



FORENSIC PATHOLOGY OF FIGHTING DOGS

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AUSTRALIA 2018



OVERVIEW

- Dog fighting
 - History
 - Development of the Pit Bull breed
 - 3 types of dog fighters
- 4 chapters in fighting dogs' lives & lesions
- Ancillary testing
 - Anabolic steroids
 - DNA testing

Queensland alleged dog fighting ring busted in first major breakthrough in 10 years

STARVING puppies and breaking sticks were just some of the horrifying things found by police and the RSPCA when they raided properties while investigating an alleged dog fighting ring.

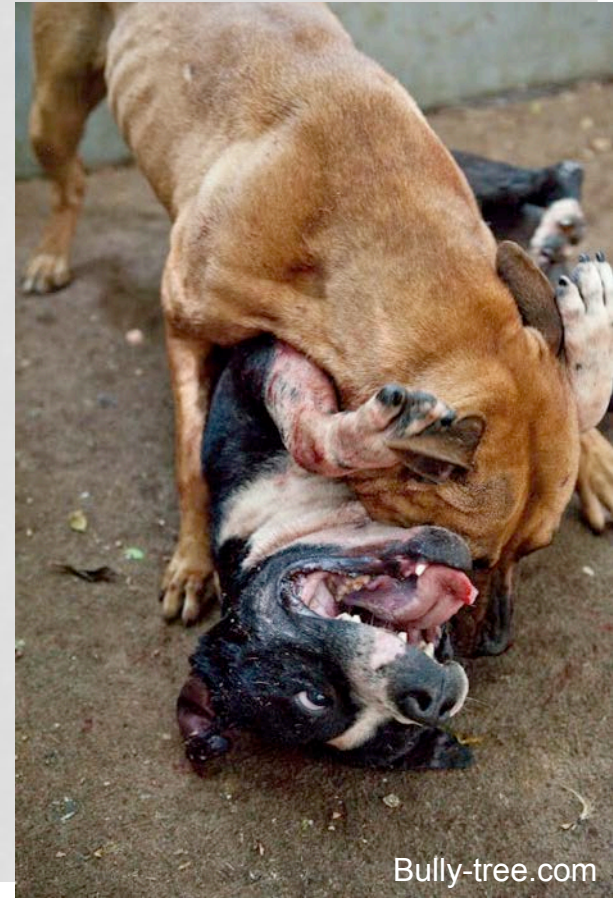
DOG FIGHTING HISTORY

- Middle ages – 1800s: Bull & Bear baiting
 - Dogs pitted against a tethered bull or bear
- “Bulldog” breeds (also Mastiff, others)
- Breed traits
 - Athleticism & Endurance
 - Stoicism / pain tolerance
 - Tenacity (“**gameness**”)



DOG FIGHTING HISTORY

- Baiting outlawed in 1835 in England
 - Replaced with dog fighting in a ring (**pit**)
- Pit Bull breed
 - **Dog aggression**
 - No “threat” displays
 - No submission
 - Human aggression selected against
 - Dog handled during training & the fight itself, including strangers (ref, etc.)



ORGANIZED DOG FIGHTING

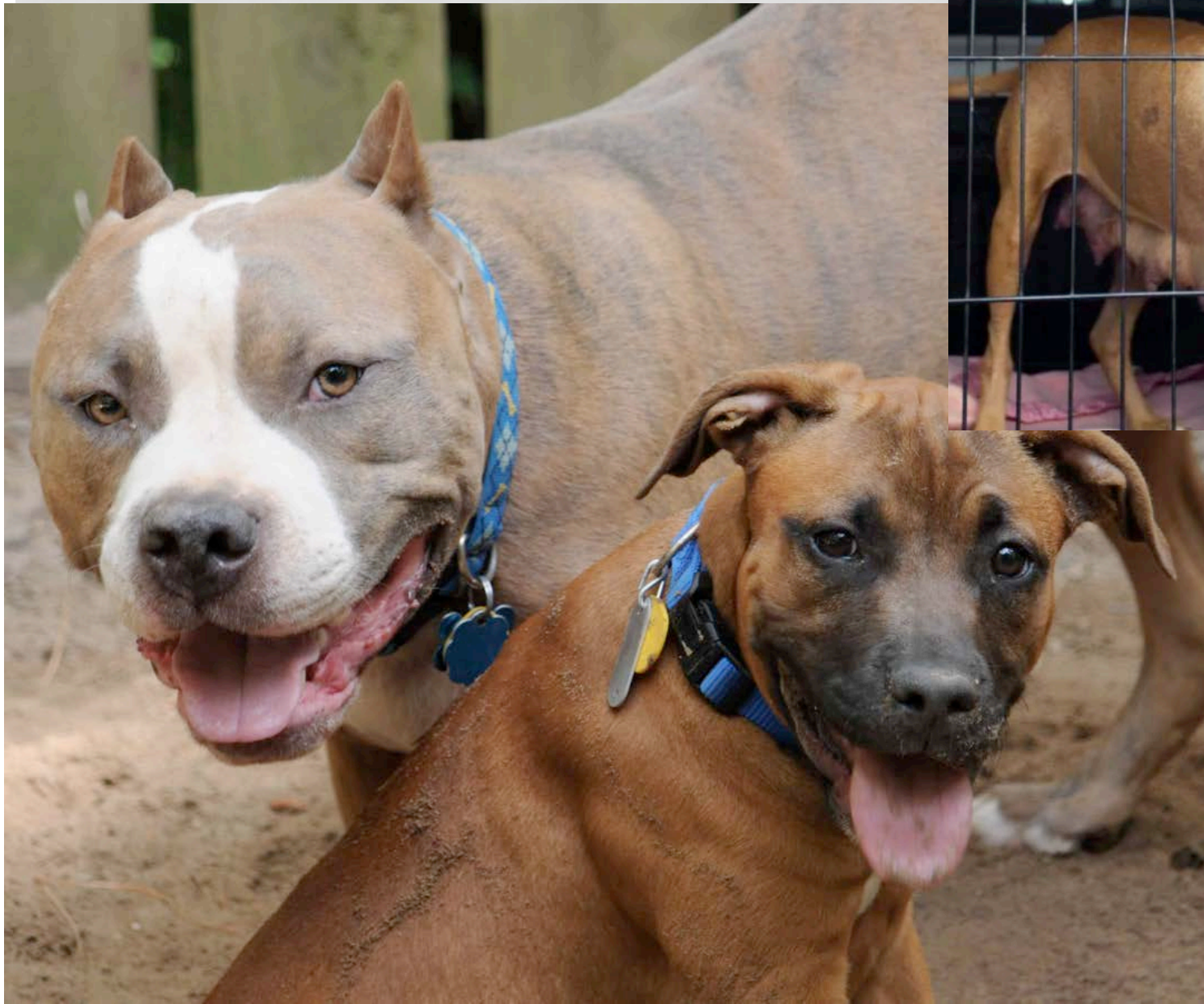
- Rules for fights & titling
 - “Cajun” rules online
- Fighting Pit Bulls
 - 10-20 Kg
 - Small = more stamina & agility
→ Longer fights, more “action”
- **Not** “Show dogs”
 - Fashion accessory or other legal activity (pulling, etc.)

