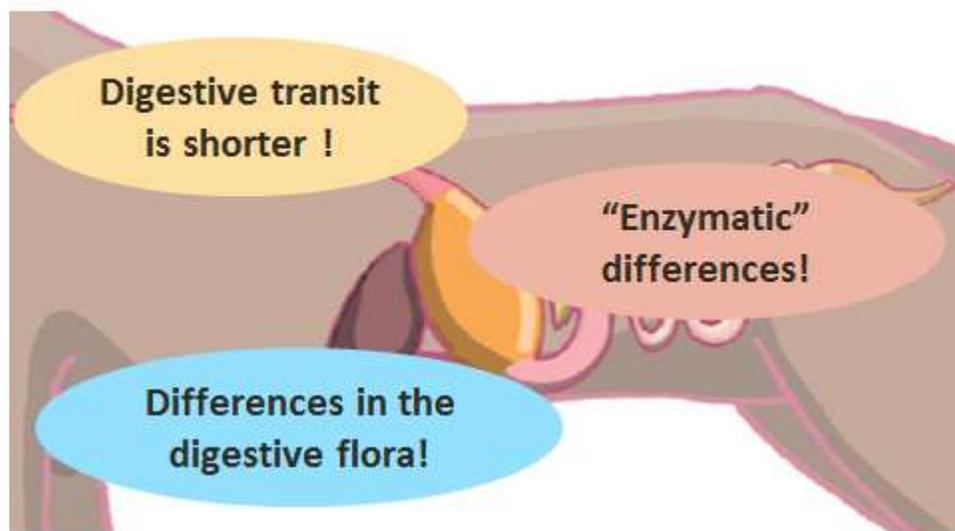
Include palatability of the diet(s) in your selection criteria. Stress is a huge concern in shelters and rescue. Highly stressed individuals have a tendency to go off their food, which increases their risk of getting sick. Never a good thing in shelters...

Dogs and cats pick their food based on how it smells first, but other parameters will also influence their choice. Important ones to keep in mind: the kibble's size, shape & texture! The more adapted for the animal, the better then.

Palatability of the diet must be one of your primary concern. Here are few tips I've seen in the field:

- Some shelters also like to carry a variety of diets (2 or 3 different ones) just in case they will have to deal with a picky eater.
- Some shelters also sell pet food to their clients: that will make them more flexible to follow the previous tip I mentioned.

3/ A priority : digestive safety



Gastro-intestinal issues are among the most common disorders encountered in shelters. That is why digestibility (=the percentage of a foodstuff taken into the digestive tract that is absorbed into the body) of the diet you pick is paramount.

Few things to keep in mind here:

#1: Follow the consistency principle (see here

<http://royalcaninshelterprogram.ning.com/profiles/blogs/nutrition-in-animal-shelters-the-consistency-principle>). Any frequent / drastic change in the diet can indeed upset the dog's and cat's digestive tract.

#2: Feed your animals with the most digestible nutritional solution you can afford. Specific nutrients are used to improve this matter (LIP, beet pulp, psyllium, FOS, MOS, zeolithe,...). However remember that in the end, it is always a matter of balance. When it comes to digestibility, it is NOT the more the merrier.

#3: In dogs, size does impact digestive abilities. When possible, try to feed the most adapted diet to the animal. This is especially important at intake.

#4: When feasible, always do a 5-7 day dietary transition to switch an animal over the food you carry in your structure (more info on how to conduct a dietary transition in this blog post

<http://royalcaninshelterprogram.ning.com/profiles/blogs/nutrition-in-animal-shelters-about-dietary-transition-and-its>).



Before I got involved in shelter medicine, I thought that animals in shelters would probably all be young adults. Probably (very) skinny at the time they enter the structure. I quickly learnt that the reality was

way different. Animals of all sort, in all types of conditions can be found in shelters. Sometimes it is the reflection of the shelter's surrounding community. But sometimes, it can also be related to zootechnical mistakes.

Some years ago I visited a structure in which all the cats were like the one you can see on the picture above. I must admit I was kind of surprised. Overweight is a growing concern in our dog's and cat's population, but then, how could it be that all those animals seem affected?

"The food might be too rich." That was the answer I got. But when we looked around a bit, we found an answer. In this structure, because of lack of staff & time, all pets were fed with automatic feeders.

I am sure you learnt that "cats have a different eating behaviour than dogs". They indeed have a tendency to eat several small meals during the day, sometimes up to 20 of them. However, that does not necessarily mean they know better how to regulate their food intake. Some cats will indeed eat as much as they can, gulping kibbles one after another. And the ambient stress of the structure might definitely not help (boulimia can also be a manifestation of stress).

Free-feeding is not always a good option. Cats can have food left at their disposal, but the amounts given should always be controlled in my opinion. Especially now that the length of stay of our animals is increasing in shelters.

Consistency : more than just the diet...



Being consistent about the way you feed your animals is NOT only about the diet you use. It is also about the way you feed your pets:

- ➔ Monitor the amount of food you give them on a daily basis ;
- ➔ Adapt this amount of food on an individual basis. This is easy to set up, just put stickers on the front of the cage as a quick reminder.

