



COLLEGE OF VETERINARY MEDICINE AT ILLINOIS

Pharmacological Approaches to Aggression in Equine Practice

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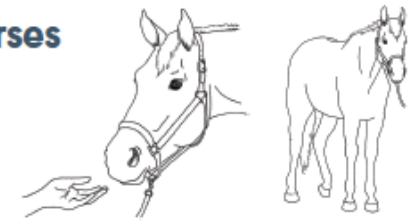
Fear Aggression

- Aggressive behaviors = manifestation of FAS
 - Fear, anxiety, stress
- Recognize signs of FAS
 - Intervene before escalation of behavior
- Low FAS
 - Improved learning experience
 - Safer for veterinary teams

Fear, Anxiety & Stress Scale: Horses

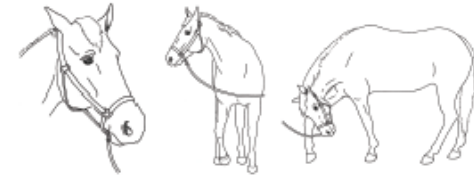
Relaxed: (FAS Level 0)

- Relaxed standing rest
- Head, neck, and ears in neutral position, muscles relaxed, eyes soft, normally responsive to environmental stimuli
- Solicits interaction, appears curious about and willing to interact with team members when approached



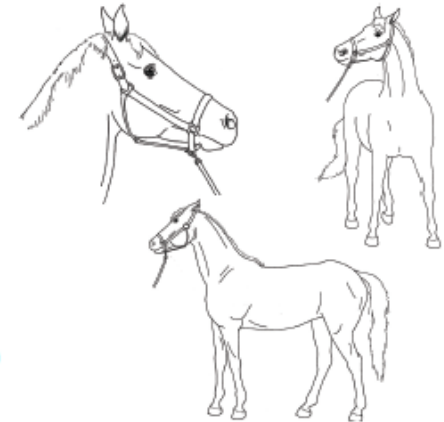
Mild/Subtle Signs: (FAS Level 1)

- Increased ear rotation, slightly raised neck, small hoof movements, self-grooming behaviors, increased head movements towards or away from team members but not moving body away
- Might solicit treats/scratching and interact with team members, or appear curiously interested in them



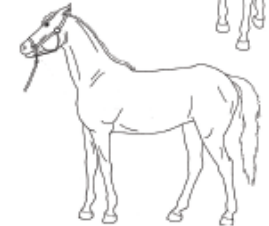
Mild-Moderate Signs: (FAS Level 2)

- Frequent ear rotation, raised head and neck, increased tail movements, increased restlessness and muscle tension
- Reduced interest in interacting with team members or in treats or scratching, but without active escape or avoidance behaviors



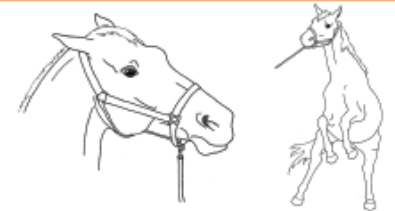
Moderate Signs: (FAS Level 3)

- Frequent ear rotation, raising head and neck, white of eye showing, snapping tail movements, increased restlessness and muscle tension
- Freezing behavior with reduced movement but increased full-body muscle tension
- Likely refuse treats or grab treats roughly. Unlikely to interact with team members and may begin showing restless fidgeting or active escape/avoidance and intolerance of procedures (e.g. moving away from team members, fidgeting, stomping/pawing, head shaking, rearing)



Severe signs of FAS without aggression: (FAS Level 4)

- Ears pinned back, raised head and neck, whites of eyes showing, increased respiration, snapping tail, constant movement and full-body muscle tension, possibly distant calling, snort, or blow vocalizations
- Avoidance of touch, constant fidgeting or stomping/pawing, animated escape/avoidance behavior such as rearing, bolting, barging
- Appears to ignore team members



Severe signs of FAS with aggression: (FAS Level 5)

- All signs described in Level 4 with active aggressive behaviors directed towards team members such as striking, kicking, barging, or biting



**FEAR FREE
HAPPY
HOMES**
Whisper your own language. No more. No less.



In collaboration with Catherine Tortolva, VMD, and
Sue McDonnell, PhD, CAAB of The University of Pennsylvania School of Veterinary Medicine

www.fearfreehappyhomes.com

Illustrations by Catherine Tortolva, VMD





Targeted Intervention



Before Visit

- Zylkene
- Trazodone
- Acepromazine
- Gabapentin?



