

# Protecting Zoo Animals from Animal and Human Disease

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# Preventing Disease Basics

- Routine exams
- Quarantine of new animals
- Limit exposure to non-collection animals
- Healthy staff members



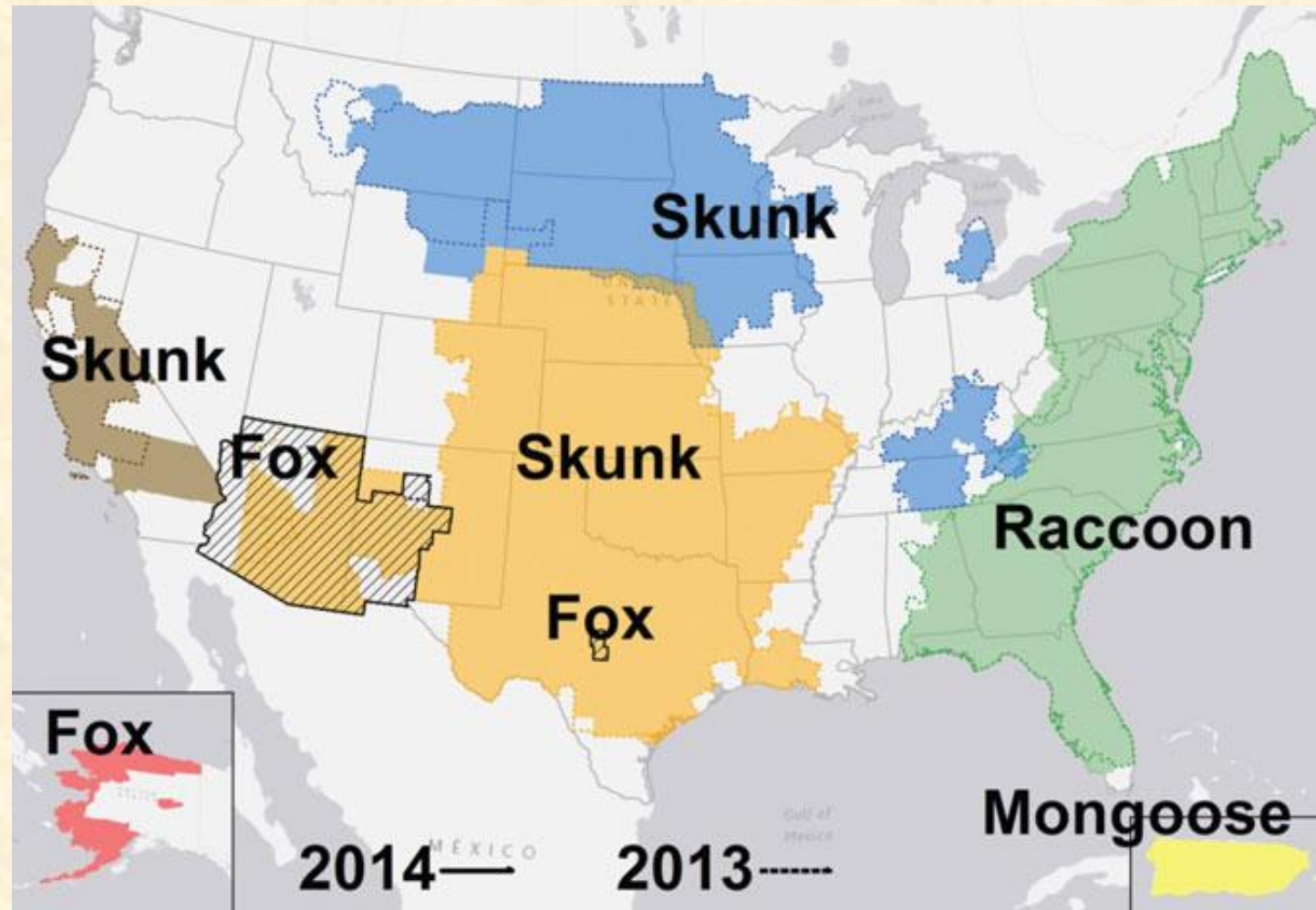


# Rabies

- Prevention is key
- Knowledge of symptoms
- Most common vaccine
- Most mammals
  - Marsupials, marine mammals
- Unknown efficacy non-traditional species