If you are consistent in the way you feed them, you will decrease waste (this will spare the shelter's money!), occurrence of GI upset (vomiting/diarrhea can also happen because of overconsumption) and risks of overweight.

The number of meals given per day can also have an influence in certain situations :

—> In adult dogs, we know that the number of meals will not influence the digestibility of the diet. In large and giant dogs which are more at risk for gastric torsion, 2 meals per day can however be considered.

—> Cats have a different feeding behaviour and might take a large number of smaller meals during the day. Food should therefore be left at disposal. This however does not mean they should be free-fed : overeating can be a concern in cats as well.

—> In puppies, studies have shown that digestibility is improved when they are fed 4 meals per day. This is definitely something to consider since these individuals are highly prone to develop gastro-

intestinal disorders. There are to date no publications in kittens, but we believe the same should apply in their case.



Shelters are challenging environments that need to be constantly monitored. Daily rounds are here to serve this purpose. When doing them however, never forget to check the animal's eating behaviour, which can be a great source of information for the shelter.

Monitor the animals' weight and body condition on a weekly basis. Feeding guidelines are indeed recommendations that need to be adjusted on an individual basis. When the type and amount of food is adapted:

- > the animal eats it all
- > there is no weight gain or weight loss
- > there is no gastro-intestinal disorder (diarrhea, vomiting)

Evaluating those parameters is also of great importance at intake. Shelter staff & volunteers must be aware of a disease called "refeeding syndrome" that can affect very skinny / emaciated animals arriving at the shelter. Our first reflex is often to give those animals as much food as they want because of the starvation period they must have gone through. While it is a noble gesture, it is however NOT what you

should do. The prolonged starvation modifies the animal's metabolism: reintroducing the food too quickly can lead to a wide range of symptoms, including weakness, seizures, coma, irritability, aggression and even death! In those specific situations, food will need to be reintroduced slowly, over a 10-14 days period (more here <http://royalcaninshelterprogram.ning.com/profiles/blogs/nutrition-in-animal-shelters-refeeding-syndrome-11-facts-you>).



We already emphasized how critical palatability of the diets you picked for your shelter is. When animals eat well, they are indeed less stressed and have less risk to get sick. Palatability depends on some of the inner characteristics of the diet (aromas & kibble technology essentially). However, to fully benefit from those, it is also important to maintain the freshness of the product.

There are however other factors that can impact the animal feeding behaviour, like storage and stress.

What with storage then?



The “oxidation” problem

Palatability issues and
their consequences...

Proper storage condition will preserve the freshness of the products. It will make a difference.

When food is directly exposed to air, the oxygen will affect the lipids coating the kibble. It is a phenomenon called “oxidation”, leading to rancidity and automatically decreasing palatability.

When food is exposed there is more risk for contamination, especially dust, bacterias, organic secretions of animals having access to the room... Again all together it can impact the food’s quality and palatability.

Our recommendations



**+ regular cleaning/disinfecting
as well !!!**

Our recommendations are the following:

- Once opened, keep the kibbles inside their original plastic bag and put the bag inside a closed plastic bin (see slide above) ; those different layers of protection will better protect food from oxidation.
- All the kibbles inside a bag should be eaten in the month following its opening. This is more of a FYI since shelters will usually go very quickly through bags.
- Don't forget to regularly clean and disinfect the bins; they also can be source of contamination.

More information on food storage in animal shelters here

<http://royalcaninshelterprogram.ning.com/profiles/blogs/nutrition-in-animal-shelters-the-importance-of-food-storage>

When to remove the bowls ?



Also, don't let the food sit in the cages for ages.

The longer it sits in there, the higher the risk it gets contaminated by bacteria, dust, etc. , that could favour the development of gastro-intestinal disorders.

The longer it is exposed to air, the rancier it will get.

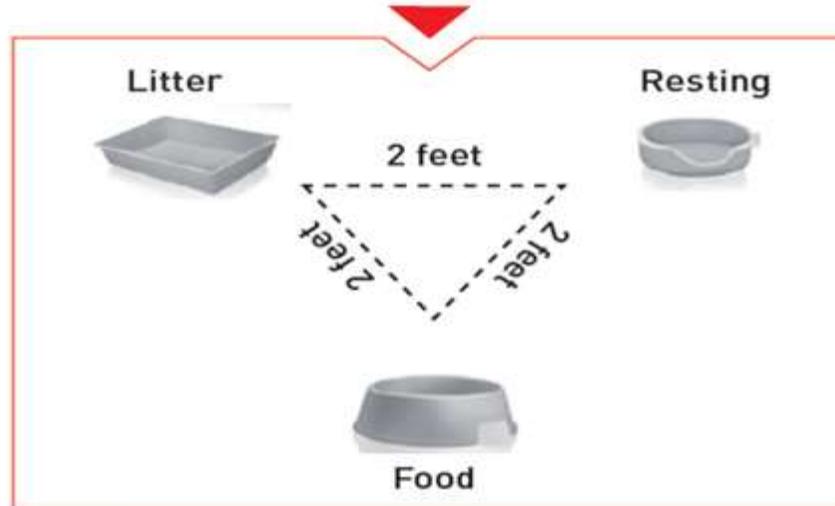
Rule of thumb:

—> what remains of dry food should always be discarded 24 hours after being distributed.

