Frequently Asked Questions About

Raw Pet Foods and the AVMA's Policy

(August 28, 2012)

In August 2012, the AVMA House of Delegates approved a new policy on raw or undercooked animal-source protein in dog and cat diets. Below are answers to the questions we've received about this issue.

Q: What is the AVMA's policy on raw diets?
A: The Raw or Undercooked Animal-Source Protein in Dog and Cat Diets policy, approved by the AVMA House of Delegates in August 2012, is available on our website..

Q: Does the AVMA policy apply to all raw food fed to pets, or only a certain type?
A: It only addresses raw or undercooked animal-source protein, which includes meat or products from chickens (including eggs), turkeys, cows, pigs, sheep, fish, deer, buffalo, or other animal sources. It also includes raw, unpasteurized eggs and milk. And more specifically, it addresses the need for eliminating pathogens from these diets if they are to be fed to pets.

Q: How did the AVMA policy come about?
A: The Delta Society (now Pet Partners) contacted our Animal Welfare Division and inquired as to whether or not the AVMA had a policy addressing raw feeding, primarily due to concerns about therapy animals being fed raw diets. At the time, we did not have a policy on the subject. Pet Partners did not request that AVMA develop a policy, and did not suggest a specific policy. The Animal Welfare Division staff contacted the AVMA Council on Public Health and Regulatory Veterinary Medicine (CPHRVM) and notified them of the inquiry. The CPHRVM discussed the matter and felt that the AVMA should have a science-based policy addressing the public health risks of raw food.

For a list of the scientific literature the CPHRVM reviewed when developing this policy, see the reference list.

Q: Do other veterinary or public health groups have policies or statements about raw diets for pets?
A: Yes. The U.S. Food and Drug Administration Center for Veterinary Medicine (FDA-CVM) makes the following statement on its website:

> *FDA does not believe raw meat foods for animals are consistent with the goal of protecting the public from significant health risks, particularly when such products are brought into the home*

and/or used to feed domestic pets; however, we understand that some people prefer to feed these types of diets to their pets.

The U.S. Centers for Disease Control and Prevention (CDC) make the following statement on their website:

> *Raw diets, especially raw meat diets, are not recommended because of the risk for salmonellosis and other infections that can affect pets and their owners.*

In addition, the CDC provided the following statement to the AVMA when the policy was being considered:

> *CDC recommends against feeding raw food to dogs and cats because of the risk of illness to the pet as well as to people living in the household.* ***Do not feed your pet a raw diet. Here is why:***
>
> - *Raw diets consist of foods such as meat, poultry, milk, and eggs that have not been cooked or treated to remove harmful germs.*
> - *These food items can carry harmful bacteria including Salmonella and Campylobacter.*

The American College of Veterinary Nutritionists (ACVN), in a FAQ document on its website, makes the following statement:

> *Raw diets, both home-prepared and commercial, have become more popular. Advocates of raw diets claim benefits ranging from improved longevity to superior oral or general health and even disease resolution (especially gastrointestinal disease). Often the benefits of providing natural enzymes and other substances that may be altered or destroyed by cooking are also cited. However, proof for these purported benefits is currently restricted to testimonials, and no published peer-reviewed studies exist to support claims made by raw diet advocates. No studies have examined differences in animals fed raw animal products to those fed any other type of diet (kibble, canned, or home cooked) with the exception of looking at the effects on digestibility. Typically raw meats (but not other uncooked foods like grains or starches) are slightly more digestible than cooked meat.*
>
> *There are risks and concerns associated with the feeding of raw diets. One of these is the risk of nutritional imbalances, which is a reality for both home-prepared and commercial raw meat diets. Another important risk is related to bacterial or parasitic contamination. Of course, food poisoning is also a major concern for people, and the public health aspects of feeding raw foods to pets cannot be overlooked. Safe and proper handling of raw foods is crucial for reducing the risk, but safety cannot be guaranteed. At this time, the vast majority of purported benefits of feeding raw foods remain unproven, while the risks and consequences have been documented. It is best to discuss the choice of feeding raw foods with your veterinarian so that an informed decision can be made with regard to your pet's diet.*

The American Animal Hospital Association (AAHA) approved a policy in August 2012 that discourages feeding raw meat to pets. The National Association of State Public Health Veterinarians (NASPHV) and American Association of Feline Practitioners (AAFP) both endorsed the AAHA statement. The policy was developed independently of the AVMA's position, but was shared with AVMA prior to posting on the website.