# Rabies

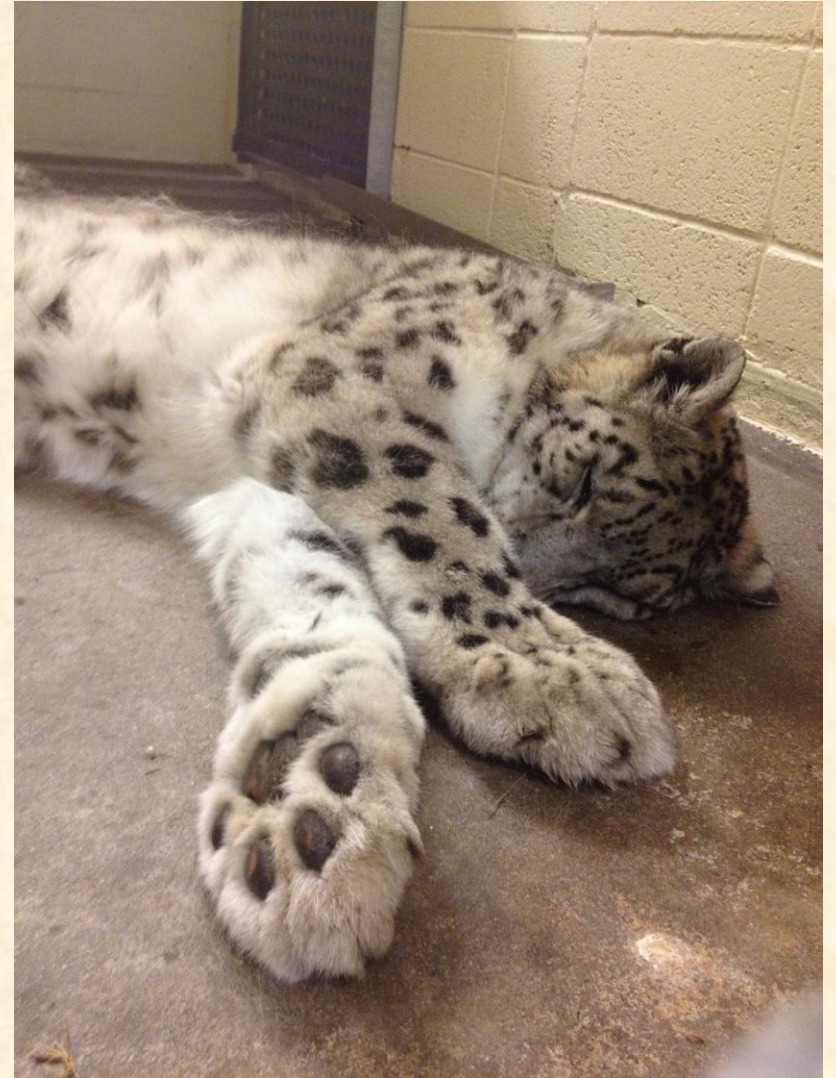


[https://www.cdc.gov/rabies/exposure/animals/wildlife\\_reservoirs.html](https://www.cdc.gov/rabies/exposure/animals/wildlife_reservoirs.html)



