



S E R V I C E SPOTLIGHT

ONCOLOGY

USP 800: Big Impact on Veterinary Practices

New regulations aim to enhance safety for handling and administering chemotherapeutics.



Effective July 1, 2018, new USP 800 regulations took effect in order to set a new, higher standard in handling hazardous drugs (HDs), including chemotherapeutics. These rules and guidelines apply to veterinary facilities and are enforceable by both federal and state regulatory agencies.

Some of the most important standards include:

- A separate area with restricted access to team members with specific training on receiving, unpacking, storing, and compounding hazardous drugs.
- The hazardous drugs must always be handled in a ventilated hood to minimize human exposure.
- The hazardous drugs must be transported in a closed transport system, such as the EQUASHIELD.
- The administration area must be physically separated from other areas of the veterinary facility. The area must have appropriate air exchanges, 12 per hour that vent directly to the outside, and have negative air pressure that ranges from 0.01 to 0.03 inches of water column in comparison to all adjacent areas. The administration area must also be constructed of materials that can be easily decontaminated in case of an emergency.
- Employees handling hazardous drugs must complete appropriate training and testing every 12 months, as well as know how to utilize proper personal protective equipment (PPE) at all times.

24/7 Emergency and Critical Care • Acupuncture • Diagnostic Imaging • Oncology
Internal Medicine • Radioiodine • Surgery • Rehabilitation
802.863.2387 | bevsvt.com



ONCOLOGY – Cancer Care at BEVS

Joanna Schmit, DVM, Diplomate American College of Veterinary Internal Medicine (Oncology)



Meet Dr. Joanna Schmit – Board-Certified Cancer Specialist

Born and raised in Minnesota, Dr. Joanna Schmit brought home every injured animal and begged her parents for odd pets throughout her childhood. You can say the progression into veterinary medicine was no surprise to her or her loved ones.

Dr. Schmit started her career in veterinary medicine as an oncology technician in a referral practice in Arizona. While there, she quickly learned she loved oncology and being a support system for families during a difficult and stressful time.

Her passion for oncology, patient care, and animals led her to the University of Minnesota where she earned her DVM. Dr. Schmit then completed her internship, master's degree, and oncology residency at the University of Illinois. Dr. Joanna Schmit spent a year leading the Clinical Trials Program at the University of Illinois where she conducted research on novel therapies for osteosarcoma. Her team's work focused on non-amputation options for dogs with osteosarcoma using advanced monitoring such as force plate analysis and serum biomarkers.

She also conducted a phase 1 trial investigating a new compound called PAC-1. PAC-1 was developed at the University of Illinois and her team's early work established its safety and efficacy. Excitingly, PAC-1 has now progressed into human clinical trials for brain cancer. Following Dr. Schmit's education requirements, she spent three years in a Minnesota referral practice before moving to the beautiful state of Vermont.



"I strive to find joy in treatment successes and work to help our families maximize the good times with their pets. I think patients should be home as much as possible and that families should have control over and support from their care team to make their pets happy and feel that they had quality time together."

What Every DVM Needs to Know About Cancer Treatment



1. Every cancer has treatment options that can fit an individual family and budget. Giving the families options empowers them to make decisions and better cope with the heartbreaking diagnosis of cancer in their pet.
2. Hazardous drugs at low doses are carcinogenic, teratogenic, and/or can cause developmental, reproductive, and organ toxicity. Surface contamination is the primary means of exposure to the healthcare team, leading to dermal and mucosal absorption and inhalation of the HD. Drug residues are found on surfaces distant from the administration area and can affect all staff, patients, and even clients.
3. DVMs are always welcome to call and discuss a case with Dr. Schmit, even if the client does not want a referral. She wants the client to have the most up-to-date information in order to provide them with the knowledge and power to make the right choice for their pet.

What Every Pet Owner Needs to Know About Cancer Treatment in Their Pet

1. Cancer is treatable in most cases and the quality of life during treatment is GOOD.
2. Treatment side effects in both dogs and cats are minimal (only occurring in 10-15%) of cases. Most pets who receive chemotherapy enjoy an excellent quality of life and return to a normal level of activity and energy.