Q: What influence did the pet food industry have on the AVMA's policy?
A: None. Neither commercial nor raw diet manufacturers were contacted during development of this policy because it was based on public health risk, and not on nutritional comparisons, health benefits, or economic factors. None of the pet food companies were aware that a policy was being developed.

Q: What is your response to allegations that the AVMA is "in the pockets" of the pet food industry?
A: These allegations are false. We are a science-based organization, and this policy is based on scientific research. Veterinarians are pet owners too. We love our animals and have the experience and training to make educated decisions about what to feed our own pets. Veterinarians choose and recommend diets based on what is best for the animal – e.g., it is medically appropriate and nutritionally balanced to meet that pet's need. Many veterinarians feed commercial diets, and veterinarians are free to make their own choices when it comes to feeding their pets.

Contrary to the internet rumors that have been propagated, none of our Executive Board or House of Delegates members are employed by pet food companies. AVMA Convention Sponsorship provides financial support for programs and activities that are designed to enhance the attendees' overall experience through unique educational programs, networking events and entertainment options. AVMA Convention Sponsorship provides visibility and engagement with attendees for the sponsor, as well as an opportunity to support important educational initiatives. AVMA Convention attendees are invited to attend and participate in sponsored events without any obligation to promote, purchase or sell the sponsor's product or services.

The development of AVMA policy is independent of sponsorship. This is critically important to us because we are expected to be objective, science-based experts on animal health and welfare topics. Sponsorship is necessary to allow us to provide experiences for our members, but we do not allow sponsorships or sponsors to drive AVMA policy.

Veterinarians are independent thinkers, and are free to promote and sell the products they feel will serve their patients' and clients' needs. We encourage you to have an open discussion with your veterinarian about your pet's nutritional needs, and work with them to find the optimal diet for your pet.

Q: Why does the policy only address raw protein diets, and not other foods?
A: The Council on Public Health and Regulatory Veterinary Medicine (CPHRVM) felt that the science supported a policy that specifically addressed the public health risks associated with raw/undercooked animal-source protein that hasn't been adequately treated to remove pathogens. At a future meeting, the CPHRVM will discuss the pet food recalls and the hazards associated with commercial pet foods to see if a policy is needed. If the CPHRVM or another council or committee determines that other policies addressing pet foods are indicated, they will be developed separately.

Note that with this policy we aren't encouraging commercial diets, we're encouraging "commercially prepared or home-cooked food" (as stated in the policy). As long as it isn't raw or undercooked and doesn't contain pathogens, we're not concerned with what it is or where it came from. Regardless of what you feed your pet, the diet should be free of pathogens that can sicken you, your pet and your family. Just like you, we also want pets' diets to be nutritionally

balanced. We support the FDA's efforts to ensure that pet foods and treats of all types are safe and healthy for pets.

Q: What are raw diets?
A: Raw diets usually contain some or all of the following: muscle meat from animals (often still on the bone); bones (whole or ground); organ meats (e.g., liver, kidney); raw eggs; raw vegetables and/or fruit; and possibly some dairy products, such as unpasteurized yogurt or milk. As the name implies, the food is not cooked prior to feeding.

Q: What are the benefits of raw diets, and how do they compare with commercially processed kibble diets?
A: There are many anecdotal reports of benefits associated with feeding raw food – including easier weight management; reduced dental disease; healthier coat and skin; elimination of allergies; improved overall health and immunity; and more – but there is no scientific evidence to support these claims. Raw food advocates also contend that the diet more closely resembles what dogs' and cats' ancestors ate, but this does not account for the evolutionary, biological and dietary changes that have accompanied domestication to produce the pet dogs and cats that currently share our lives. According to the Pet Food Institute raw pet foods comprise approximately less than 1% of the pet food market.

Commercially processed canned or kibble foods are formulated to meet dogs' and cats' nutritional needs for proteins, fats, carbohydrates, vitamins and minerals. They are convenient, cost less than raw or homemade diets, and are readily available in most grocery stores, pet stores and "big box" stores. These pet foods comprise the majority of the pet food market. Commercial foods are nutritionally balanced and they undergo a process of quality control/ inspection that is meant to catch any contaminants or pathogens before they affect pets or people.

