SHE'S SO BASIC: "BASIC" NURSING CARE FOR BIG IMPACT

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Most veterinary technicians and assistants learn basic principles of nursing care for animal patients early in their career. For example: pain must be treated; outdoor exercise is optimal; patients should be kept clean and dry; animals in pain may bite. As caregivers, technical staff are in the happy position to combine their scientific training with their instinct to provide comfort to animals in distress. They have a unique opportunity to make an enormous difference in the standard of care that their patients receive and frequently can act as leaders in their practice to elevate the standard of care and cue their veterinarians to aspects of care that may have been overlooked.

Anxiety is common in hospitalized patients who are ill, away from home, in a strange environment, separated from their families, surrounded by strangers, and with disrupted normal routines. In addition, cats and dogs have senses that are much more acute than those of humans, particularly hearing, so if the noise level in our clinics causes stress to the staff, imagine the level of stress it induces in our patients! Cats are also stimulated by movement and find sudden, erratic movements unsettling. Stress has been documented to impair wound healing, contribute to GI distress, and increase susceptibility to infection. Fear is a manifestation of stress. In dogs, anxiety may take the form of pacing, climbing, circling, vocalization, panting, lip or nose licking, "cage diving" or trying to run away, trembling, destruction of bedding and/or medical devices, and insomnia. Cats may hide, refuse to move around the cage, stop grooming, become hypervigilant, or feign sleep. It is important to distinguish between pain, dysphoria, and anxiety when evaluating a patient demonstrating these behaviors. Pain should be assessed in a standardized manner using a validated pain scale designed for the species in question, for example the Colorado State acute pain scale or the Glasgow pain scale. Physiologic data such as heart rate, respiratory rate, and blood pressure can be combined with an assessment of general body posture and response to palpation of the affected area to give a good picture of whether or not the animal is in pain. Dysphoria is usually pharmacologically mediated, as when patients are waking up from anesthesia, and these patients will not respond to verbal or tactile soothing. Patients with intracranial disease may also demonstrate inappropriate responses or altered mentation. In contrast, anxious patients may respond quite well to a staff member sitting in the cage with them, petting and speaking to them quietly. If time is available, having someone interact with an anxious patient in this way can be a very effective way to calm the animal and get them to drop off to sleep. For small dogs and all cats, a hiding place should be provided (cardboard box, plastic storage container, etc.) and this may be all the animal needs to feel secure. Standardizing treatment times and the staff that are caring for the patient also helps the animal learn what to expect while he/she is in the hospital. The author's institution has invested in a variety of machine-washable, inexpensive pet and baby carriers that permit a small patient to be "worn" by a staff member while working. This has proven effective for soothing anxious patients that do not need a constant IV fluid infusion.

Medications are available for the treatment of anxiety. Acepromazine has long been administered to patients that are vocal or disruptive, but it is important for technical staff to realize that acepromazine provides sedation but not true anxiolysis; the animal may become intoxicated or groggy but may continue to demonstrate the concerning behaviors. In the worst cases, acepromazine can cause a paradoxical excitation that worsens the patient's signs, although it can be administered along with butorphanol for additional sedation and very mild analgesia. In contrast, trazadone is an antidepressant that is a serotonin antagonist and reuptake inhibitor that has proven very effective at resolving the behavior manifestations of anxiety in canine patients while also being safe to administer in conjunction with a variety of other drugs. Improvement in signs may be noted as soon as 90 minutes after a dose is administered. In the US, trazadone is available as an oral tablet and is administered at 2-3 mg/kg per os PRN or Q8-12 hours and working up to 9.5 mg/kg if needed. The author feels that it is most effective for hospitalized patients when administered on a regular schedule. Serotonin syndrome is a risk if administered with other serotonin-reactive drugs.

Whenever able and as their condition allows, canine patients should be taken outside for leash walks and fresh air. This includes patients who may have an indwelling urinary catheter since they still need to defecate. Normal behavior should be encouraged whenever possible; since dogs enjoy exploring and are stimulated by new sights, scents, and substrates, stimulus of this type may help canine patients feel more engaged with their environment. Clients should be encouraged to visit, provided that visits do not upset the patient or disrupt the patient's treatments. For canine patients who are stable, play and toys are a good way to burn off energy and provide some environmental enrichment. At the author's institution, the technical staff maintain a toy box of feeder puzzles, stuffable toys, plush squeaky and crinkly toys, and chew toys such as nylon and rubber bones. Patients should always be supervised when toys are provided to prevent foreign body ingestion. Soft toys are laundered

between patients and rigid/chew/stuffable toys are washed in the dishwasher between patients to prevent disease transmission. Feline patients may benefit from time spent in an open space, disconnected from their IV fluids, where they can explore, perch, and potentially look out an exterior window. It is important to "cat-proof" the space to ensure that there is no possibility of escape or entrapment under furniture or medical equipment or in the ceiling. Feline patients also benefit from client visits, daily grooming (brushing or a gentle wipe-down with baby wipes or a damp cloth), and potentially play with wand, feather, catnip, or jingle bell toys. Catnip may also be an appropriate distraction and relaxant for feline patients with the caveat that it affects all cats differently. Gabapentin has also been shown effective at managing feline fear behavior and as an adjunct analgesic.