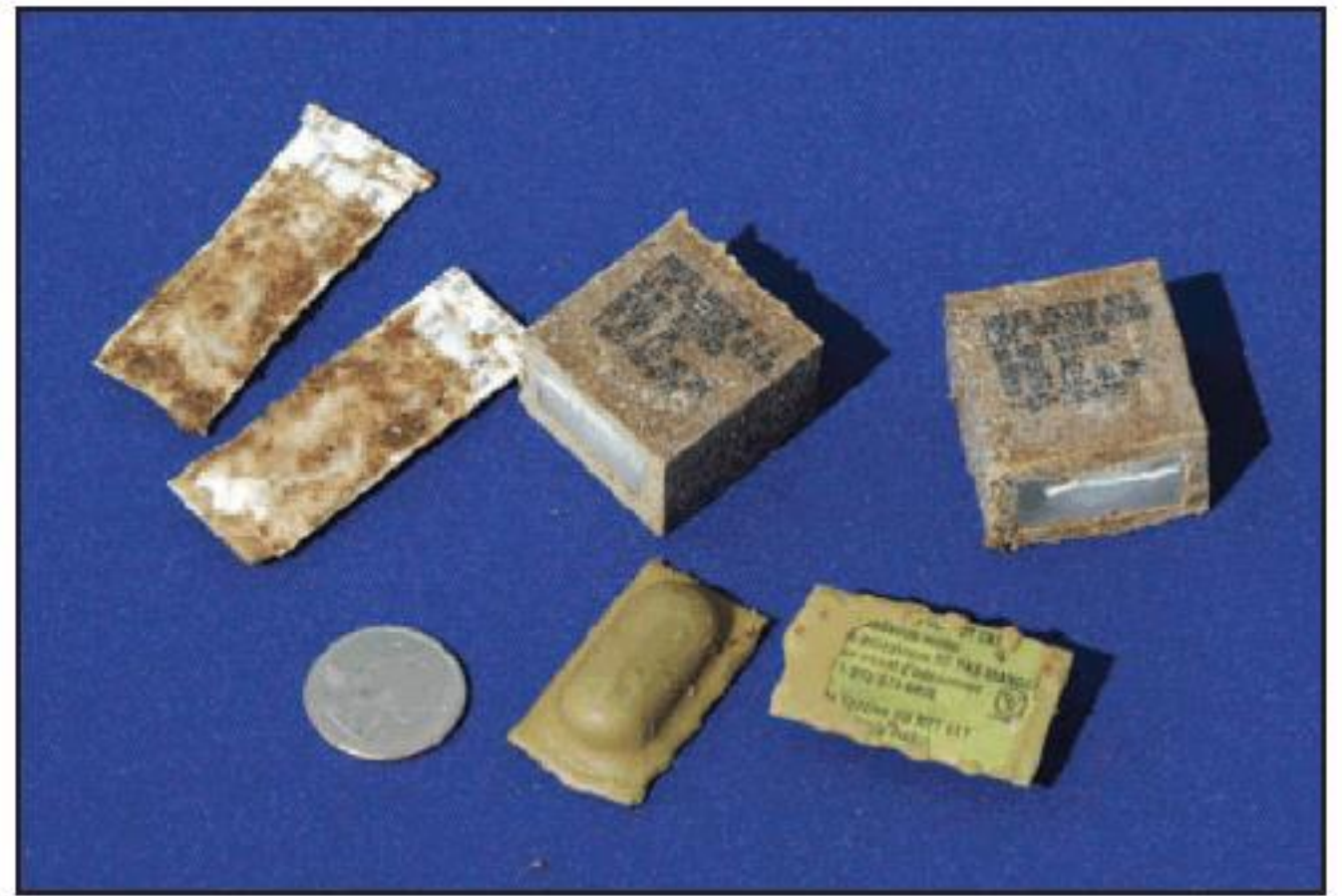
# Rabies

- Submit wildlife for testing
- Quarantine
- Monitoring mammals having bitten person
- Encourage staff vaccination
- Euthanasia