At this time, there are no scientific studies comparing the health benefits of raw and commercially prepared foods. The decision to feed one diet or another is a personal decision made by the pet owner.

Q: What are the risks of raw diets, and how do they compare with commercially processed kibble diets?
A: It's common knowledge that raw meat is likely to be contaminated with bacteria; it's not sterile by any means. Even USDA-inspected, "human grade" meat is not free of bacterial contamination. Some of the commonly-known pathogens that can be present in meat include *Salmonella*, *E. coli*, and *Campylobacter*. Other pathogens that may contaminate raw meat include *Toxoplasma gondii* (the parasite that causes toxoplasmosis), *Cryptosporidium*, *Echinococcus*, *Clostridium*, *Neospora and Sarcocystis*.[1-4] The same applies to raw meat fed to pets. If the raw food isn't adequately treated to eliminate pathogens, you could be feeding your pet potentially harmful pathogens that could cause illness in your pets and/or your family.

The biggest difference is that raw meat is cooked (which kills the bacteria) before it is fed to your family, but the meat is not cooked prior to being fed to a raw-fed pet. When you feed meat to your family, precautions should be taken to store, handle and prepare the meat in order to prevent foodborne illness. Therefore, your family's risk of infection with these bacteria is low when the

appropriate precautions are taken, but the risk of your pet being exposed to and infected with the bacteria is higher because the food isn't cooked to kill the bacteria.
Scientific studies have confirmed that pets fed raw diets contaminated with *Salmonella* can become *Salmonella* carriers; this means that they don't develop any illness, but the *Salmonella* bacteria are shed in the pet's feces (stool) and can contaminate the environment and potentially infect people with the bacteria. For example:

- *Salmonella* has caused illness in dogs fed raw diets.[5]
- *Salmonella* has been found in the stool of sled dogs and racing greyhounds fed raw diets.[6-8]
- An outbreak of *Salmonella* associated with raw feeding caused illness in 27 puppies from 8 litters at a Greyhound breeding facility. Ten of the affected puppies (37%) died. Salmonella was cultured from the raw diet and the environment. Salmonella was cultured from 57 of 61 (93%) stool samples.[9]
- *Salmonella* organisms were isolated from 8 of 10 samples (80%) of homemade raw diets. The bacteria were also found in the stool of 3 of 10 dogs fed homemade raw diets, but in none that were fed commercial diets. While 3/10 may seem like a low number, actual number infected may be significantly higher. It is well known that *Salmonella* is shed intermittently, therefore others may have been infected but not shedding at the time the stool samples were tested.[10]
- Five of 7 dogs shed *Salmonella* after consuming a raw diet, and the type of *Salmonella* was identical to that cultured from the raw food. Healthy dogs became infected with *Salmonella* after a single meal.[11]
- *Salmonella* was recovered from the stool of 6 of 42 dogs (14.3%) fed raw meat, versus 0 of 49 dogs that were not on raw meat diets.[12]
- *Salmonella* cultured from the gut and lungs of two cats that died from salmonellosis was identical to the *Salmonella* cultured from the raw diet they were fed.[13]

In a 1999 study,[14] indoor-only cats fed raw meat in addition to a home-cooked or commercial diet were significantly more likely (19.1% vs. 2.2%) to be positive for antibodies to *Toxoplasma gondii* (indicating exposure and infection); outdoor cats fed raw meat were almost twice as likely to test positive for antibodies to *T. gondii* (30.3% vs 18.4%) than those fed only home-cooked or commercial diets. Another study in 2008 determined that cats fed raw or undercooked viscera (organs) or meat were more than twice as likely (53.5% vs 22.9%) to be antibody-positive for *T. gondii*.[15]

In addition, some raw diets may not be nutritionally balanced for pets. This can result in deficiencies or imbalances, particularly of vitamins and minerals, that can be harmful.[16] This can be particularly problematic in puppies and kittens, because calcium/phosphorus imbalances can lead to bone deformities and growth problems. If you choose to feed raw foods, consult with a veterinarian or veterinary nutritionist to develop a diet that meets your pet's nutritional needs. The high protein levels in raw meat-based diets can be harmful to pets with liver or kidney disease.