Quality sleep is very important for hospitalized patients. The detrimental effects of sleep disruption are well documented in human ICU patients; if sleep disruption is persistent, psychosis results. If we consider a feline patient that routinely sleeps 14-18 hours a day and then place that patient in a hospital environment where not only is the animal on high alert but is also unwell and having treatments performed every 4-6 hours, we can see that the animal's behavioral responses and health could be negatively affected. Enhancing sleep quality and quantity in small animal patients is not difficult. One strategy is to provide comfortable bedding for each patient. A variety of options are available: disposable cage pads that wick urine, mats upholstered with marine vinyl for easy clean-up, bean bags that allow urine to pass through, orthopedic foam tied in an extra-large trash bag, blankets, towels, commercially available washable dog and cat beds, elevated cot-type beds made of plumbing pipe and outdoor fabric, etc. A second strategy is to devote a few hours each day to what are called "quiet hours" at the author's institution: a set interval where treatments are not performed, the lights are dimmed, music is turned down, and foot traffic is minimized, allowing patients to rest without interruption. Some patients may only drop off to sleep if someone sits with them or holds them; if staffing and caseload permits, this is beneficial for both staff and patients. If a patient is swaying on their feet from exhaustion but is too hypervigilant to lie down and succumb to sleep, nursing staff may need to go in the cage and help the patient into a recumbent posture before sitting with them until they fall asleep. Covering the cage may also provide the privacy and reduced visual stimulus that patients need to fall asleep. A low dose of sedation may also help the patient relax and become more comfortable.

It is imperative that patients be kept clean while they are in the hospital for a variety of reasons. The most obvious may be that urine or fecal soiling contaminates incisions, bandages, catheters, and other medical devices, leading to nosocomial infection. Urine or fecal scald prolongs hospitalization and disrupts the skin's natural barrier, leading to increased risk of systemic infection. Scald is painful and causes profound discomfort to the patient. In addition, it speaks to our professional standard of care. If animals stay dirty, it means that we have failed in one of our essential functions as nursing staff to keep the patient clean and comfortable. The author's institution has invested in grooming kits that are kept in the treatment area. They are easy to assemble in an equine grooming tote. Ours contain a variety of gentle shampoos, brushes, deodorizing sprays, nail trimmers, styptic powder, and topical ointments for the management and prevention of scald. A cheap hairdryer with a cool setting is also a good investment for a busy clinic so that patients can be dried after they are bathed.

Urine is an acidic substance that can damage skin if left too long in contact with the tissue. Diarrhea can also scald skin; it contains a higher component of stomach acid, bile, digestive enzymes, and dietary components than normal feces since it is only partially digested. Those patients are most at risk who cannot move out of a void (ie, paralyzed/paretic patients, those with mobility issues, or unconscious patients) or who are having poorly controlled voids. In patients who are urinarily incontinent or are recumbent, an indwelling urinary catheter can be placed with the understanding that this procedure is not without risk and potential for complications, specifically urinary tract infection due to the catheter. It is always at the discretion of the DVM that a catheter is placed, so while technical staff may desire and advocate for placement, there may be very good reasons why it is contraindicated. Fecal catheters are also available for patients with poorly controlled, fully liquid diarrhea. The system consists of a large bore Foley catheter (18-24 French) that is placed in the rectum and attached to a closed collection system. These catheters work best in patients that are not fully mobile and will not work with diarrhea that is heterogenous, thick, or that contains large particle matter like plant debris. They are contraindicated in patients that are thrombocytopenic. Once the patient's stool begins to firm, the catheter is removed. If urinary or fecal catheterization is not possible, technical staff may need to walk patients more frequently, as in the case of ambulatory dogs on a very high rate of IV fluids. If the animal is non-ambulatory or cannot be walked for other reasons, staff should commit to bathing/drying the patient as often as needed to prevent urine/fecal soiling. Sometimes this will be multiple times in a shift. Wicking or absorbent bedding can be used to make cleaning the cage easier, however, it is never acceptable to remove padded bedding from the cage of these patients since bedding an animal directly on a grate or rigid flooring can increase the risk of decubital ulcers. A padded tail wrap is useful in dogs to keep that area clean, and a sanitary clip is also helpful, particularly in long-coated dogs or those with hind limb feathers. Application of a barrier cream (vitamin A & D ointment, zinc oxide cream, plain petroleum jelly,

diaper rash cream, etc.) applied at the first sign of impaired urine/fecal continence goes a long way toward preventing scald. An Elizabethan collar should be placed on patients to which potentially toxic cream is applied (A & D, zinc) to prevent ingestion. If absorbent pads (diaper pads or puppy training pads) are used to catch urine or diarrhea, they should not be placed directly on the patient's skin since this will increase the contact time between the caustic fluid and tissue. A piece of wicking bedding should be placed between the patient and the absorbent pad to pull the urine/diarrhea away from the skin.

