

TOP SAFETY PROBLEMS IN A VETERINARY HOSPITAL

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The Occupational Safety & Health Administration (OSHA) was created under the Department of Labor to enact and enforce those measures necessary to ensure that every American has a safe and healthy work environment. These "rules" are known as standards and are published in Chapter 29 of the Code of Federal Regulations.

Regardless of whether the OSHA rules are enforced by the federal or state government, there are stiff penalties for non-compliance with the regulations. For example, the recommended fine for failure to display the Workplace Safety & Health Protection poster (OSHA 3165) is \$1,000; penalties for willful violations (meaning you were aware of the requirement and the potential dangers, but failed to act on the information) can be up to \$70,000 for each infraction! According to OSHA statistics, almost all inspection are a result of employee complaints or workers' compensation claims. OSHA generally utilizes two criteria for evaluation of a workplace program: documentation and training.

Issue #1 Accident Recordkeeping Requirements

Every business should conduct and document an investigation each time a staff member reports being injured or becoming ill from an incident related to their work. Record of Occupational Injuries and Illnesses (OSHA Form 301) or local alternative with the same information is used.

If the business has 11 or more employees or if the business is selected to participate in a DOL survey, then the Summary of Occupational Injuries and Illnesses (OSHA Form 300) must also be maintained. In this case, the Annual Summary of Work-related Injuries and Illnesses (OSHA Form 301) must also be posted.

An occupational injury or illness is defined as any incident that occurs while an employee is working and

meets one or more of the following conditions:

- the death of an employee on the job;
- the loss of consciousness of an employee while on the job;
- the employee loses at least one day of work because of the incident;
- the employee's duties or abilities are restricted or he/she is transferred to another job because of the incident (this generally includes animal-inflicted injuries such as bites and severe scratches);
- the employee receives medical treatment other than first aid (see box for definitions) because of the incident;
- the employee suffers a fractured or cracked bone, a punctured ear drum or any chronic, irreversible disease as a result of their job;

- the employee develops cancer, tuberculosis or is removed from their job for medical reasons under an OSHA health standard; or
- the employee is stuck with a needle or cut from a sharp object that is contaminated with HUMAN blood or HUMAN infectious material during performance of their duties. Only needlestick and sharps injuries involving contamination by another person's blood or other potentially infectious human material are considered reportable unless one of the other circumstances listed above apply.

All OSHA records related to injuries or illnesses must be maintained for at least 5 years. When a business changes ownership, the new owner must preserve the records for the remainder of the 5 year requirement, but is not responsible for recording and reporting incidents which occurred prior to assumption of ownership.

Issue # 2 Violence Prevention & Security

We have all heard the spectacular news stories of disgruntled former employees going on a shooting rampage in retaliation for whatever perceived injustice they have suffered. This is the image that we most associate with workplace violence. The truth is that most incidents of violence against workers doesn't make the news because it is more common than we like to believe. On the average, two American workers are assaulted, murdered or raped while on duty every minute of every day!

In any business, including that of a veterinary hospital, violence typically happens due to one of these four reasons:

- Robbery or intentional assault (stalking);
- Customers or clients under extreme duress who "lash out;"
- Workers who have a dispute with supervisors, coworkers or just "the establishment;" and
- Unhealthy personal relationships (jealous or estranged domestic partners).

As the veterinary profession adapts to meet the needs of a changing society, we are gradually increasing our risk of a violent act happening in the practice. Perhaps the greatest example of this is today's veterinary emergency clinic. The emergency clinic is open throughout the night and often in dangerous neighborhoods. They are typically staffed with a skeleton crew that is preoccupied with internal cases to be very aware of external threats.

But it's not just emergency clinics that are at risk. The traditional veterinary practice shares many of these same concerns. Although violence in the veterinary profession is not as common as in other industries or fields, it does happen. The accurate prediction and preventing of workplace violence is not exact, but already we see emerging trends. Perhaps the most promising news is that increased awareness and preparation seem to be the best prevention strategies.

Although the leadership is faced with the challenge of balancing the need for security with the rights of privacy for employees and the demand for service from the public, it is reasonable to have an appropriate mix of all three.

