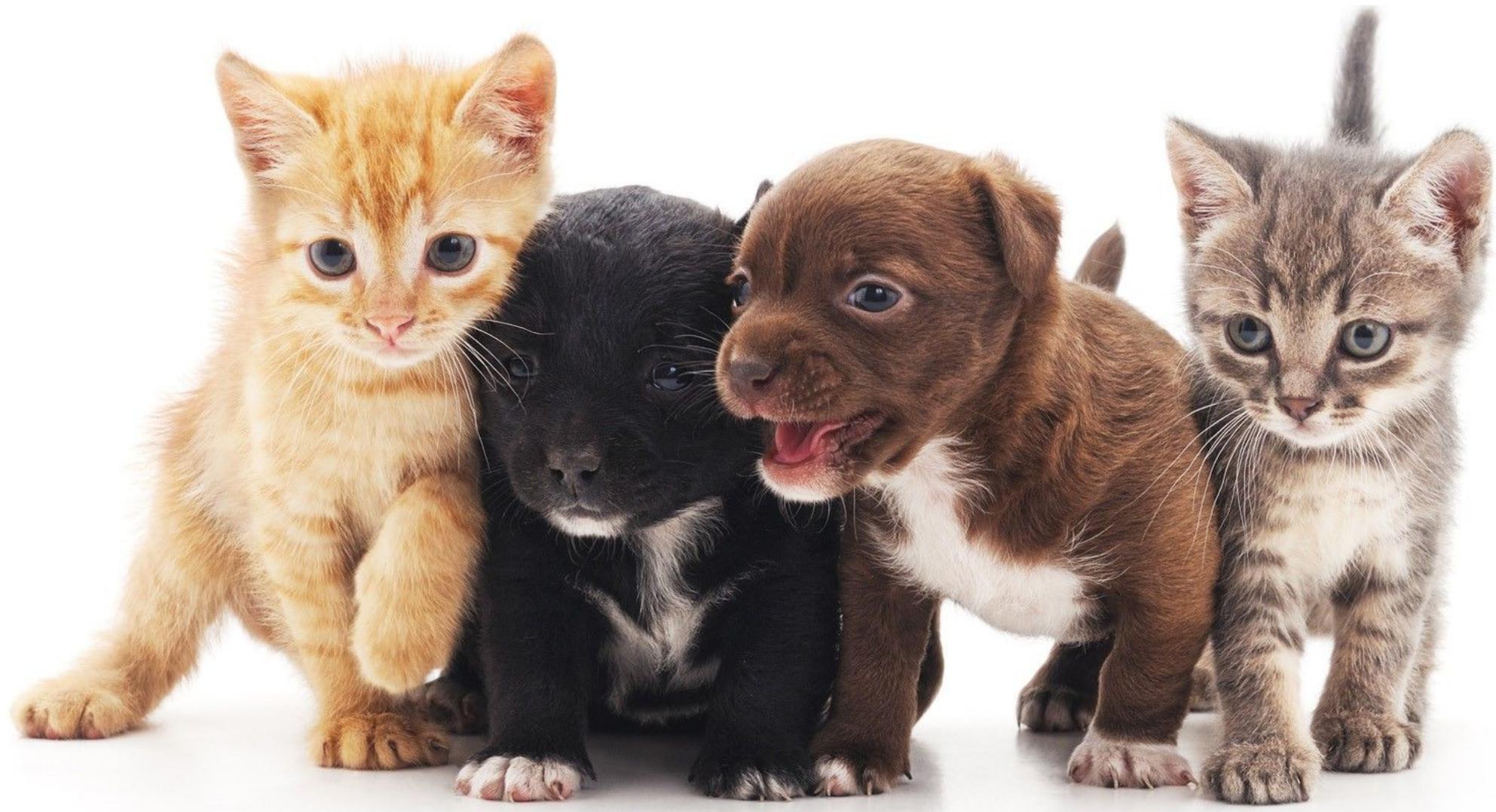
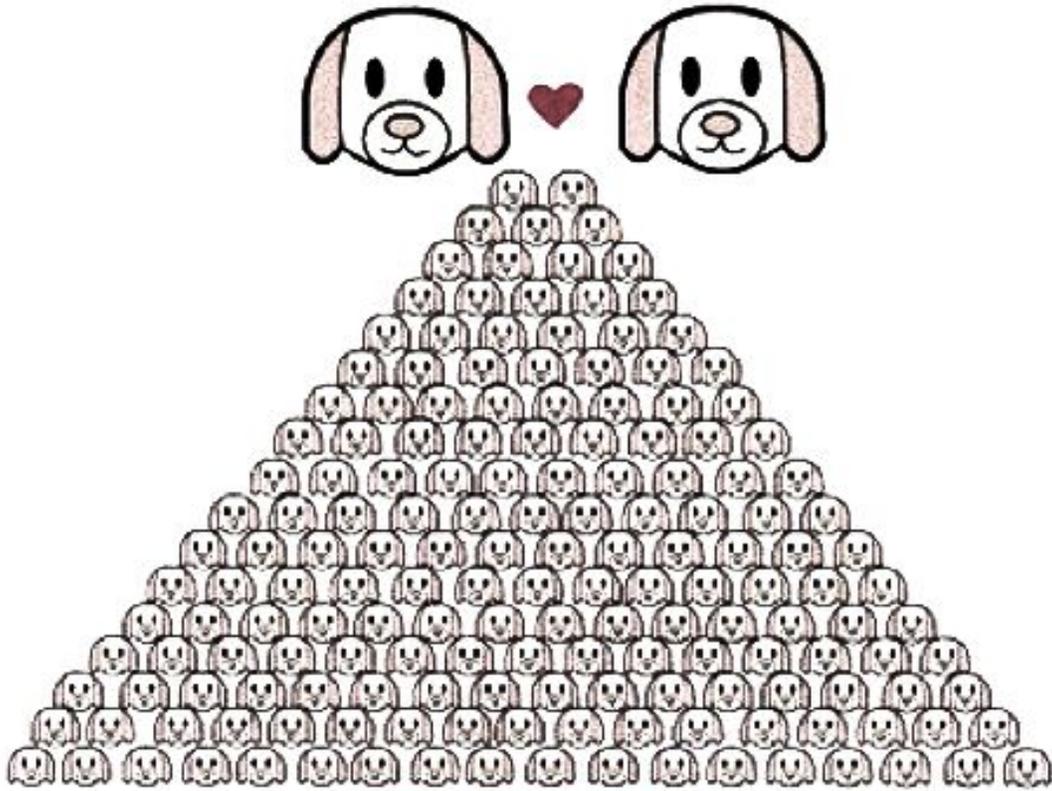




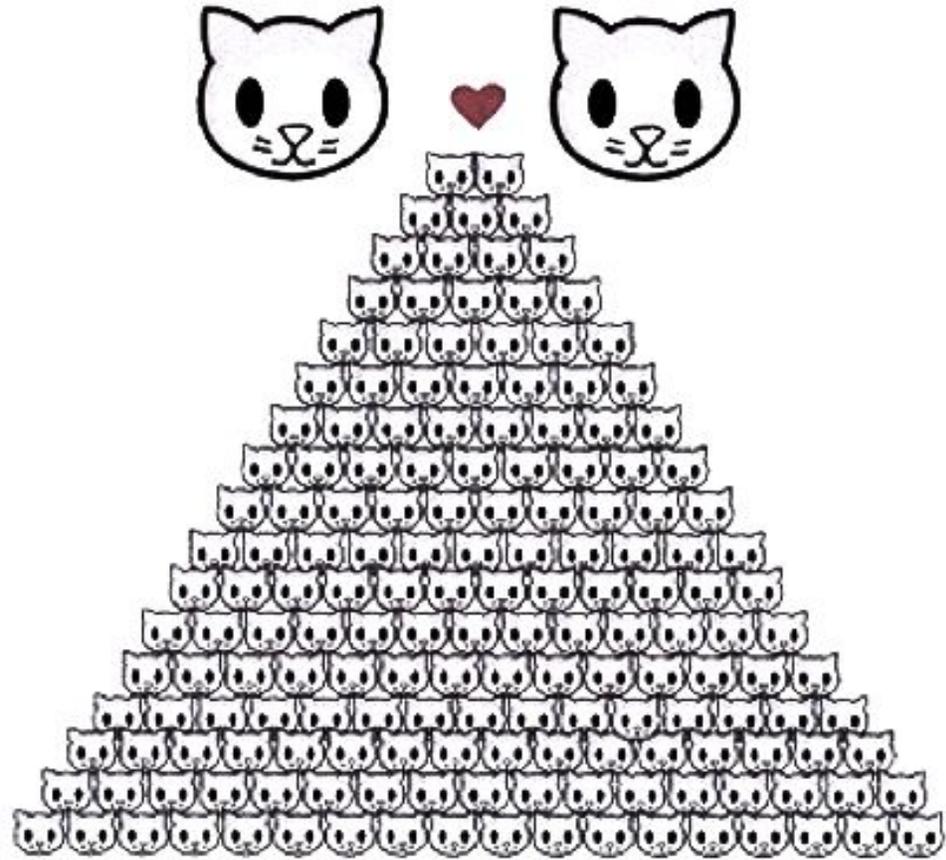
**EL SECRETO MEJOR  
GUARDADO DE LA  
MEDICINA  
VETERINARIA...**



# LA CASTRACION TEMPRANA



**1 AÑO: 16**  
**2 AÑOS: 128**  
**3 AÑOS: 512**  
**4 AÑOS: 2,048**  
**5 AÑOS: 12,288**  
**6 AÑOS: 67,000**



**1 AÑO: 12**  
**3 AÑOS: 376**  
**5 AÑOS: 11,801**  
**7 AÑOS: 370,092**  
**9 AÑOS: 11,606,077**





# LA SOBREPoblación en Estados Unidos

- 70,000 cachorros y gatitos nacen cada día
- 25 MILLONES quedan sin hogar cada año
- 17 MILLONES son sacrificados cada año en refugios
- Entre 7 y 11 MILLONES muere por inanición, enfermedades, trampas y atropellamientos