—> what remains of canned/ rehydrated food should be discarded a couple of hours after being distributed.

Where to place them ?

MINIMAL SPACING RECOMMENDED BETWEEN CATS' LITTERBOX, RESTING PLACE, AND FOOD.



How things are organized inside the cages can also influence the eating behaviour of an animal.

For instance in cats, it has been shown that when the litter box is too close from the food bowl, cats can exhibit a fussy appetite.

The picture above gives you an idea on how to position the different elements inside a cage. Optimizing the spatial organization of the cage will definitely influence their eating behaviour.

For the record, for those of you who like me were born and raised with the metric system, 2 feet \approx 60cm !

Feeding enrichment ?



We did mention stress on several occasions in this document, and how it could potentially impact the eating behaviour of the animals. Some animals submitted to too much stress will go off their food, while others will develop a boulimia-kind of behaviour.

Stress in shelters MUST be fought, especially in cats. What is the connection with nutrition ? The answer: feeding enrichment.

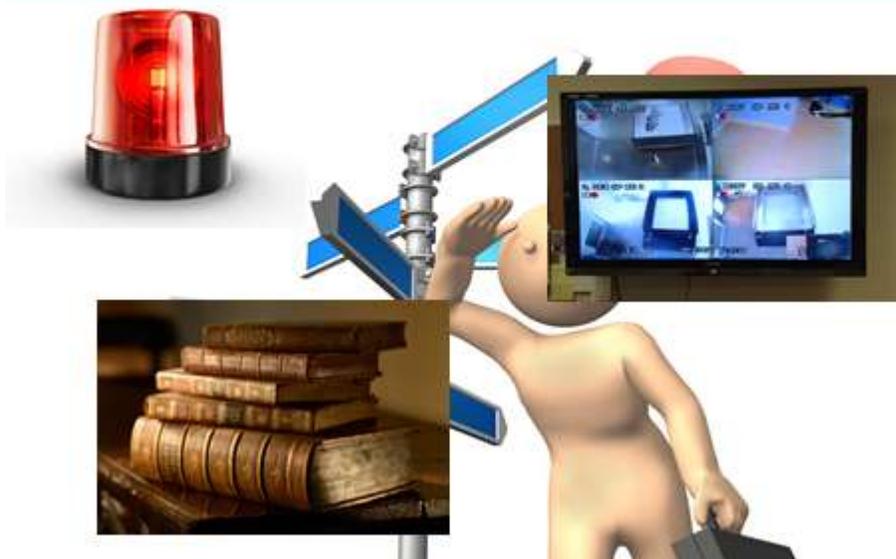
Feeding enrichment techniques have indeed become more and more popular for dogs and cats in shelter environments. It stimulates the animal, make them more active and help fight boredom

There are systems that will help decrease barking in shelter dogs (which is a great source of stress... for other dogs and for the cats housed nearby). Food puzzles will help regulate the speed of ingestion (always good in voracious dogs and those more prone to gastric torsion) and again, help fight boredom.

I am often told that it is important to properly train the animals when they are introduced to similar feeding enrichment techniques (and that unfortunately, some animals won't get it...). Shelters often add them as part of their socialization program.

Again, this is not THE remedy for stress in shelter environments. But it is definitely an aspect that is worth considering in my opinion.

Conclusion



Our ebook ends here, but for you guys, things are just about to get more interesting. I hope it helped you see nutrition in animal shelters from a totally different perspective. Those tips we shared are quite simple (and maybe you have others, please don't hesitate to share !). Keep them in mind when you get back to your structure : I can assure you that those tiny details will make a difference on the long run.

My 3 take-aways here :

- ➔ When it comes to nutrition in animal shelters, be consistent : consistent on the diets you use, consistent on how you use those diets. Always consider nutrition as a whole and don't limit it to the diet alone.
- ➔ Monitor, monitor, monitor : daily rounds in shelters are a must-do. Monitor the health of the animals in your care, but monitor as well their eating behaviour and their weight/body condition. This will tell you a lot about what is going on inside your structure.
- ➔ Spread the word : spend time educating your volunteers and staff on specificities of shelter nutrition (or use our dedicated RC services !); educate the adopters especially if the pet they

adopt out is spayed or neutered. Remember, most of the time they don't have the same level of awareness you might have on this topic.

No doubt that shelters are challenging environments. Nutrition is just one piece of the puzzle. Don't overlooked the role it can play. Think of what a wise man (Hippocrates in case you ask!) said a long long time ago : "Let food be thy medicine and medicine be thy food." Food for thought, isn't it ?



Thank you for your attention !

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