INTERNATIONAL
SPORTING DOG
J·O·U·R·N·A·L

JULY 2010

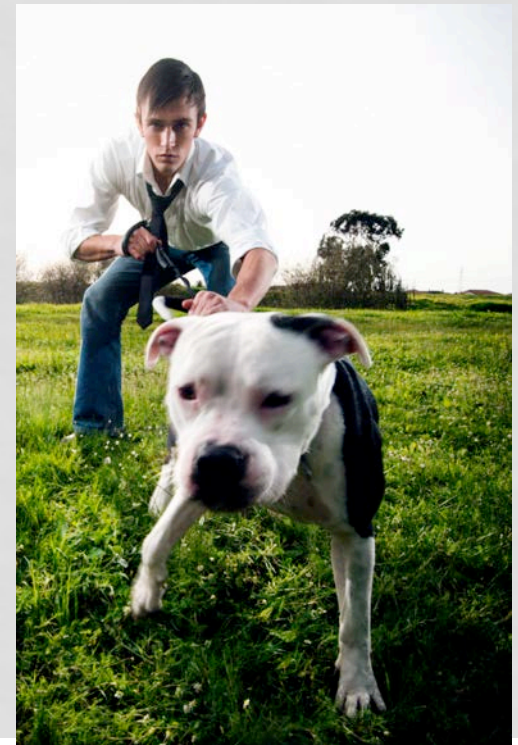
WWW.SPORTINGDOGJOURNAL.INFO





DOG FIGHTERS: 3 TIERS

- Professionals
- Hobbyists
- Street fighters



PROFESSIONALS

- Few in #, organized, underground network
 - Regional, national, international presence
- “Businessmen”-- \$ in breeding, buying, selling, & fighting dogs
 - Trade magazines, websites
 - \$ in fights: \$10,000 - \$100,000s / fight
- Manage a kennel (“**yard**”)
 - >12 dogs, often 25-100
 - DIY Basic medical care
 - Vaccinate, de-worm, etc.



HOBBYIST

- Own 1 – 12 dogs
- Participates in several organized fights a year
- In it for the “entertainment” (less so \$)
- Mid-level dogs
- \$100-\$1000s / fight



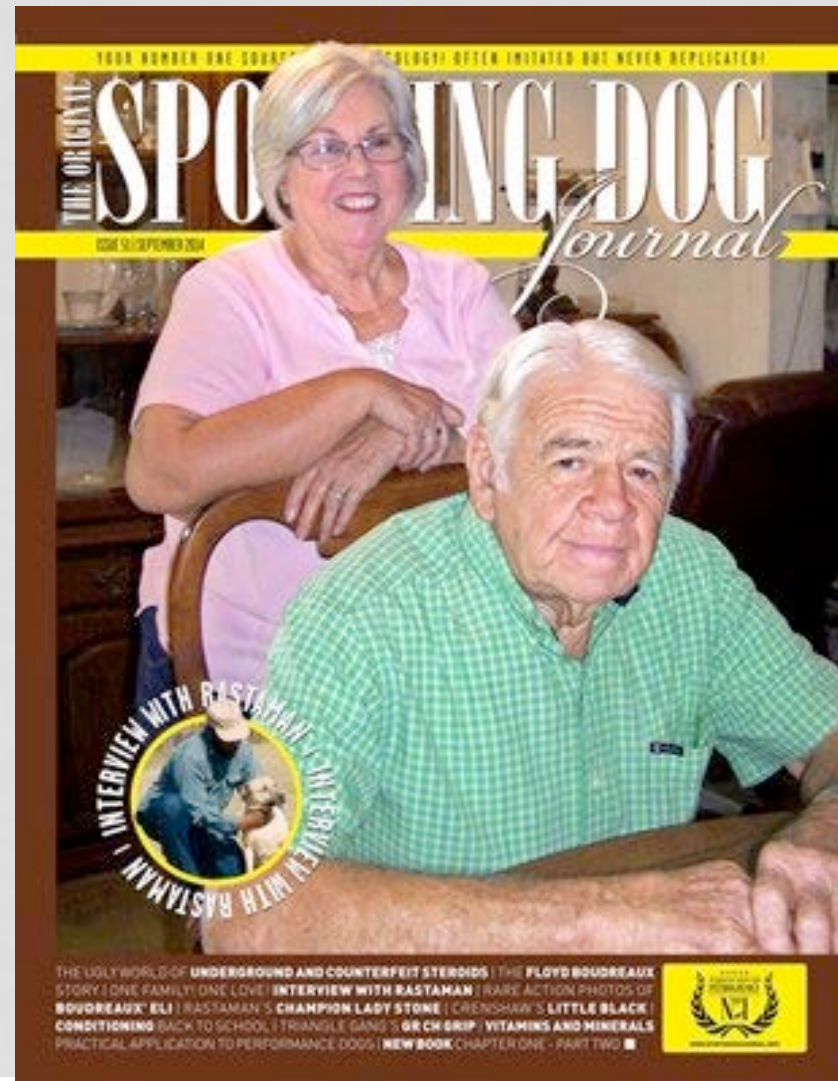
STREET FIGHTERS

- Own 1-3 dogs
 - Dogs are not from top breeders
 - +/- Human aggressive
- Impromptu fights
- No formal rules
- Little to no \$ wagered
- ***No predicting or accounting for their activities***
 - “Trunking”



DOG FIGHTERS

- **All types** of dogfighters are usually also involved in other criminal activity (drugs, \$ laundering, etc.)
- Wide variety people are involved in dogfighting (socio-economic class, ethnicity)



4 CHAPTERS IN A FIGHTING DOG'S LIFE

1. In the yard
2. "In the keep" (Conditioning)
3. The fight
4. After the fight



1. THE YARD

- Majority of life
 - Not old enough to fight
 - In between fights
 - Waiting to be bred, whelp, or weaned
- Minimal physical activity
- Minimal mental activity
- Marginal diet & shelter
- No socialization





ASPCA

Typical yard. Shade/ shelter, Water. No toys, no people.
Individual housing close to, but out of reach of, other dogs.



Large, broad collar & heavy chains (4.5 to 14+ Kg) attached to buried posts (car axles).



It is thought that carrying around the chain strengthens the neck muscles. The neck is a common target for bites.



IN THE YARD: LESIONS

- Associated with poor diet, parasites, collar/ chains & inactivity
 - Thin BCS: 2-4 / 9 (Purina)
 - Calluses +/- Acral lick granulomas
 - External & Internal parasites (~30%; Cannon 2013)
 - Neck dermatitis / abrasions
 - Dermatophytosis
 - Heartworm (~10%; Cannon 2013)
- *Babesia gibsoni*
 - Ticks +/- nursing & (likely) fighting
 - Endemic
 - 0.5% shelter dogs
 - 33-55% fighting Pit Bulls
 - **Dogs with scars were 5.5x more likely to be infected** (Yeagly 2009)