The diagnosis of scald is made when an animal has known urinary or fecal soiling coupled with moist dermatitis (erythema, broken skin, raised bumpy skin, etc.). When scald is noted, the haircoat in the area should be clipped as closely as possible without further irritating skin. The area should then be cleaned with dilute chlorhexidine solution and dried thoroughly, either with a soft cloth or the cool setting on a hair dryer. Some clinicians prefer the re-application of barrier cream to the dry skin; however, application of too much cream will further soften the tissue and may harbor bacteria at the site. The dermatology department at the author's institution recommends treatment with a diluted chlorhexidine and Epsom salt (magnesium sulfate) solution that is left to air-dry Q12 hours followed by a thin layer of silver sulfadiazine (SSD) cream. Alternatively, diluted bicarbonate of soda (baking soda) in sterile water has also been recommended as a topical treatment Q6-8H; this should also be air-dried. The author has had good success with Douxo® Calm gel or microemulsion spray applied to the affected area daily after it has been cleaned and dried. These products are for the treatment of allergic dermatitis and contain ingredients that are designed to reduce inflammation and restore the normal skin barrier function. The management of urine and fecal scald is intensive, repetitive, and sometimes frustrating; however, successful resolution of a severe case is incredibly rewarding.

There are a variety of reasons why a patient may be recumbent (unable to rise, walk, or re-position themselves at will): traumatic brain injury, orthopedic trauma (multiple limb fractures, pelvic fractures, etc.), severe metabolic illness, medically induced coma for mechanical ventilation, intoxication, spinal injury, or heavy sedation to manage seizures. Recumbent patients present a significant challenge to the veterinary technician but also an opportunity to excel at case management. Principles of managing the recumbent patient focus on the bladder, bowels, lungs, skin, and musculoskeletal systems. These patients may be unable to urinate voluntarily or may be unable to control their urination, so catheterization or bladder expression may be necessary to prevent overflow and atony. If ultrasound is available, the unit can be used to assess bladder size before and after expression or before and after natural voids. In unconscious patients, the bowels may need to be manually evacuated daily to prevent constipation/obstipation or an enema may be necessary. In conscious patients receiving opioid analgesics, that are unable to posture for normal defecation, or where defecation is painful, oral lactulose is an effective stool softener. Pulmonary risks to the recumbent patient are considerable; these patients have an increased incidence of aspiration pneumonia, hypostatic pneumonia, atelectasis (lung collapse), and hypoventilation. Pulmonary care for recumbent patients includes rotating the patient every 4-6 hours to ensure that all lung lobes can inflate fully. If possible, the patient should be maintained in a sternal position for several hours each day. Food and water should only be offered when the patient is sternal to minimize the risk of aspiration pneumonia. Thoracic auscultation, rectal temperature monitoring, and respiratory rate/effort assessment should be performed several times a day to monitor for potential respiratory compromise and pneumonia.

Bedding should be thick and comfortable to prevent decubitus ulcers (pressure sores) but firm enough to prevent "bottoming out" or thinning over bony areas. Decubitus ulcers result for a variety of reasons: when there is decreased padding between skin and bone due to age, muscle atrophy, or fat loss; loss of tissue elasticity; skin softening, abrasion, chafing, or friction; inadequate bedding/padding; fecal or urine scald; ruptured elbow or hip hygroma; improperly fitted or padded splint/cast, or substandard nursing care. Ulcers develop over bony prominences and are more common in large or giant breed dogs due to their size and weight, although animals of any size can be at risk. Common sites include the ischiatic tuberosity, greater trochanter, scapular acromion, tuber coxae, lateral aspects of the tibia and elbow, olecranon, and calcaneous. Tissue ischemia results when soft tissues are compressed between the surface and the underlying bony structure. Once devitalized, necrosis ensues. Severity is determined by the duration and extent of compression; prevention is easier than treatment. The most severe ulcers may result in bone exposure and could take weeks or months of intensive management to heal, including surgical revision. Ulcers are best prevented by provision of adequate padding, frequent rotation of the patient, limb massage, "donut" bandages, adequate padding of splints/bandages, and proper skin hygiene. Nursing staff should have a high index of suspicion in patients that are older, have thin body condition or conformation, are large or giant breed, wear casts or splints, are recumbent, or have impaired mobility.

