Preventing and Managing Weight Loss in Your Aging Herd

**Step Two**
Determine baseline Body Condition Score and Topline Evaluation Score
Twice Yearly

**Step Three**
Introduce Nutritional Adjustments and Monitor Progress
Every two weeks

**Part I**
Dental Anatomy Foundation
Step One

**Part II**
Hands On: Steps Two & Three: Skulls & Horses
Case Studies
Slide 7

Proactive Plan to transition away from long stem hay

Weight Loss

Choke

Impaction

Slide 8

Questions?

Slide 9

No Hoof. No Horse

Babe 25  Orion 26

No Hoof. No Horse
Slide 13

Normal chewing: Finite Supply

Do Not Grow

Slide 14

Erupt and Wear

Do Not Grow

Slide 15

Erupt and Wear

Do Not Grow
Progressive Loss of Chewing Surface Enamel With Age

Do Not Grow

Erupt and Wear

Determine baseline chewing capacity for each horse

Create Proactive Plan to transition away from long stem hay
Slide 25

Heterodont Dentition: Incisors

- Twelve (12) total:
  - Six upper (maxillary)/ Six lower (mandibular)
  - Function: Prehension

Slide 26

Heterodont Dentition: Canines

- Four (4) total: [Two upper/ two lower]
  - Function: Defense

Slide 27

Heterodont Dentition: Cheek Teeth [Premolars/Molars]

- Twenty Four (24) total: Four arcades or rows of six
  - Function: Grind/Masticate

Arcade/Row

Molars

Premolars
Slide 28

Chewing/Grinding Function

Each row: Tightly compressed together

Acts as one functional grinding unit

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Slide 29

Chewing/Grinding Function

Upper (maxillary) cheek teeth wider apart than lower (mandibular) counterparts.

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Slide 30

Chewing/Grinding Function

Chewing surface not level: roughly 10-15 degrees

Creates shearing force
Slide 31

Chewing/Grinding Function

Slide 32

Masseter Muscle

Location:
• Lateral aspect of mandible.

Function:
• Closes mouth
• Pulls mandible to opposite side

Slide 33

Incisors and tongue work to bring food into front (rostral) aspect of the mouth
Food is then passed along the occlusal surface of the cheek teeth [six teeth acting as a unit] in an auger like fashion.

Cheeks keep food in between the teeth.

Saliva produced in large quantities to moisten the food.
Slide 37

Food passed in rotary fashion through food channels created by folded enamel on the chewing surface of the teeth.

Slide 38

Enamel folds along chewing surface

Slide 39

And the corresponding ridges on the horse’s palate
Slide 49

Small Intestine
Consists of three parts
- Duodenum
- Jejunum
- Ileum

Ileocecal Valve
- One way valve
- Very narrow

Cecum → Large Colon

Microbial fermentation
- 6 hours

Slide 50

Cecum → Large Colon

Ileum/Ileocecal valve

Slide 51

Fully Functioning Unit
Deciduous Dentition Numbering System

Slide 59
Dental Anatomy
Transition from Deciduous to Permanent Cheek Teeth
'Shedding Caps'

Slide 60
Dental Anatomy
Transition from Deciduous to Permanent Cheek Teeth and Gaining Permanent
Slide 70

Progression of Wear

Cupped Maxillary CT
Loss of surface enamel

Photo courtesy of Dr. Mary DeLorey

Progression of Wear

Expired Maxillary CT
Loss of enamel down to gum line

Photo courtesy of Dr. Leah Limone

Slide 72

Preventing and Managing Weight Loss in Your Aging Herd

Step One

Determine baseline chewing capacity for each horse

Yearly
Slide 79

**Step One**

Determine baseline chewing capacity for each horse

- Maintain Current Diet
- Introduce Options
- Complete Transition

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Slide 80

Questions?

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Slide 81

**Step Two**

Determine baseline Body Condition Score and Topline Evaluation Score

Twice Yearly

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Assign a grade for each area. Add up the number of areas that are adequate-to-good to determine your horse's TES grade.
**Slide 88**

**Topline Evaluation Score (TES)**

- All 3 areas adequate to good = TES score of A
- 2 of 3 areas = B
- 1 of 3 areas = C
- 0 of 3 areas = D

**Slide 89**

**Body Condition & Topline Evaluation Scores**

- Calories
- Protein Quality

**Slide 90**

**Step Three**

- Every Two Weeks

- Introduce Nutritional Adjustments and Monitor progress
Slide 91

Nutritional Principles

- Add Additional Meal
- Increase Caloric Density [calories/bite]
- Introduce variety | Options
- Watch time
- Weigh feeds

Slide 92

Nutritional Principles

- Add Additional Meal
  - Great return on investment
  - Prevents long periods when gut is empty (if horse is no longer able to consume hay or grass)

Slide 93

Nutritional Principles

- Increase Caloric Density
  - More calories per bite
  - Less time eating
  - Horses tolerate high fat diets
  - Not all senior feeds are the same
**Nutritional Principles**

**Increase Caloric Density**

- Not all senior feeds are the same

**Maintenance:** 5-6% Fat
**Weight Gain:** 10-12% Fat

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**Nutritional Principles**

- Not all senior feeds are the same

**Purina Senior (red bag):** 5.5% Fat
**Purina Senior active (blue bag):** 10% Fat

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**Nutritional Principles**

**Fiber Content:**
**Complete/Senior Feed vs. Grain**

**Senior/Complete Feeds:**
- Fiber: 16-18%
  - [Greater than 12%]

**Grain:** Fiber Less than 10%

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Slide 97

**Nutritional Principles**

- **Introduce Variety | Options**
  - Good for their soul.
  - Horses naturally select what they can chew

Slide 98

**Nutritional Principles**

- **Watch Time**
  - Horses will commonly quit chewing after 30-45 minutes

Slide 99

**Nutritional Principles**

- **Weigh Feeds**
  - Underfeeding is very common.
  - Nutrition involves numbers!
Nutritional Principles

- Only a Few Numbers

- Weigh feeds [per scoop/bucket]
- Weight tape horse
- 2% of Body weight:
  - Total: 20 lbs
  - Foundation: 10-12 lbs

Case Studies

Thank you