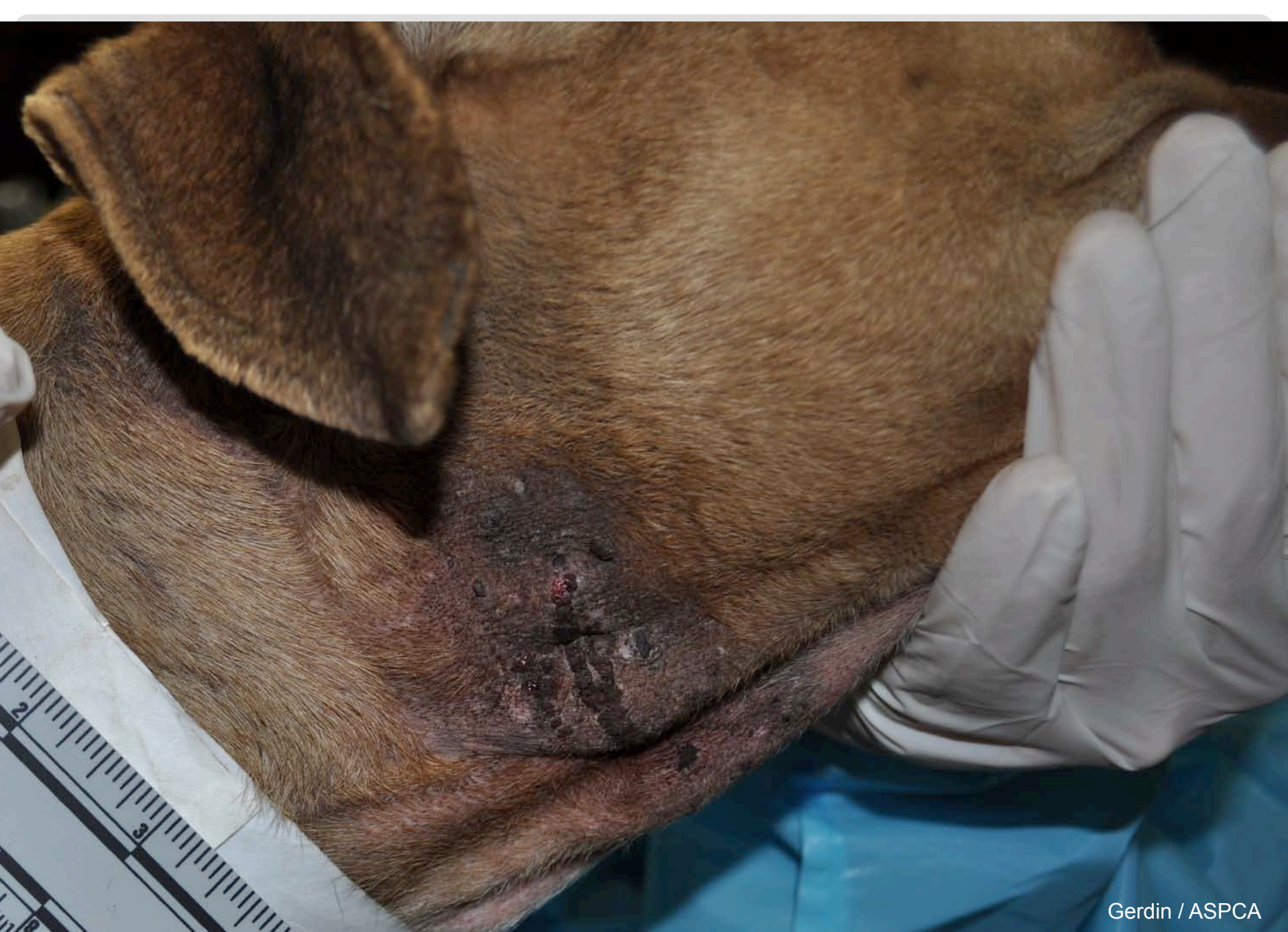




Gerdin / ASPCA



Gerdin / ASPCA









Gerdin / ASPCA

Ear cropping is now less common on fighting dogs; Still common for “fashion accessory” dogs.



Cornell University

1. THE YARD

- 1-2 y age
- Schooling (training)
 - Fixed mock/ practice fights the schooling dogs wins
 - Reinforces fighting behavior
- Test fights (“**rolls**”) to assess ability (“**gameness**”)
 - 30-1 hr where the school dog taking on dog after dog until its exhausted.
 - If survives → match dog
- Fail → culled
- ~1-2/ 6 pups survive
 - “Breed the best & bury the rest”



2. "IN THE KEEP"

- Diet & exercise regimen 6-8 wk before fight
 - Endurance- Treadmills/Slatmills
 - Paw pad abrasions
 - Jaw strength- Spring poles
 - Dental abrasions
 - **+/-Anabolic** steroids
 - Blood & urine
 - Misc supplements





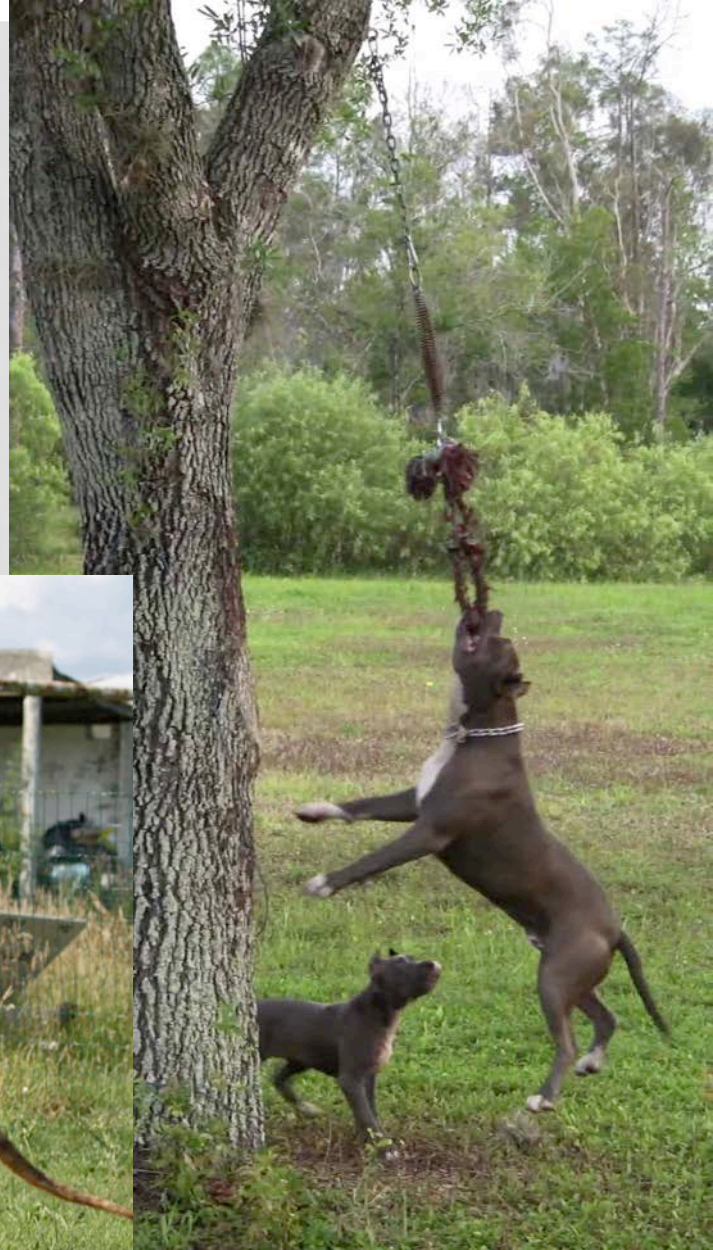
Slat mill

Abrasions of the load-bearing portions of the pads.