Issue # 3 - First Aid & Bloodborne Pathogens

Currently, animal blood is not covered under the Bloodborne Pathogens Standard (BPS), but in recent years, some OSHA officers have been applying the “general procedures” requirements to ALL businesses regardless of their services or scope. The consensus among safety professionals is that OSHA WILL change the BPS to apply to ALL businesses to some degree, probably to require at least a written plan to include catastrophic clean-up procedures in the case of an accident.

For now, practices would probably be OK to have a plan that requires a person to clean-up their own blood or body fluids in minor situations (small laceration, nose bleed, etc). Then the plan would identify a local “crime scene clean-up” company that would be called to clean any situation where there was extensive contamination or when the employee can’t clean up their own blood, etc. Unlikely that a practice would ever need that part of the plan, but it’s cheaper and more practical than maintaining a BPS compliant staff member considering the training, recordkeeping and medical requirements required for any employee expected to contact human blood or body fluids.

Here’s a link to the Federal Register notice that OSHA issues regarding their review of the BPS for updating: http://www.osha.gov/FedReg_oshapdf/FED20130108.pdf

Hospitals should make advance arrangements with the community hospital or physician for the treatment of emergencies. First-aid kits for humans are not mandated unless there is no hospital, infirmary or clinic in proximity to the workplace. Procedures to summon Emergency Medical Service (EMS) personnel in the event of a serious accident should be established, and emergency phone numbers should be posted near all telephones.

Issue # 4 - Chemical Hazards

In early 2012 OSHA issued their final rule updating the Hazard Communication Standard to adopt the United Nations protocols for hazardous materials handling. OSHA has been contemplating these rules for over 10 years...this is not something new.

Manufacturers must update Material Safety Data Sheets using a new format (and rename them Safety Data Sheets or SDSs). The veterinary practice manager must update their MSDS library with all of these new sheets as they become available. The title of the product is NOT IMPORTANT – MSDS or SDS...the criteria is the format. If the document has 16 sections, it’s a NEW SDS format. If it has anything else, it’s an OLD MSDS format.

Manufacturers have changed THEIR product labels to include specific hazard warning words and symbols. Although we have to train our employees on interpreting these new pictograms, **workplace labels (secondary container labels) have not changed in this update so the current systems are still valid as long as they don’t conflict with the GHS.**

Here's a link to the extended implementation dates:
<http://www.osha.gov/dsg/hazcom/effectivedates.html>

Here's a link to OSHA's page on the new GHS rules:
<http://www.osha.gov/dsg/hazcom/index.html>

Formaldehyde

Since formaldehyde is a known human carcinogen, OSHA takes its use very seriously. The standards for use of formaldehyde are very similar to the standards for use of ethylene oxide. At a minimum, the hospital's plan must include the following elements:

- Designation of an appropriate location for storage and use of the agent.
- Initial monitoring of exposure levels. This is accomplished with badges, similar to the ones used for ethylene oxide monitoring. Short term exposure limits (STEL) of 2 parts per million (ppm) and an 8 hour time weighted average (TWA) of 1 ppm are the maximum PELs in the workplace.
- Detailed emergency procedures for accidents involving release of formaldehyde gas into the workplace (e.g., accidental breakage of a container, etc.) This includes emergency warning procedures, evacuation protocols and the availability of appropriate respirators for clean-up operations.
- Appropriate employee training covering the provisions of the OSHA standard, the methods used for monitoring, the physical and health hazards of formaldehyde, measures for protection, and the details of the hospital's written hazard communication plan.

Issue 5 - Animal Handling and BioSafety

Although handling animals in itself is not a dangerous job, the unpredictability of some animals or situations can turn a routine episode into a very dangerous event. There are many situations that OSHA doesn't address directly, but getting caught in a run with a vicious dog is definitely dangerous. The hospital director should make sure all people (including volunteers) who handle animals are properly trained in restraint procedures. There should be a mechanism for workers to summon assistance when they get into trouble. Could someone yelling for help from the kennels be heard in the front of the hospital above the chorus of barking dogs? What about weekends or off-hours when there may be only one person in the building?