# Rabies

- Prevention in wildlife
  - Bait drops
  - Hand vaccination



<https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6214a3.htm>

# Influenza

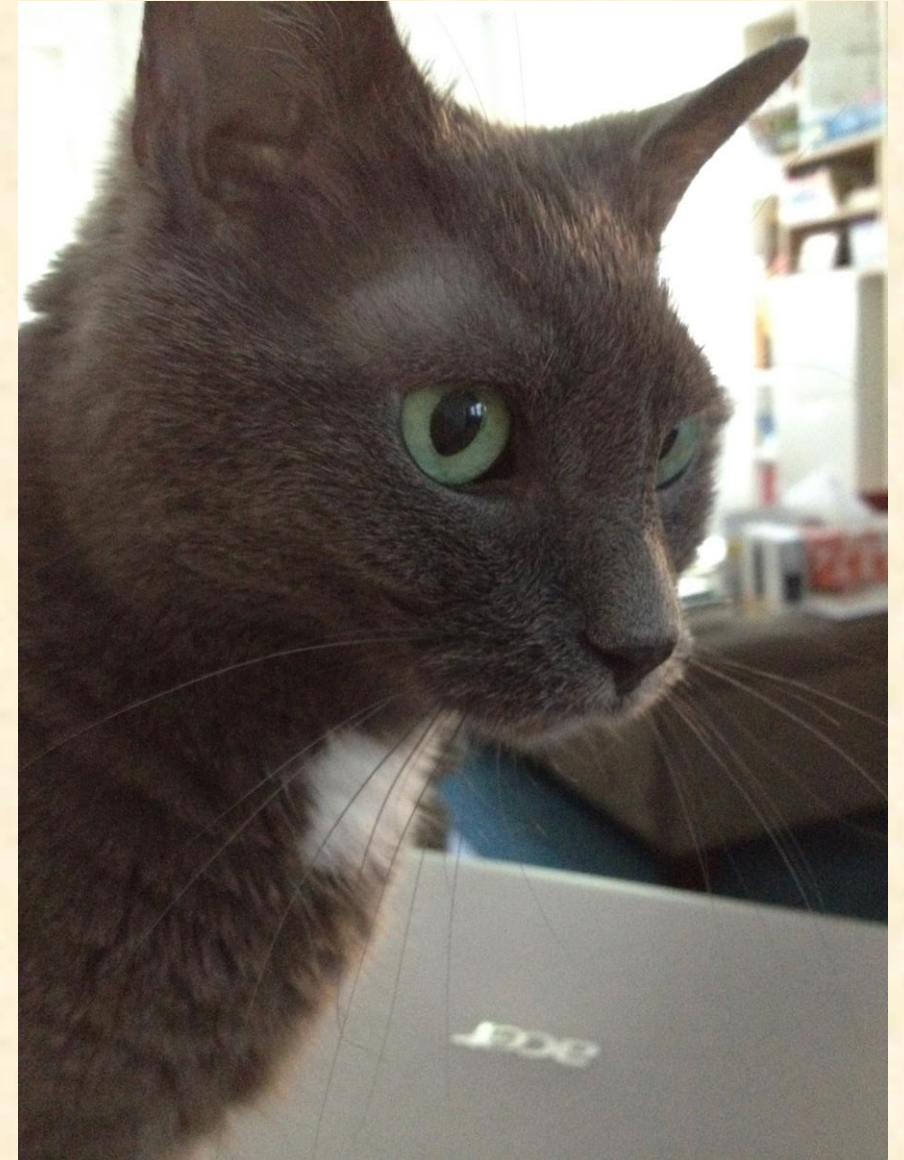
- Avian
  - High-pathogenicity (H5, H7)
  - Species difference susceptibility
- Pigs
- Humans
- Cats (H7N2)
- Giant anteaters





# Influenza

- Canine (H3)
  - H3N8- adaptation equine influenza
  - H3N2- found in cats, cat-cat transmission (2016)
- Human
  - Ferrets
  - Primates
- Staff pets