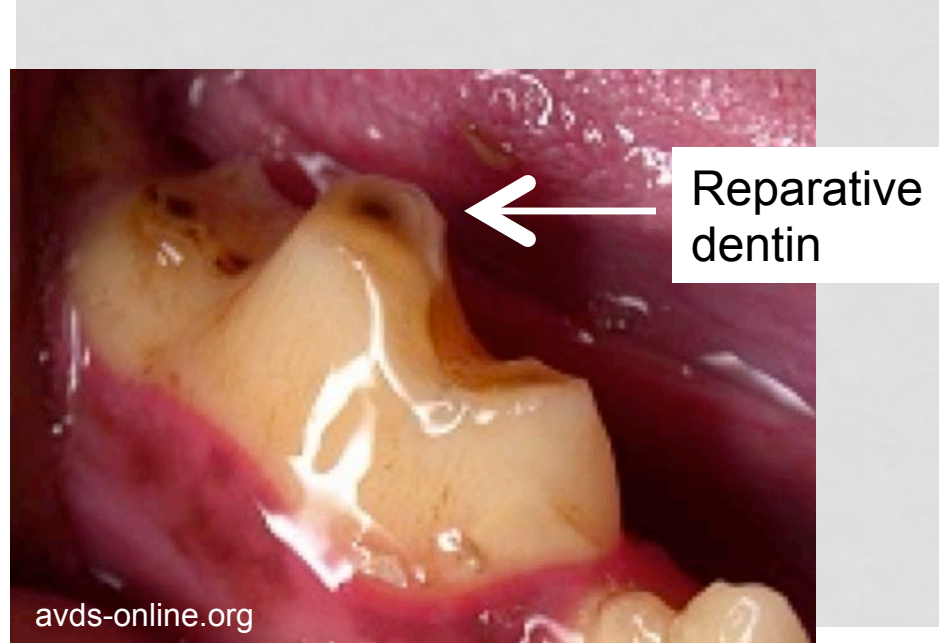
Touroo / ASPCA

Flirt pole

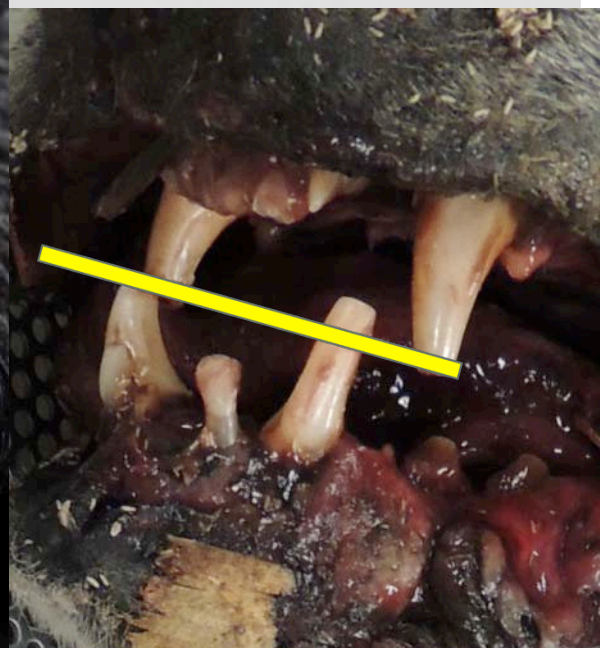


DENTAL ABRASIONS

- **Level, linear wear pattern**
 - #1 canines, #2 incisors... #3 premolars & molars
- **Reparative dentin**– central, brown, firm
- Distinct from cage / fence biting & Tennis ball wear









Crate Gate / Fence Biter

Canines +/- incisors'
distal surface eroded







BAIT ANIMALS

- Used to test a dog's fighting ability or entertainment
 - Mauled or killed in the process
 - Culled dogs, shelter dogs, strays, stolen pets, "free to good home"
- Entertainment / motivation
 - Cats, chickens, rabbits, etc.
- May be muzzled / bound to prevent injury to the fighting dog



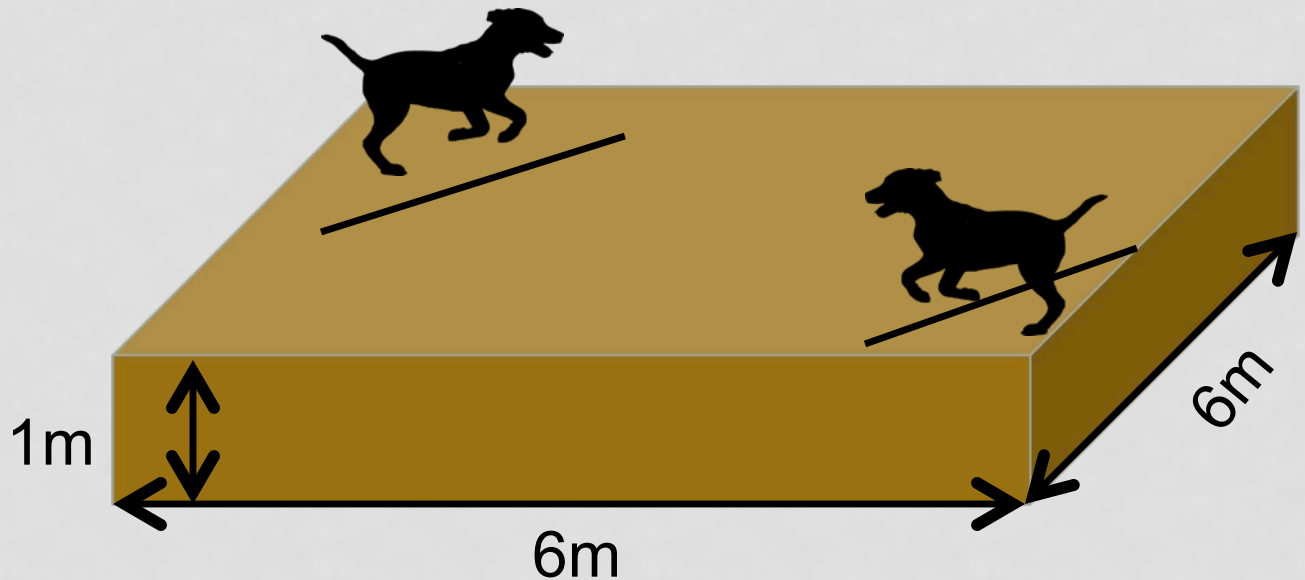
3. THE FIGHT

- Males fight males; Females fight females
- Weighed
 - Different weight classes
- Bathed
 - Remove toxic / noxious substances applied to the haircoat to discourage the opponent from biting
 - Sponged off between rounds to cool off



THE PIT

- Each dog has a corner
- Each round, dog must cross its line (“scratch”) & go towards the other dog
- Failure to scratch → fight is over





FeralHeart.com

Scene from the movie "Amore Perros" (accurate depiction)



3. THE FIGHT: LESIONS

- Dog bite wounds
 - Hard to define, easy to recognize
 - Mix of blunt & sharp wound characteristics
 - Skin punctures with deeper crush injury → hemorrhage & ischemia → necrosis & bacterial infection → +/- Sepsis/ SIRS/ DIC
 - **Crush, puncture, cut, & avulse**
 - Occasionally long skin cuts, avulsions, or fractures
- Wounds in various stages of healing indicate that the dog was fought more than once