# IMPACTO

SOBRE LA POBLACION CANINA



**50** CONSULTAS



**50**

perros atendidos



ALCANCE ARITMÉTICO



**50** CASTRACIONES



**271.600**

perros sin nacer en 7 años



ALCANCE GEOMÉTRICO

# MENSAJE A LOS VETERINARIOS

## 1925 SE DESARROLLÓ LA TÉCNICA DE LA CASTRACIÓN TEMPRANA

- Evidencia científica sobre los beneficios de este procedimiento
- **Es simple, seguro y efectivo.** Es una herramienta contra la epidemia de la sobrepoblación
- Es **IMPERATIVO** comenzar a **empujar hacia atrás** hasta llegar al neonato, eliminando el número de nacimientos
- “No le haga daño a la profesión y no confunda al cliente poniendo **dudas propias que no le corresponden al procedimiento**”

## Early Spay-Neuter: Clinical Considerations

Margaret V. Root Kustritz, DVM, PhD, DACT

Early spay-neuter is ovariectomy or castration of puppies or kittens 6 to 14 weeks of age. Pediatric animals may have an enhanced response to relatively low doses of anesthetic agents. Animals should be fasted no more than 3 to 4 hours before surgery to prevent hypoglycemia, and hypothermia should be

neoplasia is much less likely to develop in those aged female dogs or cats in which OHE was performed before their first estrus.<sup>3,4</sup> Some studies suggest that neutered animals may have a longer life span than intact animals for reasons that are not clear.<sup>5-7</sup>

**1998**  
**6-14 semanas**

El **57 %** de los refugios están interesados en hacer la OHE pre-entrega en adopción pero no encuentran un veterinario que la realice

En universidades... el **84 %** de los estudiantes de 4° año aumentó el nivel de confianza luego de una cirugía PREPUBER

**CONCLUSION FINAL:**

**DEBE FOMENTARSE TANTO EN ESTUDIANTES  
COMO EN VETERINARIOS GRADUADOS**



## Determining the optimal age for gonadectomy of dogs and cats

Margaret V. Root Kustritz, DVM, PhD, DACI

Elective gonadectomy of dogs and cats, most commonly performed as an OHE of females and castration of males, is one of the most common veterinary procedures performed in the United States.<sup>1</sup> Increasingly, dog owners and members of the veterinary profession throughout the world have questioned the optimal age for performance of these surgeries or whether they should even be performed as elective surgeries. The ob-

### ABBREVIATIONS

OHE	Ovariohysterectomy
TCC	Transitional cell carcinoma
CCL	Cranial cruciate ligament
FLUTD	Feline lower urinary tract disease
RPH	Benign prostatic hypertrophy-hyperplasia

### ○ Machos y hembras - 6 semanas

**Toda cirugía tiene riesgos**

**Los jóvenes tienen < riesgo que los adultos (obesos, en celo, preñadas, enfermos... )**

**LOS BENEFICIOS DE LA CASTRACION TEMPRANA SUPERAN LAS DEMAS PREOCUPACIONES**



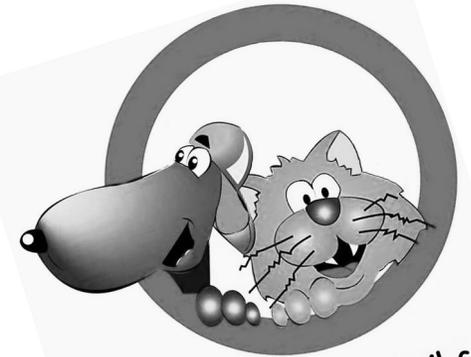
## Special Report

### **The Association of Shelter Veterinarians veterinary medical care guidelines for spay-neuter programs**

Association of Shelter Veterinarians' Spay-Neuter Task Force  
Andrea L. Looney, DVM, DACVA; Mark W. Bohling, DVM, PhD, DACVS; Philip A. Bushby, DVM, MS, DACVS;  
Lisa M. Howe, DVM, PhD, DACVS; Brenda Griffin, DVM, MS, DACVIM; Julie K. Levy, DVM, PhD, DACVIM;  
Susan M. Eddlestone, DVM, DACVIM; James R. Weedon, DVM, MPH, DACVPM; Leslie D. Appel, DVM;  
Y. Karla Rigdon-Brestle, DVM; Nancy J. Ferguson, DVM; David J. Sweeney, DVM; Kathy A. Tyson, DVM;  
Adriana H. Voors, DVM; Sara C. White, DVM; Christine L. Wilford, DVM; Kelly A. Farrell, DVM;  
Ellen P. Jefferson, DVM; Michael R. Moyer, VMD; Sandra P. Newbury, DVM;  
Melissa A. Saxton, DVM; Janet M. Scarlett, DVM, MPH, PhD

**“EL PROGRAMA ES EL MEJOR ANTIDOTO  
CONTRA LA EUTANASIA MASIVA”**

**10 años después  
2008**



[tessiebisbal@gmail.com](mailto:tessiebisbal@gmail.com)



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journal homepage: [www.elsevier.com/locate/prevetmed](http://www.elsevier.com/locate/prevetmed)



2015

## Dog and cat management through sterilization: Implications for population dynamics and veterinary public policies

Ricardo Augusto Dias<sup>a,\*</sup>, Oswaldo Santos Baquero<sup>a</sup>, Aline Gil Alves Guilloux<sup>a</sup>, Caio Figueiredo Moretti<sup>a</sup>, Tosca de Lucca<sup>b</sup>, Ricardo Conde Alves Rodrigues<sup>c</sup>, Cláudio Luiz Castagna<sup>c</sup>, Douglas Presotto<sup>c</sup>, Yury Cezar Kronitzky<sup>b</sup>, José Henrique Hildebrand Grisi-Filho<sup>a</sup>, Fernando Ferreira<sup>a</sup>, Marcos Amaku<sup>a</sup>

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<sup>b</sup> Vigilância em Saúde, Prefecture of Campinas, Campinas, Brazil

<sup>c</sup> Unidade de Vigilância em Zoonoses, Prefecture of Campinas, Brazil



**Estos resultados permitieron  
a los interesados en políticas públicas  
tomar decisiones  
basadas en evidencia científica**





World  
Organisation  
for Animal  
Health

2006



○ Menor morbilidad





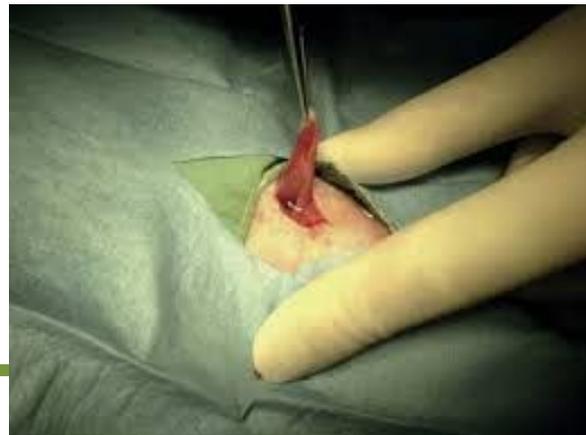
- En el pasado, se castraba entre los **5 y 7** meses de edad, pero ahora con la anestesia moderna, no es necesario prolongar la castración por razones médicas
- La castración temprana entre las **6 y 14** semanas se ha practicado en E.E.U.U. durante **25 años** y se ha encontrado que es más seguro que esperar hasta que sean mayores
- AVMA (Asociación Médica Veterinaria Americana) ha respaldado la castración temprana desde **1993**



**U.S.A.**  
**Castración Temprana**  
**en ONGs y sector privado**

**5 de cada 10 perros**  
**y 7 de cada 10 gatos**  
**son sacrificados**  
**en Minnesota**

**90 mil**  
**son sacrificados**  
**anualmente**  
**en Minnesota**

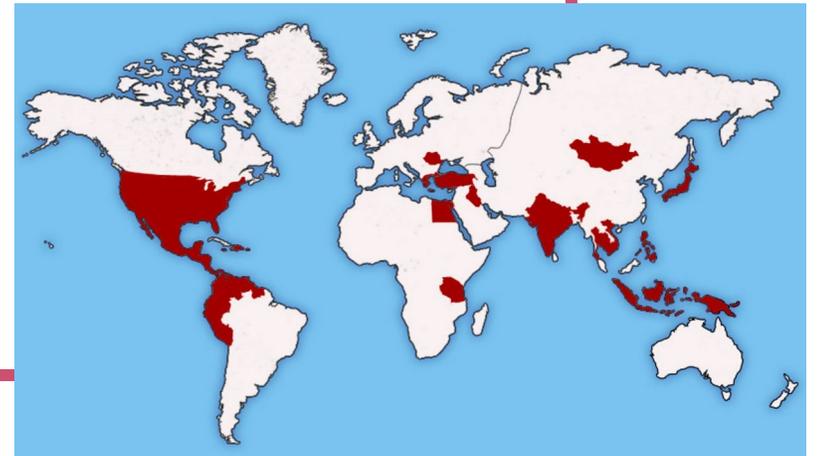


Ovariohysterectomy in a puppy. Note small size of the uterine horn and ovary, and presence of serous fluid. (MN Spay Neuter Assistance Program, Plymouth, U.S.A.)



