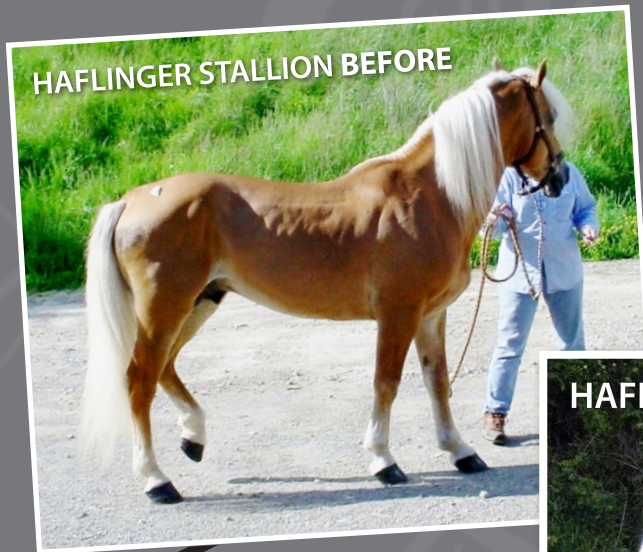


TRIBUTE[®]

EQUINE NUTRITION



NUTRITIONAL WELLNESS SYSTEM

Visit TributeEquineNutrition.com for more information!

APPLICATION

- Body fat: fat over the **RIBS** per the Henneke System as primary indicator of insufficient or excess calories
- Metabolic issues (i.e. metabolic syndrome, insulin resistance)
 - Presence of fat deposits:
 - ✓ Over the crest of the neck
 - ✓ On either side of the tailhead
 - ✓ Behind the shoulder blade
- Topline score to indicate amino acid status

JUSTIFICATION

- Separates the need for calories from the requirements for “non-calorie” nutrients (amino acids, vitamins, minerals)
- Addresses the correct **AMOUNT** and **SOURCE** of calories for a particular horse: NSC (sugar and starch) versus fat and digestible fiber
- Allows us to react to individual differences in amino acid needs, separate from calorie needs

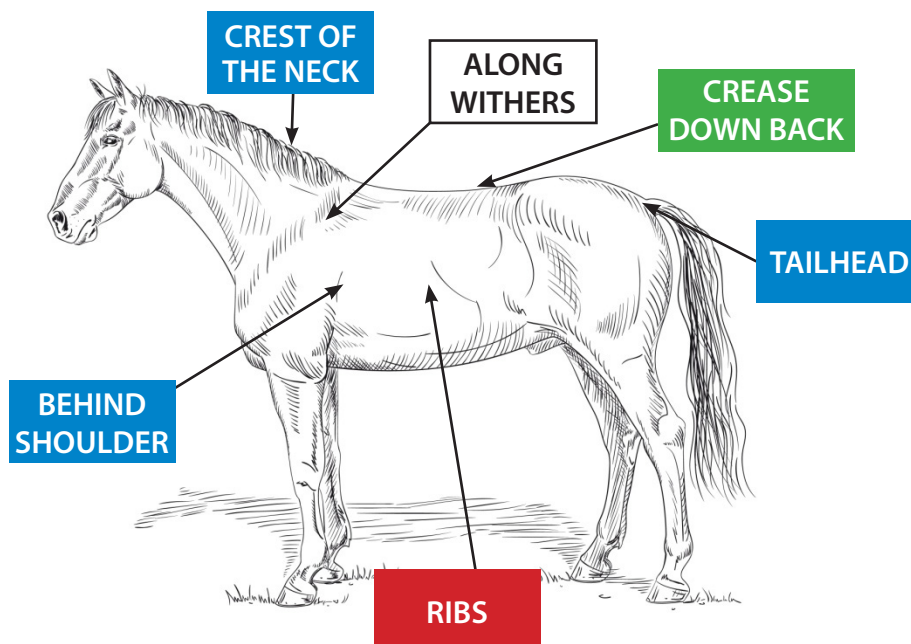
ORIGINAL HENNEKE BODY CONDITION SCORING SYSTEM

A visual, hands-on method for evaluating the amount of body fat on your horse was developed in the early 1980's at Texas A&M University by D. R. Henneke and others* and has been used for decades. The system evaluated the sites on the sketch below to define the fat level for a horse using the criteria on the page following the picture.

Over the years we have learned that:

- The areas shaded in **blue** are more indicative that the horse is sensitive to dietary sugar and starch more so than merely overweight, especially:
 - the discreet fat deposit on the crest of the neck and
 - those on either side of the tail-head.
 - deposits behind the shoulder blade are not always indicative of sugar/starch sensitivity, but may be when seen along with the other two areas
- The easiest and best indicator of body fat condition is the fat level over the ribs (see box shaded in **red**).
- The area shaded in **green** refers to the topline muscle, which is more indicative of amino acid sufficiency than excess fat.
- Our system does not consider the fat along the withers due to significant breed differences in wither conformation.

