



Survey Results: Global Ketamine Availability, Use, and Regulatory Oversight

November 2, 2015

To gauge the clinical use of ketamine and issues related to its availability and regulatory control, a questionnaire was developed and distributed to national veterinary associations, national and international anesthesia/analgesia specialty discipline groups, and individual veterinarians with international experience/ network for information contribution. Specifically, the following groups played an instrumental role:

- World Small Animal Veterinary Association (WSAVA) – comprised of 95 national member associations and international discipline groups focused on small animal veterinary medicine from around the world
- WSAVA Foundation – currently focused on building a small animal veterinary network in sub-Saharan Africa
- Polly M Taylor MA VetMB PhD DVA DipECVAA MRCA MRCVS RCVS & European Veterinary Specialist in anaesthesia

The survey questions were based on an earlier survey (WSAVA Global Pain Survey undertaken by the WSAVA Global Pain Council; <http://www.wsava.org/wsava-global-pain-survey>) with revisions to expand the ketamine-specific information gathering following the input of Polly M Taylor MA VetMB PhD DVA DipECVAA MRCA MRCVS RCVS & European Veterinary Specialist in anaesthesia and Jason Nickerson, RRT, FCSRT, PhD, and Walt Ingwersen DVM, DVSc, DACVIM (WSAVA President Elect).

The survey was distributed electronically in English and Spanish beginning September 29, 2015 and the results reported in this summary document include responses received up to and including October 30, 2015.

A copy of the full survey, including introduction is attached as Section I

The collated survey results are attached as Section II

The following is a summary of the key survey results:

- Ketamine is a universally used agent spanning developing to developed countries and often the only available product for veterinary anesthesia and analgesia.
- Virtually all responses indicated access to veterinary licensed ketamine, a significant finding considering there are limited veterinary licensed products for use in veterinary analgesia/anesthesia. Having a veterinary licensed product supports safe and effective product use.
- All respondents indicated that the loss of ketamine access/use would have a significant detrimental effect on veterinary practice and the patients being treated, preventing the

profession from being able to provide safe, cost-effective anesthesia and analgesia and in some regions of the world, effectively pre-empt the ability to provide surgical services – both elective and non-elective..

- Of interest in this report is the significant impact that re-scheduling ketamine would have on exotic, laboratory animal, and wildlife veterinary practices.
- As ketamine is critical to feral dog/cat spay-neuter programs – especially in developing regions of the world - providing a cost-effective and field condition safe anesthetic/analgesic. The loss of ketamine use would limit if not outright eliminate these programs from occurring resulting in a One Health impact with significant human health implications with regards to dog/cat bites and the spread of zoonotic disease – especially Rabies.
- Aside from a select few countries, there exists a regulatory framework governing access, storage, and recording of ketamine use

Summary:

All respondents site that the international re-scheduling and subsequent loss of ketamine as translating into a major and global animal welfare issue of immense significance spanning all species including people as this would significantly undermine the provision of feral dog/cat population control. Based on the wide-spread national implementation of ketamine/controlled drug access, storage, and recording regulations, this would seem the prudent foundation/platform for the management of concerns regarding product redirection and/or recreational use.



Polly M Taylor MA VetMB PhD DVA DipECVAA MRCA MRCVS RCVS & European Veterinary Specialist in anaesthesia



Walt Ingwersen DVM, DVSc, DACVIM (WSAVA President Elect).

Section I: Survey including introduction

Dear WSAVA Member representative, member of the Small Animal Veterinary Community,

We are asking you to answer the following survey questions on ketamine use, which should take approximately 10 minutes of your time and will be invaluable in our lobbying efforts to keep ketamine available for both veterinary and human clinical use globally.

In brief: there is a lobbying effort from a number of countries to have the Commission on Narcotic Drugs (CND) re-schedule ketamine as a controlled substance, thereby limiting its use. This would effectively severely restrict or prohibit its use in both veterinary and human medicine globally. The World Health Organization (WHO) is petitioning against this proposal as it will significantly undermine the ability to provide cost effective anesthesia and analgesia in various parts of the world. More information can be found on the Global Pain Council ages at www.wsava.org

What does this mean to you: if this proposal is passed by the CND, it is likely to take away your ability to use ketamine in your veterinary practice.

WSAVA is working together with a number of other international veterinary and human medicine/anesthesia associations to lobby against ketamine re-scheduling. Lobbying against this proposed re-scheduling would help to ensure continued access and would not change in any specific national ketamine regulations – if they exist, they would remain in force in your country.