# WORLDVETS

INTERNATIONAL AID FOR ANIMALS



Useful protocols for general anaesthesia in kittens undergoing early-age neutering

Agent(s)	Dose and route	Analgesis	Comments
Triple Medetomidine + Ketamine + Butorphanol	80 µg/kg IM 5 mg/kg IM 0.4 mg/kg IM	Good	Good depth of anaesthesia in kittens >1.5 kg Smooth recovery Reversal agent can be used*
Medetomidine + Ketamine	80 µg/kg IM 5 mg/kg IM	Reasonable	Good depth of anaesthesia in kittens >1.5 kg
Ketamine + Midazolam	5-10 mg/kg IM 0.25 mg/kg IM	Minimal perioperatively None postoperatively	Poor depth of anaesthesia Gaseous anaesthesia required Excitation and vocalisation on recovery
Quad† Medetomidine + Ketamine + Midazolam + Buprenorphine	600 µg/m <sup>2</sup> IM 50 mg/m <sup>2</sup> IM 3 mg/m <sup>2</sup> IM 180 µg/m <sup>2</sup> IM	Very good 0-12 h postoperatively	Good depth of anaesthesia Quick induction and recovery Multimodal analgesia Reversal agent can be used*
Propofol	Unpremedicated: 8.0 mg/kg IV Premedicated: 6.0 mg/kg IV	Dependent on premedication	IV route may be difficult in kittens
Isoflurane	Mask induction	None	Strong, unpleasant odour Less expensive than sevoflurane
Sevoflurane	Mask induction	None	Mild, inoffensive odour Expensive Rapid uptake and elimination compared with isoflurane

\*Atipamezole (Antisedan; Pfizer) is recommended as a reversal agent, at 10-50% volume of the previously administered medetomidine (Dormitor; Pfizer), no sooner than 20 mins after initial intramuscular injection. Note that its use at 10% volume is unlicensed in cats.  
†The dosing protocol for the quad protocol, whereby equal volumes of each drug are administered IM, is given on page 7.

Peso en Kg se transforma en área de superficie corporal  
 $BSA = (K \times BW^{0,67})/100$   
 K= 10,4 en gatos

$BSA \times 0,6 = \text{vol. de cada droga}$



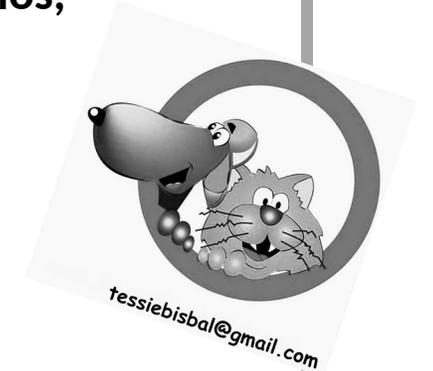
## BENEFICIOS CX

- Menor ayuno (2 horas)
- Menor sangrado
- Menor grasa
- Aplicación de variados protocolos anestésicos
- Despertar más rápido (según protocolos)
- Alimentación casi inmediata (15 minutos)
- Mayor riesgo de hipotermia (se minimiza por el tamaño de la incisión)



## BENEFICIOS SECUNDARIOS

- Para la familia y la comunidad
- Menos accidentes, peleas, vagabundeo, atropellos, envenenamientos, infectocontagiosas
- Una vida más larga y saludable
- Asegura la NO gestación ni la castración en preñadas
- LA CASTRACIÓN TEMPRANA SE HA CONVERTIDO EN EL MAYOR ALIADO EN LA LUCHA CONTRA LA SOBREPoblACION





## BENEFICIOS INDIRECTOS

- Mayor esperanza de vida
- Asegura la reducción de trastornos reproductivos
- Asegura la NO gestación ni la castración en preñez
- Asegura la reducción del abandono
- Mayor tasa de incidencia en transformación de perros guía



# BENEFICIOS FELINOS



## ○ MACHOS

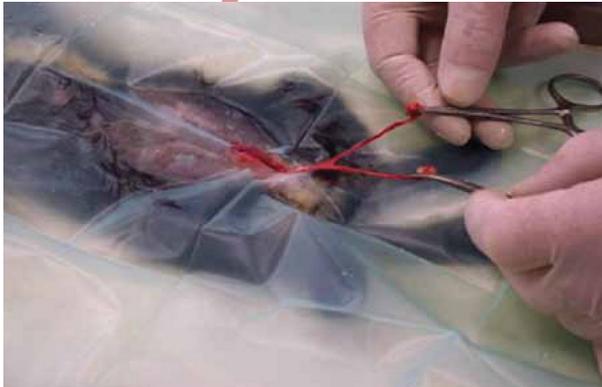
- Menor incidencia de abscesos infecciosos , VIF y VILEF
- Menor marcaje urinario, comportamiento sexual y vagabundeo
- Menor agresividad

## ○ HEMBRAS

- Elimina por completo celos, quistes ováricos, preñez y piómetra
- Reduce en 91 % el carcinoma mamario

## ○ AMBOS SEXOS

- Menor incidencia de asma bronquial - alergia al humano
- Menor incidencia de gingivitis
- Menor incidencia de hiperactividad felina



# FELINOS



- Descenso de los testículos al momento del nacimiento
- PROTOCOLO INTERNACIONAL 2013 : 2 semanas a 4 meses
- LUEGO es CRUELDAD
- SIMF antes de las 16 semanas
- PESO MÍNIMO para felinos (320 GRAMOS -2 semanas aprox.)
- EN ALBERGUES con experiencia (300 GRAMOS - 2 semanas)
- A los 4 meses - DESARROLLO DEL ACICALAMIENTO (beneficio extra para no recurrir al collar isabelino)  
Luego de los 4 meses, lo requiere



**isfm**

International Society of Feline Medicine

# HEMBRA FELINA



Royal Veterinary College  
University of London



The Cat Group en UK  
Directrices de AAFF

Esterilización realizada  
en prepúberes antes de  
los 4 meses de edad

**HELP STOP TEENAGE PREGNANCY!  
Early-age neutering in cats**

**The role of early neutering in cat welfare**

The Royal Society for the Prevention of Cruelty to Animals (RSPCA) is the oldest and largest animal welfare charity in the world and one of the largest independent charities in the UK. The RSPCA uses a number of initiatives to promote pet animal welfare. Its cats, dogs include the number of unsterilized healthy cats taken into the care of the RSPCA, the number of non-sterilized cats taken into RSPCA care and the number of animal welfare complaints investigated by RSPCA inspectors.

In 2010, the RSPCA investigated approximately 24,000 complaints where the problem related to a cat. In the same year, over 8000 cats (the vast majority without a microchip, unpublished data) were returned to the charity's nationally operated regional animal centres. The major reasons for entry into RSPCA care are listed in Table 1.

Animal charities have attempted to improve cat welfare using various initiatives to control pet overpopulation. For the cat population to reduce, the death rate must exceed the birth rate in a given time period. It is expected to increase in the domestic cat population, a more practical effort must be directed towards suppressing reproduction in the cat. In four countries, the most common method of population control has been neutering. This is widely recognised as a method of population management, but highlights the importance of the control effort required. For owned cats, up to 70.3% of kittens may be unplanned. Consequently, early neutering remains the most appropriate surgical technique for long-term population control in both stray and pet cats.

**TABLE 1: Reason for entry for cats to enter into RSPCA care**

Reason for entry to RSPCA care	Number of cases (2010)	Percentage
Stray	1714	21.7
Abandoned	1008	12.6
Owner unable to care	1000	12.5
Healthily euthanased/abandoned	800	10.0
Strayhome	308	3.9

Early neutering remains the most appropriate surgical technique for long-term population control in both stray and pet cats.

○ 1° celo en Reino Unido - 8 meses  
Países en verano - 4 meses

○ FOTOLUMÍNICA DEPENDIENTE  
POLIÉSTRICA ESTACIONAL

# Castración temprana ?



**SIN DUDA !!!**





## MANTENER LAS CAMADAS JUNTAS



- Disminución del stress
- Mejor recuperación



# OBESIDAD

**FIGURA 2.** Factores de riesgo para el desarrollo de la obesidad (adaptado de Lund et al., 2005; Colliard et al., 2008; Russel et al., 2002; Scarlett y Donoghue, 1996).

## DEL GATO

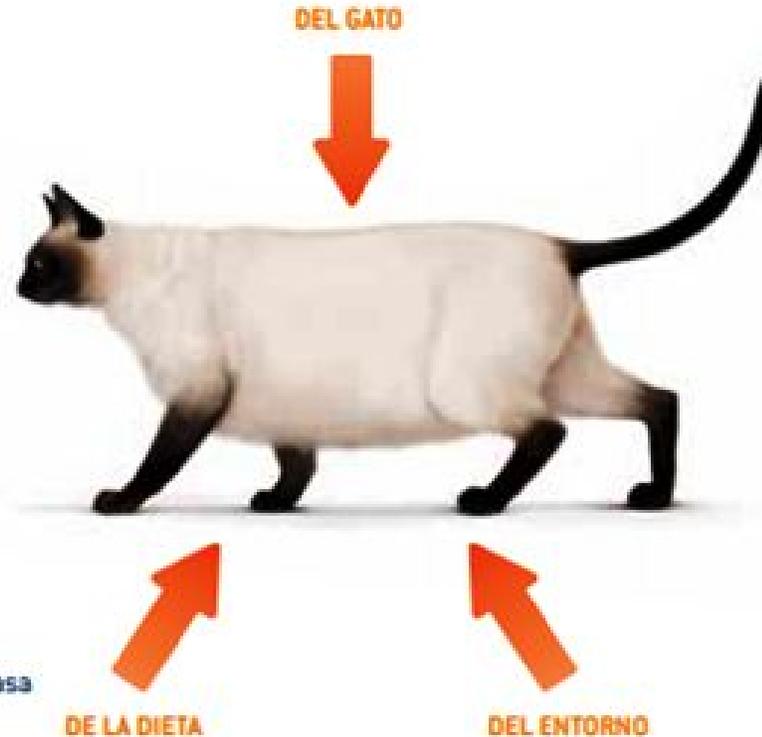
- Gatos macho
- Raza mestiza/Europeo/Manx
- Mediana edad
- Enfermedades endocrinas

