

PRESENTATION SUMMARY

Estimate of Spay/Neuter Surgeries in the United States & Opportunities for More Affordable Nonsurgical Sterilization

Joyce Briggs

Question: If it would cost \$10 million to develop a nonsurgical sterilant, would we be better off putting that money to work today, in the United States, doing surgical spays and neuters? This analysis was done to answer that question, posed to the Alliance for Contraception in Cats and Dogs.

Answer: Our analysis concludes that the long-term impact of developing a nonsurgical sterilant alternative would have far more beneficial impact. If an alternative could decrease the cost of providing companion animal sterilization by at least \$25 per animal, those providing charitable services to homeless animals or low-income owners could double their impact, by providing 2.1 million more procedures, or save \$53 million per year to provide the same services. In contrast, \$10 million invested in surgeries today would increase the number of charitable surgeries by 9.5% for that year only. That increase would increase overall surgeries by 1.6% – again, for that year only, in the United States only.

By realizing these cost savings and targeting programs to those dogs and cats most apt to add to euthanasia numbers, we could dramatically reduce shelter euthanasia statistics with fewer resources than currently being allocated to charitable spay/neuter programs.

Question: How many more surgeries are needed to achieve a maximum reduction in euthanasia?

Answer: Based on estimates from Peter Marsh, it is estimated that 1.4 million additional surgeries, well targeted to low-income owners and homeless cats and dogs, are needed nationally, per year, in the United States to model reductions in most successful parts of the country. Given the economic forecasts above, the total of 3.6 million procedures could be achieved with 17% less cost than is currently being spent on subsidized spay/neuter.

Key figures and related assumptions for the above answers and the related Excel spreadsheet:

- Estimates of U.S. “owned” dog and cat population: 90.5 million cats, 73.9 million dogs. (*APPMA 2005/6 report based on 2004 data*)
- Percentage overall that are spayed or neutered: 86% cats, 73% dogs, which translates to 32.6M unaltered owned pets in the United States. (*APPMA 2005/6 report based on 2004 data*)

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- Percentage of “owned” population that die or are euthanized and are replaced each year: 15% (or 24.7M). (*Percentage based on estimate by Andrew Rowan, HSUS, in personal correspondence.*)
- Proportion of replaced pets that are dog vs. cat: 55% cat and 45% dog. (*Used the proportion of overall size of U.S. dog and cat population from APPMA.*)
- Overall note: This is a conservative estimate based only on pet replacement, but not market growth. Could factor in growth of overall pet-keeping. Also conservative based on retaining same percentage sterilization rate, when APPMA figures show both pet-keeping and sterilization rates growing.
- Dogs and cats adopted from shelters: 4 million, based on various estimates of volume by authorities in the field. In these figures, this would translate to 16% of replaced pets annually, which is consistent with or a bit lower than APPMA data ranges estimating 17-20% of community pets come from shelters.
- The percentage of the “replaced pet” population that is already spayed or neutered at time of acquisition: 25%. (*Source: Judgment based on this category including many of the new births each year.*)
- Percent of shelter placed pets that came to the shelter and are spayed or neutered before adoption under “charitable” programs (either shelter performed, voucher, or through reduced-cost community programs): 68%. (*Source: Judgment. Assume that the remaining are either already sterilized or released unaltered.*)

Total number of surgeries per year (total surgeries and “charitable” surgeries):

- Assumes that the replaced pet populations (not already sterilized) are sterilized to restore the overall percentages shown by APPMA in that year.
- Assumes that 51% of dogs and 56% of cats entering animal shelters are already sterilized. (*Source: John New, Jr., et al. 2004. “Characteristics of Shelter-Relinquished Animals and Their Owners Compared with Animals in U.S. Pet-Ownning Households, Journal of Applied Animal Welfare Science, 3(3), 179-201.*) Data showed sterilization rates of dogs and cats entering shelters vs. those in Households. This data was from 1995-1996. The relative percentages were applied to the rates of sterilized pets in Households in the APPMA study of 2004. Fifty-three percent used as an average of the two, assuming roughly equal numbers of dogs and cats entering shelters.
- Assumes that 32% of the 4 million shelter pets placed annually are sterilized via charitable programs. Base on prior point, 53% are already sterilized. Assuming 15% are not sterilized by shelters or related programs. (*Source: Judgment*)
- Surgeries provided in low-cost/subsidized sector provided for community outreach in addition to shelter-placed pets. Assumes that charitable community surgeries are half the volume of those performed for shelter-placed pets. This is to include those provided by animal welfare agencies, and by veterinarians directly under reduced-price programs. (*Source: Judgment*)
- Assumes that charitable surgeries provided for feral cats are 10% of the volume of all other total charitable surgeries. (*Source: Judgment*)