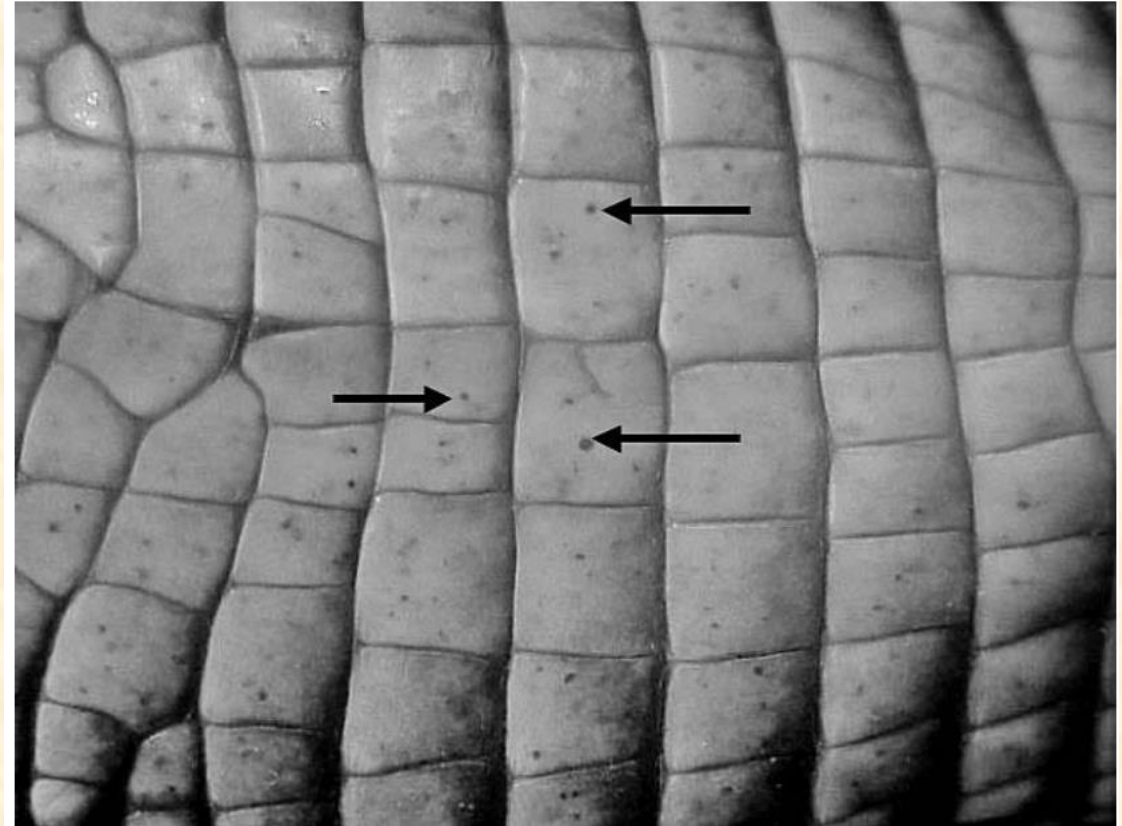
# West Nile

- Avian
  - Signs vary by species
  - Off-label vaccine use
- Equine



# West Nile

- Carnivore
  - Bears (Polar)
- Crocodilians
- Other encephalidities



# Tetanus

- Primates
- Macropods
- Hoofstock
- Equids





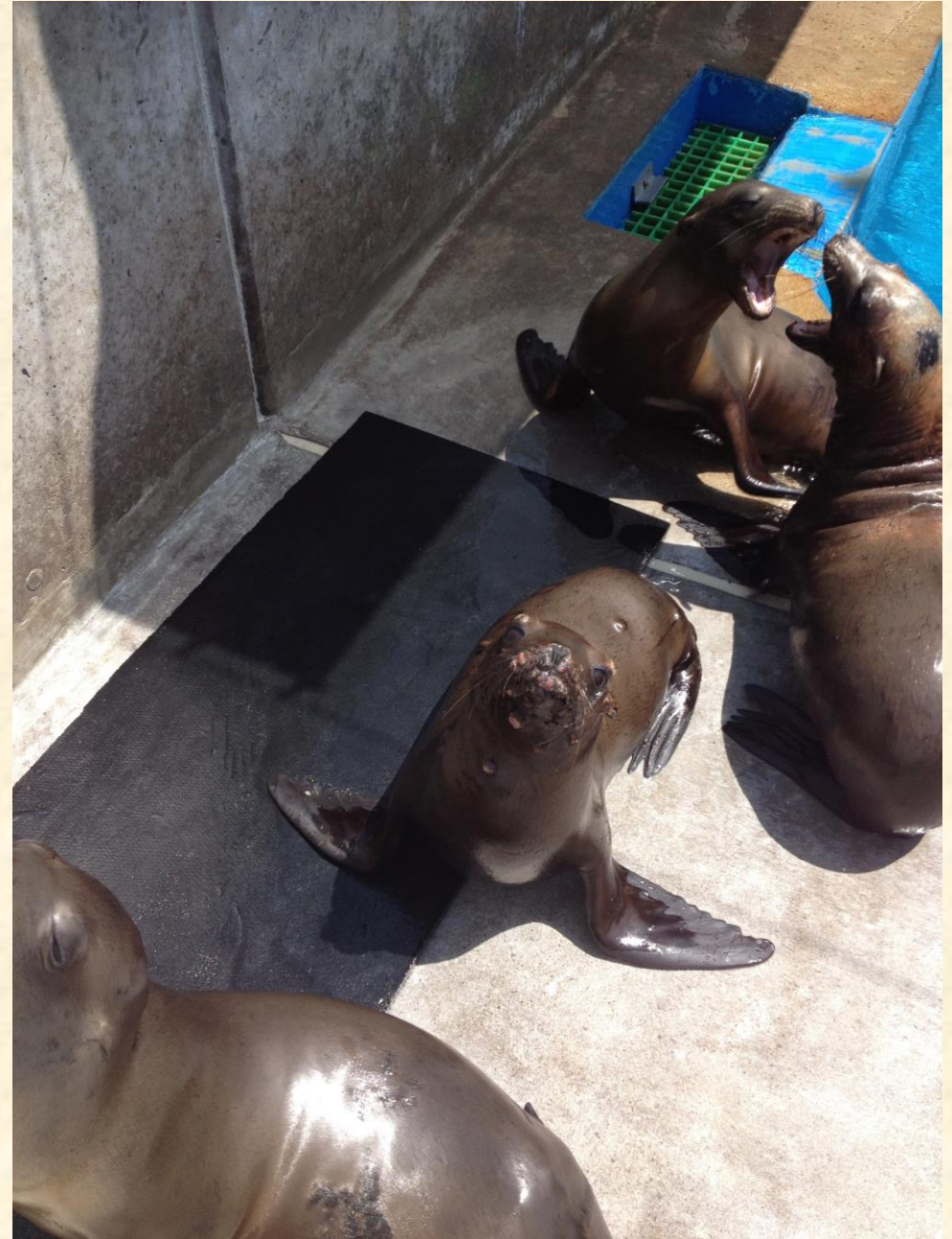
# Canine Distemper

- Caninds
- Felids (large cats)
- Raccoons
- Ferrets
- Bears
- Marine mammals



# Erysipelothrix

- Suids
- Marine mammals
- Occupational workers





# Primates

- Great Apes vs Monkeys/lemurs
  - Rabies, tetanus
  - +/-measles
  - Human Protocols

**TABLE 38-4**

**Recommended Human Immunization Schedule\***

<b>Immunization</b>	<b>Abbreviation</b>	<b>Dosing Schedule</b>
Hepatitis B	Hepatitis B	birth; 1 mo; 6–18 mo
Rotavirus	RV	2 mo; 4 mo
Diphtheria, tetanus, pertussis	DTaP	2 mo; 4 mo; 6 mo; 15–18 mo; 11–12 yr; q10yr
<i>Haemophilus influenzae</i> type b	Hib	2 mo; 4 mo; 12–15 mo
Pneumococcal	PCV	2 mo; 4 mo; 6 mo; 12–15 mo
Inactivated poliovirus	IPV	2 mo; 4 mo; 6–18 mo; 4–6 yr
Influenza	—	Annually
Measles, mumps, rubella	MMR	12–15 mo; 4–6 yr
Varicella	Varicella	12–15 mo; 4–6 yr
Hepatitis A	HepA	12–24 mo; 2nd dose 6–18 mo later
Meningococcal	—	11–12 yr; 16 yr
Human papillomavirus	HPV	3-dose series, beginning at age 9

\*From the American Academy of Pediatrics, 2012 Immunization schedule: <http://aapredbook.aappublications.org/site/resources/IZSchedule.pdf>.  
mo, Month; q10yr, every 10 years; yr, year.



# Primates

- Administration
  - Hand injection
  - Darting
- Prevention



# Hoofstock

- Tetanus
- Rabies
- Leptospirosis
  - Species dependent
- Encephalidities
  - Equids/tapirs
- Erysipelas
  - Suids and marine mammals





# Carnivores

- Rabies
- Distemper
  - Most likely cross species
- Parvo
- Caution use of MLV





Questions?