## DE LA DIETA

- Dietas desequilibradas en exceso (restos de comida, alimentos caseros, etc.)
- Exceso de golosinas, premios, o tentempiés
- Dietas ricas en grasa y suministradas *ad libitum*

## DEL ENTORNO

- Gatos castrados / esterilizados
- Único gato en casa o pareja de gatos en una casa sin perro
- Inactividad y confinamiento dentro de casa
- Medicación (progestativa)
- Lazo humano-animal



# OBESIDAD



- EXCESO DE INGESTA DIARIA
- ANTES DE LOS 4 MESES - OBESIDAD HIPERTROFICA - P : BUENO EL ADIPOCITO CRECE LLENANDO SU CITOPLASMA DE TRIGLICERIDO
- LUEGO DE LOS 4 MESES - OBESIDAD HIPERPLASICA - P: RESERVADO GENERA MITOSIS INFINITA DE LOS ADIPOCITOS
- NO NECESARIAMENTE ESTÁ RELACIONADO CON LA OBESIDAD
- BAJA EL METABOLISMO Y POR LO TANTO HAY QUE INSTAURAR UNA DIETA CORRECTA

# Evitar la obesidad **SIEMPRE**

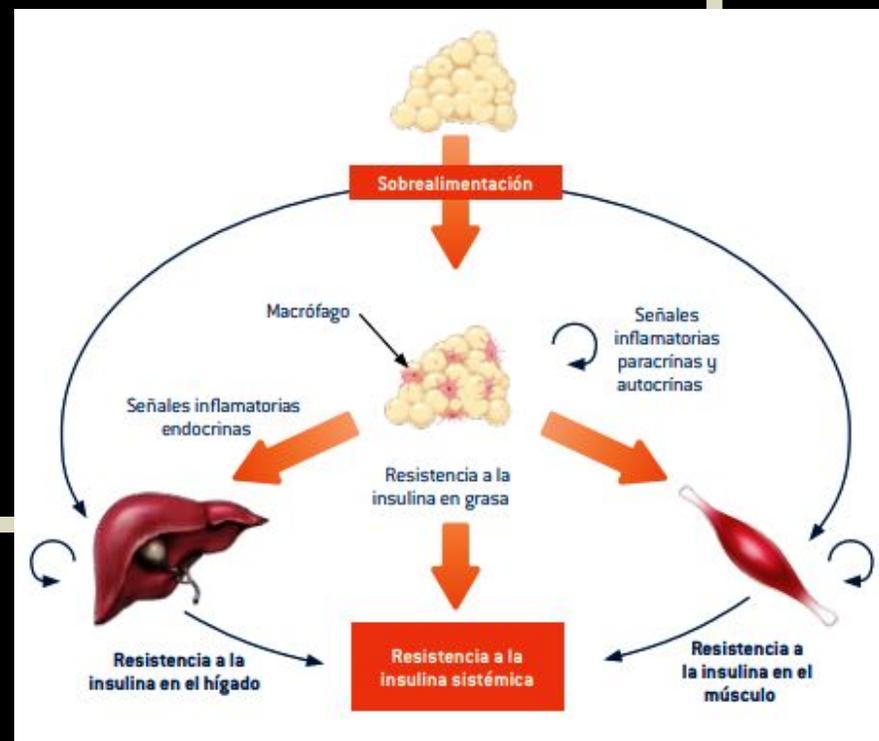
- Control de **dieta**
- Fomentar la **actividad** en el domicilio ya que sale menos

Obeso :

Mayor probabilidad de **DM** ...

**TABLA 2.** Riesgo relativo (Odds ratio) de padecer ciertas enfermedades en gatos con sobrepeso u obesidad, comparado con gatos delgados [adaptado de *Donoghue, 1998; Lund et al., 2005*].

ENFERMEDAD	CON SOBREPESO	OBESO	
Cojera	2,9	4,9	[Scarlett y Donoghue, 1998]
Diabetes mellitus		2,2-3,9	[Scarlett y Donoghue, 1998; Lund et al., 2005]
Problemas cutáneos		1,5-2,3	[Scarlett y Donoghue, 1998; Lund et al., 2005]
Enfermedades bucales	1,8	1,4	Lund et al., 2005
Enfermedades urinarias	1,6	Incrementado	Lund et al., 2005
Neoplasias		2,0	Lund et al., 2005
Enfermedades gastrointestinales		Incrementado	Lund et al., 2005
Lipidosis hepática		Incrementado	Lund et al., 2005

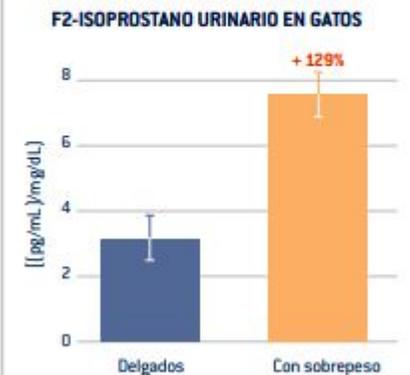


# TAMAÑO GENITAL

- Disminución del pene
- La castración temprana NO está relacionada con enfermedades del tracto urinario bajo
- FLUTD-FUS
- Tiene las mismas chances un castrado que un entero



**FIGURA 9.** Estrés oxidativo [indicado por la concentración urinaria de F2-isoprostano] en gatos delgados y con sobrepeso [adaptado de Jeusette et al. 2009].



# The effect of prepuberal and postpuberal gonadectomy on penile extrusion and urethral diameter in the domestic cat. [1996]

Root M.V. Johnston S.D. Johnston G.R. Olson P.N. Farm Africa, London (United Kingdom). [Corporate Author] University of Minnesota College of Veterinary Medicine, St. Paul, MN. [Corporate Author]



## THE EFFECT OF PREPUBERAL AND POSTPUBERAL GONADECTOMY ON PENILE EXTRUSION AND URETHRAL DIAMETER IN THE DOMESTIC CAT

Margaret V. Root DVM, PhD, Shirley D. Johnston DVM, PhD

First published: September 1996 | <https://doi.org/10.1111/j.1469-7580.1996.tb01111.x>



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## The effect of prepuberal and postpuberal gonadectomy on penile extrusion and urethral diameter in the domestic cat

Margaret V. Root, Shirley D. Johnston, Gary R. Johnston, Patricia N. Olson

Administration (CVM)



## CONTRAS

- **Genitales más pequeños**  
pero con uretra de igual diámetro
- **Un gato adulto agresivo conservará su conducta** ( no se correlaciona con hormonas )

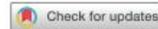


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Feline Research

Effect of early-age gonadectomy on behavior in adopted shelter kittens—The sequel



Christel P.H. Moons<sup>a,\*</sup>, Annelies Valcke<sup>b</sup>, Katrien Verschueren<sup>c</sup>, Nathalie Porters<sup>d</sup>, Ingeborgh Polis<sup>b</sup>, Hilde de Rooster<sup>b</sup>

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<sup>c</sup>Uvina Statistiek, Ghent, Belgium

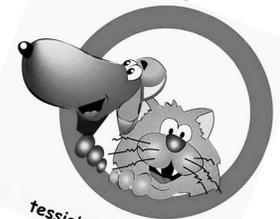
**Conclusion**

Our data indicate that age at gonadectomy does not affect the occurrence of the total number of (potentially) undesirable behaviors. Similarly, the occurrence of none of the examined individual behaviors was affected by age at gonadectomy. Given the prospective nature of our study, with randomized treatment and control groups and evaluation at 5-7 years after adoption, we are able to conclude there is no indication that prepubertal gonadectomy causes the occurrence of potentially undesirable and undesirable behavior at a different level than gonadectomy at the age of 6-8 months. Combining the results from the Sterycat project and the follow-up study, we found no behavioral objections that would argue against the practice of prepubertal neutering of shelter cats.

# COMPORTAMIENTO

## PROYECTO STERYCAT – BELGICA

No hay objeciones de comportamiento contra la práctica de castración temprana vs tardía



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## DISMINUCIÓN de ASMA



○ Felino y humano

○ Fel d1



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# OSTEOPATIAS

Antes de los 4 meses de edad , se retarda el cierre de cartílagos de crecimiento y el animal, crece más. No aumentando el riesgo a fracturas.



Veterinaria y Zootecnia ISSN 2011-5415

Vol 6 No.2, julio - diciembre de 2012

Fractura fisaria espontanea de la cabeza femoral en gatos adultos asociada a osteopatía metafisaria, informe de dos casos clínicos

## Fractura Espontánea Fisiaria del Fémur en Gatos.

**PALABRAS CLAVE** > Fractura > displasia fisiaria > politraumatismo > artroplastía

**SINONIMIAS:** Fractura espontánea fisiaria capital de fémur epífisis capital felina. Síndrome de displasia epifisaria felina de cuello femoral en gatos.

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SCFE

LCP



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**Table 1:** Comparison of data from femoral physal dysplasia cases previously reported.