Transportation

- Trazodone
- Acepromazine
- Detomidine



Before Handling

- Detomidine
- Acepromazine



Procedural

- Detomidine
- Butorphanol
- Acepromazine

Zylkene

- Alpha-Casozepine
 - Milk peptide
 - Structurally similar to benzodiazepines
 - GABA
 - 2-8 mg/kg PO SID
 - Average horse → two x 2000 mg packets
 - 3+ days for maximum effect



Trazodone

- Serotonin antagonist and reuptake inhibitor
- Variable effects
 - Trial dose before stressful event
 - Primary side effect sedation
- 2.5-10 mg/kg PO SID
 - Starting dose 5 mg/kg



Acepromazine

- Phenothiazine sedative – No anxiolytic effects
 - Better in combination w/ anxiolytics
 - 0.02-0.066 mg/kg IV, IM, PO
 - Onset of action ~20 min for IV or IM
 - Oral – up to 0.1-0.2 mg/kg
- Alternatives
 - Reserpine (compounded, granules)
 - Fluphenazine (28 day depot injection IM)



Detomidine

- Alpha 2 adrenergic antagonist
 - Sedative, analgesic, anxiolytic
- 0.01-0.02 mg/kg IV/IM
- 0.04 mg/kg sublingual, vaginal
 - Injectable solution or oral gel formulation
 - Onset of action 40 min-1hr
- Deep sedation
 - Ataxia, sweating, bradycardia
 - Sudden arousal w/ external stimuli



Gabapentin

- Anticonvulsive, analgesic
- Sedating in high doses
- Bioavailability, efficacy ??
- Formulary dose: 2.5-10 mg/kg
 - 20-60 mg/kg PO q12h




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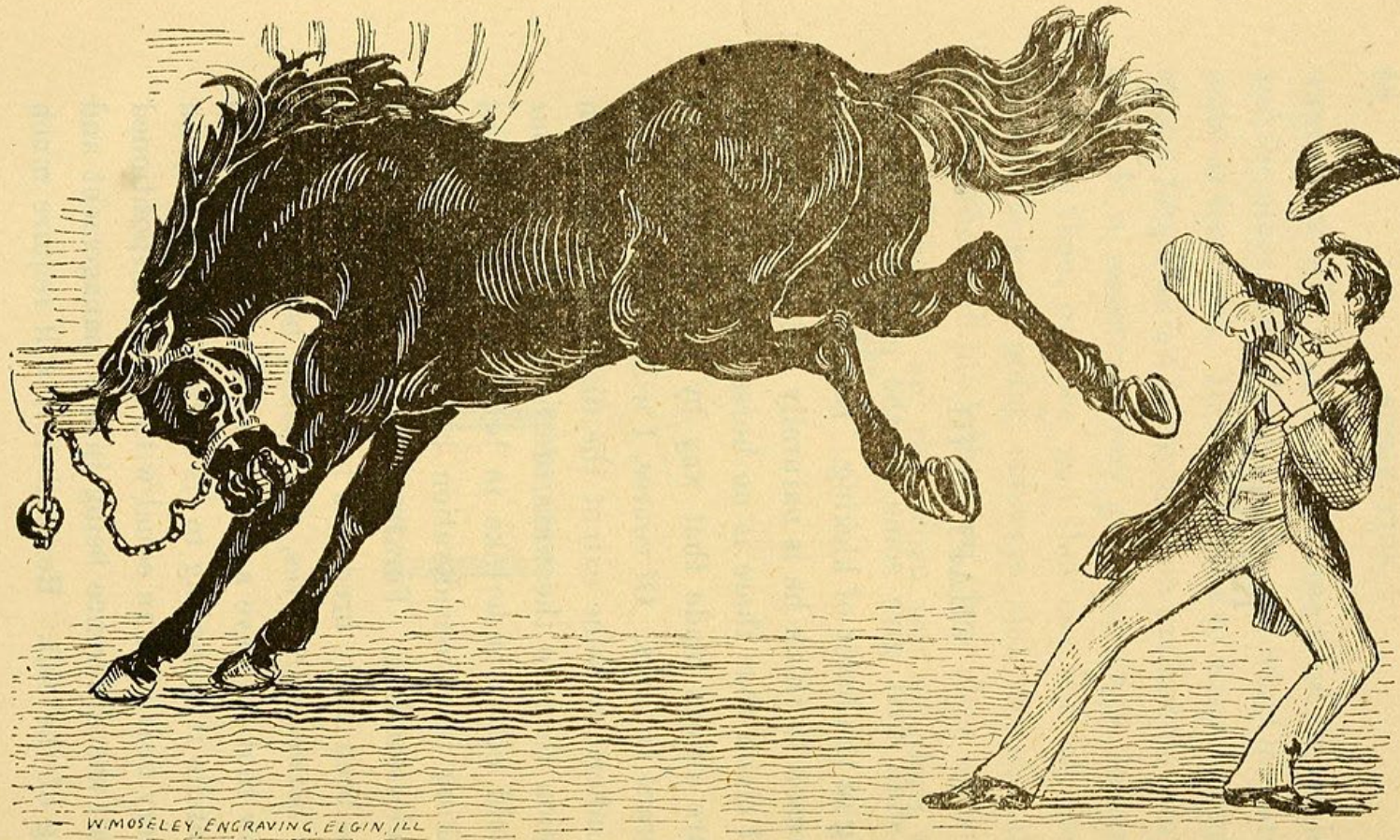
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Protective / Aggressive Mare



- Long-term sedatives
 - Trazodone
 - Phenothiazines: acepromazine, reserpine, fluphenazine
 - Zylkene?
- Time & space

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NICE THING, THIS HAVING TO DODGE FOR YOUR LIFE, ISN'T IT? AFTER MY TREATMENT THE
HORSE HAS NO LONGER ANY DESIRE TO KICK.