ZOONOSES:
NAVIGATING MYTHS AND MISPERCEPTIONS WHILE PERFORMING A MEANINGFUL RISK ASSESSMENT

JOE SMITH, DVM
DIRECTOR OF ANIMAL PROGRAMS
FORT WAYNE CHILDREN'S ZOO

OBJECTIVES

1) DESCRIBE HOW AN ACCREDITED ZOO MITIGATES ZOONOTIC DISEASE RISKS
2) REVIEW COMMON MISCONCEPTIONS THAT CAN INFLUENCE ZOONOTIC RISK ASSESSMENTS AND PLANS
3) PROVIDE AN OVERVIEW OF HOSPITAL-SPECIFIC SITUATIONS WHERE ZOONOTIC DISEASE RISKS MIGHT BE CONSIDERED.
<table>
<thead>
<tr>
<th>Group</th>
<th>In Animals</th>
<th>In People</th>
<th>Significance*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clinical disease</td>
<td>No disease</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>Clinical disease</td>
<td>Clinical disease</td>
<td>Concern, but easy to detect</td>
</tr>
<tr>
<td>3</td>
<td>Subclinical</td>
<td>Clinical disease</td>
<td>Concern, more problematic</td>
</tr>
<tr>
<td>4</td>
<td>Opportunistic</td>
<td>Opportunistic</td>
<td>Varies</td>
</tr>
</tbody>
</table>

**GROUP 1: NO DISEASE IN PEOPLE**

**GROUP 2: DISEASE IN BOTH**
GROUP 3: ANIMAL CARRIERS

GROUP 4: OPPORTUNISTIC IN BOTH

METHODS TO REDUCE RISK
PPE

BASIC HYGIENE
- Handwashing
- Separation of Activities
- Cleaning Technique
- Disinfection
- Disposable Supplies
- Sterilization

DISEASE SCREENING:
Physical Exams
DISEASE SCREENING:
DIAGNOSTIC IMAGING

- SEROLOGY
- PATHOGEN SCREENS
  - FECAL O/P
  - CULTURE
  - PCR
  - ELISA
- TB TESTING

DISEASE SCREENING

- PREVENTATIVES
- VACCINES
- PROPHYLACTIC TREATMENTS
MYTHS & MISPERSPECTIONS

MYTH 1: DOMESTIC ANIMALS CARRY FEWER ZOONOSES THAN EXOTIC ANIMALS

- 80% of dogs carried zoonotic agent
  - C. difficle 58%
  - Salmonella 7%
  - Pasteurella 29%
  - Malassezia 8%
  - Giardia 7%
  - Toxocara 2%
  - Ankylostoma 1%

MYTH 2: SERVICE ANIMALS ARE HEALTHIER THAN OTHER ANIMALS

- DEFINITIONS
  - SERVICE ANIMAL
  - THERAPY ANIMAL
  - EMOTIONAL SUPPORT ANIMAL
  - LEGAL REQUIREMENTS
  - FRAUD
QUESTION…

What species poses the greatest risk of disease transmission to people?

MYTH 3: PREVENTION OF ZOONOSES IS DIFFERENT THAN PREVENTION OF HUMAN PATHOGENS

• SAME PRINCIPLES APPLY
• SAME PPE
• SAME CLEANING/DISINFECTION MEASURES
• SAME ISOLATION/QUARANTINE/BIOSECURITY PROTOCOLS
MYTH 4: A PHYSICAL EXAM WILL DETECT MOST ZOONOSES

- Only detects clinical disease
- Misses incubation periods
- Misses subclinical carriers
- Misses group 3 diseases
- Good for group 1 & 2 diseases, some group 4

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<th>Significance</th>
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<tbody>
<tr>
<td>1</td>
<td>Clinical disease</td>
<td>No disease</td>
<td>None</td>
</tr>
<tr>
<td>2</td>
<td>Clinical disease</td>
<td>Clinical disease</td>
<td>Could be seen in others</td>
</tr>
<tr>
<td>3</td>
<td>Subclinical</td>
<td>Clinical disease</td>
<td>Could be seen in others</td>
</tr>
<tr>
<td>4</td>
<td>Asymptomatic</td>
<td>Asymptomatic</td>
<td>None</td>
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MYTH 5: “HEALTHY” MEANS FREE FROM ZOONOSES

- Zoonooses can be normal flora
- Pathogens can be maintained at normal equilibrium
- Animals can be fomites

MYTH 6: ANIMALS DESERVE MORE LATITUDE THAN PEOPLE

- Don’t let animals do things you wouldn’t allow people to do
- Use PPE and disinfecting methods when cleaning up accidents
MYTH 7: THE PUBLISHED LITERATURE REFLECTS COMMON DISEASES

• Focus on unusual manifestations
• Focus on rare disease
• Common diseases don’t necessarily get much attention

HOSPITAL-SPECIFIC SITUATIONS

SERVICE ANIMALS

• Protected by ADA
• Limited to dogs and mini horses
• Not standardized
• No official certification
• Certificates and harnesses freely available online to anyone
• No detailed health requirements
THERAPY ANIMALS

- Need to thoroughly evaluate risks
  - Species
  - Patient selection
  - Not regulated
  - Come in contact with multiple patients
    - Can serve as a fomite

PETS

- Unknown medical screening
- Inconsistent evaluation of abnormalities
- Patient probably already exposed to anything the pet carries
- May be greater risk for others

EMOTIONAL SUPPORT ANIMALS

- Not same as service animals
- Similar risks as pets
- No ADA protection
  - Protected by FHA and ACA
ANIMAL DIAGNOSTICS

• ANIMAL IN HEALTH CARE FACILITY AS A PATIENT
• EVALUATE LIABILITY RISKS
  • DAMAGE TO FACILITIES/EQUIPMENT
• ANESTHETIZED VS AWAKE
• PROBABLY NO DIFFERENCE TO BIOSECURITY
• DISCUSS CASE-SPECIFIC RISKS & MITIGATION

ANIMAL BIOLOGIC SAMPLES

• BLOOD BORNE PATHOGENS
• BIOSECURITY SAME AS FOR PEOPLE
• PPE
• BE MORE CRITICAL OF HIGH-RISK SPECIES
  • MACAQUES

TAKE-HOME POINTS
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1. Be critical of recommendations
2. Consider each situation differently
   - Allow flexibility in your policy
3. Ask the right questions to understand risk

RESOURCES

- AVMA "ASSISTANCE ANIMALS: RIGHTS OF ACCESS AND THE PROBLEM OF FRAUD"
- AAZV INFECTIOUS DISEASE MANUAL (HTTP://WWW.AAZV.ORG/?754)
- NASPHV "COMPENDIUM OF MEASURES TO PREVENT DISEASE ASSOCIATED WITH ANIMALS IN PUBLIC SETTINGS"
- NASPHV "COMPENDIUM OF VETERINARY STANDARD PRECAUTIONS FOR ZOONOTIC DISEASE PREVENTION IN VETERINARY PERSONNEL"
- VETERINARIAN CONSULTATIONS
  - Ask about expertise and experience
  - Species
  - Situations
THANK YOU!
QUESTIONS?