Authors	Breed	Sex	Age Neutered (months)	Age at presentation (months)	Weight at presentation (kg)	Unilateral or Bilateral	Treatment
Longley and Marshall (2013) <sup>17</sup>	British Shorthair	MC	Not reported	18	Not reported	Bilateral	FHO
Ridge (2006) <sup>12</sup>	1 British Blue	MC	6	24	5.2	Bilateral	FHO
Newton and Craig (2006) <sup>7</sup>	2 DSH	2 MC	Not reported	48	5.6	Bilateral	Conservatively, then elective euthanasia. Euthanized due to lymphosarcoma.
			Not reported	Adult	3.6	Unilateral	
Burke (2003) <sup>16</sup>	1 DSH	M	At time of FHO	14	4.4	Unilateral	All FHO
McNicholas et al. (2002) <sup>4</sup>	22 DSH	25 MC	8 at <4m	Mean 22.5±6.5	Mean 5.6±1.2	5 Bilateral	24 FHO
	3 Maine Coon	1 FS	6 at 4-6m	Range 12-42	Range 3.4-7.4	21 Unilateral	1 k-wire
	1 Siamese cross	2 at 6-8m	2 at 6-8m				1 conservative
Craig (2001) <sup>2</sup>	10 DSH	10 MC	Not reported	Average 16.3	Average 5.6	5 Bilateral	Not reported
	3 Siamese	1 F				6 Unilateral	
		1 FS				2 Not Available	
	1 M						
Queen et al. (1998) <sup>6</sup>	12 DSH	15 MC	Not reported	Range 5-24	Not reported	4 Bilateral	FHO
	1 Siamese	2 M				13 Unilateral*	
	1 Siamese cross						
	1 British Blue						
	1 Birman						
	1 Shorthair colour point						
Pérez-Aparicio and Fjeld (1993) <sup>5</sup>	61 Norwegian crossbred	21 F*	Not reported	Median 5	Not reported	2 Bilateral <sup>†</sup>	Not reported.
		39 M*				60 Unilateral	
	1 Burmese	2 unknown					

MC = Male, castrated; M = intact male; FS = female, spayed; F = intact female, DSH = Domestic Short Hair, FHO = Femoral head and neck ostectomy.

\* 5 became bilateral within 5 months of initial presentation.

† Castrated versus intact not reported.

# INCIDENCIAS

○ % en CASTRADOS ?  
(1993-2013)

**144 CASOS en 20 años**

○ **5/ 3250 MACHOS !**

## Case report: Proximal Femoral Physal Dysplasia in a Cat and a Review of the Literature

**Grayton, J., Allen, P. and Biller, D.\***

Kansas State University College of Veterinary Medicine, College of Veterinary Medicine, 101 Trotter Hall, Manhattan KS 66506-5601, USA.

\* **Corresponding author:** David S. Biller, DVM, DACVR. Email: biller@vet.ksu.edu.

**AAFP Position Statement****Early spay and castration**

Early spaying and castration (neutering), also called prepubertal gonadectomy, is defined as surgical sterilization of sexually immature animals 6–14 weeks of age. The AAFP supports neutering early in life as a safe and effective method of decreasing cat overpopulation, and one which confers long-term medical and behavioral benefits to the individual cat.

**Welfare considerations**

❖ Pet overpopulation continues to be an overwhelming problem in the United States, with an estimated 3–4 million cats entering animal shelters every year. Of these, almost

include a shorter operative time, better intra-abdominal visualization and rapid recovery.<sup>6</sup> Veterinarians should follow appropriate anesthetic protocols.



From time to time the AAFP will respond to emerging new knowledge or issues that are of concern to veterinary professionals caring for cats. Our position statements, which represent the views of the association, are available at: [www.catvets.com/professionals/guidelines/position/](http://www.catvets.com/professionals/guidelines/position/)



# CONCLUSION FELINA

- **NO EXISTE EVIDENCIA CIENTIFICA** que sostenga relación entre castración temprana y menor crecimiento, menor desarrollo, uretras de menor diámetro y/o enfermedad obstructiva de las vías urinarias
- “No es verdad que deban tener un celo, una cruza, una camada o actividad sexual”
- “La castración debería ser **OBLIGATORIA**”
- “No detener la reproducción es una **CRUELDAD**”
- **PROTOCOLO INTERNACIONAL DESDE 2013**

**PUBERTAD  
a los 8 meses**



○ **castrado o criptórquido ?**



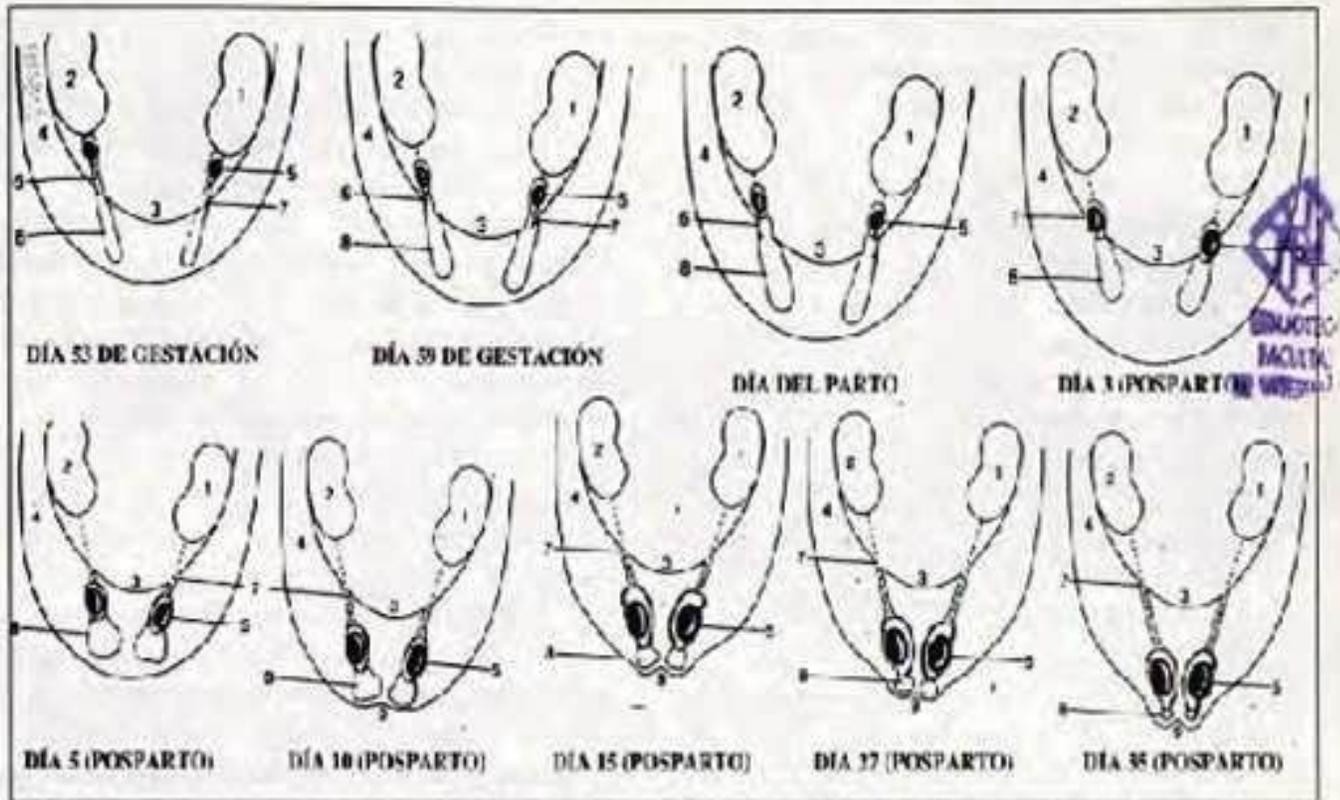
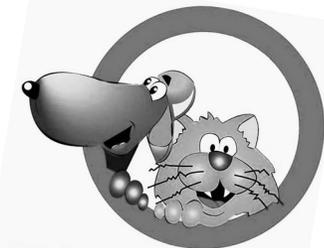


Fig. 1. Descenso testicular en el perro. 1: Riñón izquierdo, 2: Riñón derecho, 3: Cavitad abdominal, 4: Subcutis, 5: Testículo, 6: Gubernáculo (porción intraabdominal), 7: Canal inguinal, 8: Gubernáculo (porción intraabdominal), 9: Escroto. (Según Van Braams et al. Zbl. Vet.-Med. C. Anat. Hist. Embryol., 10, 97-110, 1961).

# DESCENSO TESTICULAR CANINO



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# CANINO MACHO

## ○ FASE 1 :

NACIMIENTO

EN CAVIDAD ABDOMINAL ENTRE RIÑÓN Y CANAL  
INGUINAL

## ○ FASE 2 :

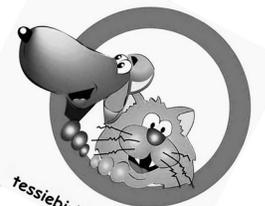
DIA 5 A 10 POST PARTO

ATRAVIESA EL CANAL INGUINAL PARA LLEGAR AL  
ESCROTO

## ○ FASE 3 :

DIA 10 A 14 POST PARTO

POSICIONAMIENTO ESCROTAL



tessiebisba@gmail.com



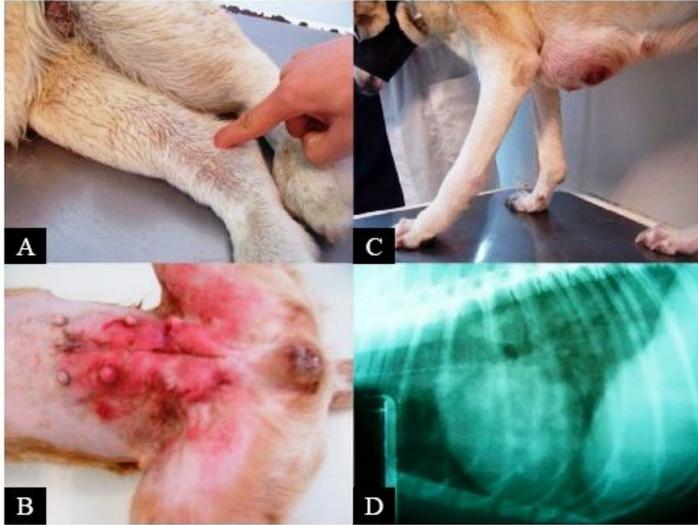
# APARATO REPRODUCTOR MACHO

## PROSTATICO - TESTICULAR - GLANDULAS ANALES - HERNIAS PERIANALES

- PROSTÁTICOS: INCIDENCIA **75 - 80 %** EN PERROS DE 6 AÑOS
- HIPERPLASIA PROSTATICA - QUISTES: LA CASTRACION ES CURATIVA
- CASI SIEMPRE MALIGNOS, ANDRÓGENOS DEPENDIENTES, CON METASTASIS EN HUESOS - PULMON
- A DIFERENCIA DE LOS DUCTALES O UROTELIALES, QUE NO SON ANDROGENOS DEPENDIENTES, SIN EMBARGO SE VIO UNA DISMINUCION EN ESTOS TUMORES (ESTUDIO HUMANO)
- TUMORES TESTICULARES: LA CASTRACION ES CURATIVA



# TUMORES HEMBRAS



## ○ MAMARIOS – OVARICOS - UTERINOS

### ○ MAMARIO

- perras: 60 % maligno, 77 % metástasis en pulmón
- gatas: 90 % maligno

### ○ NO CASTRADAS - 7 VECES MAS RIESGO

- ANTES DEL PRIMER CELO: 0.5 %
- DESPUES DEL PRIMER CELO: 8 %
- DESPUES DE SEGUNDO CELO: 26 %

**PIOMETRA  
HIPERPLASIA VAGINAL  
PSEUDOGESTACION**

**Riesgo aumenta con la edad**

**SE ELIMINA !!**



# OBESIDAD

○ ESTUDIO RESTROSPECTIVO DE 1800 **PERROS** DETERMINÓ:

○ LA DISMINUCION EN LA OBESIDAD

DE LOS CASTRADOS **ANTES** DE LOS **5** MESES CONTRA

LOS CASTRADOS **DESPUES** DE LOS **5** MESES...

