

5th International Symposium on Non-Surgical Contraceptive Methods of Pet Population Control

Approaches with Potential for Nearer-term Impact


CALCIUM CHLORIDE INJECTION
for male cats and dogs

Elaine Lissner
Parsemus Foundation
June 22, 2013

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Mode of Action



Testicular atrophy

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How It's Different from Zinc Gluconate


- Reduces testosterone substantially, enough to impact behavior : **YES**
- FDA approved : **NO**
- Available now : **YES**

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Why Calcium Chloride Has Current or Near-Term Potential


- Known to work
- Cheap
- Substantial published safety data
- Readily available,



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Target Market(s)



owned, community, or street dogs

permanent sterilization wanted

Zeuterin™/Esterilsol™ not available OR behavior change (roaming, fighting, packing, humping) desired



owned, community, or feral cats

permanent sterilization wanted

behavior change (spraying, yowling, fighting) required

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Brief History

Pilot studies done at Washington State University, USA

... and then nothing happened for 20 years!

Calcium chloride publications from India

Parsemus foundation learns about calcium chloride


Calcium chloride first presented at ACC&D conference

Parsemus foundation funds independent confirmatory trials, Italy

Trials confirm effect and find best formulation, Italy

Calcium chloride presented at international dog population management conference, England

Additional pilot and field studies, USA and international



| | | | | | | | |
|-----------|-----------|--------------|-----------|------|------|-----------|--------------|
| 1977-1978 | 1978-1998 | 1998-Present | 2009-2010 | 2010 | 2011 | 2011-2012 | 2012-Present |
|-----------|-----------|--------------|-----------|------|------|-----------|--------------|

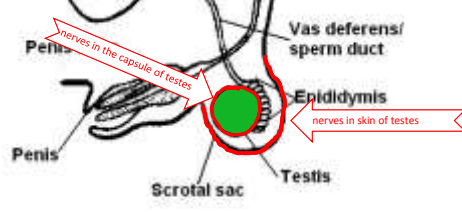
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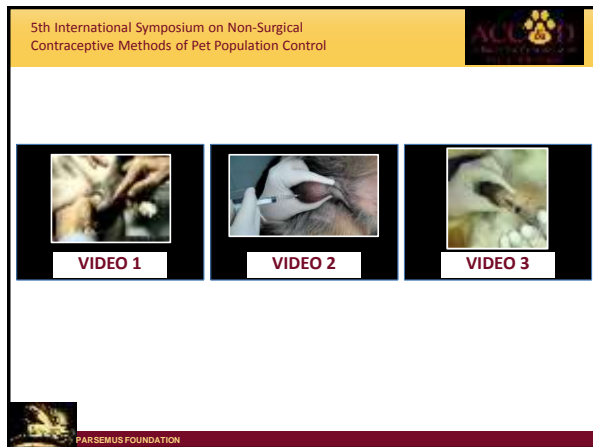
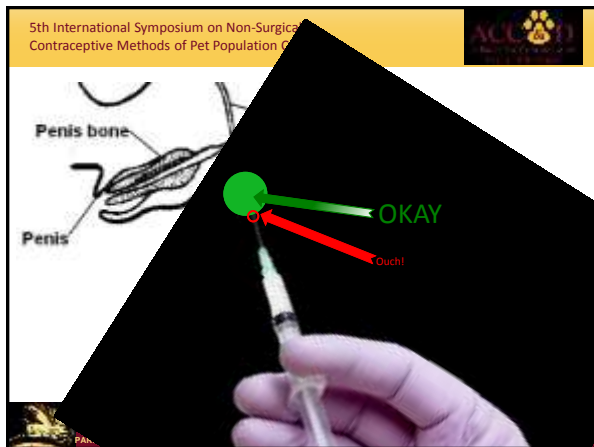


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Research 1977 to Present

| Year | Researcher | Species |
|------|---------------------------|---------|
| 1977 | Koger - USA | various |
| 1977 | Koger - USA | bulls |
| 1978 | Bowman, Koger - USA | rams |
| 1978 | Koger - USA | various |
| 1998 | Samanta - India | dogs |
| 2002 | Jana, Samanta - India | rats |
| 2005 | Jana, Samanta - India | goats |
| 2006 | Jana, Samanta - India | rats |
| 2006 | Caropoli et al - Turkey | bulls |
| 2007 | Jana, Samanta - India | dogs |
| 2010 | Baran et al - Turkey | cats |
| 2010 | Jana - India | cats |
| 2011 | Jana, Samanta - India | cats |
| 2012 | Parsemus Foundation - USA | dogs |
| 2012 | Parsemus Foundation - USA | goats |
| 2012 | family farm - USA | goats |
| 2012 | family farm - USA | cats |
| 2012 | Field-Kolkata, India | dogs |
| 2013 | Leoci et al - Italy | goats |
| 2013 | Leoci et al - Italy | dogs |
| 2013 | Leoci et al - Italy | dogs |

studies in black – published
studies in gray – unpublished

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Key Published Research

| Year | Researcher | Species |
|------|---------------|---------|
| 1977 | Koger | various |
| | Koger | bulls |
| | Bowman, Koger | rams |
| 1978 | Koger | various |
| 2007 | Jana, Samanta | dogs |
| 2011 | Jana, Samanta | cats |

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Research Underway or In Publication

In press

- Leoci et al., 80 dogs, Italy
KEY RESULT: ALCOHOL IS MORE EFFECTIVE BASE THAN LIDOCAINE OR SALINE

Under way

- Field trial, ~40 dogs, Pakistan
Data being gathered: testosterone levels and testicular photos, before and after
- Dose determination study, kittens, India

Planned


- FDA-oriented safety studies in cats, USA


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Commercialization/Availability Status

Current Anticipated

 OR





Investigation New
Animal Drug # _____?

**Want to help?
Follow the effort on Facebook**

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Regulatory Status

| | | |
|--|--|--|
| <p>COUNTRIES WITHOUT STRONG VETERINARY REGULATORY STRUCTURE</p>  <p>"Greatest good" standard For animal and community</p> | <p>COUNTRIES WITH STRONG VETERINARY REGULATORY STRUCTURE (eg Europe, Canada, Mexico, China, S. Africa, Brazil, Australia)</p> <p>"it depends"</p> | <p>United States</p>  |
|--|--|--|

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Challenges

- Unawareness
- Squeamishness
- Fear of condemnation
- Financial

"if only there were"



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~~We should not respond to the marketing aimed at these people with the same response they are trying to solve ...~~



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OR



Which is worse?

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Challenges

- Unawareness
- Squeamishness
- Fear of condemnation
- Financial



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Summary

- Similar concept to zinc gluconate, but not FDA approved
- Available now, easy to make, and known to work
- Substantial recent data provides new evidence of safety
- Fear of medical/legal/regulatory exposure is key obstacle to widespread use

Want more info? 1:30pm, Field Implementation track

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