Routine de-worming is it time to change your routine?

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DISCLOSURES

+ I am chair of the European Scientific counsel for Companion Animal Parasites (ESCCAP) which is a non for-profit organisation sponsored by pharmaceutical and diagnostic companies

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+ I have personally received honoraria for lectures and articles presented for Idexx and other ESCCAP sponsors in the last 12 months including this one

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The Rogue's Gallery Of Parasitic worms found In UK Cats And Dogs

01

Intestinal nematodes

- ***Toxocara* spp**
- *Trichuris vulpis*
- Hookworms

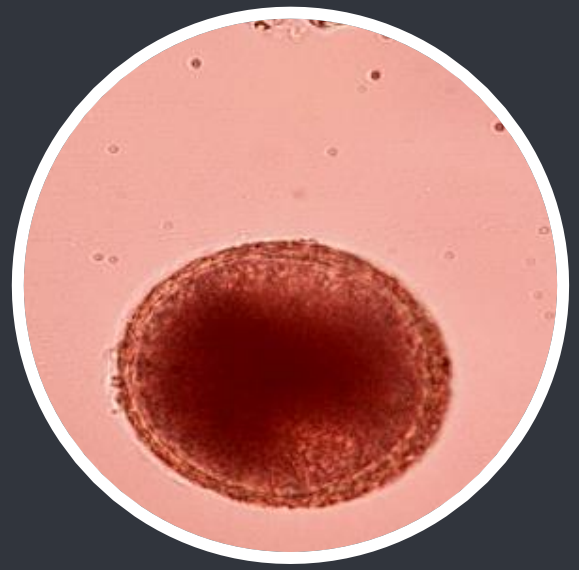
02

Tapeworms

- ***Echinococcus granulosus***
- ***Taenia* spp**
- ***Dipylidium caninum***

03

Angiostrongylus vasorum



Toxocara spp

- Intestinal nematodes of dogs and cats
- Ubiquitous with puppies and kittens most commonly affected
- Significant zoonosis – VLM, OLM, CT
- Links to epilepsy, learning difficulties dermatitis, asthma
- Some public awareness of zoonotic potential