○ DISMINUYE LA TASA METABOLICA

○ AUMENTA EL APETITO

OBLIGATORIEDAD EN LA INGESTA, DIETA ADECUADA Y EJERCICIO



**STANDARD ARTICLE**

## Association between life span and body condition in neutered client-owned dogs

Carina Salt<sup>1</sup> | Penelope J. Morris<sup>1</sup> | Derek Wilson<sup>1</sup> | Elizabeth M. Lund<sup>2</sup> |  
Alexander J. German<sup>3</sup> 

<sup>1</sup>WALTHAM Centre for Pet Nutrition, Melton  
Mowbray, United Kingdom

<sup>2</sup>BANFIELD<sup>®</sup> Pet Hospitals, Vancouver,  
WA, USA

<sup>3</sup>Institute of Ageing and Chronic Disease,

**Background:** There is an association between overweight status and life span in kenneled dogs, but a similar association has not been reported for pet dogs.

**Objectives:** To examine the effects of being overweight in middle age on the life span of neutered client-owned dogs.

### CONCLUSIONS

There is a negative association between overweight body condition and life span in client-owned dogs from 12 common breeds. These findings emphasize the need for veterinary professionals to promote a healthy body condition for dogs, particularly in midlife onward.

# OBESIDAD

- 50.787 perros . UK. USA.
- Obesos vs Condición Corporal Normal
- 12 razas puras
- Yorkie obeso 13 años/ estado 16 años
- Pat. ortopédicas - DM - Neoplasias  
Enf. cardiovasculares - Hipertensión



## NEUROLOGICO

- **EPILEPSIA IDIOPATICA PRIMARIA:**  
Estrógenos aumentan las convulsiones

INDICACION



CASTRACION

# COMPORTAMIENTO

○ **MACHOS 77%**

- AGRESIVIDAD INTRASEXUAL DISMINUYE 60 %
- AGRESIVIDAD COMPETITIVA DISMINUYE 25 %
- MARCAJE TERRITORIAL, DISMINUYE 50%

○ **HEMBRAS 23%**

- ATRACCION DE MACHOS
- MARCAJE
- AGRESIVIDAD COMPETITIVA DURANTE EL CELO

**CONTRAS ?**

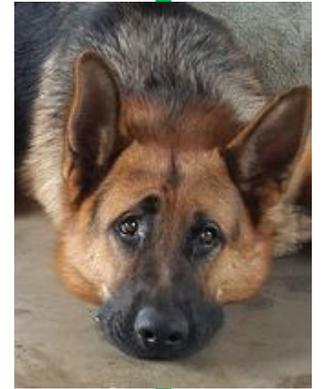
# Neutering of German Shepherd Dogs: associated joint disorders, cancers and urinary incontinence

**Benjamin L. Hart\***, **Lynette A. Hart†**, **Abigail P. Thigpen†** and **Neil H. Willits‡**

*\*Department of Anatomy, Physiology and Cell Biology, School of Veterinary Medicine, University of California-Davis, Davis, California, †Department of Population Health and Reproduction, School of Veterinary Medicine, University of California-Davis, Davis, California, and ‡Department of Statistics, University of California-Davis, Davis, California,*

- 2016 - DAVIS - 14 años
- 1170 Ovejeras alemanes militares
- ANTES DEL PRIMER CELO : 4.6%
- DESPUES DEL PRIMER CELO : 7.2 %

## INCONTINENCIA URINARIA



**Table 3.** German Shepherd Dog females, occurrences of mammary cancer (MC), pyometra (PYO) and urinary incontinence (UI)

Neuter age	MC	PYO	UI
Female <6 months	0/46 (0)	0/44 (0)	2/43 (4.65)
Female 6–11 months	1/91 (1.11)	0/86 (0)	6/83 (7.22)
Female 1 year	1/37 (2.7)	0/33 (0)	1/36 (2.78)
Female 2–8 years	5/102 (4.9)	0/91 (0)	1/95 (1.05)
Female intact	7/173 (4.1)	4/163 (2.45)	0/156 (0)



## AP GENITAL INFANTIL

- **DERMATITIS PERIVULVAR** → **obesas**
- **VAGINITIS** → **infantil enteras / adultas enteras**

# Long-Term Health Effects of Neutering Dogs: Comparison of Labrador Retrievers with Golden Retrievers

Benjamin L. Hart , Lynette A. Hart, Abigail P. Thigpen, Neil H. Willits

Published: July 14, 2014 • <https://doi.org/10.1371/journal.pone.0102241>

## ORTOPÉDICOS

- **OSTEOSARCOMA - DISPLASIA DE CADERA - DISPLASIA DE HOMBRO - RLCA**  
Universidad de Davis - 40.000 perros en 13 años < de 1 año / > de 1 año / intactos  
  
Estudio posterior determinó que eran líneas de sangre Rotts - Golden  
(NO en Labradores) (no pudo correlacionarse con la castración temprana vs tardía )
- **OSTEOPOROSIS**  
EN HUMANA SI HAY DESMINERALIZACION POR OHE (NO en caninos)
- **RETRASO EN EL CIERRE FISIARIO DE HUESOS LARGOS**  
(pero no hay fracturas por ello, sino por exceso de peso)

RESEARCH ARTICLE

Association of cancer-related mortality, age and gonadectomy in golden retriever dogs at a veterinary academic center (1989-2016)

Michael S. Kent<sup>1\*</sup>, Jenna H. Burton<sup>1</sup>, Gillian Dank<sup>2</sup>, Danika L. Bannasch<sup>3</sup>, Robert B. Rebhun<sup>1</sup>

<sup>1</sup> Department of Surgical and Radiological Sciences, University of California Davis School of Veterinary Medicine, Davis, CA, United States of America, <sup>2</sup> Koret School of Veterinary Medicine, The Hebrew University of Jerusalem, Rehovot, Israel, <sup>3</sup> Department of Population Health and Reproduction, University of California Davis School of Veterinary Medicine, Davis, CA, United States of America

\* [mskent@ucdavis.edu](mailto:mskent@ucdavis.edu)

# GOLDEN RETRIEVER

## CONCLUSION

- HC vs HI ..... > esperanza de vida HC
- MC vs MI ..... igual
- LA CASTRACION NO AUMENTO EL RIESGO DE CANCER

○ **CANCER NO REPRODUCTIVO 1989- 2016**

**LINFOMA-LINFOSARCOMAS – MENINGIOMAS-OSTEOSARCOMAS- HISTIOCITOMAS-MELANOMAS – PITUITARIA**

**Conclusions**

Our study shows that GR have a substantial risk of cancer related mortality in a referral population. We found significant differences in lifespan between spayed and intact female dogs, with intact dogs having shorter overall lifespans. We also found that being spayed or neutered did not negatively affect the risk of having a cancer related death. This study highlights the complexity in determining the effect spay or neuter has on the risk of cancer death. As there remain conflicting results between studies as to factors that affect both survival and the risk of developing cancer in dogs, prospective cohort studies are needed to answer these questions, such as the ongoing golden retriever life time study currently being carried out [33].

## Reference Point

### Determining the optimal age for gonadectomy of dogs and cats

Margaret V. Root Kustritz, DVM, PhD, DACI

Elective gonadectomy of dogs and cats, most commonly performed as an OHE of females and castration of males, is one of the most common veterinary procedures performed in the United States.<sup>1</sup> Increasingly, dog owners and members of the veterinary profession throughout the world have questioned the optimal age for performance of these surgeries or whether they should even be performed as elective surgeries. The ob-

ABBREVIATIONS	
OHE	Ovariohysterectomy
TCC	Transitional cell carcinoma
ACL	Cranial cruciate ligament
FLUTD	Feline lower urinary tract disease
RPH	Benign prostatic hypertrophy-hyperplasia

**Prostatic neoplasms**—The reported incidence of prostatic tumors in dogs is 0.2% to 0.6%, and prostatic neoplasms in dogs are almost always malignant adenocarcinomas.<sup>72-74</sup> There is neoplastic differentiation in tissues of ductal or urothelial origin, which are androgen-independent tissues.<sup>75</sup> However, castrated dogs are at an increased risk for development of prostatic neoplasms, with the increase in risk ranging from 2.4 to 4.3 times that of sexually intact male dogs (Table 2).<sup>72,74-76</sup> Mean age of dogs at diagnosis is approximately 10 years, with slightly younger dogs having prostatic adenocarcinoma with metastases to bones.<sup>74,77,78</sup> An exact cause-and-effect relationship has not been defined, but it has been suggested<sup>75</sup> that deprivation of androgens does not act to initiate neoplasia; rather, androgen deprivation permits progression of disease.