Wounds of the muzzle & face are common



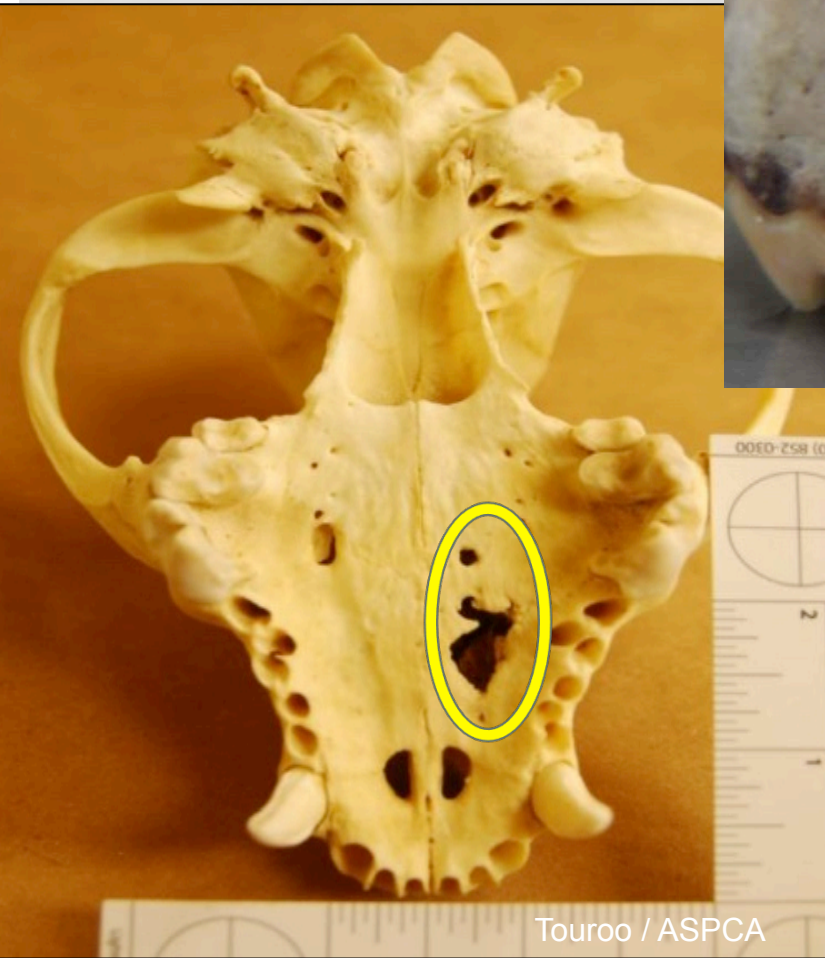
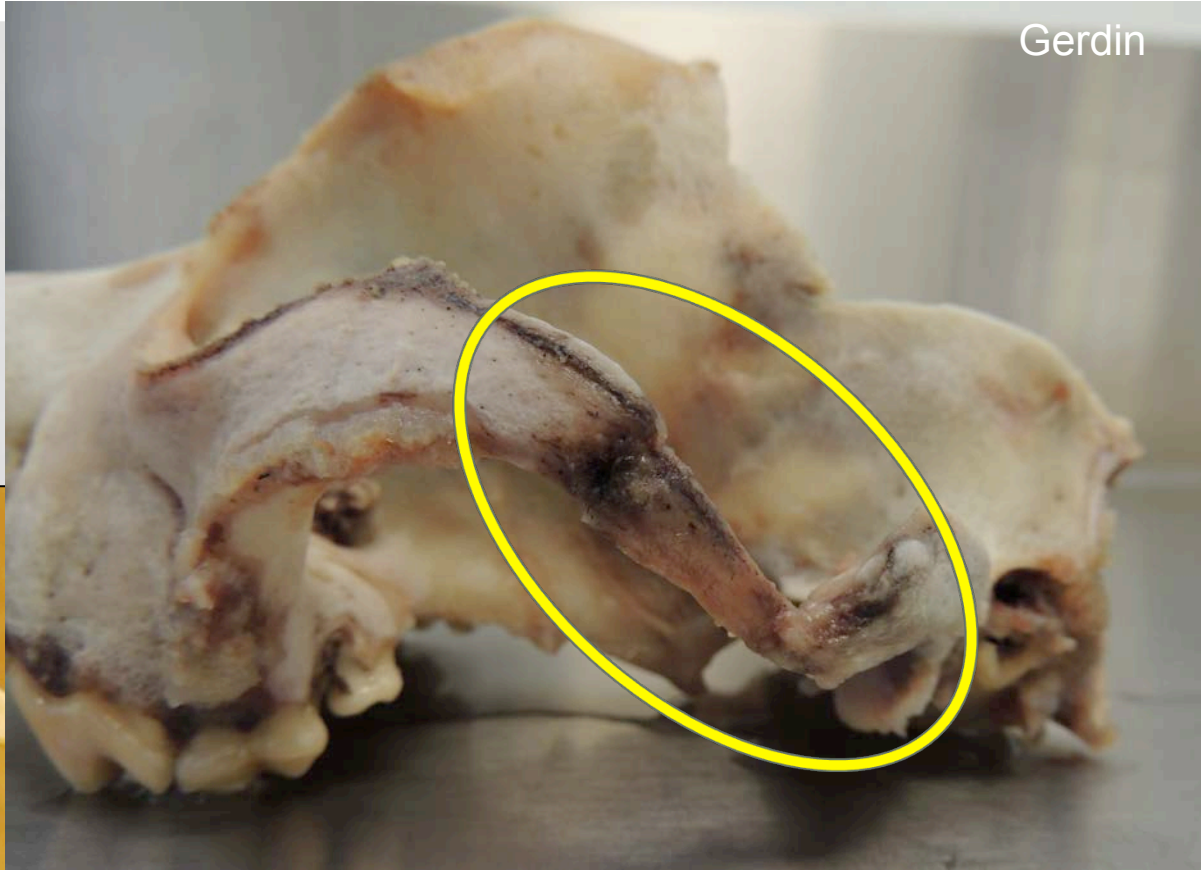
ASPCA