We urgently need input as to the current ketamine use practices in your country and the potential impact of losing access and/or use of ketamine on your ability to care for the animals you treat.

Please answer the following and reply to walt.ingwersen@gmail.com or Fax# +1-905-627-8425 at your earliest opportunity, and no later than October 26, 2015.

Thank you for your help in addressing this global animal and human welfare issue!



Walt Ingwersen DVM, DVSc, DACVIM
WSAVA President Elect

Ketamine Use Questionnaire:

Respondent information:

1. Name and degrees

2. Address and affiliation (e.g., country, association, etc)

- _____
3. Contact information
 - 3.1. Phone _____
 - 3.2. Fax _____
 - 3.3. E-mail _____
 4. Can we contact you if further information is required? Yes/No
 - 4.1. Alternate contact: _____

General drug availability:

1. Are there regulations in your country restricting the availability and use of medicines [e.g. access, storage, and use of controlled substances, such as opioids and ketamine]? Yes/No
 - 5.1. If so, briefly describe (open box for response)

Ketamine specific questions:

1. Is ketamine available for use in your country:
 - 1.1. As a veterinary licensed product Yes/No
 - 1.2. As a human licensed product Yes/No
2. Check all the species that you are aware of benefiting from product use
 - Dogs & cats
 - Bovine
 - Equine
 - Other
 - Not applicable as not available
3. If ketamine is available for use, for which purpose are they commonly used (please select all that apply)?
 - Peri-operative analgesia
 - Sedation
 - Acute traumatic pain
 - Chronic pain (e.g., osteoarthritis)
 - Cancer pain
 - Medical pain
4. Do any of these factors affect veterinary use of ketamine for veterinary medicine in your country (please select all that apply)?
 - Concerns over safety
 - Concerns over efficacy
 - Knowledge of use protocols
 - Cost
 - Regulatory requirements (e.g., storage, record keeping, etc)
 - Other (open box for response)

5. How often do you use Ketamine in your practice? _____ times per (select one)
day/week/month/year

6. Do you currently store Ketamine in a locked cabinet? Yes/No

7. Do you currently use Ketamine outside the practice premises? Yes/No

8. Are you aware of any cases where Ketamine has been lost or stolen from the practice
premise? Yes/No

9. Do you currently record Ketamine usage? Yes/No

10. If you were to lose the ability to access and/or use ketamine, how would this impact on your
ability to provide proper care for the animals you treat?

11. Any other comments

Thank you for your assistance in this matter!

Section II: Collated survey response information

Number of survey Responses received: 152

Note: there were more than one response from a number of countries including (in order of greatest to least) South Africa, Namibia, UK, India, and Sri Lanka. This provided an opportunity to assess the consistency of the information being provided and hence its veracity.

Respondent information:

- Professional background : all respondents were veterinarians

- Professional affiliation: There were 2 responses from veterinarians in academia, 1 from a veterinarian in laboratory animal practice, 1 from a veterinarian in zoo animal medicine, and 1 from the South African Rural Veterinarians association. All else were from veterinarians in small animal or mixed clinical practice

- Responses were received from 33 countries that included :
 - Botswana
 - Brazil
 - Bulgaria
 - Canada
 - Colombia
 - Ecuador
 - France
 - Germany
 - Greece
 - India
 - Lithuania
 - Luxemburg
 - Malawi
 - Montenegro
 - Morocco
 - Namibia
 - Nepal
 - Netherlands
 - New Zealand
 - Nigeria
 - Poland
 - Portugal
 - Singapore
 - Slovenia
 - South Africa
 - Spain
 - Sri Lanka
 - Sweden
 - Tanzania
 - Thailand
 - Uganda
 - United Kingdom
 - USA

General drug availability:

Only Sri Lanka, Nepal, and Malawi had no formal governmental regulations governing ketamine access, storage, and recording. All other responding countries had regulations governing ketamine access, restricting it to authorized veterinarians. While not all reporting countries had comprehensive regulations that govern storage and use recording, the majority did; exceptions were India, Slovenia, and Morocco.

Ketamine specific questions:

1. Is ketamine available for use in your country:

All countries except for Uganda reported access to/ability to use a veterinary-licensed ketamine product. Unfortunately, many did not know the situation in human medicine so this was incomplete data.