# CONTROVERSIAL

## ○ CARCINOMA PROSTATICO

incidencia **0.4 %** 10 años

CASTRADOS 2 A 4 VECES MAS PROBABILIDAD

- LA RELACION CAUSA EFECTO NO ESTÁ DEFINIDA AUSENCIA DE ANDROGENOS NO ACTUA INICIANDO LA NEOPLASIA SINO QUE PERMITE LA PROGRESION ...

Review

## Prostatic Neoplasia in the Intact and Castrated Dog: How Dangerous is Castration?

Magdalena Schrank \* and Stefano Romagnoli

Department of Animal Medicine, Production and Health (MAPS), University of Padua, 35122 Padova PD, Italy; stefano.romagnoli@unipd.it

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Received: 12 November 2019; Accepted: 2 January 2020; Published: 5 January 2020



**Simple Summary:** Castration of dogs is a routinely performed surgery to limit unwanted reproduction and prevent pathologies of the genital tract. Over the last two decades, the number of reports on possible long-term health risks has increased. Pet-owners have easier access to scientific publications

2020 – 72.300 perros

INCIDENCIA 0.35 %

CASTRADOS TIENEN MAYOR SOBREVIDA (aun con metástasis en pulmón)

LA CASTRACION DEBE SER UNA PRACTICA RECOMENDADA EN LOS ADULTOS < DE 6 AÑOS

CDI = 100 días (intervalo de diag. de castración)

# NEOPLASIA PROSTATICA

## 9. Conclusions

Within the last two decades, castration was defined as a risk factor not only for prostatic neoplasia but for other neoplastic disorders in both males and females, causing an international discussion of elective gonadectomy in dogs is still a tool that should be used routinely. However, there is currently not enough evidence supporting an increased risk of developing prostatic neoplasia after castration to take a decision against elective gonadectomy in male dogs. More research is needed on this topic and, most importantly, scientific papers on this topic should always provide detailed information on (a) whether or not dogs were castrated, (b) when castration was performed during life, (c) the size of the reference population, (d) how long before the diagnosis the dog was castrated in order to be included in the castrated group. In healthy dogs, gonadectomy should be considered a reliable and valuable preventive treatment for BPH and other non-malignant prostatic disorders. On the basis of the data provided by the currently available scientific literature, elective gonadectomy of adult male dogs of under six years of age cannot be excluded from the daily veterinary practice due to concern of causing prostatic neoplasia until clear and strong evidence is available.

## Reference Point



### Determining the optimal age for gonadectomy of dogs and cats

Margaret V. Root Kustritz, DVM, PhD, DACI

Elective gonadectomy of dogs and cats, most commonly performed as an OHE of females and castration of males, is one of the most common veterinary procedures performed in the United States.<sup>1</sup> Increasingly, dog owners and members of the veterinary profession throughout the world have questioned the optimal age for performance of these surgeries or whether they should even be performed as elective surgeries. The ob-

#### ABBREVIATIONS

OHE	Ovariohysterectomy
TCC	Transitional cell carcinoma
CCL	Cranial cruciate ligament
FLUTD	Feline lower urinary tract disease
RPH	Benign prostatic hypertrophy-hyperplasia

Hemangiosarcoma is the most common cardiac tumor in dogs, with a reported incidence of 0.2%.<sup>96</sup> Breeds at increased risk for development of hemangiosarcoma include the Boxer, English Setter, German Shepherd Dog, Golden Retriever, Great Dane, Labrador Retriever, Pointer, Poodle, and Siberian Husky, with large breeds (in general) at increased risk, compared with the risk for small breeds.<sup>97</sup> For both cardiac and splenic hemangiosarcoma, relative risk is increased for gonadectomized animals, with spayed females reportedly having 2.2 times the risk of splenic hemangiosarcoma and 5 times the risk of cardiac hemangiosarcoma, compared with the risk for sexually intact females, and castrated males having 2.4 times the risk, compared with the risk for sexually intact males.<sup>96,98</sup> An exact cause-and-effect relationship has not been defined.

## CONTROVERSIAL

○ 2007

○ HEMANGIOSARCOMA

incidencia 0,2 %

○ LA RELACION CAUSA - EFECTO  
SIDO AUN DEFINIDA

NO HA

## Determining the optimal age for gonadectomy of dogs and cats

Margaret V. Root Kustritz, DVM, PhD, DACI

Elective gonadectomy of dogs and cats, most commonly performed as an OHE of females and castration of males, is one of the most common veterinary procedures performed in the United States.<sup>1</sup> Increasingly, dog owners and members of the veterinary profession throughout the world have questioned the optimal age for performance of these surgeries or whether they should even be performed as elective surgeries. The ob-

### ABBREVIATIONS

OHE	Ovariohysterectomy
TCC	Transitional cell carcinoma
CCL	Cranial cruciate ligament
FLUTD	Feline lower urinary tract disease
RPH	Benign prostatic hypertrophy-hyperplasia

The most common tumor of the urinary tract of dogs is TCC of the bladder.<sup>85-88</sup> Overall incidence of TCC in dogs is reported to be, at most, 1% of all malignant tumors.<sup>89</sup> Breeds at increased risk for development of a TCC include the Airedale Terrier, Beagle, Collie, Scottish Terrier, Shetland Sheepdog, West Highland White Terrier, and Wire Fox Terrier (Table 3).<sup>90</sup> Gonadectomized animals have a risk for development of TCC approximately 2 to 4 times that of sexually intact animals.<sup>85,86</sup> An exact cause-and-effect relationship has not been defined.

# CONTROVERSIAL

- TCC

< 1 % de los MALIGNOS  
( 2 a 4 veces > probabilidad )

- LA RELACION CAUSA - EFECTO NO HA SIDO AUN DEFINIDA

**Alternativas Terapéuticas en las neoplasias vesicales caninas**

**Therapeutic options in canine bladder tumors**

**R.L. Rovere, M.V., A. Alcoba, M.V.**

Departamento de Clínica Animal, Facultad de Agronomía y Veterinaria, Universidad Nacional de Río Cuarto,

Ruta Nacional N° 36 Km 601, 5800 Río Cuarto, Córdoba, Argentina.

**INTRODUCCION**

Las neoplasias del segmento urinario inferior son poco frecuentes en el canino y a causa de las manifestaciones clínicas inespecíficas, constituyen un dilema diagnóstico y terapéutico. Los tumores y pólipos vesicales son causa común (al igual que los urolitos, pielonefritis y prostatitis) de uropatías infecciosas (UI) ([Brown, 1992](#); Grauer, 1995). La diversidad en los métodos diagnósticos disponibles en medicina veterinaria y las terapias estudiadas hasta el momento para el tratamiento de los tumores de vejiga en el perro, exigen la búsqueda permanente y la evaluación de los existentes para lograr un mayor porcentaje de eficacia terapéutica.

El presente artículo tiene por objeto la revisión de las técnicas terapéuticas disponibles para el tratamiento de los tumores vesicales en el perro.

*Etiología y clasificación de los tumores vesicales.* La neoplasia vesical en el perro representa el 0.5 al 1% de todos los cánceres caninos. La etiología del cáncer primario de vejiga en perros es desconocida.

Los carcinógenos endógenos, exógenos, la inflamación crónica y los virus han sido indicados como causal, aunque los metabolitos amino-aromáticos del triptorano que son excretados en grandes cantidades en la orina del perro, están considerados entre los principales agentes (Jubb y Kennedy, 1982; [Brown, 1992](#); [Caywood y col., 1993](#); [Smart y col., 1994](#); [Weller, 1994](#)). El tumor vesical ha sido inducido en perros por la administración oral de 2-naftilamina durante 2 a 24 meses, por la formación de compuestos naftílenos o relacionados derivados del metabolismo de las anilinas (Jubb y Kennedy, 1982; [Brown, 1992](#); [Weller, 1994](#)).

# CONTROVERSIAL

○ TCC

< 1 % de los MALIGNOS

○ LA ETIOLOGIA DEL CÁNCER PRIMARIO DE VEJIGA ES DESCONOCIDA

# INCIDENCIA

## ○ CANCER NO REPRODUCTIVO

TCC - OSA - HSA

2007

(aumento en razas puras: manipulación genética?)

Condition	Incidence
<b>Benefits</b>	
Mammary gland neoplasms	3.4% in all dogs; greatly reduced when spayed before first estrus
Ovarian or uterine tumors	Low
Pyometra	15.2% by 4 years of age; 23% to 24% by 10 years
<b>Detriments</b>	
Complications of surgery	6.1%
Aggression	variable
TCC	< 1%
Osteosarcoma	0.2%
Hemangiosarcoma	0.2%
CCL rupture	1.8%
Obesity	2.8%
Diabetes mellitus	0.5%

\*Boxer, Brittany, Cocker Spaniel, Dachshund, English Setter, English Springer Spaniel, German Shepherd Dog, Maltese, Miniature Poodle, Pointer, Toy Poodle, and Yorkshire Terrier. †Bernese Mountain Dog, Cavalier King Charles Spaniel, Chow Chow, Collie, English Cocker Spaniel, Golden Retriever, Rottweiler, and Saint Bernard. ‡English Springer Spaniel. §Airedale Terrier, Beagle, Collie, Scottish Terrier, Shetland Sheepdog, West Highland White Terrier, and Wire Fox Terrier. ¶Doberman Pinscher, Great Dane, Irish Setter, Irish Wolfhound, Rottweiler, and Saint Bernard. ¶¶Boxer, English Setter, German Shepherd Dog, Golden Retriever, Great Dane, Labrador Retriever, Pointer, Poodle, and Siberian Husky. #Akita, American Staffordshire Terrier, Chesapeake Bay Retriever, German Shepherd Dog, Golden Retriever, Labrador Retriever, Mastiff, Neapolitan Mastiff, Newfoundland, Poodle, and Saint Bernard. \*\*Beagle, Cairn Terrier, Cavalier King Charles Spaniel, Cocker Spaniel, Dachshund, and Labrador Retriever. ††Airedale Terrier, Cocker Spaniel, Dachshund, Doberman Pinscher, Golden Retriever, Irish Setter, Miniature Schnauzer, Pomeranian, and Shetland Sheepdog. ‡‡Boxer, Doberman Pinscher, Giant Schnauzer, Irish Setter, Old English Sheepdog, Rottweiler, Springer Spaniel, and Weimeraner.