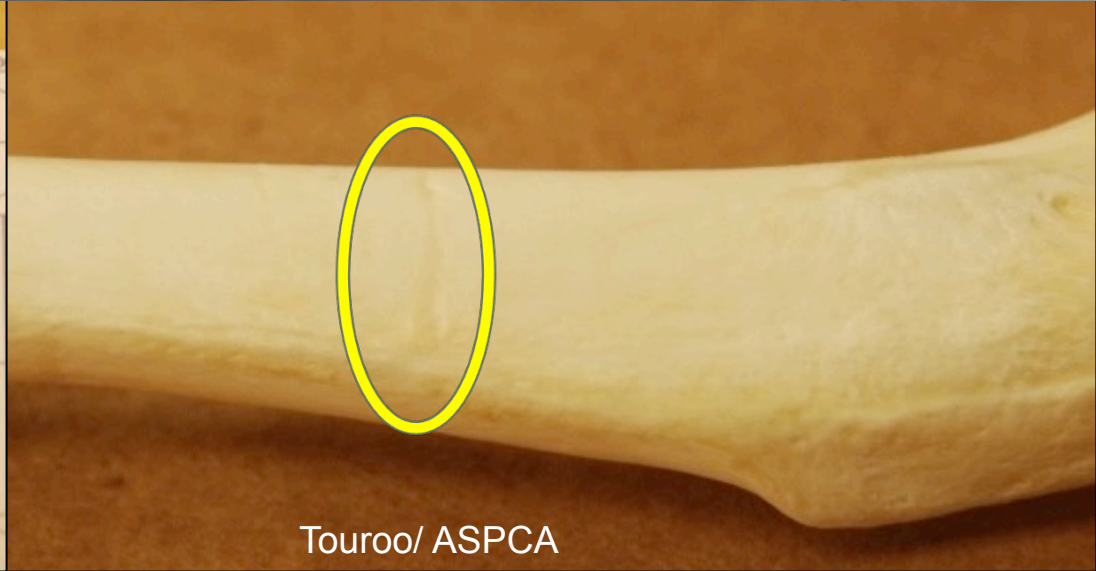
Oral, dental & lip injuries

Skull bone Fractures & Bones scoring w/deep bite wounds

Gerdin



Touroo / ASPCA



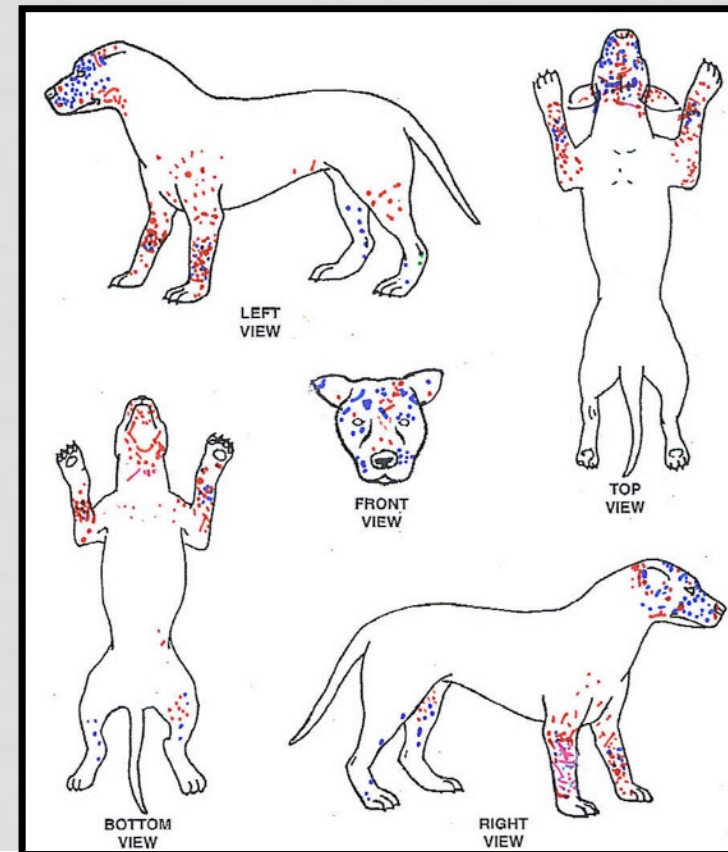
Touroo / ASPCA

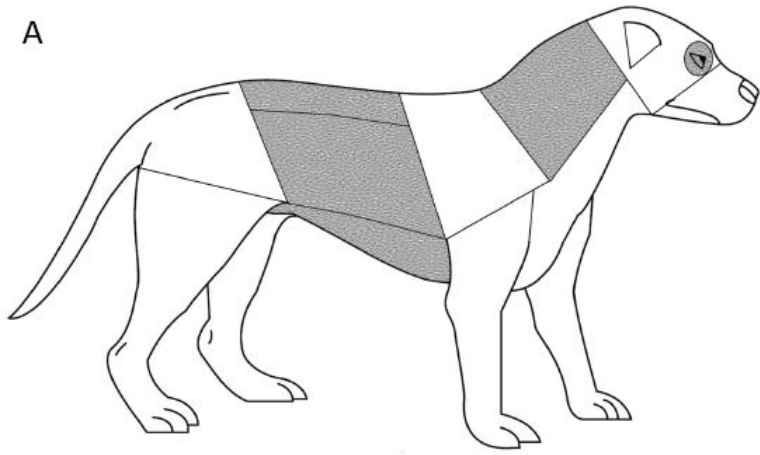
BITE WOUND DISTRIBUTION

Intarapanich et al. 2017

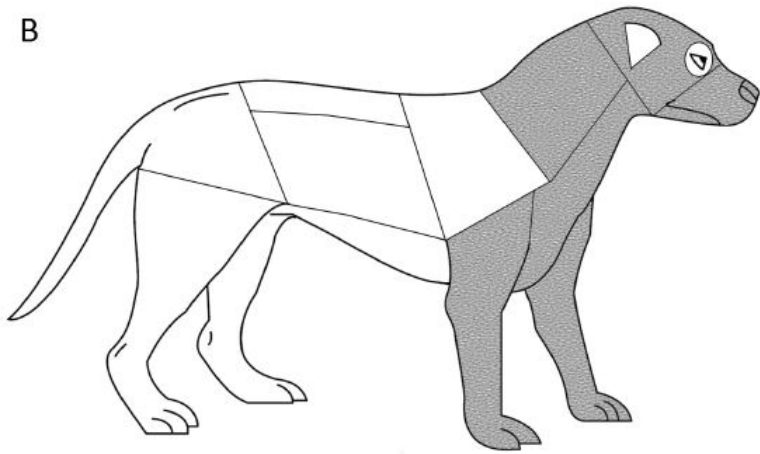
1. 160 small dogs = spontaneous fight w/big dog
2. 62 dogs = dogfighting raids
3. 36 medium dogs = spontaneous fight w/ dog same sex & ~weight

- Bite wound distribution
- Rib Fx & dental abrasions more prevalent in fighters

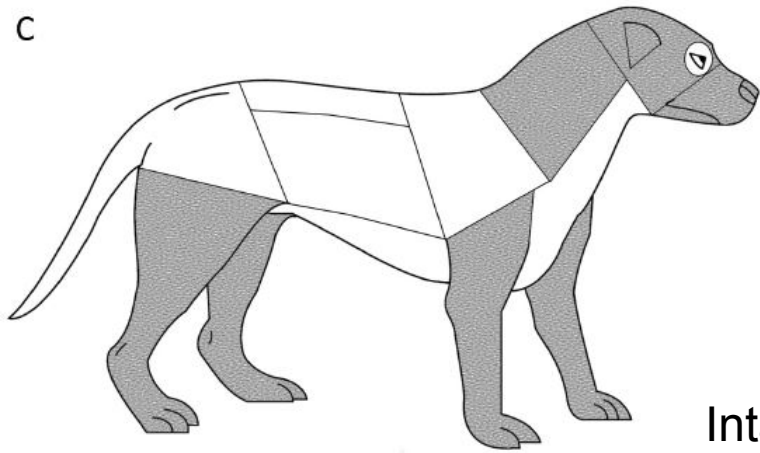




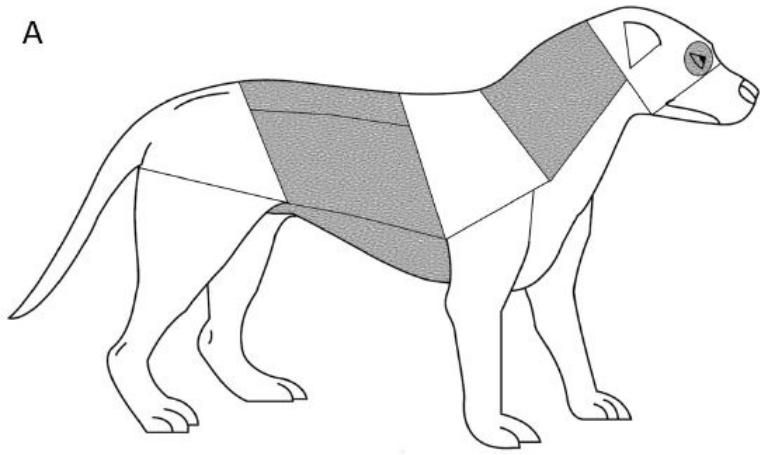
A. Big dog v. Little dog
(Little dog shown; n=160)



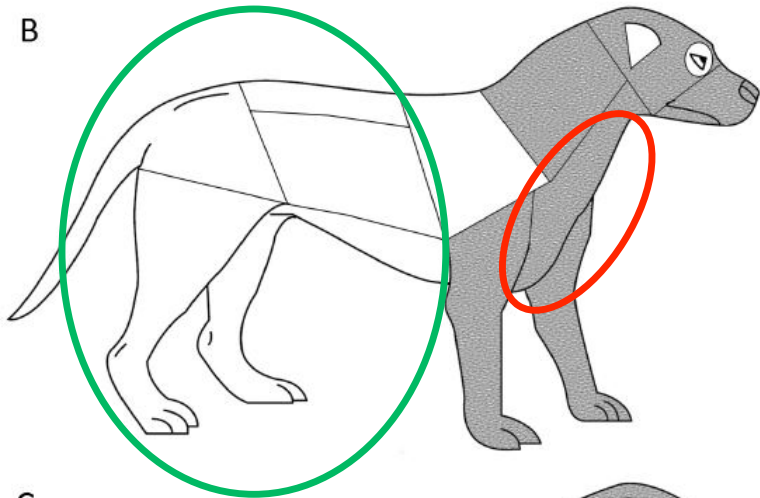
B. Dog fighter (n=62)



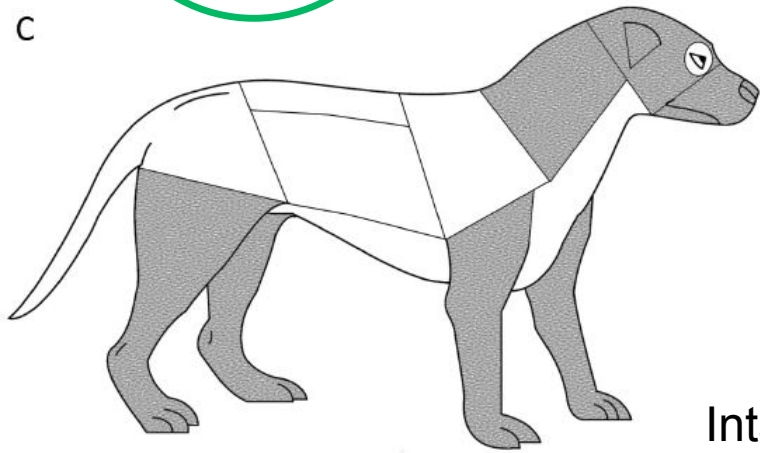
C. "Housemate"
(~ same size & sex; n=36)