Safeguarding the BEVS Oncology Team and Patients



At BEVS, safety is of upmost importance when preparing, administering, and disposing of chemotherapeutics. All patients undergoing treatment are cared for adhering to USP 800 requirements.

Oncology Team Safety: All team members are required to wear proper personal protective equipment (PPE) when working with chemotherapy drugs. Proper PPE includes a face shield, particle mask, chemotherapy grade gloves, and a chemotherapy grade gown.

Patient Safety: Safeguarding patients begins as soon as they step in the door. Each and every patient is weighed on the same scale and weights are logged on a flow sheet to monitor any changes and ensure accuracy. Weights are always converted to m² and checked by a second oncology team member. Lab work is completed each visit to determine neutrophil counts and to monitor organ function as dictated by each chemotherapy drug.

The precise drug dose and Rx labels are calculated and checked by our board-certified oncologist, Dr. Joanne Schmit, and then double checked by an oncology technician. A drug label is then generated, reviewed, and signed by the doctor to ensure no transcription errors.

The patient's identity is verbally confirmed between the chemotherapy administration technicians, and the ID collar is checked. Administration of the drug then begins, followed by close monitoring of the patient during and after treatment for any adverse effects.

BEVS Oncology Protocols for Safe Preparation, Administration, and Disposal of Chemotherapeutics

By following the latest safety protocols at all times, we are able to ensure a safe experience for all parties involved, while extending the quality of life and healing for each and every pet.

Safe Preparation: All of the chemotherapeutics are stored in a separate room with a chemotherapy refrigerator regulated by an alarm. The alarm is in place to guarantee proper storage of the drugs at all times.

All drugs are drawn up into a closed transport system (CTS) inside a biosafety cabinet (BSC). Here at BEVS, we utilize the superior EQUASHIELD system. A CTS system plays a vital role in the safe preparation of chemotherapy drugs by preventing any drug spills, over-pressurized vials, aerosolized drugs, and removing the risk of accidental needle punctures. A CTS also helps safeguard against accidentally pressing the plunger and losing any amount of drug prior to administration.

Safe Administration: The BEVS oncology team strives to ensure a stress-free environment for all patients. Communication training, as well as advanced training and knowledge in the usage, dosing, and side effects of chemotherapeutics, is required so our team can provide the highest level of personalized care.

All patients deserve a quiet, safe place when receiving chemotherapy. This is why the BEVS administration room is away from traffic and noise. Only trained staff is allowed in the room, and access is limited to those working in the room with the patient. To take safe administration to the next level, our oncology team is not allowed to touch or interact with young, unvaccinated patients, or with any patients that may have an infectious disease.

Safe Disposal: Following administration, all drugs and materials are bagged and disposed of in a yellow chemotherapy biohazard bin. Please note this is handled much differently from traditional red biohazard, as the chemotherapy administration materials are incinerated.



Patient referred to Dr. Schmit after Doxorubicin extravasation. Photo credit: Dr. Schmit

Expertise to Treat a Wide Range of Cancers



The oncology team at BEVS believes each pet's quality of life is the most important consideration when selecting a course of treatment. During a pet's initial evaluation with Dr. Schmit, she will conduct an exam, perform in-house diagnostic testing to stage the cancer, and develop and explain treatment options.

Working together, Dr. Schmit and the pet owner will then decide on a treatment plan that best meets the individual needs of the family and pet.

BEVS in-house diagnostics: Fine needle aspirates and cytology, complete blood count, urinalysis, CBC/chemistry panels, SDMA, coagulation profiles, viral and tick-borne disease snap tests, blood gas and ionized calcium, digital x-ray, ultrasound, image-guided aspirates/tissue biopsies, echocardiograms, CT scan with contrast.

Additional diagnostics include: Immunocytochemistry, PARR, immunophenotype, flow cytometry, and immunohistochemistry.

Treatment modalities performed by the BEVS oncology team include: Chemotherapy and targeted therapies, immunotherapy, surgical oncology, acupuncture, critical care and transfusion medicine, and palliative care and pain management.