

Simple solutions to complex problems



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A group of approximately 12 people and two dogs are posing for a photo outdoors. They are standing on a dirt path next to a large, leafy tree. In the background, there is a small white building with a corrugated metal roof and a sign that reads "Donkey Sanctuary". A white pickup truck is parked to the left. The group consists of men and women of various ages, some wearing hats and casual clothing. Two dogs, one brown and one white, are also present. The overall atmosphere is casual and friendly.

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!

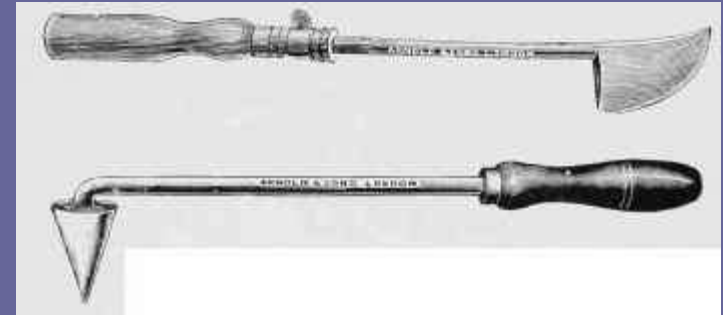
“Traditional”

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

- 1litre 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?

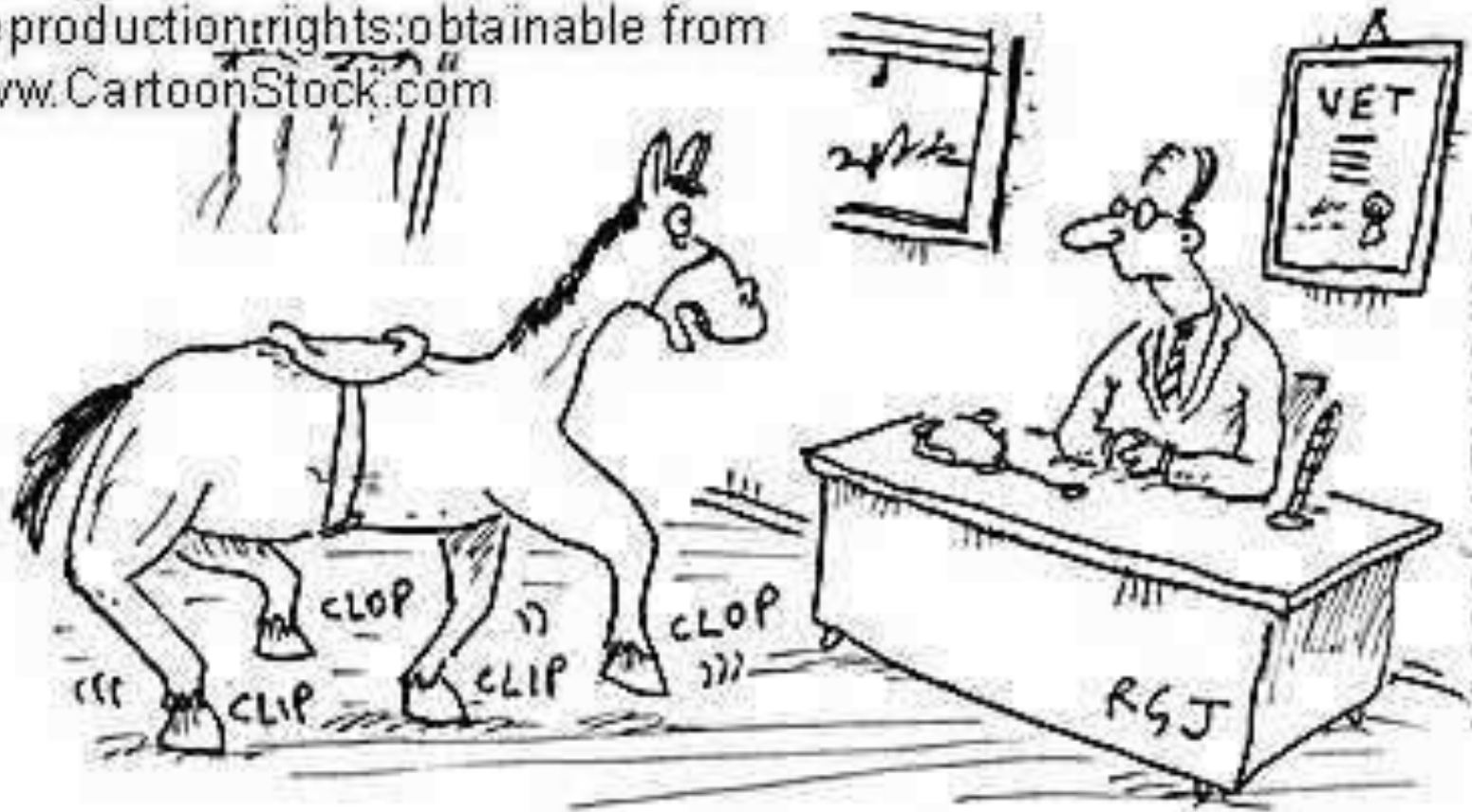


Analgesia?

- Little information in equine traditional medicine
- Probably pain is under recognised
- Suggestions- cooling /warmth
- marijuana alcohol infusions