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- Average cost for providing charitable surgeries is \$50 AFTER cost recovery (from co-pays or reimbursements). This averages male/female and dog/cat. *(Source: Judgment and checking assumption with numerous agencies and individuals in the field.)*
- Assumption: Nonsurgical alternative involves a single injection provided by a veterinarian or person working under veterinary supervision. Assumes for the sake of the analysis of the U.S. market that total costs for the surgery can be reduced to \$25 from \$50. Again, hopefully conservative and subject to greater savings over time.

Additional sterilizations needed to effectively decrease euthanasia:

- Assumption is that to effectively reduce euthanasia, *5 additional sterilizations* per 1,000 people are needed, on an annual basis, well targeted to low-income pet owners, homeless pets and feral cats, to achieve maximum impact. *(Source: Based on attorney Peter Marsh' analysis of successful state program results in New Hampshire, and data from Alabama, Jacksonville and other locations that have significantly reduced shelter euthanasia. Peter Marsh is the founder and head of New Hampshire's STOP, Solutions to Overpopulation of Pets, and has been an advisor on numerous statewide spay/neuter programs.)*
- An \$80 subsidy, also based on Peter Marsh' data, to get adequate private veterinary participation and given the capacity to pay for this audience. Total compensation to veterinarian would include subsidy plus \$10-\$25 co-pay from client.

Analysis of Annual Spay/Neuter Surgeries in the United States, Current, Needed and Potential Expansion with Cost Savings of Non-Surgical Alternatives

1	CURRENT SPAY/NEUTER LEVELS		PETS SPAYED OR NEUTERED		PETS NOT SPAYED OR NEUTERED		TOTAL			
2			S/N %	S/N #	S/N %	S/N #				
3	"Owned" Pets	APPMA 2004	APPMA 04	APPMA 04	APPMA 04	APPMA 04				
4	Cats in the United States	90.5 million (55% of total)	86%	77,830,000	14%	12,670,000	90,500,000			
5	Dogs in the United States	73.9 million (45% of total)	73%	53,947,000	27%	19,953,000	73,900,000			
6		164.4 million	80%	131,777,000	20%	32,623,000	164,400,000			
7										
8	"Wanted" population replaced/yr.									
9	Cats die or euthanized/yr	13.58 million								
10	Dogs die or euthanized/yr	11.09 million								
11	total will be replaced/year	24.66 million								
12	Assume 15% (A. Rowan)									
13					TOTAL SURGERIES	LOW-COST or Subsidized				
14	Adopted from Shelters	4 million	Assume 32 % of 4 million sterilized by shelters or low-cost programs		1,280,000	1,280,000				
15	Assume another 25% of replaced population		(assume 53% are sterilized already)		0	0				
16	are already sterilized	6.17 million	Assume 15% are 'missed' - remaining are sterilized)							
17	Subtotal	10.17								
18	Remaining Replaced population	14.495 million	Of replaced pets most sterilized in private vet hospitals at regular prices							
19	Cats replaced (of remaining)	7.97 million (at 55%)	Annual surgeries CAT		6,536,135	0	86%	to reach APPMA % combined with Subsidized		
20	Dogs Replaced (of remaining)	6.52 million(at 45%)	Annual surgeries DOG		4,441,608	0	73%	to reach APPMA % combined with Subsidized		
21			TOTAL Annual US Surgeries		10,977,743	640,000		Add community outreach reduced cost surgeries.		
22								At level of 50% of adopted pet surgeries, or 5% of total		
23			Plus Feral Cat surgeries		192,000	192,000		Assume feral cat S/N programs add another 10% .		
24			(assume 1/10th of other nonprofit S/N)							
25			TOTAL Annual US Surgeries		12,449,743	2,112,000	17%	of total surgeries at reduced cost		
26										
27			Cost to Provide Subsidized Spay/Neuter			\$105,600,000	Assumes average cost of \$50 after cost recovery from co-pays			
28			Savings possible through cost reduction			\$52,800,000	assume ability to save \$25 per procedure			
29			Savings possible through cost reduction			\$ 63,360,000	assume ability to save \$30 per procedure			
30										
31			Additional Surgeries for \$10 million			200,000	at \$50 per surgery average			
32			Percentage increase all Surgeries			1.6%	from added 200K surgeries			
33			Percentage increase Subsidized surgeries			8.7%	from added 200K surgeries			
34										
35										
36										
37	ADDITIONAL SPAYS AND NEUTERS NEEDED									
38			Estimates of Incremental TARGETED Surgeries needed in U.S. based on Peter Marsh's formula of 5 per 1000 capita			1,405,000				
39										
40										
41			Substantial (\$80) subsidy required for vet participation and given target audience inability to pay.			\$ 112,400,000	subsidy for 1.4 million surgeries at \$80.			
42										
43										
44			TOTAL low cost/subsidized		Volume	3,517,000				
45			Current plus incremental needed		Funding needed	\$218,000,000	at an average cost of \$62			
46						\$ 87,925,000	if all could be delivered at \$25			
47						\$130,075,000	cost savings			
48							OR could achieve this increased level at			
49							17% less cost than we are spending today.			
50						\$ 70,340,000	if all could be delivered at \$20			
51						\$147,660,000	cost savings			
52							OR could achieve this increased level at			
53							33% less cost than we are spending today.			
54										

