FeLV and FIV
Positive Doesn’t Have to be Negative

Linda Jacobson DVM
ljacobson@torontohumanesociety.com
“every cat eligible for adoption, re-homing, or relocation should be screened”
Dane County – no longer test healthy cats. Offer test for a reasonable fee at time of adoption. In 2 years have not heard of a cat that tested positive after adoption. No change in adoptions and LOS after they stopped testing.
2/3 of shelters do not test all cats (n=38)
Test with 98.2% specificity, prevalence 3% – test is wrong 40% of the time

3 true positives, 2 false positives

Adapted from www.idexx.com; IDEXX specificity
Test with 85.7% specificity, prevalence 3% – test is wrong 80% of the time

3 true positives, 14 false positives

Don’t compromise on test quality

Adapted from www.idexx.com
The IDEXX SNAP test performed better than Witness, Anigen and VetScan

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5354053/
Test with 98.2% specificity, prevalence 20% – test is wrong only 5% of the time

20 true positives, 1 false positive

Test a targeted population

Adapted from www.idexx.com
THS 2015-2018

7,391 tests, 396 positive cats
Cost per test: $16.55
Total cost: $122,321
Cost per positive test: $309
NO, SIR, IT STILL DOESN'T COVER YOUR BUTT.

FIRE COMEY!
Who to target? THS data n=7,391: Odds of being retrovirus-positive

- Intact vs sterilized
- Other intake vs owner surrender
- Male vs female
- > 6 mths old vs < 6 mths
Sick cats are more likely to be retrovirus-positive.

Burling et al 2017
Targeted testing: Who is at risk?

Elvis, FIV+

Yogi, FeLV+, FIV+
Targeted testing: Who is at risk?

- Outdoor access
- Adult age (>3 yrs)
- Male
- Unhealthy
  - Esp. colony cat
  - Underweight
  - Bite wounds
  - Gingivostomatitis
- High risk of exposure
- Communal housing
FeLV and FIV Testing

After considering the most recent research, expert recommendations, and in the context of our own experience, we have decided that we will no longer routinely test our cats and kittens for feline leukemia virus (FeLV) or feline immunodefeciency virus (FIV). We will perform viral testing on a case-by-case basis.

If your new cat or kitten tests positive for FIV or FeLV and you choose not to keep him, please make arrangements to return him to us within two weeks of adoption. Please note that some veterinarians recommend euthanasia based on a single positive viral test. Even if your vet recommends euthanasia, we will take the kitty back within two weeks of adoption, and we will find a home where FIV or FeLV are less of a concern.
Are all cats that enter OC Animal Care tested for Feline Leukemia (FeLV) or Feline Immunodeficiency Viruses (FIV)?

In order to minimize stress on shelter cats and avoid performing tests that may be low yield in a shelter setting, OC Animal Care no longer performs feline viral tests on cats that manifest no symptoms of disease.

In summary, our policy going forward for FeLV/FIV testing in cats will be as follows:

- We will test any at-risk cats, including cats with obvious fight wounds
- We will test any cats moving into group housing
- We will test cats showing signs of illness while in our care.
- Cats under 6 months of age are no longer tested.
- Healthy adult cats that are housed individually will not be tested.
Don’t test healthy TNR cats
Spaying and neutering is more effective and humane than “test and cull”
40% of 38 shelters surveyed euthanize healthy FeLV+ cats.
Euthanasia decisions should not be based on the result of a single positive test.

• Cats can live healthy lives for many years after diagnosis

• A single positive test can be a false positive
Possible pathways for healthy positive cats

- Adoption
- Warehousing
- Euthanasia
- Long-term foster
- Transfer to rescue
Manage the change

Educate leaders

Educate staff & volunteers

Educate adopters

Actively promote
Shelter launches adoption program for FeLV-positive cats – and they all go home!

October 25, 2016

Tree House, Chicago
**Feline Leukaemia Virus Infection**

*Edited November, 2018*


**Review**

**Clinical Aspects of Feline Retroviruses: A Review**

Katrina Hartmann
FeLV: Transmission

- Only viremic cats are contagious
- Most kittens are **susceptible** (~70%)
- Most adult cats are **resistant** (~70%)
- Short-term contact unlikely to cause infection
- Routes: queen-to-kitten, saliva, bite wounds

Photo: Laurelwood Animal Hospital
How contagious is FeLV??