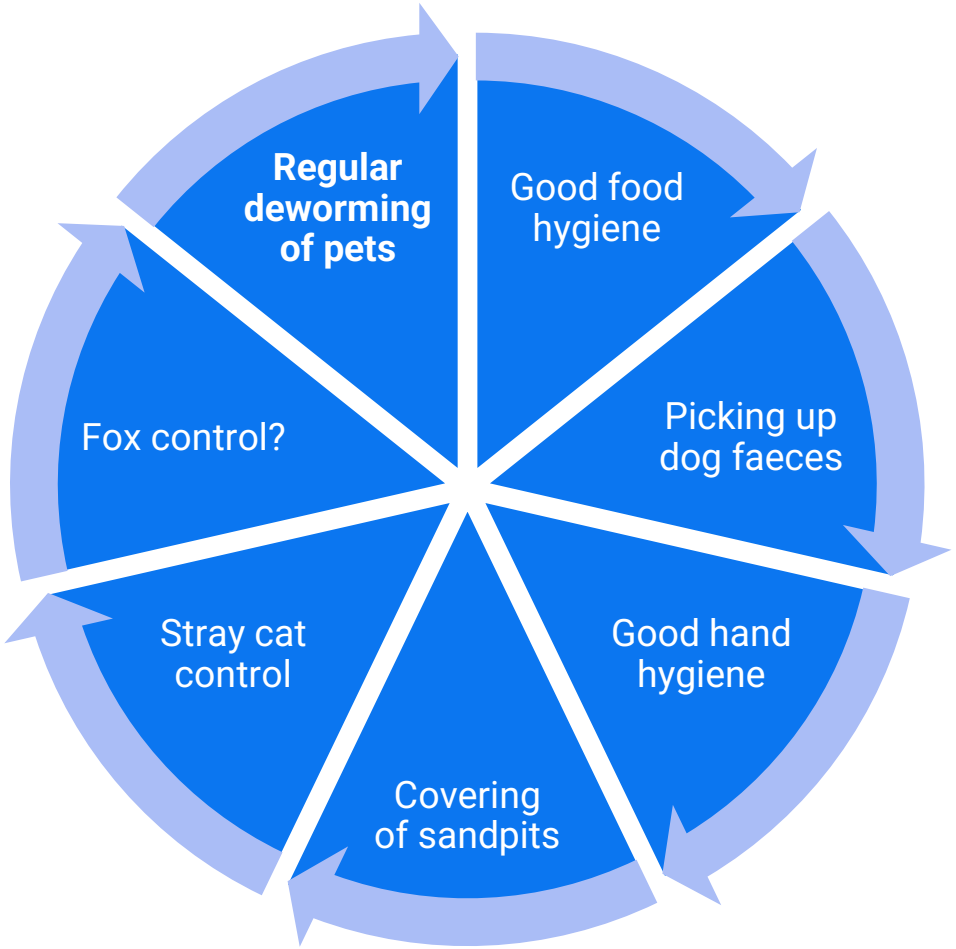
Egg shedding and contamination

- Adult prevalence variable
  - 3.5–34% in dogs
  - 8–76% in cats

- Prevalence study Preston/Wyre/Fylde 2016 last in untreated pets
  - 5.3% prevalence dogs
  - 26% prevalence in domestic cats

- Eggs long lived in the environment
- Shedding intermittent through life of pet 86.6% of parks in UK parks found to be contaminated, with an average of 2.1 eggs per 50g of topsoil

Control of human Toxocarosis requires an integrated approach



Arguments For Testing Instead Of Routine Intestinal Worm Treatment for *Toxocara*

Avoids over treatment

Limits environmental contamination with anthelmintic?

Adds to surveillance data and informs risk

Reduces risk of anthelmintic resistance?

Testing as a replacement for routine treatment

- Viable option but needs to be done frequently with high sensitivity
- Expense and owner compliance can be a barrier
  - Routine diagnostics will be more expensive than routine treatment
  - Owners need to perceive value to go to effort of bringing in sample
  - Many owners do not like handling faeces
- Shedding can occur between tests
- Very little routine faecal testing in UK
- Testing option in practice health plans
  - Gives an alternative for owners
  - Cost can be spread

Testing Alongside Routine Treatment

- Confirms good compliance
- Demonstrates value
- Contributes to local and national surveillance
- Early detection of resistance

Frequency of screening

At least once or twice a year testing alongside treatment

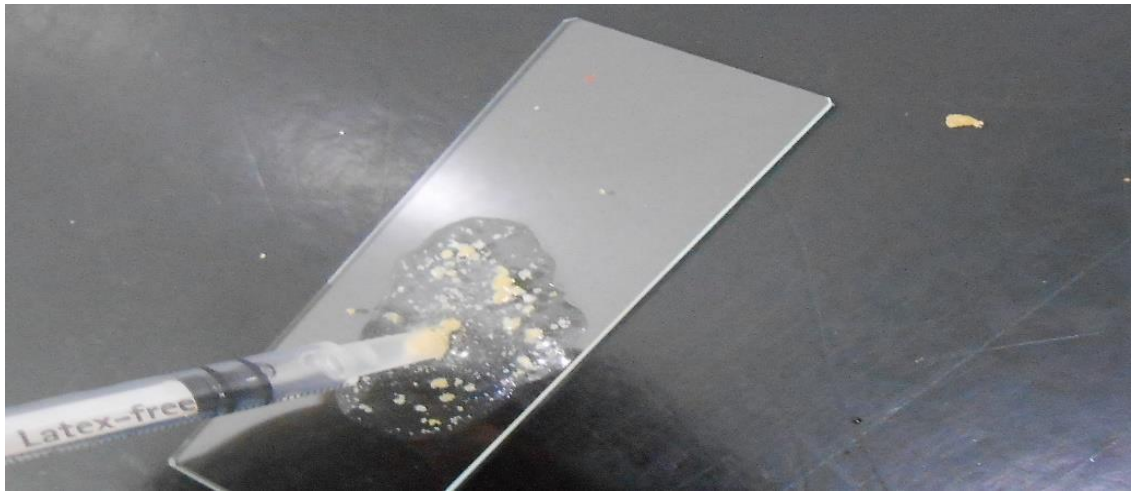
Coincide with “wellness checks”