One of the topics on OSHA's Regulatory Agenda for 2013 is to review the need for a Biosafety Regulation. With all the news coverage about animal-to-human diseases such as H1N1, SARS, etc, there is concern that the workplace is a prime place for these problems to start. There is already some sort of rule like this in about 6 states so it's pretty likely that we will see a federal requirement soon and based on early assumptions, it appears the likely rule will be very close to the California requirements that are currently in place. (If you want to see the California requirements, here's a link: <http://www.dir.ca.gov/title8/5199-1.html>)

Here's what we expect...the practice will need to prepare a Biosafety Plan to include:

- Identification of risks/threats,
- Name of responsible person and
- Procedures to be followed

The good news is that this rule is one we (the profession) are very suited to prepare...this is not much different than an infection control plan for the practice. Unlike most OSHA rules, this one will probably have a direct effect on our patients not just our staff!

Issue 6 – Inhalation Anesthesia

The NIOSH established limits for occupational exposure to waste anesthetic gasses is less than 2.0 parts per million (ppm) for all halogenated agents (methoxyflourane, halothane, isoflorane). Exposure to the nitrous oxide must also be maintained below 25 ppm. Most hospitals are unaware of the actual concentration levels of waste anesthetic gasses in the workplace, but with a comprehensive WAG management program, the risk of unnecessary exposure can be minimized. A comprehensive WAG management program should consist of the following elements:

- Application of a well designed WAG scavenging system. This is the single most effective means of reducing exposures of WAGs in the workplace. A proper scavenging system will capture the excess gasses directly at the source and transport them to a safe exhaust port, usually outside the building. There are three general methods of WAG removal currently in use: active scavenging, passive exhaust and absorption. Each has a place, but rarely does one method fit all circumstances.
- Routine maintenance and evaluation of anesthesia equipment. Anesthetic machines must be checked for leaks and serviced periodically. Although there is no "set" interval, the machine manufacturer's recommendations should be followed. At a minimum, daily "pre-use checks" for leaks in the hoses or connections should be performed, and examination or calibration by a qualified medical equipment repair technician should be completed every four months.
- Developing or revising work practices that minimize leaks and non-scavenged operations. Detailed training for staff members who operate or clean anesthesia equipment is a must. Training should include all areas of anesthesia agent use, including storage of the liquid agents, refilling of the vaporizers, emergency procedures if a bottle is dropped and broken, as well as general operating instructions for the machine.
- Testing of employee exposure to determine levels and making adjustments to the facility and/or procedures when exposure levels are above the permissible limit.
- Training of the staff in proper principles of anesthesiology so that only the minimum amounts of anesthetic agents are used. Many hospitals use the "about that much" method of gas anesthesia and can significantly reduce the quantity of anesthetic agents used if flow rates were calculated prior to induction.
- Adequate general ventilation in the work areas. Some procedures, like masking, defy collection of waste gasses. In those instances, make sure the ventilation in the room is good. Exhaust fans for evacuating room air to the outside are recommended. Be

conscious of air handling systems that recirculate the air; exposure of others may be the result. Induction chambers can be connected to the scavenging system or absorption canisters to reduce the levels of escaping gasses.

Issue 7 - Chemotherapy & Dangerous Drugs

Occupational exposure to hazardous or dangerous drugs is a VERY big concern for OSHA today, in particular, they are actively enforcing safety precautions. Injectable chemo is very high on their “radar” now. Although there is not a specific regulation that says “in the veterinary practice, chemo shall be done.....” that doesn’t mean there are no rules. OSHA has a very extensive inspection procedure when they inspect workplaces with chemo activities.

You can see their inspection procedures here:

http://www.osha.gov/dts/osta/otm/otm_vi/otm_vi_2.html

In general, OSHA adopts the NIOSH recommendations for handling hazardous drugs in the workplace and they do not differentiate between a veterinary practice and a human oncology service. We have to follow the same rules regardless of how often the procedure is performed or how infrequently. Every precaution every time is the standard.