*Equine Vet J. 1983 Oct;15(4):371-2. Relationship between condition score, physical measurements and body fat percentage in mares. Henneke DR, et al.

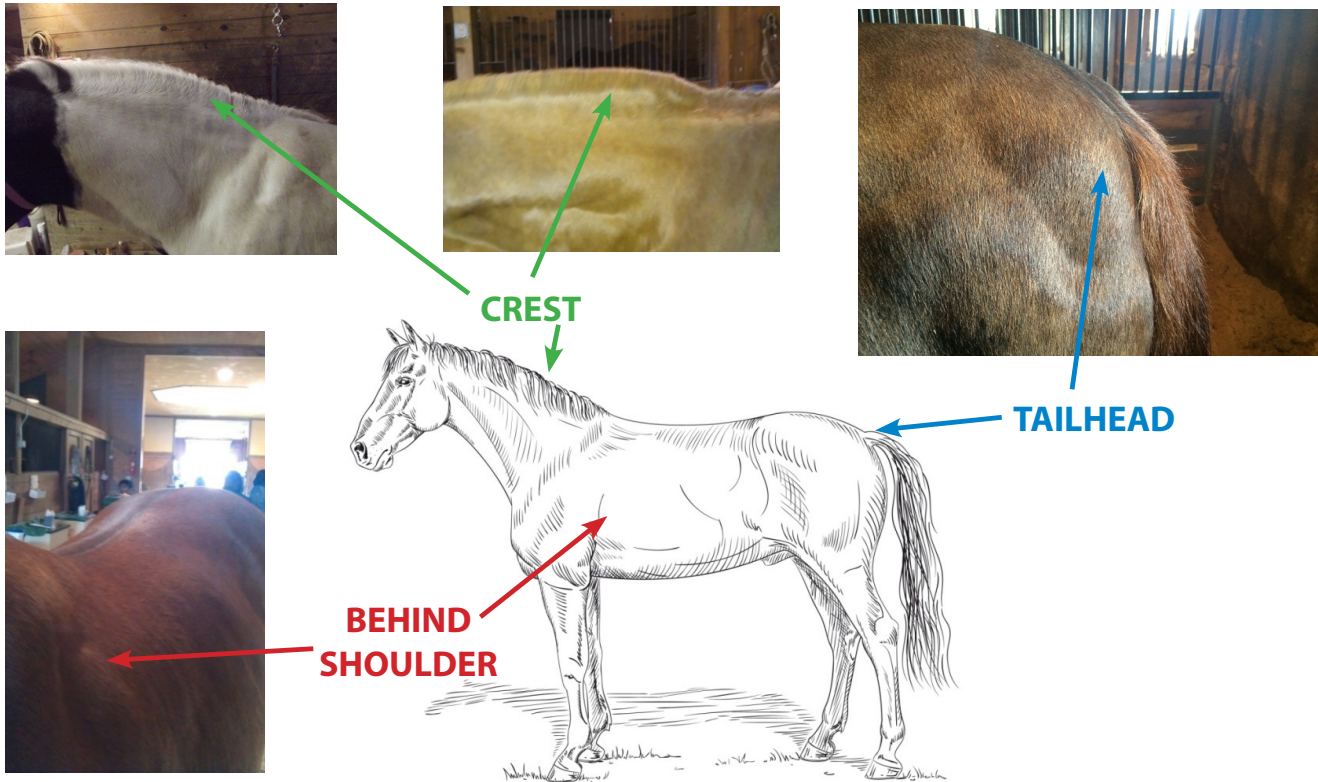


DESCRIPTION OF INDIVIDUAL CONDITION SCORES

SCORE	PER ORIGINAL HENNEKE SYSTEM	WELLNESS SYSTEM: FAT OVER RIBS
1-Poor	Animal extremely emaciated. Spinous processes, ribs , tailhead, tuber coxae and ischii projecting prominently . Bone structure of withers, shoulders and neck easily noticeable. No fatty tissue can be felt.	Ribs projecting prominently.
2-Very thin	Animal emaciated. Slight fat cover over base of spinous processes, transverse processes of lumbar vertebrae feel rounded. Spinous processes, ribs , tailhead, tuber coxae and ischii prominent . Withers, shoulders and neck structures faintly discernable.	Ribs prominent.
3-Thin	Fat buildup about halfway on spinous processes, transverse processes cannot be felt. Slight fat cover over ribs . Spinous processes and ribs easily discernable . Tailhead prominent, but individual vertebrae cannot be visually identified. Tuber coxae appear rounded, but easily discernable. Tuber ischii not distinguishable. Withers, shoulders and neck attenuated.	Slight fat over ribs. Ribs easily discernable.
4-Moderately thin	Negative crease along back. Faint outline of ribs discernable . Tailhead prominence depends on conformation, fat can be felt around it. Tuber coxae not discernable. Withers, shoulders and neck not obviously thin.	Faint outline of ribs discernable.
5-Moderate	Back level. Ribs cannot be visually distinguished but can be easily felt . Fat around tailhead beginning to feel spongy. Wither appear rounded over spinous processes. Shoulders and neck blend smoothly into body.	Ribs cannot be visually distinguished, but can be easily felt.