Regarding the musculoskeletal care of recumbent patients, gentle massage and passive range of motion (PROM) should be performed every 6-8 hours to prevent muscle contraction and atrophy and to keep joints mobile. Patients may benefit from time spent in a supportive sling or propped on a rehab inflatable "peanut." Stretches can

also be performed in conjunction with PROM. If available, modalities like neuromuscular electrical stimulation, hydrotherapy, or acupuncture may also be helpful. Referral to a licensed rehabilitation practitioner is ideal for these patients, particularly those with neurologic disease like IVDD or neuropathy. All patients benefit from regular exercise. Slings and harnesses provide support for patients that are arthritic, weak, or worried about falling. If hospital surfaces don't provide enough traction to make patients feel confident, yoga mats and booties are an inexpensive way to improve surface grip. The author's institution also utilizes wheeled garden carts that are ideal for moving patients from the treatment area to the exercise yard where traction is better.

Companion animals are living longer, and it is more and more common for a significant proportion of the animals in any given hospital to be geriatric patients. Age is not a disease, but it does present specific nursing concerns. Geriatric patients may have concurrent degenerative joint disease along with changes in their cognitive function and sensory input (vision, hearing, olfaction). These "old folks" are usually much easier to work with than rambunctious puppies and kittens once nursing staff take their age-related concerns into account. For many large breed older dogs, "move it or lose it" is a very real prospect, so it is important not to skip walks, even on a busy day. The longer these patients are recumbent, the more difficult it may be for them to get up and move later, especially giant breeds. They may need sling support to rise and for their first few steps, and many may appreciate a slower pace when out for a walk. Geriatric cats may appreciate a litter pan with lower sides, such as a cafeteria tray, cookie sheet, or cardboard food flat. All oldsters appreciate thick, soft bedding that reflects body heat. Older patients may have fading vision and hearing. It is important, if a client tells staff that their pet is blind, vision impaired, deaf, or hard of hearing, that the record and cage be labeled to reflect this so that the patient can be handled with care. To avoid startling vision impaired patients, it is important that the animal be spoken to before touching it. Hearing-impaired patients should also be gently touched to wake them if they are sleeping when treatments are due or to get their attention when out for exercise. Geriatric patients with thinner body condition also appreciate being covered with a blanket or having bedding that they can burrow or hide inside. Older animals may take longer to recover from sedation and general anesthesia and to get acclimated to the hospital environment.

Nutritional support is vital for healing and immune system function. In the face of nausea, inappetence, anorexia, medically necessary fasting, and anxiety, weight loss and malnutrition are fully possible in a hospital environment. Patient body weight should be assessed daily, and every patient should have their basal energy requirement calculated at admission and at intervals during their hospital stay. Various formulas are available but a good starting point for patients between 2-48 kilograms is 30 x BW (kg) ÷ 70; this will provide the minimum calories necessary for weight maintenance in a healthy animal, but sick patients will require more caloric support. The caloric content of a given diet should appear on the label or in the manufacturer's feeding guide. Diet selection will depend on the patient's disease, DVM preference, route of feeding (oral vs. via feeding tube), foods available, and patient's preference for canned or dry food. While professionals do not doubt the value of prescription diets, in some cases it may be preferable to convert the patient to a prescription diet once they have been discharged. Some patients will eat almost anything, while some are very suspicious of new foods; warming diets, hand-feeding, and having the client visit in order to feed the patient are time-honored strategies for encouraging intake. Clients can also be asked to bring the pet's regular food or treats from home. Raw diets have been implicated in systemic illness and should never be offered to hospitalized patients. Patients fed a raw diet may shed pathologic bacterial species in their feces and should be walked in an area separate from other patients. It may seem basic but ensuring that the patient can access food and water bowls is sometimes overlooked in animals with reduced mobility. Bowls may need to be elevated to encourage consumption. Some dogs may enjoy ice cubes or fresh ice water over plain tap water, and giant dogs may benefit from a bucket of water clipped to the wall or door of their cage rather than a bowl that is easily tipped over. The author's institution has had incredible success with cooking plain boiled chicken and rice for patients using an inexpensive rice cooker. They also keep a variety of feline "junk food" diets on hand to tempt reluctant eaters, usually fish-based chunky diets.

The nursing process is complex and individualized for each patient in our care. It is important for veterinary nursing staff to realize that they have a great deal of autonomy when making decisions about how to approach specific nursing challenges. By using their knowledge base and ingenuity, technicians are in a unique position to positively affect patient outcomes by consistent application of those "basic" nursing principles that we sometimes overlook.

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