

Multi-User Learning Environment (Second Life) to Train Veterinary First Responders in a Simulated Disaster Environment Wesley Bissett, DVM, PhD

On behalf of the

Texas A&M Veterinary Emergency Team "Emergency Management did not know anything about animals and animal professionals did not know anything about emergency management." "I didn't learn veterinary medicine that I didn't already know – I learned so much more; leadership, teamwork, communication, compassion, and having a system."

2011 Bastrop Complex Wildfire – The Genesis



SPEED

LIMIT

Additional Lessons

Future participation is coming for them whether they want it or not

Lessons learned are valuable professional competencies

Building a Response Team while Simultaneously Training Veterinary Students



















Emergency Response

 "When I say this rotation changed me, it changed the way in which I perceive my duties within the veterinary profession. It has allowed me to take a step back from the algorithms of medicine and precision of surgery to ask myself, 'When the time comes, can I use my skills to help my neighbors? Will I? 'Veterinarians have the power to change people's lives and in turn save people's lives." – 4th Year Veterinary Student



Second Life[®], a Multi-User Virtual Learning Environment

- Simulated disaster settings
 - Hurricane
 - Tornado





Second Life[®], a Multi-User Virtual Learning **Environment**



Second Life[®], a Multi-User Virtual Learning Environment



Second Life[®], a Multi-User Virtual Learning



Second Life[®], a Multi-User Virtual Learning



Second Life[®], a Multi-User Virtual Learning Environment

- Cases and circumstances
 mirror our experiences
 - Medical problem sets
 - Students own their decisions, good and bad
 - Inter-professional problem sets
 - Moral and ethical issues

Sim Development



25 kg = 55 lb 30 kg = 66 lb 35 kg = 77 lb 250 mog = 0.5 mi 300 mog = 0.5 mi 350 mog = 0.7 mi 400 mog = 0.8 mi 40 kg = 68 lb 45 kg = 99 lb 50 kg = 110 lb 450 mog = 0.9 ml 500 mog = 1.0 ml Dose 10 mcg/kg IV or IM Canine Morphine 10 mg/mi Dose 0.2 mg/kg IV or IM Dog Weight 5 kg = 11 lb 10 kg = 22 W e dosse ini mep are 1 mg = 0.1 mi 2 mg = 0.2 mi 3 mg = 0.3 mi 4 mg = 0.4 mi 15 kg = 33 % 20 kg = 44 % 20 kg = 44 lb 25 kg = 55 lb 30 kg = 66 lb 35 kg = 77 lb 40 kg = 88 lb 45 kg = 99 lb 50 kg = 110 lb $\begin{array}{l} 5 \mbox{ mg} = 0.5 \mbox{ ml} \\ 6 \mbox{ mg} = 0.6 \mbox{ ml} \\ 7 \mbox{ mg} = 0.7 \mbox{ ml} \\ 8 \mbox{ mg} = 0.8 \mbox{ ml} \end{array}$ 9 mg = 0,9 m

Nov and Lines.

Second Life

- Instructors can alter animal response if students are careless in their approach (dog will bite, horse will kick)
- Instructors can alter animal health if students have made inappropriate decisions (animal can die)
- Instructors can stop action if a teaching moment presents itself rather than allowing the student to dig themselves into a hole (this is a moment to moment decision)



Team Development



VETERINARY EMERGENCY TEAM TEXAS A&M UNIVERSITY



Scripting Actors





Avatar Interactions



Guide of Variables Affecting Assessment of Verbal Interaction and Communication

Voice	Emotion	Attitude	Characterization	Outcome
Context	Depressed	Determined	Inquiring	Understanding
Detail	Anxious	Obstinate	Situationally aware	Compassionate
Emphasis	Hysterical	Resistant	Role Self-identity	Caring
Volume	Angry	Cooperative	Leadership presence	Empathetic
Enunciation	Apathetic	Agreeable	Conflict arbitrator	Remorseful
Pitch	Exciting	Pleasant	Respectful	Guiding
Clarity	Calming	Detached	Problem solver	Problem resolved
	Encouraging	Uncaring	Laggard	
	Reassuring	Argumentative	Uninformed	

Student Avatar Interactions



- Avatar actors are tasked with specific and carefully choreographed problems to present to students
 - Problems based on specific compentencies
 - All problems are realistic in that they are situations the VET members experience on deployments
- Actors are coached and directed by the teaching team during the sim as to timing of injected problems and changes in problem set based on student response

Actors





Assessing Medical Decisions





Instructor – Student Medical Decision Peer Review





Simulation Metrics



- Follows 4th year professional curriculum map
- Syllabus aligned with curriculum map for objectives and outcomes
- Rubrics developed and aligned with the curriculum map

Closing Thoughts and Future Directions



- 3D Glasses and improved graphics
- Even more advanced animal avatars that can change based on treatment given or not
- New sim development to update Hurricane/flood response and add infectious disease and other disaster scenarios
- Video and audio capture to review interactions/communications

Thank You!

Questions?

