

Simple solutions to complex problems

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Thank you

GHDT/TAWS and Heather
WVS and Luke
Colleagues at the Donkey Sanctuary
Derek Knottenbelt, Georgie Hollis
My Family and Mum!

Empirical solutions

- What is empirical?- *Observation, Experience*
- Scientific experimental method- *null hypotheses and manipulation of the trial to assess statistical significance.*
- Empirical research can be used to drive experimental studies and new discoveries



A Balanced Viewpoint?

Conventional

Human

NSAID deaths 2-3000 per year

Side effects- NHS £251 million

Equine

Metformin- EMS

Pub med – 3 studies

Dose rates based on 4 horses!

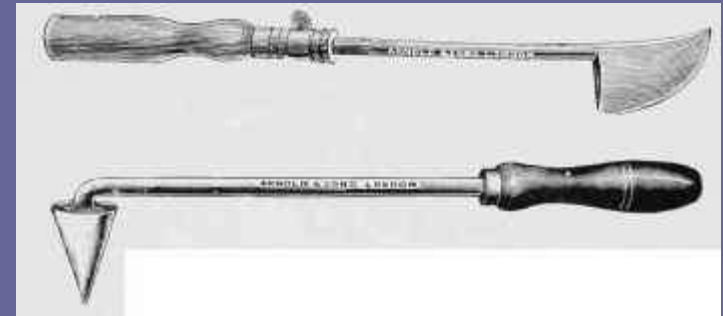
“Traditional”

Evidence of toxicity

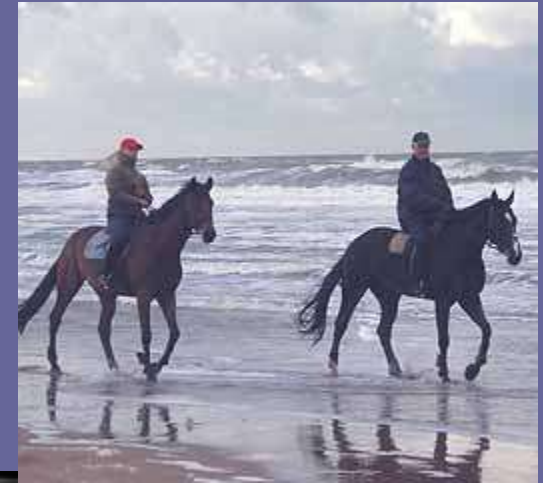
10-20,000 deaths/yr SAfrica

Evidence of increased mortality in cancer sufferers taking TAM (Norway)

Empirical treatments may *not* be best
What is current best practice?
Consider evidence, science, humanity, welfare



Empirical treatments may be the best!
New evidence may support old remedies



Dehydration



Oral rehydration fluid

- 1 litre of clean water
- 10g salt (2 teaspoons)
- 20-50g sugar (6 teaspoons granulated)
- $\frac{1}{2}$ small spoon baking soda (Na HCO_3)
- Plus $\frac{1}{4}$ small spoon low salt (KCl) if over 2 days TX



How much fluid?



Weight of horse X percent
dehydration eg

$300\text{kg} \times 10\% =$
 30L

Plus

Maintenance of 40-
60ml/kg/day
 18L

Contraindications

- Intestinal ileus / gastric reflux
- Severe dehydration- poor circulation and absorption of fluids



Alternatives

Intravenous fluids

Recipes available for “home made” preparations in Saunders Equine Formulary

Require catheters, giving sets and expert monitoring

Colic – impaction

- Colon impaction – studies in EVJ 2004, 2008, USA and UK.
- Better resolution using oral (enteral) fluids versus intravenous.
- Regime 0.5-1g/kg MgSO₄ in 3litres water
- Then rehydration fluid hourly (10ml/kg).
- Faster resolution, fewer systemic electrolyte changes, no thrombophlebitis

Impaction treatments



Analgesia?



