A COMPARISON OF EAR-TAGGING AND EAR-WHITING AS METHODS OF IDENTIFICATION IN DOGS

Raffaella Leoci

A comparison of ear-tagging and ear-whiting as methods of identification in dogs

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PUGLIA

> 70,000 STRAY DOGS

4 MILLION HUMAN POPULATION

1 DOG FOR EACH 6 PEOPLE

Italian law (281/1991) no kill policy (unless they are incurable or proven to be dangerous)

- Stray dogs have to be captured, microchipped, neutered and taken to dog shelters.

Puglia law (12/1995) permits trap, spay/neuter, identify and release (alternative to shelter).

ACC&D 5th International Symposium on Non-Surgical Contraceptive Methods of Pet Population Control
STRESS (PAIN) INDICATORS
(HOLTEN ET AL., 2001; MATTHEWS, 2000; BEERDA ET AL., 1997)

**Responses**

**Behavioral**
- TEMPERAMENT (submissive, aggressive)
- VOCALIZATION (crying, howling)
- POSTURE (position of ears, tail, hunched or praying position)
- LOCOMOTION

**Physiological**
- Heart - Respiratory rate increase
- Pupil enlargement
- Blood/Salivary parameters (WBC, cortisol, CRP)

ANXIETY INCREASES PAIN PERCEPTION (Bufalari et al., 2007)

MELBOURNE PAIN SCALE (MPS)

- This scale incorporates physiologic data and behavioral responses
- Six categories divided in levels (scores of 0, 1, 2, or 3)
- Score range: 0-27

- **Example**: 4 - minimal pain
  15 - analgesic treatment needed (Bufalari et al., 2007)

MICROCHIPPING

Microchip identification:
- Does not indicate where the dog is from
- Does not indicate if the dog is owned or stray
- Does not indicate if the dog has been spayed/neutered

Many neutered dogs are recaptured, some undergo new surgery!

STUDY

**BEST PRACTICE FOR HUMANE VISUAL IDENTIFICATION OF TREATED STRAY DOGS**

**GOALS**
To scientifically detect the best method (tag vs whiting/freeze branding) to identify dogs, determining which method is:
- More humane
- Least stressful/painful for the animals
- Easy to be performed on large scale
- Feasible with non-surgical sterilization techniques

- Dogs were just sedated
- No surgery was performed before the identification
- No antibiotics or antinflammatory drugs

We approached these techniques without previous experience!
RESULTS

• Maximum stress at handling (before any procedures!): **MPS 9**

**NOTE:** Immobilization, etc. have been reported to elicit responses in behavioral, cardiovascular, endocrine, renal, gastrointestinal, and hematological parameters (Beerda et al., 2009).

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**STUDY PROTOCOL**

**30 Dogs**

- **T0** Baseline Measurements
  - SI
  - MPS
  - Video recording for 15-30 min
  - General Blood Parameters (WBC)

- **T1** - Sedation + Hair clipped + Tag-Freeze Brand or Control

- **T2** - Two hours from the application

- **T3-6** - Day 2-5 (Each day following the procedure)

**SI**

- Melbourne Pain Scale
- Check the application site
- Health check-up (blood parameters... infection symptoms)

**MPS**

- Liquid Nitrogen
- Dry-Ice

**Tag-Freeze Branding - Control**

**30 Dogs**

- Rototag
- Swivel tag
- SI

**RESULTS**

**PROS**

• Easily performed - No training needed (instructions)
• Quick application
• Inexpensive
• No risk of harm for operator
• Good visibility
• Can identify individuals or groups of animals using a code or a color

**NOTE:** Care should be taken when applying ear tags to avoid hitting the cartilage ridges and ear vein (use a flashlight to visualize them and mark with pen).
RESULTS

**PROS**

- No infections
- No fly strike

48 h post application

**CONS**

- Not Permanent
- Skin lesion occurred for tag rubbing
- More exudate with long hair

**SIDE EFFECTS**

- Dogs scratched themselves using back legs, scratching against the wall, shaking head, >ROTOTAG
  (Other dogs did not bother the tags!)
FREEZE BRANDING
THE APPLICATION OF A MARK USING AN EXTREMELY COLD BRANDING IRON

- Copper branding iron must be placed on the skin for the correct time and at the correct pressure.
- Destroys the color follicles at the brand site that appears white (dark-haired animals).
- If the iron is held against the skin for a longer period of time no hair will grow at all (light-haired animals).
- Coolant:
  - LIQUID NITROGEN
  - MIXTURE OF DRY ICE + ALCOHOL

PROS

- Mark is permanent
- Highly visible on dark-haired animals.
- A standard, uniform white mark produced.
- Animals did not react to freeze branding (but the procedure does have the potential to cause pain)

CONS

- Not useful to individually identify a large number of animals.
- Time-consuming. The iron can take around 10 minutes to cool to the correct temperature, and the branding procedure itself can take up to 10 minutes per animal.
- Freeze branding does not provide immediate identification – the mark will not be clearly visible for some weeks after branding (longer on light haired dogs).
- Complexity. Hard to handle the dog in lateral recumbency for so long (20-40 sec).
- Operators require training to master the technique. If the iron is in contact for too long, the animal will be scarred (ok for light hair dog!)
- Difficult to obtain a uniform mark because of ear shape

RESULTS

- VIDEO – “N”
CONCLUSIONS

- Handling is very stressful for unowned dogs.
- Ear tag is less stressful than freeze branding – minor application/restraint time needed.
- Pain measurements were minimal for either technique.
- Freeze branding is permanent but not easily performed.
- In a dog population control campaign, TAG (swivel) seems preferable (although not permanent).
- Future study: How long does the swivel tag last on stray dogs?

STRESS - PAIN

Freeze Branding

= Minimal pain

(quick pain?)

Cortisol (mcg/dl)

MPS

Ear Tag 4-6
Freeze Branding - Nitrogen 3
- Dry Ice 4
Handling 9

Results

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