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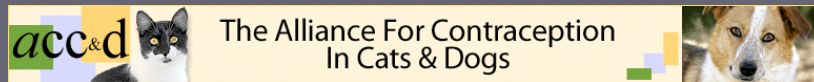
Nonsurgical Sterilants for Pet Population Control: Are They Worth the Investment?

By Joyce Briggs

Non–Surgical Sterilants for Pet Population Control Worth the Investment ?

Joyce Briggs

Third International Symposium on
Non-Surgical Contraception Methods for Pet Population Control
November 11, 2006



Intro

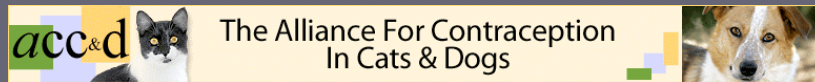
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Worth the investment ? U.S.

- ▶ For animal welfare ?
- ▶ As a business investment ?



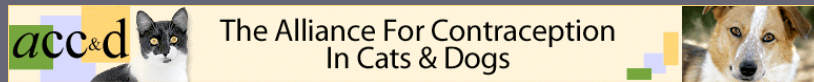
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Animal Welfare

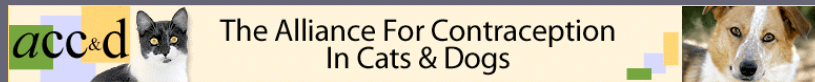
- ▶ If we had \$10 million, would it be better to put that into traditional spay/neuter ?
- ▶ Let's look at what dent that would make....



About a year ago, I was asked a question

How Much S/N for \$10 million?

- ▶ **Estimated 12.4 million spay/neuter surgeries per year in the U.S.**
- ▶ **17% or 2.1 million provided by non-profits or veterinarians as subsidized or “low-cost.”**