A. Big dog v. Little dog
(Little dog shown; n=160)



B. Dog fighter (n=62)
Chest is often bitten
Few if any bites
caudal to shoulders



C. "Housemate"
(~ same size & sex; n=36)

THE END OF THE FIGHT

- Handler concedes OR dog quits
 - **Dogs usually don't die *in* the fight**
- Winner of 3-5 fights → breeding
- Dog quit = poor reflection on owner/ handler (loss of face)
 - Left to die or are killed
 - Injures fatal in hours to days
 - Immediate COD: Sepsis / SIRS/ DIC
 - May be abused prior to killing
 - Hung, drowned, electrocuted, shot
 - Combinations of the above
 - Challenge to determine cause of death





DNA IN DOGFIGHTING CASES

- **Uncover criminal networks via related dogs**
 - Suspect A denies knowing confirmed Dogfighter B
 - DNA shows Suspect A has puppies from Dogfighter B's dog
 - Suspect A is lying
- **Identify individual dog or species** that bit a dog or person
 - DNA from swabbed wounds
- **Canine CODIS** UC Davis
 - **C**ombined **D**N **A** Index **S**ystem
 - Multi-agency database of dog DNA
 - Call prior to submission
 - Cost: roughly \$200- 600+



COLLECTING DNA

Sample Types

- Wet or dry blood
 - Wounds, weapons, animals, or scene
- Buccal swabs
 - Individual / Reference samples
- Bones, Teeth



THE PATHOLOGIST'S ROLE

- **Was this a fighting dog?**
 - Pit Bull-type breed; 10-20kg & lean; high % *Babesia* +
 - Dog bite wounds / scars of head, chest, fore limbs
- **Was this dog injured in a fight?**
 - Bite wounds present in pattern consistent with 2 highly aggressive dogs (almost exclusively front ½ of the dog)
 - **Bait animals**-- evidence of physical restraint
 - DNA – related to known fighting dogs
- **Cause of death**
 - Dog bite wounds
 - Non-Accidental Injury (NAI)
 - Drowning, electrocution, hanging, gun shot, etc.



Sargent Stubby



<http://bslnews.org/pit-bull-heroes-hall-of-fame/>

- [Pit Bull Saves His Human's Life During Fire](#)
- [Pit Bull Senior Saves Family From Fire](#)
- [Pit Bull Saves Kitten](#)
- [Pit Bull Lou Saves Family From Fire](#)
- [Pit Bull Saves Child From Labrador Dog Attacking Her](#)
- [Pit Bull Saves Cat From Coyotes](#)
- [Pit Bull Saves Owner And Goes To Get Help For His Medical Emergency](#)
- [Pit Bull Saves Wife From Estranged Husband's During Domestic Abuse](#)
- [Pit Bull Saves 72 Year Old Owner](#)
- [Pit Bull Saves Family From 3 Alarm Fire](#)
- [Pit Bull Buddy Saves Owner From Fire](#)
- [Pit Bull Saves Deaf Boy From Fire](#)
- [Pit Bull Jinx Saves Family From Fire](#)
- [Pit Bull Gets Help For Injured Neighbor Who Fell Off Ladder](#)
- [Devoted Pit Bull Saves Child](#)
- [Pit Bull Saves Chihuahua](#)
- [Pit Bull Saves Owner From Mugger](#)
- [Pit Bull Hero Jonie Saves Chachi](#)
- [Pit Bull Saves 4 Year Old Boy](#)
- [Pit Bull 2013 Hero Of The Year Elle](#)
- [Pit Bull Calls 911 While Owner Has Seizure](#)
- [Pit Bull Saves Owner From Intruders With Machete](#)
- [Pit Bull Lefty Takes Bullet For Owner](#)
- [Pit Bull Saves Owner From Abusive Partner](#)
- [Pit Bull Finds Missing Woman Suffering From Dementia](#)
- [Pit Bull Saves Cat From Coyotes](#)
- [Pit Bull Foils Child Abduction](#)
- [Pit Bull Saves Family Two Weeks After Adoption](#)
- [Pit Bull Ruger Saves Family From Home Invasion](#)
- [Pit Bull Saves Mom and Baby From Home Invasion](#)
- [Pit Bull Saves NY Woman From Burning House](#)
- [Pit Bull Breaks \(Chamunda\) Help Victims of Boston Marathon Bombing](#)

SUMMARY

- Professional dogfighters conduct “business” in a regular, consistent & predictable fashion
- There is limited accounting for the behavior of *street level fighters*
- Knowledge of practices & environment → recognize lesions
- DNA may establish ties / ID individual dogs
- Charges of dog fighting are substantiated by investigative findings **plus** pathology findings

REFERENCES

Cannon SH et al. Abstract: INFECTIOUS DISEASES IN DOGS RESCUED DURING DOG FIGHTING INVESTIGATIONS. Presented at: University of Florida Maddy's Shelter Medicine Program 2013. <https://vetmed-maddie.sites.medinfo.ufl.edu/files/2013/10/Abstract-Cannon.pdf>

Intarapanich NP, et al. Characterization and comparison of injuries caused by spontaneous versus organized dogfighting. *JAVMA*. 2017 Dec 15;251(12):1424-1431.

Macintire DK, Boudreaux MK, West GD, Bourne C, Wright JC, Conrad PA. *Babesia gibsoni* infection among dogs in the southeastern United States. *JAVMA*. 2002;220(3):325–329.

Shamir MH, Leisner S, Klement E, Gonen E, Johnston DE. Dog bite wounds in dogs and cats: a retrospective study of 196 cases. *J Vet Med A Physiol Pathol Clin Med*. 2002;49(2):107–112.

Yeagley TJ, Reichard MV, Hempstead JE, et al. Detection of *Babesia gibsoni* and the canine small *Babesia* “Spanish isolate” in blood samples obtained from dogs confiscated from dogfighting operations. *JAVMA* 2009;235(5): 535–539.

RESOURCES

Cajun dog fighting rules

<http://www.sporting-dog.com/select-pages/cajunrules.html>

Dog fighting documentary: “Off the chain”

<https://www.youtube.com/watch?v=no0CR0sYfEY>

Dogfighting FAQ

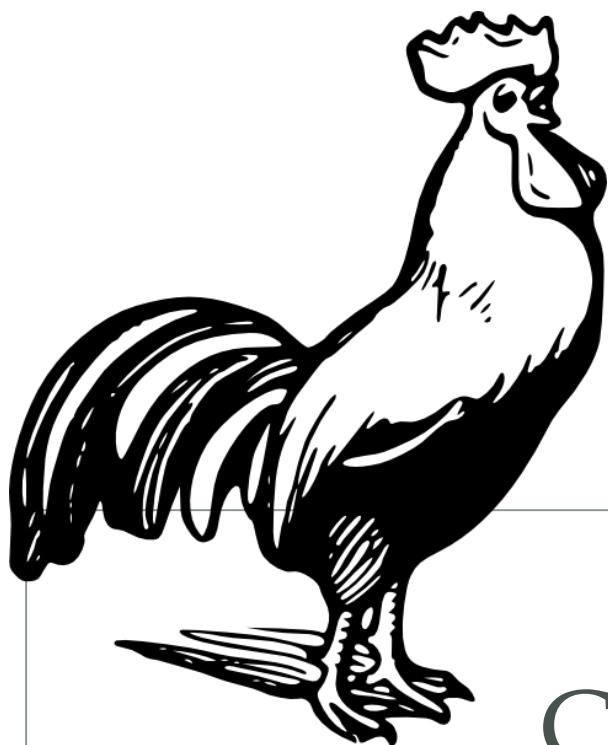
<http://www.aspcapro.org/resource/disaster-cruelty-animal-cruelty-animal-fighting/dogfighting-faq>