6-Moderately fleshy	May have slight crease down back. Fat over ribs feels spongy . Fat around tailhead feels soft. Fat beginning to be deposited along side of withers, behind the shoulders and along the sides of the neck.	Fat over ribs feels spongy.
7-Fleshy	May have crease down back. Individual ribs can be felt, but noticeable filling between ribs . Fat around tailhead is soft. Fat deposited along withers, behind shoulders and along neck.	Individual ribs can be felt with pressure, but noticeable fat filling between ribs.
8-Fat	Crease down back. Difficult to feel ribs . Fat around tailhead very soft. Area along withers filled with fat. Area behind shoulder filled with fat. Noticeable thickening of neck. Fat deposited along inner thighs.	Difficult to feel ribs.
9-Extremely fat	Obvious crease down back. Patchy fat appearing over ribs . Bulging fat around tailhead, along withers. Behind shoulders and along neck. Fat along inner thighs may rub together. Flank filled with fat.	Patchy fat appearing over ribs.

PRIMARY INDICATORS OF METABOLIC ISSUES

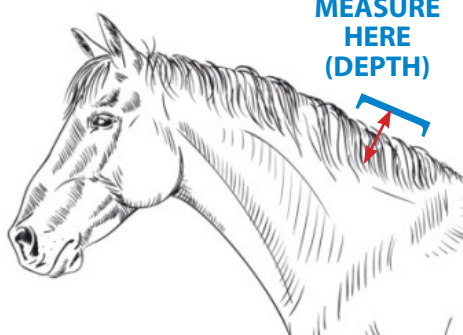
Presence of Discreet Fat Deposits at these Locations



CRESTY NECK SCORING SYSTEM

Evaluation Method and Measurement Criteria

1. Palpate the top of the neck, starting at the poll.
2. Work down to slightly beyond half-way between the poll and withers (see picture below).
3. Note any change in the nature of the tissue. Muscle and ligament are firm, fat (adipose tissue) is spongy.
4. If a fat deposit is detected, measure from top of neck line (nuchal ligament) to the highest point of the fat deposit.
5. Score according to the criteria below.

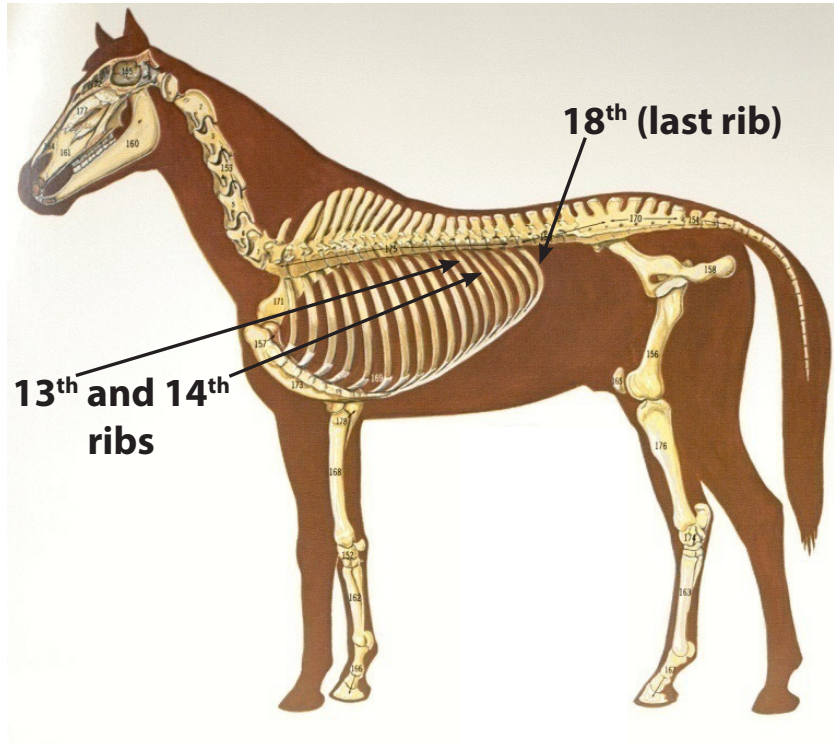


Cresty Neck Score	Criterion
0	No evidence of fat deposit
1	Palpable fat up to one inch thick over neck line
2	Palpable fat greater than 1 inch up to 2 inches over neck line
3	Palpable fat greater than 2 inches up to 3 inches over neck line
4	Palpable fat equal to or greater than 4 inches over neck line

