BAM

Raising Wildlife
Anesthesia Standards
For 2014

Wildlife Pharmaceuticals
INCORPORATED
What is BAM?

- A patented combination of Butorphanol Tartrate, Azaperone Tartrate & Medetomidine Hydrochloride now in a new premix formulation

- Easier-to-administer Kit with BAM pre-mixed for you in a single, multi-use vial

- The same high-quality BAM anesthesia at the lowest effective dose rate
Where BAM comes from?

- Trials in mule deer in early 2003 by Drs. Wolfe and Lance
- Controlled published study at U of Ga-2004
- Field validation by Warren Bluntzer in over 1500 White tailed deer in Texas 2004-2012 plus...
- 500 White tailed deer and 500 Fallow Deer by Jason Edmondson in Alabama 2009-2012
Why?

- To fill the need for
- Safe
- Reversible
- Small Volume
- Low DEA Class
- Multiple Species
Characteristics of a BAM Procedure

- Smooth inductions
- Induction times equal to or shorter than Telazol/Med or Telazol/Xylazine
- Relaxed respiration (no “frozen chest”)
- Limited or no increase in body temperature
- Good blood oxygen levels
- Great analgesia and relaxation
- Rapid, smooth and socially acceptable recovery
Mean Respiration Following Induction
BAM vs. T/X

Respiration rate values [data expressed as mean ± SEM] for T/X and BAM treatment groups, recorded at Tapp following induction.
Comparison of core body temperatures \[\text{data expressed as mean} \pm \text{SEM}\] for T/X and BAM treatment groups, recorded at Tapp following induction (\(P<0.05\))
Fig 1. Individual core body temperature values for all animals in the X/T and BAM treatment groups. Recorded at Tapp following induction. Of all does in the BAM group, none exceeded 105°F and only two of ten exhibited temperatures that exceeded 104°F.
**Based on an established Reversal Condition rating system** overall quality of recovery recorded at established intervals (observed at 5, 10, 15, 30, 45, 60 and 90 minutes post-reversal).

Parameters assessing quality of recover characteristics were recorded using a qualitative Reversal Condition Rating System scored as follows:

- 0 = no sign of sedation
- 1 = standing with minimal sedation/eyelids drooping
- 2 = standing with moderate ataxia
- 3 = unable to stand but head up
- 4 = lateral – unable to lift head
- 5 = lateral recumbancy/no reversal

BAM for AI

Incidence of Conception: BAM v. T/X Does

Total Treatment Animals Inseminated

- 25
- 20
- 15
- 10
- 5
- 0

BAM Does

- 12
- Open

T/X Does

- 11
- Pregnant

10

9
What about induction?

- With a good intramuscular dart hit, induction begins in 3-5 minutes and continues to sternal or lateral position in 8 to 12 minutes [in most deer]
- If no effect, or only a partial effect in 15 minutes, you can give a full dose again since the drugs are fully reversible
Species To Date...

- White-tailed & Mule Deer
  [all ages and size classes]
- Elk
- Moose
- Bison
- Bighorn Sheep
- Pronghorn
- Waterbuck
- Black Bear
More Species...

- Nilgai
- Wildebeest
- Sable
- Zebra
- Hippo
- Mexican wolf
- Lion
More Species

- Fallow Deer
- Black Buck
- Axis Deer
- Scimitar Horned Oryx
- Eland
In a **BAM** kit you get one vial each of the following:

- **11 cc of BAM in a 10 cc vial**
  
  (yes, you can get 11 cc into a 10 cc vial!)

- **30 cc vial** of 25 mg/ml Atipamezole for reversal of the medetomididine in BAM. Ratio is 2:1

- **5.5 cc vial** of 50 mg/ml Naltrexone to reverse the butorphanol in BAM- [0.5 cc dose for all bucks does and fawns!]
Dose Schedule in Deer

Dose **BAM** accordingly for deer as follows:

- Fawn 0.3-0.5 cc
- Adult Doe or Small Buck 1.0 -1.5 cc
- Large Buck 2 cc plus
Problems???

Not for use for semen collection
Reversal

- Butorphanol either not reversed or reversed with 50 mg/ml (0.5 cc) Naltrexone IM
- Medetomidine reversed with 25 mg/ml *high strength* Atipamezole formulation
- It's simple! Always give 2 cc of 25 mg/ml Atipamezole for every 1 cc of BAM given... a 2:1 ratio.
- Azaperone *not reversed* and provides low level of sedation for 2 - 4 hours.
Reversal

- New **BAM** reversal protocol with just two simple IM injections
- You must always reverse the medetomidine with the atipamezole. 2:1 ratio
- Also can use these alternative reversal procedures:
  - May choose *not* to reverse Butorphanol to provide some post procedure analgesia
  - *May reverse* Butorphanol to insure maximum environmental awareness on standing
  - Azaperone dose in BAM does not appear to impair environmental awareness after reversal
Reversal

- Unless you have a stomp down three star emergency, give all reversal drugs in the muscle

- Most animals up in 10 minutes or less when adequate reversal drugs are given
$ You get what you pay for $

- Use the best and safest drugs available to care for your valuable animals.
- **BAM** will provide improved anesthesia for your animals.
  - **BAM** is an alternative to using class DEA class 2 and 3 drugs in your facility.
  - **BAM** will reduce the time it takes to treat or process your animals.
The Bottom Line

- Not the perfect drug, but addresses issues of multiple species application, low volume, safety, reversibility.
- Controlled and field trials in deer and bear have been published.
- Field use indicates use on more species possible. (Trial and error method)
How do I get it?

- Available by prescription only from your veterinarian
- Have your veterinarian contact ZooPharm at 888-742-4602 for prescription information
- **BAM** will be shipped directly to you (or your vet if you prefer)
- **BAM** is provided as a kit and includes...
  - One vial of pre-mixed **BAM** identical in strength as original BAM... ready to use
  - Plus all reversal drugs:
    - 1 vial of 25 mg/ml Atipamezole to reverse the medetomidine (2:1)
    - 1 vial of 50 mg/ml Naltrexone to reverse the butorphanol

One kit can immobilize up to 20 fawns, 11 does, or 5 large bucks
Who do I call for more information?

- Ms. Christy Lamb for ordering (866-823-9314)
- Dr. William Lance for technical information (970-795-0923-direct)
- Mr. Warren Bluntzer (512-556-7027) for field use information
Books you MUST have and READ

- Kreeger’s *Handbook of Wildlife Chemical Immobilization 4th Edition*-Amazon
- Kock’s *Chemical and Physical Restraint of Wild Animals –African Species* Published by International Wildlife Veterinary Services
Summary

- **BAM** is easy to use
- New applications for existing drugs being developed by people unafraid to try and fail
- Real wildlife folks dose high and use long needles
Our Fearless Leader and "Josie" The Worlds Greatest Mule