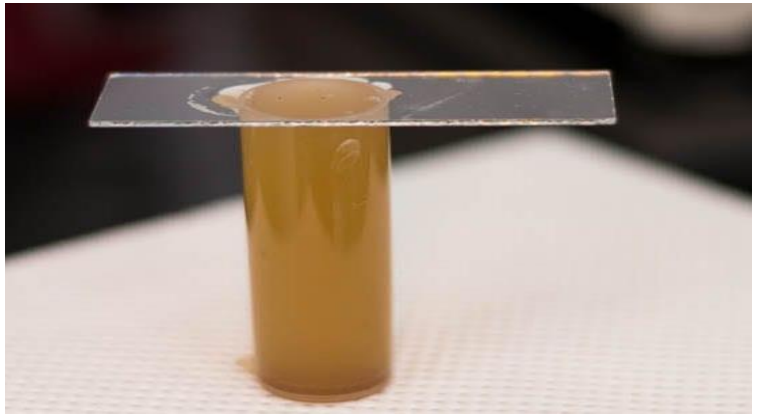
At least 4 times a year if testing instead of treatment

Aim to become a normal part of routine checks

Types Of Faecal Test For Intestinal Parasites

- Direct Smear
- Flotation
- Faecal antigen
- PCR





Tapeworm - *Echinococcus granulosus*

- Non pathogenic in canids
- Significant zoonosis – hydatid cysts
- Cysts in liver CNS, bone, heart
- UK endemic foci