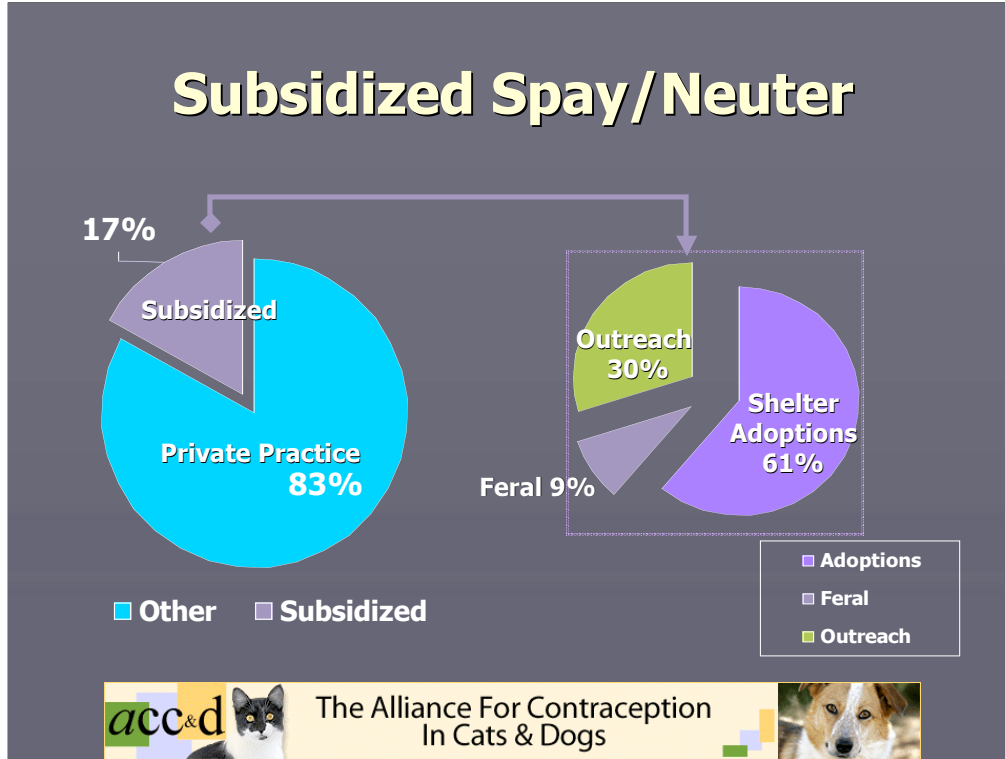


Most vets tell us that S/N is not a very profitable service for them; in fact, many say they lose money on it. Veterinarians, animal donors, and, increasingly, the government have a major investment in spay/neuter as a preventive measure. By our calculations...

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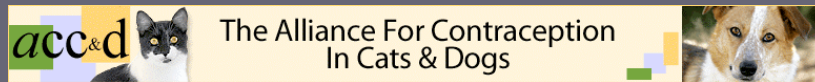


This shows the makeup of the sector of what we are calling subsidized or low-cost....

How Much S/N for \$10 million?

- ▶ At \$50 subsidy per surgery, that is \$106 million per year cost to provide....
- ▶ \$10 million would cover 200,000 added surgeries
 - 8.7% increase in subsidized
 - 1.6% increase overall

For one year only



Savings with Non-Surgical

- ▶ Assume cost savings with non-surgical lower average cost from \$50 to \$20
- ▶ Potential to save over \$63 million per year in U.S. cost to veterinarians and shelters

OR.....