<http://www.esdaw.eu/dogfighting1.html>

<https://portal.chicagopolice.org/portal/page/portal/ClearPath/Communities/Safety%20Tips/dogfightingtips4public.pdf>

DNA collection

<https://www.vgl.ucdavis.edu/forensics/collection.php>



COCK FIGHTING

JODIE GERDIN DVM DACVP

AUSTRALIA 2018



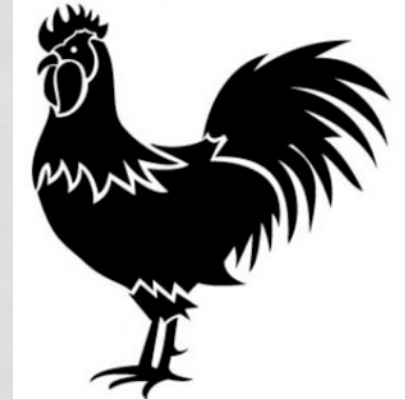
OVERVIEW

- Cock fighting is a lot like Dog fighting
 - But with roosters



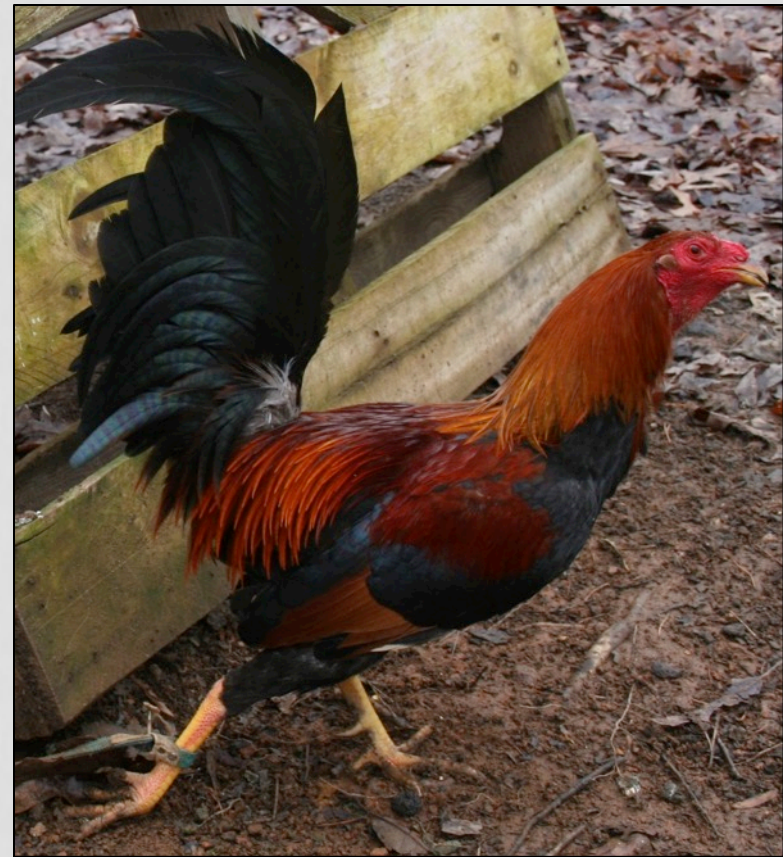
TERMINOLOGY

- **Rooster**
 - A male chicken
- **Cock**
 - A rooster that has molted
 - Typically 2y or older
- **Game cock, Game fowl, Pit game fowl**
 - A Rooster bred to fight
- **Cock fighting is illegal in Australia**
- It is illegal to possess any fighting equipment



COCK FIGHTING

- Because only roosters are fought, **Cock fighters will own more roosters than hens**
 - People raising fowl for food/ eggs have >>> Hens v. Roosters
- Many breeds of pit gamefowl are used for cockfighting around the world
 - Old English Game hybrids are commonly in the U.S.



COCKFIGHTING

- Fights are held in a ring = “**cockpit**” or “pit”
- The rules are complicated, & often vary from pit to pit
- Fight is over when:
 1. A cock leaves the pit
 2. A cock fails to attack for a certain period of time
 3. A cock dies
 4. One of the handlers concedes



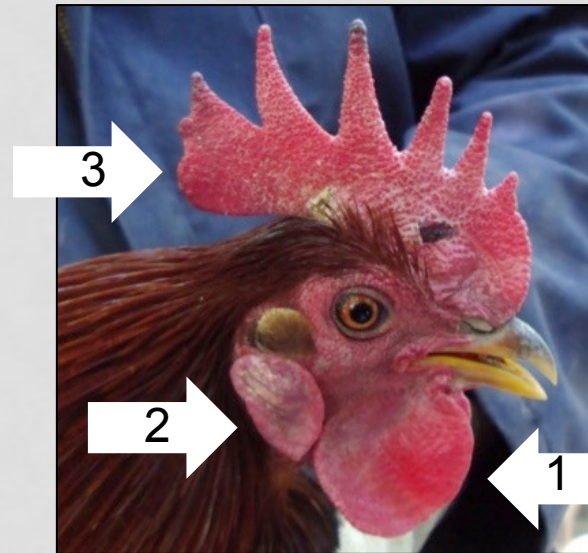
SUPPLEMENTS & DRUGS

- Commonly used supplements & drugs:
 - Multivitamin & mineral supplements
 - Vitamin B-12
 - Amino Acid supplements
 - Vitamin K
 - Antibiotics
 - **Stimulants**
 - Caffeine
 - Methamphetamines
 - Strychnine
 - **Anabolic steroids**



EXTERNAL EXAM FINDINGS

- **Dubbing** = removal of wattles, ear lobes, & comb
 - Dubbing is breed standard for some fowl
- Performed on fighting cocks to prevent injury → highly vascular & bleed profusely
- Dubbing is usually done by owners using scissors



(1)Wattles,
(2)Ear lobes,
(3)Comb



Dubbed
rooster

EXTERNAL EXAM

- Spurs maybe altered
 - Sharpened / filed to a point
 - Cut down / stubbed
 - Point of attachment for weapons
- When metal spurs (gaffes) are used, **often only 1 spur will be stubbed (usually left)**, as only 1 knife per bird is usually allowed



Natural spur



Cut spur



Gaffe

EXTERNAL EXAM


- Some feathers may be plucked
 - “trimmed out” = Long tail feathers & wing primary feathers are shortened & some back feathers & plumage around the vent are removed
 - Helps bird stay cool → fight better longer



EXTERNAL EXAM FINDINGS

- **Wounds (cuts, abrasions) located #1 on the head**
 - **Entire head** is often inflamed
 - **Ocular injuries**, including rupture
 - Nostrils maybe be occluded by blood
- Wounds in other areas, such as the breast





Recently fought cock:
moderate diffuse
erythema &
abrasions, abundant
adhered dried blood, &
distortion of the
eyelid.



Typical fighting cock appearance a few days after a fight— the head is encrusted with dried blood.

INFECTIOUS DZ

- Remember that these animals are often **large populations housed in close quarters** without vet care → high risk for harboring Dz
- **Unexpected deaths or deaths** in hens, or roosters without wounds should be necropsied & **sampled for testing**
- US: fighting cocks illegally smuggled into CA → outbreak of Newcastle



SUMMARY

- Supplements & Rx may be given to fighting cocks
- Exam findings of fighting roosters:
 - Removal (“dubbing”) of wattles, comb, earlobes
 - Spurs altered (sharpened or blunted), occasionally natural
 - Ventral feathers plucked
 - Wounds of the head, eyes, body, & chest
- Animals from fighting operations may harbor infectious Dz, including reportable Dz