TOPLINE MUSCLE SCORING SYSTEM

Finding the 13th and 14th Ribs

Last rib by flank is the 18th: Count back towards the horse's shoulder to the 14th and 13th (i.e. 4 and 5 ribs)

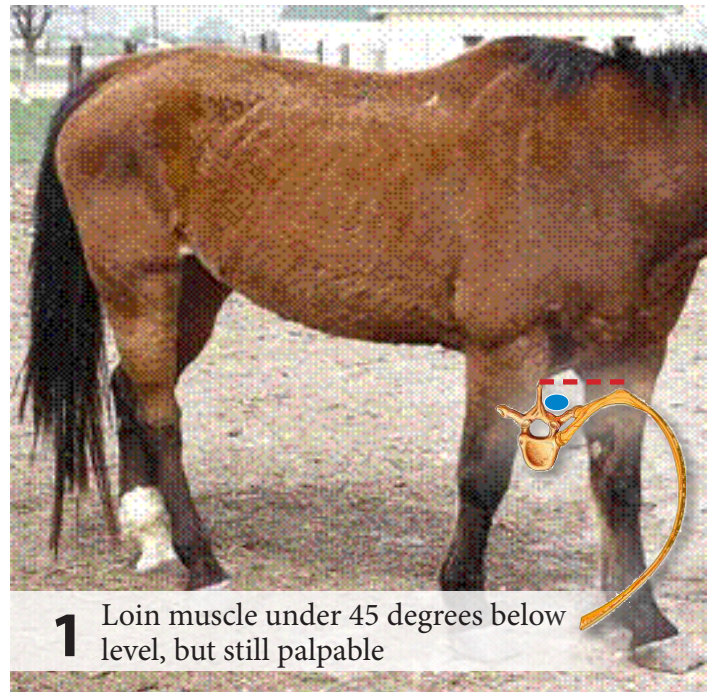


Access over
13th and 14th rib



18th (last rib)

TOPLINE MUSCLE SCORING SYSTEM



Topline Score	Criterion
4	Loin muscle above level of spine
3	Loin muscle even with level of spine
2	Loin muscle below level of spine but does not exceed 45 degrees below level
1	Loin muscle under 45 degrees below level, but still palpable

SOLUTIONS: BODY FAT SCORE OVER RIBS

TOPLINE SCORE	≤ 4	5-6	≥ 7
3-4	Increase calorie content of diet by using Kalm Ultra or Kalm 'N EZ (higher fat and fiber). If on any other Tribute product, may add K Finish , Cool Omega 40 or Cool Calories 100 to current program to safely increase caloric density of diet.	Horse in ideal condition. Continue with current Tribute program to ensure proper intake of all nutrients.	Feed just Essential K (per appropriate feeding chart) with grassy hay until body fat score of 5-6 is achieved, to minimize calories and assure adequate intake of all non-calorie nutrients. May need to reduce overall calorie consumption; may have to even reduce hay (no lower than 1% of body weight) and/or pasture consumption (reduce time? use grazing muzzle? drylot with hay?). Increase exercise to increase calorie expenditure, if possible.
1-2	Feed Essential K (per appropriate feeding chart) along with Kalm Ultra (for faster progress) or Kalm 'N EZ (for moderate progress) in a ratio of 1 part Essential K to 2 or 3 parts Kalm Ultra or Kalm 'N EZ . Work up to these amounts slowly.	Add Essential K (per appropriate feeding chart) to current program. Reduce current feed by amount of Essential K recommended to keep calorie intake the same.	Feed only Essential K (per appropriate feeding chart). If topline is very poor, can add 1# Essential K to chart recommendation. May need to reduce overall calorie consumption; may have to even reduce hay (no lower than 1% of body weight) and/or pasture consumption (reduce time? use grazing muzzle? drylot with hay?). Increase exercise to increase calorie expenditure, if possible.

Success Stories...

TRIBUTE[®]
EQUINE NUTRITION



WELLNESS SYSTEM SCORE SHEET

HORSE	FAT SCORE OVER RIBS (1-9)	CRESTY NECK SCORE (0-4)	FAT DEPOSITS AT TAILHEAD (Y=YES, N=NO)	TOPLINE SCORE (1-4)	OTHER OBSERVATIONS*

*OTHER OBSERVATIONS might include previous laminitis, colic, Cushing's Syndrome etc.