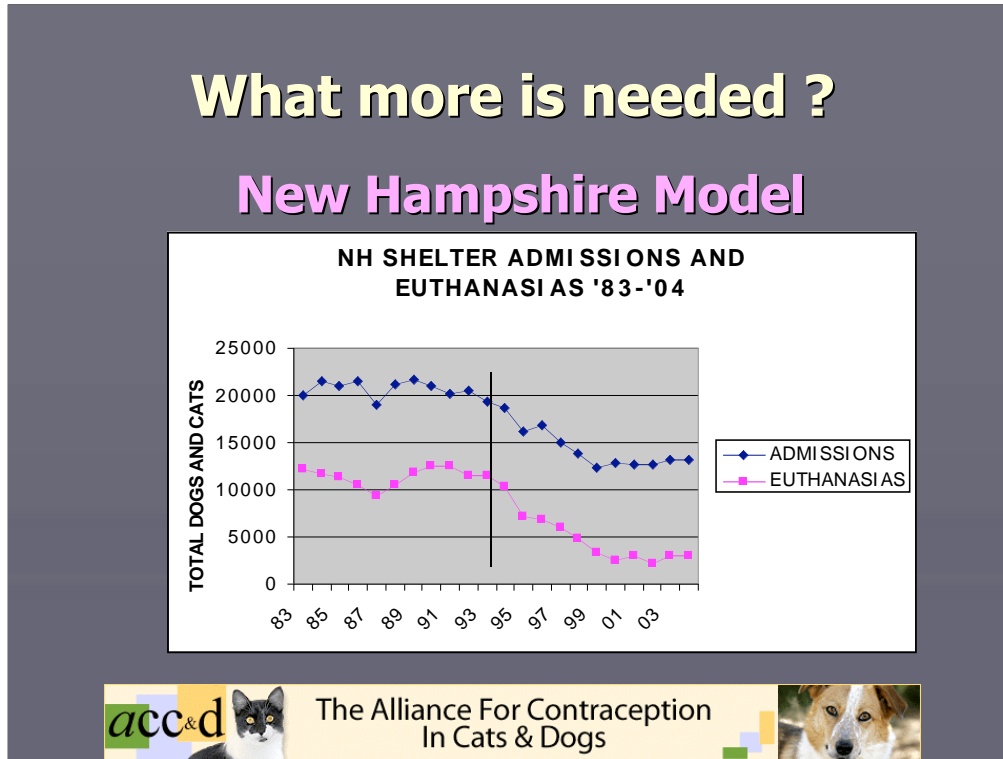


For just the 17% of surgeries that are provided at reduced cost for homeless pets and as charity, we could save an estimated \$52 MILLION a year, if we were able to shave average cost of providing a service down to \$20.

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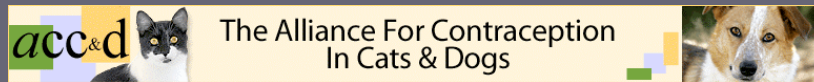


In New Hampshire, the shelter euthanasia rate dropped 75% in the first six years after an affordable neutering assistance program was established for low-income families. As a result of this program, New Hampshire has now achieved the lowest statewide shelter euthanasia rate in the country, less than 2.4 dogs and cats killed per 1,000 people.

Attorney Peter Marsh is architect of the statewide STOP program. Based on their success, there are now seven statewide governmental programs. The latest, in Delaware, will provide a tax credit of \$50 for each surgery done under the program. Based on New Hampshire's success, these programs target verified low-income households and homeless pets. They partner with local veterinarians. To get usage of the program, subsidy needs to be very high, with co-pays of less than \$20. And to get adequate participation of the veterinary community, reimbursement to the veterinarian is around \$80.

Job remaining to be done

- ▶ P. Marsh estimates need to increase by 1.4M to 3.5M annual U.S. sterilizations (from 2.1M) - highly targeted
- ▶ Greater subsidy needed for recipients and veterinarians to participate (\$80)
- ▶ Could achieve **3.5M sterilizations with 33% less funding** than current investment



Peter Marsh estimates that you need to layer onto existing programs sterilizations highly targeted to verified low-income pet owners, feral and homeless pets, at the rate of 5 per 1,000 population. To extrapolate this nationwide would mean we would add 1.4 M surgeries on top of the estimated 2.1M we are already doing with subsidy dollars. Well, we could MORE than do this with the savings described here!

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For Business

- ▶ **Non-surgical pet sterilization business plan takes prize at contest**
By TOM JOHNSON
Fall 2006 - Cedus (formerly  non-surgical sterilant won 3rd place in national business plan competition

- ▶ **12 Million surgeries/ \$1 billion U.S. market assumes \$83 retail**

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In late September Purdue University Life Sciences announced the winners of their national business plan competition. Cedus, formerly known as Gonex, from Colorado won 3rd place for their business plan for sterilizing companion animals with a single injection.

Although that plan is not made available, press releases stated that Cedus (too) estimated 12 million total procedures a year, and assigned that a \$1 billion market which would assume an average of \$83 per procedure.

That price, indeed, may seem very attractive to pet owners who can get the benefits of sterilization without surgery. We would hope that in structuring pricing, consideration could be given to providing this affordably to verified low-income owners and shelters.

For companies that CAN claim to be addressing euthanasia, the gratitude of animal lovers nationwide could be the result.

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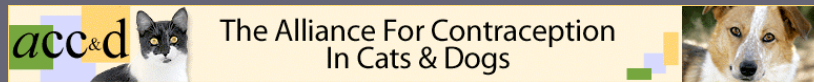
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Purina Consumer Study

- ▶ Study of 2001 pet owners
- ▶ Reducing pet overpopulation most important animal welfare issue
- ▶ 56% of Dog Owners/63% Cat Owners rank it #1