Bones or bone fragments in some raw diets can result in intestinal obstruction or perforation, gastroenteritis and fractured teeth.[16]

Salmonella has been cultured from raw diets in several studies,[16-18] underscoring the need to adequately treat the diets to eliminate pathogens. In contrast, commercially prepared diets – kibble or canned – are considered adulterated and unfit for consumption if they test positive for bacteria. *Salmonella* infections have certainly been associated with commercially prepared kibble diets, but there have been no studies to determine the relative risks associated with raw vs. kibble diets. Keep

in mind that raw pet foods account for about 1% of the total pet food market, which makes accurate risk comparisons difficult.

Q: Have cases of human illness been associated with raw food diets?
A: To date, there have been no reports of human illness associated with raw food diets. This doesn't necessarily mean that they don't occur; it could mean that illnesses have occurred but the link to the pet's raw diet wasn't made. In addition, if the pet is eating the same food the humans are eating (but raw instead of cooked), tracing the origin back to the pet's raw food could be very difficult.

Keep in mind, too, that most cases of foodborne illness are never reported because they are usually mild and untreated. However, if someone from a high-risk group (very young, old, and/or immunocompromised) is exposed, the resulting illness is more severe and could even be fatal.

Q: Have cases of human illness been associated with commercially processed kibble diets?
A: Yes, there have been cases of human salmonellosis associated with commercially prepared diets.

- From 2006-2008, there was a multistate outbreak of *Salmonella enterica* serotype Schwarzengrund infections in humans. A total of 79 cases from 21 states were reported. The source of infection was identified as dry dog food produced at a manufacturing plant in Pennsylvania. This investigation was the first to identify contaminated dry dog food as a source of human *Salmonella* infections
- In spring 2012, an outbreak of *Salmonella* Infantis was traced to a Diamond Foods production facility in Gaston, SC. A total of 49 individuals (47 individuals in 20 states and two individuals in Canada) were infected with the outbreak strain. Seventeen brands representing >30,000 tons of dry dog and cat food produced at the facility were recalled as a result of the outbreak.

There have also been human illnesses associated with "natural" animal by-product pet treats, such as pig ears and dehydrated/dried beef and fish.

- In 1999, contaminated pig ear pet treats were confirmed as the source of an outbreak of human *S.* Infantis in several provinces in Canada.[19]
- In 2002, contaminated pet treats imported from Texas were associated with human *S.* Newport infections in Calgary, Alberta.[20]
- In 2004-2005, contact with *Salmonella*-contaminated pet treats of beef and seafood origin resulted in nine culture-confirmed human *Salmonella* Thompson infections in western Canada and the state of Washington. This was the first outbreak associated with pet treats in the United States.

Q: Why haven't raw foods been recalled due to Salmonella or other bacteria?
A: Bacteria are expected to be present in raw meat, so the presence of *Salmonella* or other bacteria in raw diets does not trigger the same regulatory process that applies to commercially made canned or kibble pet foods.

That said, we are aware of a recall of raw food. In May 2011, Primal Pet Foods recalled their Feline Chicken & Salmon formula due to contamination with *Salmonella*.

Q: Why have processed diets been recalled due to *Salmonella* or other bacteria?
A: With the exceptions of the recalls associated with the 2006-2008 and 2012 outbreaks, all other *Salmonella*-related recalls of commercially produced pet foods were associated with the detection of *Salmonella* on routine surveillance testing of products. In the majority of these recalls, no pet or human illnesses were reported.

Unlike with raw pet foods, the detection of *Salmonella* or other bacteria in a commercially processed pet food triggers a cascade of events at the state and federal level that lead to a voluntary recall by the pet food manufacturer. The pet food is considered adulterated and not fit for distribution or sale.

In October 2011, the FDA issued a Nationwide Assignment to Collect and Analyze Samples of Pet Foods, Pet Treats, and Supplements for Pets from Interstate Commerce in the United States for Salmonella**.** The objectives of the assignment are to 1) determine the prevalence of *Salmonella* in samples collected from a limited number of pet foods, pet treats, and supplements for pets; 2) determine the serotype, genetic fingerprint, and antimicrobial susceptibilities of each *Salmonella* found in samples collected from pet foods, pet treats, and supplements for pets under this assignment; 3) ensure that *Salmonella*-contaminated pet foods, pet treats, and supplements for pets are removed from interstate commerce; and, 4) collect investigational samples for research purposes and for providing surveillance information on microbes other than *Salmonella* in pet foods, pet treats, and supplements for pets.