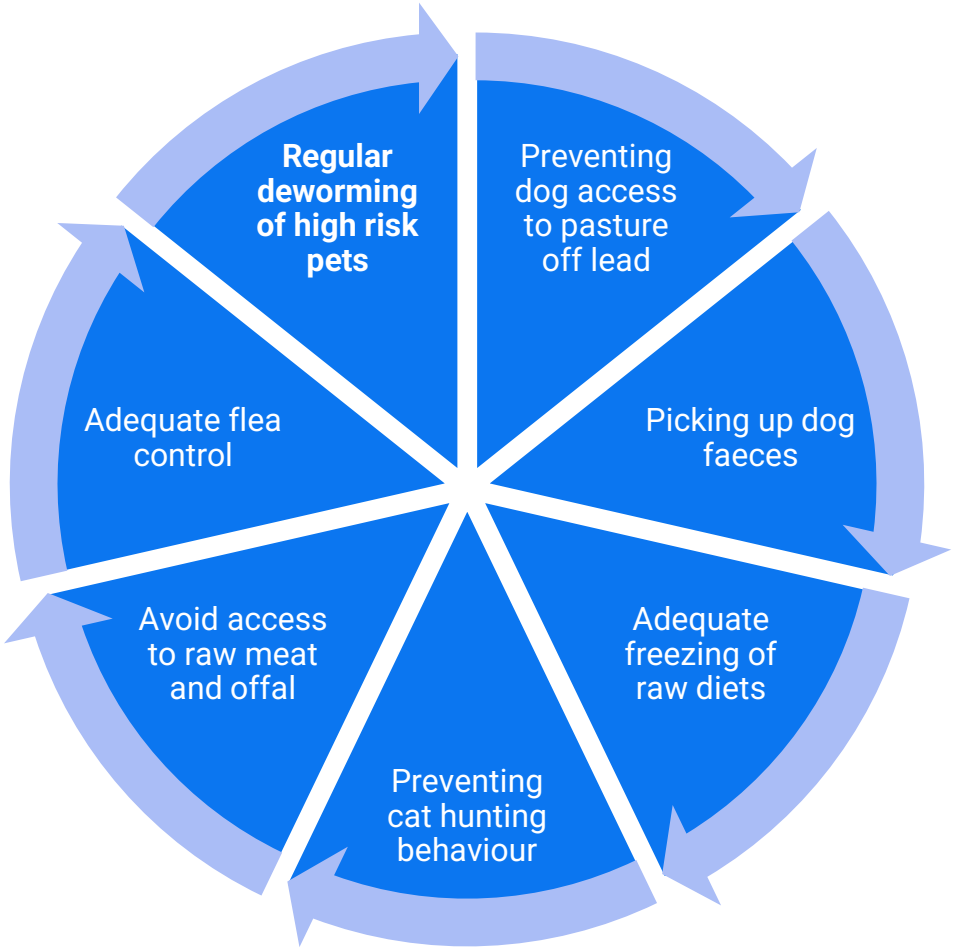
Taenia spp

- Widely distributed
- Considerable economic loss from liver and carcass rejections in ruminant intermediate hosts
- Owner revulsion and reduction of human-animal bond
- Loss of body condition in heavy worm burdens

Dipylidium caninum

- Zoonotic
- Prevention dependent on flea control
- Segments reduce human-animal bond
- Sentinel for inadequate flea control

Control of tapeworm transmission requires an integrated approach



Tapeworm diagnosis

- Demonstrates exposure and geographic distribution
- Currently no test with high enough *Taenia* sensitivity to replace a risk based routine preventative treatment approach
  - Known endemic areas for *E.granulosus*
  - Raw diets
  - Access to fallen livestock and pasture
- Faecal flotation/sedimentation low sensitivity
- Coproantigen test for *Dipylidium caninum*
- PCR for *Echinococcus*
  - Useful for surveillance
  - When detected zoonotic shedding already occurring

Angiostrongylus vasorum

- Potentially fatal cardiovascular worm of dogs
- Geographical spread from foci in Wales, South East and West across whole country.
- Foxes reservoir host with slugs and snails acting as intermediate hosts
- Amphibians and possibly birds can act as paratenic hosts
- Prevalence in foxes increased significantly in all endemic areas in the past eight years – from 7.3 to 18.3% overall
- Prevalence not uniform but fluid

Prevention of angiostrongylosis

- Eradication – impractical due to intermediate host and wildlife reservoir
- Reduction of exposure to intermediate host – difficult to achieve to ubiquitous nature of mollusc hosts
  - Removal of dog bowls and toys from garden when not in use
  - Not walking dogs immediately after cessation of rain
- Picking up of dog faeces – Minimal impact due to wildlife reservoir
- **Preventative treatments**
  - **Lifestyle risk**
  - **Regional risk**

Angiostrongylus vasorum

- Testing essential to establish regional risk and efficacy of treatment
  - Relevant clinical signs
  - Pre surgery
  - Young dogs
- Direct smear useful initial screen
- Baermann apparatus
- Blood antigen

Summary

01 Routine preventative treatment for intestinal worms in cats and dogs on basis of risk is an important component in reducing zoonotic exposure and disease in pets

02 Testing instead of routine treatment is a useful way of avoiding routine use but has some limitations

03 Testing alongside treatment demonstrates value, confirms good compliance and is important for surveillance

04 Effective intestinal parasite prevention is required; whether a preventative treatment or testing approach is taken.

05 Risk based preventative treatment approach required for Angiostrongylus vasorum and tapeworm control

06 Testing vital to assess regional *Angiostrongylus vasorum* risk

IDEXX

Questions?