# AGE OF NEUTERING IN LARGE- & GIANT-BREED DOGS

Clara S.S. Goh, BVSc, MS, DACVS (Small Animal),  
ACVS Founding Fellow (Surgical Oncology)  
Colorado State University



## In My Opinion ...

Existing studies on the benefits and detriments of performing gonadectomy in large- and giant-breed dogs <12 months of age provide conflicting data, and most literature is retrospective. In addition, because pet longevity is increased with gonadectomy,<sup>31,49</sup> the risk for developing cancer may be higher. On their completion, comprehensive prospective studies such as the Lifetime Golden Retriever study<sup>50</sup> could provide clearer guidelines on when to perform OHE and castration.

For large- and giant-breed dogs, this author generally recommends OHE between the first and second estrous cycles in female dogs and castration after musculoskeletal maturity in male dogs. The timing of gonadectomy may play a role in the development of certain diseases, patient genetics and environmental factors are likely to be equally, if not more, important. ■

# RAZAS GRANDES Y GIGANTES

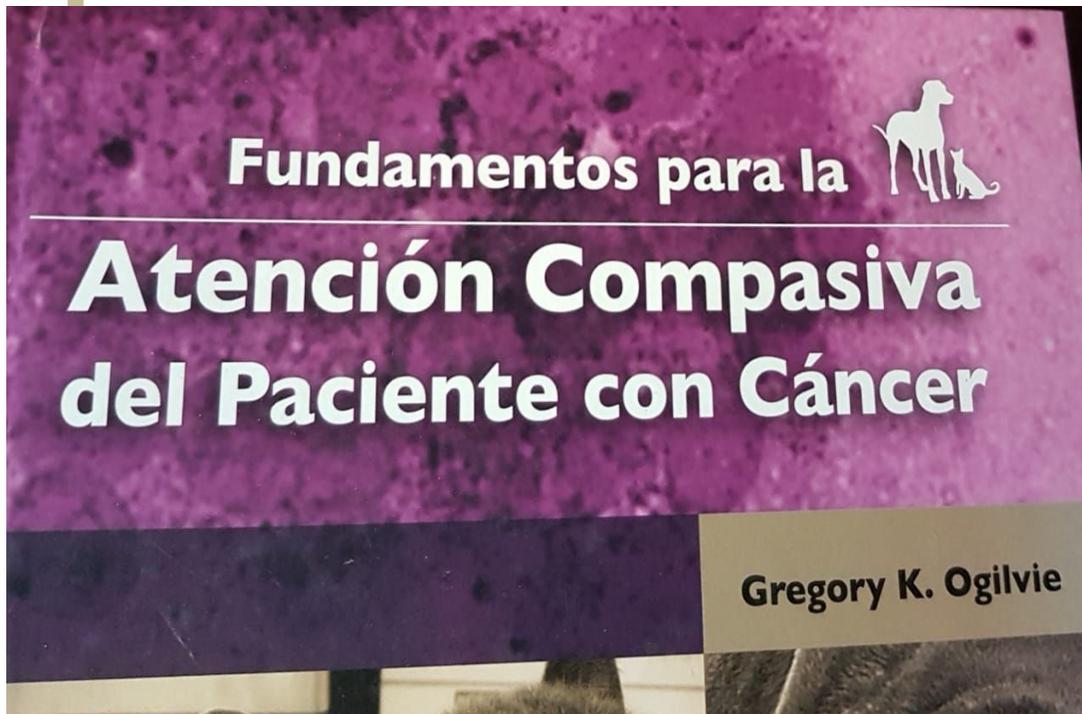
○ 2016

- Aumenta la longevidad
- Los factores genéticos y ambientales son iguales o más importantes que la castración en el desarrollo de enfermedades

## CONCLUSION

- GREGORY K. OGILVIE  
Edición **2016**

- La gonadectomía puede NO proteger totalmente contra todos los cánceres
- SE RECOMIENDA REALIZAR LA CASTRACION EN FORMA PRECOZ



## Risk Factors Associated with Lifespan in Pet Dogs Evaluated in Primary Care Veterinary Hospitals

Silvan R. Urfer, DVM, Mansen Wang, PhD, MS, Mingyin Yang, BVMS, MS, Elizabeth M. Lund, DVM, MPH, PhD, Sandra L. Lefebvre, DVM, PhD

### ABSTRACT

The objective of this population-based retrospective cohort study was to identify factors associated with lifespan in pet dogs evaluated at primary care veterinary hospitals. Dogs  $\geq 3$  mo of age that visited any of 787 US hospitals at least twice from January 1, 2010, through December 31, 2010, were included. Survival curves were constructed for dogs by year

### CONCLUSION DE LONGEVIDAD

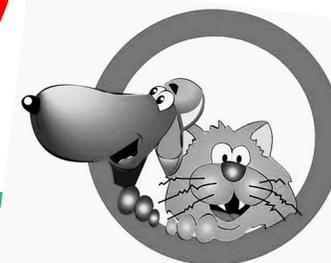
- MAYOR EN CASTRADOS
- MAYOR EN MESTIZOS

# RAZAS PURAS vs MESTIZOS

- 2019
- 787 CLINICAS VETERINARIAS
- 2.370.000 perros

### Conclusion

Although additional research is necessary to elucidate the specific mechanisms underlying the differences in lifespan by purebred status, breed size, and body weight, the knowledge of these differences as well as the association with gonadectomy and other veterinary services can assist practitioners in counseling dog owners about gonadectomy, pure versus mixed breeding, and life expectancy. ■



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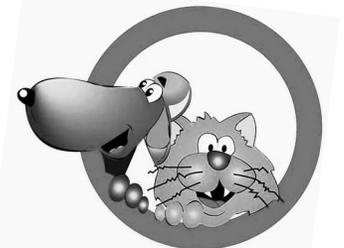


# IBUPROFENO

## NO COMBINAR CON

- EMBARAZO - LACTANCIA
- ENF HEPATICA - ENF RENAL
- ENF CARDIACA - HIPERTENSION ARTERIAL
- ASMA O ENF RESPIRATORIA
- ULCERA GASTRICA o DUODENAL
- DIABETES
- COLESTEROL ALTO
- FUMADOR
- MAREO - VERTIGO
- ALTERACIONES DE LA VISIÓN
- REACCIONES CUTANEAS
- NO MANEJAR MAQUINARIA PELIGROSA ...

- AINES
- CORTICOIDES
- ASPIRINA
- EPILEPSIA
- CARDIACOS
- COAGULACION
- VASODILATADORES
- ANTIDEPRESIVOS
- ANTIMICOTICOS
- ANTIBIOTICOS
- DIURETICOS ...



# EXCUSAS PARA NO CASTRAR

Los gatos machos se tapan !!

Hay que esperar a que se desarrollen los órganos sexuales



Crecen menos !!

Es peligroso por la anestesia !!

# MÁS EXCUSAS

Incontinencia  
urinaria  
en las perras !!

A esa edad  
no le bajan  
los testículos !!



Es peligroso  
porque es una  
microcirugía !!

Vas a tener que  
darle balanceado  
especial toda su  
vida !!

# MÁS y MÁS EXCUSAS

Va a tener  
obesidad !!

Va a tener  
problemas  
de conducta !!



.....

A esa edad no se  
le encuentran  
los órganos !!

**NO**  
es una cuestión  
de edad del animal  
sino de  
capacidad del cirujano



# ¿Debo castrar a mi roedor?

## La respuesta es SÍ, SÍ y SÍ!

- La castración temprana reduce el riesgo de tumores
- Las ratas pueden reproducirse a una edad temprana
- La castración permite que los machos y las hembras se mantengan juntos

*“Con muchos años de experiencia, hemos desarrollado una técnica para ratas hembra que es mucho menos invasiva que los enfoques convencionales”*





**Chinchilla**

Juguetero y divertido de ver, se puede entrenar

Principalmente nocturno, requiere caja de polvo

*DEBE estar esterilizado / castrado para evitar tumores reproductivos, cánceres y quistes.*



**Jerbo**

Activo día y noche, entretenido

Puede ser ágil, escapar

*DEBE estar esterilizado / castrado para evitar tumores reproductivos, cánceres y quistes.*



**Hámster**

Divertido de ver, no tan energético como los jerbos

Puede ser ágil, principalmente nocturno

*DEBE estar esterilizado / castrado para evitar tumores reproductivos, cánceres y quistes.*



**Erizo**

Las criaturas asombrosas que son muy interesantes de ver, pueden ser entrenadas en la camada

Nocturno, puede no disfrutar el manejo.

*DEBE estar esterilizado para evitar tumores reproductivos, cánceres y quistes, propensos a cánceres*



**Ratón**

Social, interactivo

Puede ser nippy

*DEBE estar esterilizado / castrado para evitar tumores reproductivos, cánceres y quistes.*



# CONCLUSIÓN

**AQUELLOS MUNICIPIOS  
QUE APLIQUEN  
LA CASTRACIÓN TEMPRANA  
ALCANZARÁN  
UN RÁPIDO  
IMPACTO POBLACIONAL  
Y ESTARÁN  
A LA VANGUARDIA  
EN LA DIFUSIÓN DE  
POLÍTICAS PÚBLICAS PREVENTIVAS**





# MUCHAS GRACIAS



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