Source: State of the American Pet Study. Ralston Purina © 2000



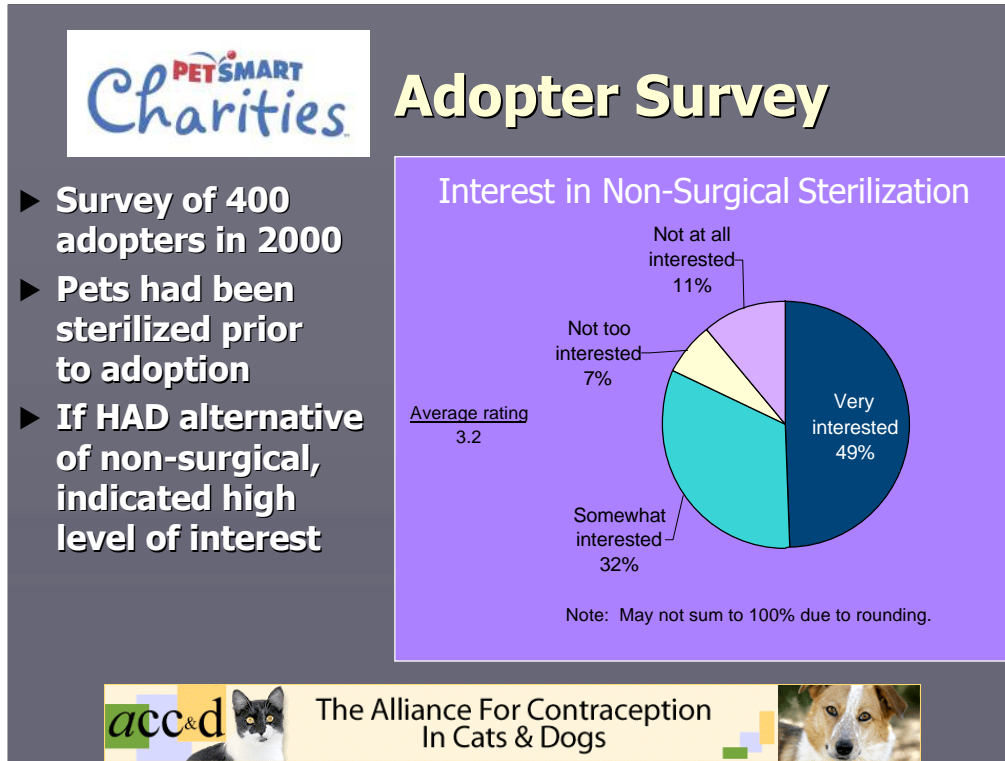
Describe Purina study...

Very few studies that we have access to about consumer attitudes toward non-surgical sterilization. ACC&D's aim is to conduct one, with findings made public. However, one was done by PETSMART Charities With questions added on to

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Perceptions of Non-Surgical Spaying or Neutering	
Reason	% of Total
POSITIVE COMMENTS	75%
Better than surgery	19
Less painful	13
Less traumatic	13
Less chance of complications	8
Less recovery time	7
Better than surgery because no anesthesia	6
Not invasive/intrusive	6
Fine, if it's permanent/one procedure	6
Less expensive	5
Good/fine	5
Pet couldn't get infection (no incision)	3
Smaller chance Pet would be injured	2
No stitches	2
Easier/faster	2
Miscellaneous positive comments	4
NEUTRAL COMMENTS	33%
Not familiar with it	14
Confused about procedure	10
Depends on safety	7
Fine, as long as no side effects	5
Would want recommendation of Veterinarian	5
Miscellaneous neutral comments	3
NEGATIVE COMMENTS	17%
Surgery's better if it's not permanent	5
Wouldn't trust pill/shot to work	5
Would forget to give pills/shots	4
Miscellaneous negative comments	9

Note: May not sum to 100% due to multiple responses.

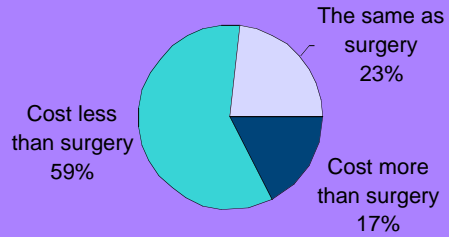
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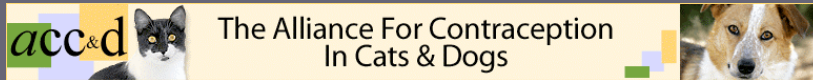
By Joyce Briggs

Cost Expectations

Cost Expectations for Non-surgical Spaying/Neutering Compared to Surgery



Note: May not sum to 100% due to rounding.



Summary

- ▶ **Overwhelming opportunity for more efficient use of charitable dollars for homeless animals and low-income guardians**
- ▶ **Significant business opportunity as well**



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