- chilli
- Acupuncture
- If using NSAIDs suggest $\frac{1}{2}$ dose then rehydrate

Diarrhoea

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"I've got the trots."

search ID: rj00938

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
Povidine
Intrasite
Flamazine
Wound adhesive
Dermisol
Fucidin/Fuciderm
Antiinflammatory
gel



Primary dressings



Silver

Charcoal

Collagen/gentisin

Rondopad

Haemostasis

Absorbant

Secondary layers



Costs in UK

- Acticoat- silver dressing £48.58 for 5
- Activate- charcoal dressing £ 16.28 for 5
- Collatamp-gentacin/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!



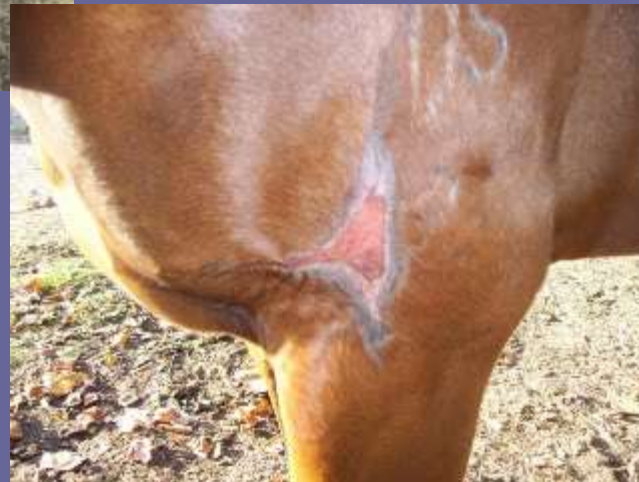
- Nutritional status, anaemia, deficiencies
- Underlying immunosuppression
- Co-existing diseases

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 povidine 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

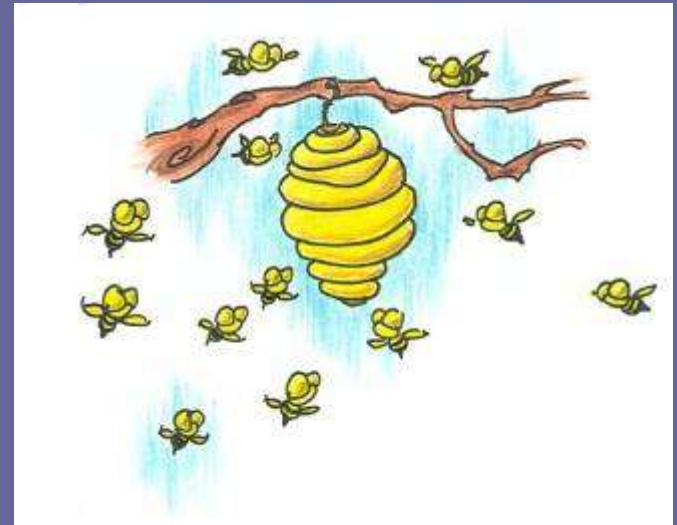
80% sugar, 17% water

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!