• Hoarder group rescued by THS
• Communally housed, long stay
• 12.7% were FeLV+
• 49 FeLV-negative cats - retested 1-2 months post-intake
• Zero cats became positive
FeLV: Pathogenesis and clinical signs

• Bone marrow and lymphoid tissue
• Cell proliferation or suppression
• Common:
  – Weight loss, fever, inappetance
  – Lymphoma – tumors 62x more likely than uninfected cats
  – Anemia – poor prognostic indicator
  – Stomatitis
  – Immune incompetence (infections)
“The wide survival time distribution highlights that FeLV infection is not necessarily suggestive of an immediate death, and clinicians should assess FeLV-infected cats case by case.”
THS FeLV+ palliative fosters – survival from diagnosis (years)

Green bars – both FeLV and FIV+

Euthanized
Active
FIV: Transmission

• Deep bite wounds
• Queen-to-kitten *rare*
How contagious is FIV?
Litster et al, Maddie’s webinar 2013

<table>
<thead>
<tr>
<th>FIV-positive (n)</th>
<th>FIV-negative in-contact (n)</th>
<th>In-contact cats infected (n)</th>
<th>Laboratory/Home</th>
<th>Observation period</th>
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<td>Laboratory</td>
<td>4-14 months</td>
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<tr>
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<td>31</td>
<td>0</td>
<td>Home</td>
<td>Median 2 years</td>
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<td>1 10/19 FIV PCR+</td>
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<td>2-4 years</td>
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<tr>
<td>9</td>
<td>17</td>
<td>6</td>
<td>Home</td>
<td>10 years</td>
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</tbody>
</table>

Transmission of feline immunodeficiency virus (FIV) among cohabiting cats in two cat rescue shelters
Annette L. Litster*
Department of Veterinary Clinical Sciences, School of Veterinary Medicine, Purdue University, 623 Harrison SL, West Lafayette, IN 47907, USA
Co-housing FIV+ and FIV-negative cats in the shelter
FIV: Pathogenesis

- Not all cats become clinical – despite low CD4+ counts
- Some cats with FAIDS can become healthy again with standard medical care

Adapted from Eckstrand, WVC 2019
FIV: Clinical signs

• Common:
  – Weight loss, fever, inappetance
  – Lymphoma – tumors 5x more likely than uninfected cats
  – Stomatitis
  – Immune incompetence (infections)
FIV+ : Normal average survival times

• Studies have consistently shown a normal life expectancy for FIV+ cats

• Can live many years with no clinical signs and die of conventional causes
Outcomes for FIV+ and poorer for FeLV+ cats (THS data 2015-2018)
Retrovirus Key Facts:
Housing and Handling

I’m more vulnerable to infection

The viruses are fragile and easily killed by disinfectants

I can be housed in a normal adoption room *

(* FeLV+ cats should not be communally housed with negative cats)
Retrovirus Key Facts: For Adopters

- Keep me indoors
- I need good primary health care
- Take me to my (knowledgeable) veterinarian at least annually
Key Facts for Adopters: FeLV

I’d love to be adopted with my sibling (or friend)

Consider adopting me with a FeLV-vaccinated adult?
Key Facts: FeLV

I might get sick soon but my quality of life is good now

My lifespan might be shorter but I could be healthy for years

I need you to be my hero (but not do heroics)
Key Facts: FIV

My kitten test was probably maternal antibody

My life expectancy is normal

I may never get sick
Key Facts for Adopters: FIV

I can live with FIV-negative cats

I have lots of stories to tell!

I need you to be my hero (but not do heroics)
Use existing resources – but make sure they are appropriate and accurate.
Monitor Success:
Length of stay has improved for FeLV for not for FIV (THS data)

25th to 75th percentiles shown
Active promotion is essential (THS LOS data 2015-2018)

25th to 75th percentiles shown
Promote Positive Adoptions

• Reduced-fee adoptions
• Publicize
  – Media releases
  – Social media
  – Write-ups
• Work with local DVMs
• Subsidized medical care