A review of surveillance testing of samples collected from pet foods and pet treats demonstrated a significant reduction in *Salmonella* from 12.4% (2002) to 6.1% (2009). *Salmonella* prevalence in pet foods declined from 13.0% (2002) to 9.8% (2009).[21] These results certainly indicate progress, but additional progress is desired to eliminate pathogens in all pet food products.

Q: If animals fed raw diets can shed *Salmonella* in their stool, why haven't there been reports of human illness associated with raw pet diets?

A: Knowing that these pets can shed *Salmonella* in their stool, there's no denying the risk of infection if the food isn't adequately treated to eliminate pathogens. Individual cases of human illness are difficult to identify and trace back. Since salmonellosis is typically a foodborne illness and often does not require medical attention, physicians will most likely attribute the illness to the most recent foodborne outbreak. Therefore, they may not think to inquire about exposure to raw pet food or pets fed raw diets when initially investigating individual cases of illness, and the connection is missed. Furthermore, reports of human illness associated with anything, be it pet turtles or peanut butter, are only reported if they occur as part of an outbreak so that government authorities can trace the illness back to its source. With the exception of commercially produced raw diets, there is not a single consistent product to trace the illness back to in the event of an outbreak. Another compounding factor is that pet owners feeding raw may be taking additional precautions when handling the raw food, reducing their personal risk of illness (but that doesn't reduce the risk to others due to the shedding of bacteria in their pet's stool or other environmental contamination) .

It's also possible that the pet owners have developed some degree of immunity to infection with the bacteria; the potential for owners of raw-fed pets to be carriers of *Salmonella* has not, to our knowledge, been investigated.

Q: Are there certain groups of people or pets that are more prone to the risks of infection associated with any type of food?

A: Young children, elderly people, and immunocompromised individuals (chemotherapy, immune disease, etc.) are at higher risk of infection and illness if exposed to bacteria.
One of the important concerns that drove the development of this policy is the concern that therapy animals fed raw diets and taken into hospitals, nursing homes or other healthcare facilities could

serve as sources of infection to patients whose immune system may already be compromised by illness.

Pets that are more prone to risks of infection include those with cancer; pets receiving chemotherapy or other immunosuppressive therapies; very old or very young pets; and those with immune diseases.

Q: Are raw pet food diets subject to different regulations than commercially processed kibble diets?

A: Raw pet foods are produced with little to no regulatory oversight by the state or federal governments. The FDA publishes Guidance for Industry on the Manufacture and Labeling of Raw Meat Foods for Companion and Captive Noncompanion Carnivores and Omnivores, but the guidance is voluntary and not legally enforceable by the FDA. This guidance recommends that raw food producers adhere to many of the same regulations which processed food manufacturers are legally required to follow. We commend those raw food manufacturers who voluntarily adhere to these guidelines and have put controls in place to ensure that their products are free of pathogens. Commercially processed foods are subject to a number of state and federal regulations, including the federal Food, Drug and Cosmetic Act, which charges the FDA with ensuring that human and animal foods are safe and properly labeled. For more information on the FDA's regulation of pet foods, visit their site. The FDA also incorporates the Nutrition Labeling and Education Act in 1990, which regulates the permission of health claims on human food, into its regulation of pet foods.

State regulatory offices also play a vital role in regulating commercial pet food. The 2012 Diamond Foods-origin recall originated when the Michigan Department of Agriculture and Rural Development reported detecting *Salmonella* from an intact package of Diamond Naturals Lamb and Rice Formula for Adult Dogs, collected during regular retail surveillance.

Q: Why are you warning people of the risks of raw pet food diets, when there have been confirmed cases of human illness from commercially processed kibble diets?

A: This policy isn't a comparison of pet foods. Neither is it a condemnation of raw foods – it is a caution against feeding raw foods that aren't adequately treated to eliminate pathogens. It was developed in response to a recognized risk associated with raw foods and the scientific support that pets fed raw diets are at risk of becoming *Salmonella* carriers and could potentially infect people, particularly those that are most susceptible to infection (the very young, very old, and immunocompromised).