The chance of exposure can occur at many points in the handling process, and in the veterinary practice, the most probable routes of exposure are through inhalation of drug dusts or droplets, dermal absorption, and ingestion through contact with contaminated food or cigarettes. The first step in controlling or eliminating these probable exposures is to design a workstation that supports the safe completion of the procedure. In this section, we’ll discuss the physical or facility concerns that must be addressed to safely use these drugs.

Perhaps the most basic purpose of physical safeguards is to prevent or control environmental exposure. Typically, this exposure comes in the form of splattering, spraying, and aerosol generation of the material. Aerosols can be generated by many activities, exposing not only the employee immediately involved, but also other staff members in the area. Therefore, it is strongly suggested that all CDs be prepared in one centralized area; this will minimize the risk of “extraneous” contamination. A Biological Safety Cabinet (BSC), where only CDs are prepared, should be used. If the BSC does not vent to the outside, then an appropriate HEPA filter must be installed. If the hood is exhausted outside, the discharge opening should be at an appropriate level and away from air intake units.

Warning signs designating the area as a cytotoxic drug preparation area that should not be entered by unauthorized staff should be clearly posted. Spill clean-up procedures should also be posted nearby for easy referral in an emergency. Additionally, smoking, drinking, applying cosmetics, and eating should never take place in the preparation area, as they greatly increase the chance of exposure.

Labeled sealable plastic or wire tie bags should also be available so that contaminated boxes, gloves, gowns and paper liners can be contained properly. There should be a closable, puncture-resistant, shatter-proof container for disposal of contaminated sharp/breakable materials within the work area. Mixing and preparation of the solutions should be done on a

disposable absorbent pad; the pad should be discarded in an appropriate waste container (not general trash) upon completion of the procedure or if it becomes soiled. This will prevent any spilled liquids from evaporating too quickly.

The area should be cleaned thoroughly with 70% alcohol at least daily, when the procedure is completed or whenever a spill occurs. Normal disinfection procedures with a germicidal agent are inappropriate for CD areas. Germicidal disinfectants are largely ineffective against these substances because they are not biological agents and in some cases may cause a chemical reaction.

Aftercare of the patient receiving CD treatments requires a little discussion. Workers who will change soiled bedding or cage materials should be instructed on the hazards of the patient excreting the drugs in body secretions for up to 48 hours after administration. Any staff member who must clean up blood, vomitus, or excreta from patients who have received CDs in the last 48 hours should follow these procedures :

- Always wear surgical latex gloves and disposable gowns when cleaning up spills involving excretia or blood. The gowns and gloves should be discarded after each use.
- Always use surgical latex gloves and a disposable gown when cleaning cages or runs. Contaminated bedding should be placed in a specially marked laundry bag and the laundry bag placed in a labeled impervious bag. This laundry bag and its contents should be washed twice with normal detergents. Laundry personnel should wear surgical latex gloves and gowns while handling this material. No additional gain is made by autoclaving items contaminated with CDs since chemicals are not inactivated like biological organisms simply by sterilization.
- Disposable materials like cage paper should be placed in a separate plastic bag and immediately sealed. The sealed bag should be disposed of according to the hospital hazardous waste plan.
- When possible, patients receiving CD therapy should be exercised in a separate area from other patients. Feces from patients deposited in exercise areas should be removed promptly following the same precautions.
- Of course, proper personal hygiene practices should be followed after handling any patient. A thorough hand washing using a detergent soap should be performed after completion of these tasks.

Most practices will hospitalize the patient for this treatment, but if it is to be performed on an outpatient basis, or if the patient will go home less than 48 hours after the treatment, then it is important to inform the client of the safety precautions also. Although OSHA has no interest in the clients because they are not employees, and their long-term risk is very low because they are not chronically exposed to these drugs, it is vital that the clients understand the patient may expel these drugs in urine, feces and sometimes even saliva. .

Summary

Just like any other program or procedure, a good hospital safety program doesn't have to be complicated. It should be practical and understandable. If the staff doesn't remember the

rules, then training is lacking or the program is too complicated. Only by understanding the requirements and applying the safeguards that are necessary to protect the worker, patient and practice owner can the practice continue with the primary mission of healthy pets. It is the leadership's responsibility to set and enforce the safety rules of the practice and the employee's responsibility to learn and follow those rules.