Zoo Medicine

* Responsibilities
	+ Animal shipment coordination
		- Reasons for animal movement
		- Coordination between zoos
		- Coordination with local regulations
		- USDA Accreditation
		- Pre-shipment testing
	+ Quarantine Program
		- 30-90 days
		- Arrival exams
		- Parasite screenings
		- Full diagnostic exams
			* Physical exam
			* Bloodwork
			* Infectious Disease Testing
			* Diagnostic Imaging
	+ Preventative Care
		- Every animal at zoo has scheduled physical exams (typically annual)
		- Vaccinations
		- Parasite control
		- Routine diagnostics
		- Contraception – Reversible so animals can still be part of breeding pool
		- Nutrition
		- Examples:
			* Non-Domestic Felids
				+ Exams – every 1-2 years
				+ Dental care
				+ Vaccinations

Panleukopenia, Rhinotracheitis, Calicivirus

Rabies

Canine Distemper

* + - * + Routine lab tests and imaging
				+ Disease testing – FeLV, FIV, Coronavirus, Toxoplasmosis
			* Great Apes
				+ Exams – every 2-3 years
				+ Dental Care
				+ Cardiac Evaluation
				+ Routine sampling and imaging
				+ Vaccinations – Rabies, Tetanus, Influenza, MMR
				+ Disease Surveillance:

Hepatitis A, B, C, Measles, Herpes simplex 1, 2, Respiratory Syncytial virus, Epstein Bar

* + - * Other Unique Species Considerations
				+ Meerkats

Have very elaborate social structure

If single meerkat is removed for exams and later put back, the group may attack it

Must be examined all at once

* + - * + Penguins

Exams done in drained penguin pool

All penguins in pool and water is drained with them inside

All exams done in the same day

* + Training
		- Animals can be trained to perform certain behaviors that make physical exams easier
		- Certain exams that could be skewed with anesthesia can be done while the animal is awake
		- The less an animal needs to be anesthetized, the better
		- Can be used to do ultrasounds, blood pressure measurements, blood sampling, etc.
	+ Anesthesia
		- Mainly done on larger animals
		- Fish can be anesthetized using a powdered anesthetic mixed into water that is pumped over the gills
	+ Veterinary Services
		- Addressing Illness or Injury
		- Pathology – Necropsy
	+ Animal Welfare in Zoos
		- Physical Well Being
			* Appropriate and safe environment
			* Health Care
			* Nutrition – food and water
		- Five Freedoms:
			* Freedom from hunger and thirst
			* Freedom from discomfort
			* Freedom from pain, injury, and disease
			* Freedom to express normal behavior
			* Freedom from fear and distress
		- Five opportunities to thrive (Replaced Five Freedoms):
			* Opportunity for a well-balanced diet
			* Opportunity to self-maintain
			* Opportunity for optimal health
			* Opportunity to express species-specific behavior
			* Opportunities for choice and control
	+ Education
	+ Administration
		- Exhibit Design
		- Policy development and review
		- Protection of human health
		- Outreach