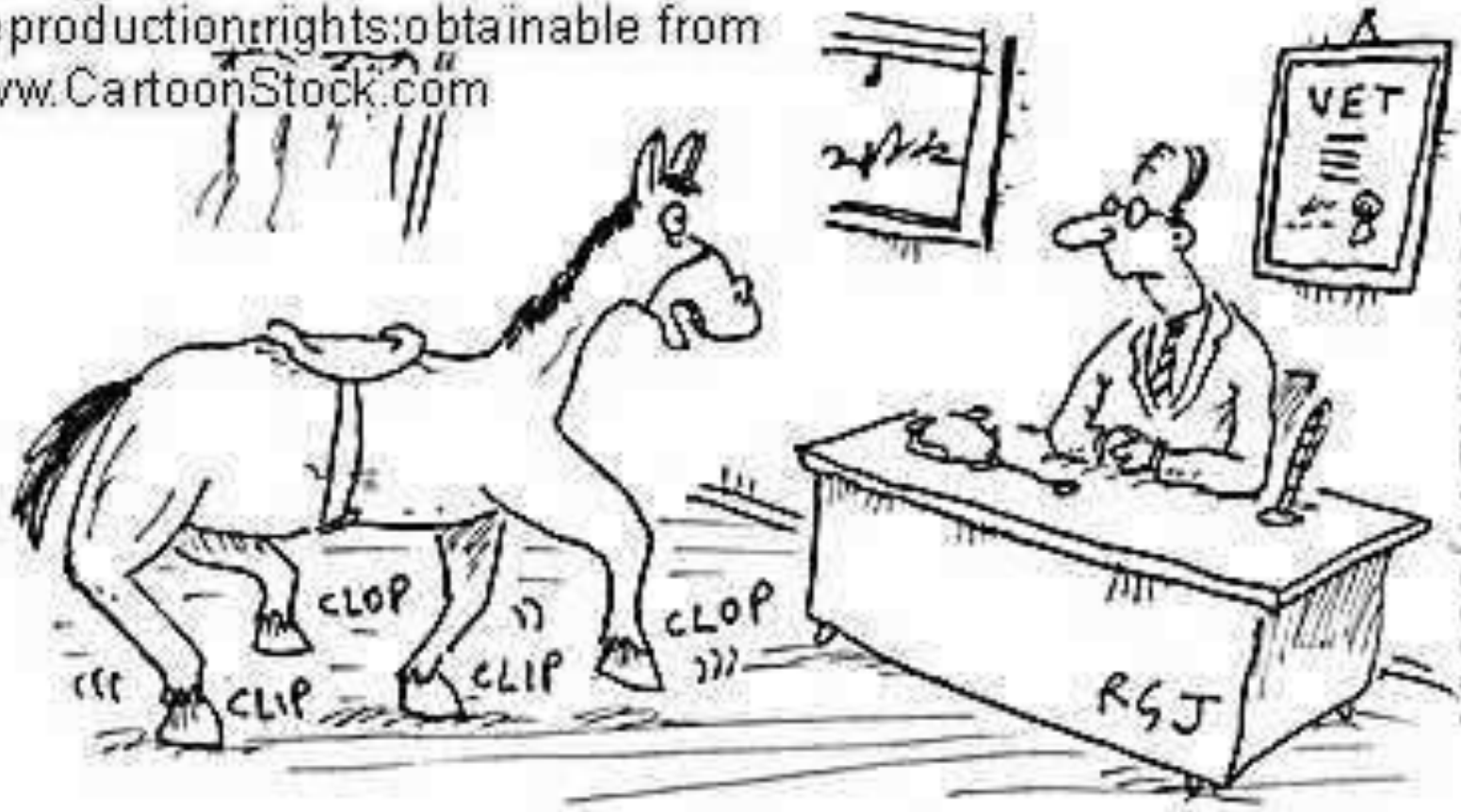
Analgesia?

- Little information in equine traditional medicine
- Probably pain is under recognised
- Suggestions- cooling /warmth
- marijuana alcohol infusions
- chilli
- Acupuncture

- If using NSAIDs suggest ½ dose then rehydrate

Diarrhoea

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"I've got the trots."