Note that with this policy we aren't encouraging commercial diets, we're encouraging "commercially prepared or home-cooked food" (as stated in the policy). What's important is that the food isn't raw or undercooked and doesn't contain pathogens, Regardless of what you feed your pet, the diet should be free of pathogens that can sicken you, your pet and your family. Just like you, we also want pets' diets to be nutritionally balanced. We support the FDA's efforts to ensure that pet foods and treats of all types are safe and healthy for pets.

Please also be aware that we have made efforts to communicate the risks associated with commercially produced dry food and treats. We have a FAQ document about *Salmonella* and dry pet foods and treats, and our AVMARecallWatch Twitter feed is dedicated to notifying followers about pet food and product recalls.

Q: Are there raw foods that would be acceptable under the AVMA policy?
A: The primary concern we have about raw animal-source proteins is the bacterial contamination issue. Cooking, pasteurization, irradiation or other methods that successfully eliminate pathogens would render the food products safer and minimize the public health risk and be acceptable.

Q: Is the AVMA developing, or going to develop, additional policies that address the health risks of pet foods in general?
A: AVMA policy is developed by volunteer AVMA members serving on councils, committees or other entities. Therefore, it is up to those groups to determine the need for and develop new policies. The CPHRVM will discuss the possible development of a policy addressing the public health risks associated with pet foods and treats.
The AVMA, CDC and FDA recommend precautions be taken when feeding any type of pet food or treat.

Q: If I choose to feed raw food to my pet, what precautions should I take to protect my family?
A: First, be aware of the risks and know that despite your best efforts to clean the surfaces and environment, your pet's stool could remain a potential source of infection. Always practice good food hygiene and sanitation.

- If avoiding commercial foods is your goal, consider cooking the raw food before feeding it to your pet.
- If purchasing commercial raw diets, select products that have been adequately treated to eliminate pathogens.
- Do not purchase the product if the container is damaged.
- Keep the product frozen until ready to use, and promptly refrigerate or discard any leftovers.
- Keep the raw meat intended for your pet(s) separate from that intended for your family, to avoid any cross-contamination. Do not handle raw meat intended for your pet in the same area(s) or use the same utensils or equipment used for preparing food for your family.
- Never allow cooked foods to come into contact with raw meat unless they are subsequently cooked at temperatures that will kill bacteria.
- Wash vegetables and fruit prior to feeding.
- Wash your hands thoroughly after handling raw food.
- Regularly sanitize pet dishes, surfaces, cutting boards and utensils.
- Rigorously control insects and other pests that may be attracted to the raw meat and could spread contamination.

Q: How would I know if my pet becomes infected with *Salmonella* from its food?
A: There are many sources of *Salmonella*. Because the organism can persist in the environment for weeks, even after thorough cleaning, the exact source of your animal's illness (if it is the food) may be long gone. Animals with salmonellosis may show some or all of the following signs:

- Lethargy
- Decreased appetite
- Fever
- Vomiting
- Excess salivation (in cats)
- Diarrhea (may contain blood or mucus)

Also be aware that pets may be infected with *Salmonella* but may not appear to be sick. *Salmonella* bacteria can be shed in your pet's stool for 4 to 6 weeks, and possibly longer, after infection. If you suspect your pet is ill, contact your veterinarian.

If your pet is infected with *Salmonella* and is shedding the bacteria in their stool, it's also possible for people to become infected by contact with their infected pet's fur, mouth, or feet – as well as anything that can come in contact with your pet's stool. You can find *Salmonella* essentially anywhere the animal has been. *Salmonella* can survive for weeks or even years given the right environmental conditions (temperature, pH, humidity).

Q: How would I know if my pet is a *Salmonella* carrier?
A: *Salmonella* is usually detected by culturing your pet's stool, but it can be difficult to detect because they don't consistently shed the bacteria in their stool. They intermittently shed the bacteria, but are more likely to do so when stressed. It has been widely reported that infected dogs can shed *Salmonella* in their stool for 6 or more weeks.[4] Several stool samples may be necessary to find the bacteria.

Q: If my pet is identified as a *Salmonella* carrier, what do I do?
A: Consult with your veterinarian regarding your pet's health and the possible treatment of your pet. If it's confirmed that your pet is a *Salmonella* carrier, take extra precautions to protect yourself and your family.

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