2. Check all the species that you are aware of benefiting from product use
Dog and cat were the predominant response choice for species use however likely reflective of survey distribution bias. This was followed by equine, wildlife, and exotic animals with the occasional selection of bovine and porcine.

3. If ketamine is available for use, for which purpose are they commonly used (please select all that apply)?

Peri-operative anesthesia/analgesia and sedation were the predominant responses as they were selected by all survey respondents. This was followed by acute traumatic pain, medical pain, and cancer pain. Chronic pain was only selected by 3 respondents.

4. Do any of these factors affect veterinary use of ketamine for veterinary medicine in your country (please select all that apply)?

Knowledge of use protocols and regulatory requirements were the predominant selections, followed by concerns over safety. Cost was rarely selected. Under "other" Botswana indicated a problem with importing ketamine into the country.

5. How often do you use Ketamine in your practice? _____ times per (select one)
day/week/month/year

All respondents indicated having ketamine in their practice and using it at least once/week. Use estimates varied from 1/week to 20/day with the most common answers being 1-2/day and 2/week.

6. Do you currently store Ketamine in a locked cabinet?

All answered yes except for Sri Lanka, Nepal, India, Portugal, and Slovenia.

7. Do you currently use Ketamine outside the practice premises?

Use outside of the practice was rare and limited to wildlife, spay/neuter programs, equine, and food animal practices.

8. Are you aware of any cases where Ketamine has been lost or stolen from the practice premise?

None of the respondents had experienced this personally with the majority responding "no"; exceptions were Canada, USA, Uganda, Slovenia, South Africa, Brazil, and France were single respondents indicated having heard of this occurring.

9. Do you currently record Ketamine usage?

Aside from India, Malawi, Sri Lanka, Portugal, and Morocco, all responded "yes".

10. If you were to lose the ability to access and/or use ketamine, how would this impact on your ability to provide proper care for the animals you treat?

The unanimous sentiment was that losing ketamine use in practice would have a marked and negative impact on the provision of veterinary care encompassing all species and all regions of the world.

The following are select comments transferred directly from submitted surveys:

- *Very significant. No surgery of dogs and cats can be performed. Tanzania*
- *Without ketamine, anaesthetic and analgesic facilities will be severely compromised. Proper treatment of many medical conditions, perioperative care, as well as humane treatment of wildlife will be negatively affected. Greece*
- *It would severely impact in particular on sterilisation of all cats , all minor surgical procedures on cats and small dogs, and in our control of peri-and post-operative pain in particular.*
- *The drug is cheap and safe to use under African Field conditions*
- *I fully understand the safety concerns for humans but feel that this should not deprive us vets of such an important medicine provided we follow current procedures and controls*
- *Rescheduling of ketamine would only complicate veterinarian's life: harder availability of the drug and more paperwork which would result in poorer quality of anaesthesia and analgesia in small as well as large animal practice.*
- *I use Ketamine in my wildlife practice in almost every species I deal with, it is a vital drug. It would make practice impossible.*
- *It will definitely impact the care of our patients as this drug is generally really safe to use in a wide spectrum of patients. It would also greatly increase the costs of safe, reliable anaesthesia in small animals and wildlife, making procedures that require anaesthesia more expensive for the clients, thus ultimately making their decision of how they would like to continue treatment of their animals more difficult. Ketamine is widely used in practice, wildlife work and research. Taking away the option of using ketamine would negatively affect the industry and animal care as a whole.*
- *I can't even describe how devastating that would be to us. There is no alternatives available in Malawi, so without the use of Ketamine our vets wouldn't be able to operate at all. Because of its low cost, it means we can afford to sterilize many more dogs than if we were using a more expensive option. Ketamine is a huge part of our work, and it would severely impact our ability to help animals if we aren't able to buy it.*

- *We have standardized and even published diazepam ketamine protocols by operating close to 15000 dogs for animal birth control and continuous anesthetic monitoring does make it safe as well as effective in low resource setting and its very economic too. Record keeping and storage practices can be implemented as per the law too to prevent misuse. India*
- *I am a veterinary surgeon working to eradicate rabies from Sri Lanka which involves dog population management through surgical sterilization. We use Ketamine for the induction and maintenance of anaesthesia as it is low cost and safe for animals. If we were to loose Ketamine in Sri Lanka we will not be able to do surgeries on a daily basis and this will very badly affect on the ability to control rabies which kills many animals annually.*