Local remedies



“Digestive Aids”

- Ginger , Jaggery
- Buttermilk
- Castor Oil
- Soda water
- Asafoetida



Nutritional support

At the Donkey Sanctuary this has become a “traditional treatment”, for donkeys with poor appetite and to reverse hyperlipemia. “Ready brek” is 1.5MJ/100g



Weight kg,	Daily MJ	Wt ready brek
150	12-14	1kg
175	14-17	1.3kg

Wound management

- Harness sores
- Burns
- Trauma







UK choices

Saline flush
Surgical gloves
Pevidine
Intrasite
Flamazine
Wound adhesive
Dermisol
Fucidin/Fuciderm
Antiinflammatory
gel



Primary dressings



Silver

Charcoal

Collagen/genticin

Rondopad

Haemostasis

Absorbant

Costs in UK

- Acticoat- silver dressing £48.58 for 5
- Activate- charcoal dressing £ 16.28 for 5
- Collatamp-genticin/collagen £154.23 for 1
- Activon Tulle –honey £19.30 for 1
- Activon as a cream £31.40/tube

Challenges in the field



Available

Affordable

Acceptable

Wounds have a patient attached to them!



- Nutritional status, anaemia, deficiencies
- Underlying immunosuppression
- Co-existing diseases

Wound assessment



Infection, Contamination
Trauma,
Location
Movement



Phases
Vascular
Inflammatory
Repair
Maturation

Wound cleaning

- *Do not use what you would want on yourself.*
- Saline- 1 L boiled water, 2 teaspoon salt
- Flush 10-15psi
- For necrotic wounds:
- Dakin's solution- sodium hypochlorite in water, unscented bleach 0.125-0.5%, 12-50mls per litre. Protect viable tissue with vaseline

Sugar pastes

- *Sugar paste recipe*
- Caster sugar- 1200g
- Icing sugar 1800g
- Hydrogen peroxide 19ml
- Polyethylene glycol 1416mls (miralax-laxative)
- Stable 6 months in air tight container.



Sugardyne

- Mix granulated sugar and povidone solution until thick paste consistency
- Used to dry infected frog tissue
- Used after hoof abscesses



Bandage on, and
change every 48 hours

Honey

Nutritional resource for the bee

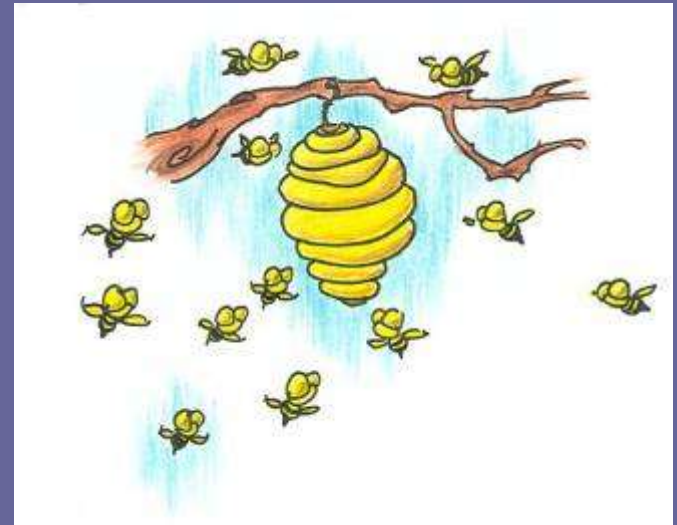
80% sugar, 17% water

Bee derived enzymes, esp glucose oxidase

Hydrogen peroxide produced by enzyme reaction

Acid pH 3

Plant derived factors- phyto chemicals



Dorsal hock wound , honey +7 days



Wound +11,

+ 25 days



Mechanism of action

- Antibacterial
- Debridement
- Reduce odour
- Stimulates growth
- Anti-inflammatory- reduce pain and oedema
- Moist wound healing

Practical tips

- Ordinary honey will do
- Do not use solid/set honey with wax etc
- Should cover with dressing
- Pasteurisation probably unnecessary
- Can mix 50/50 with vaseline for superficial wounds
- Can dilute 50/50 in saline for antimicrobial flushing solution.

Honey....

Amount-20-30mls for a 10x 10cm wound.

Can fill cavities and depressions with honey.

Seem more comfortable to change than many dressings

Very suitable for burns.



Aloe Vera



Active ingredient- Acemannan

Immunostimulatory

Enhances phagocytosis

Stimulates granulation tissue

Aloe Vera -



Maggots



Greenbottle
larvae- *Lucilia
sericata*

Gamma
irradiated-
sterile

Use 100-200
and repeat
every 3 days



Final Thoughts

- Field of ethnoveterinary medicine and research is wide
- *Be critical but receptive to evidence:*
- Echinacea-efficacious
- Some herbal wormers- useless
- Camrosa- harmful on sarcoids

Thank you for listening!

