

# Equine Senses

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# Physical Parameters

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- **How did horses survive over the years?**
  - **Hiding**
  - **Running away**
- **Tools developed in the past are**
  - **Evident in the reactions of the horse today**

# Physical Parameters

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## What are these tools?

- **Sight and Skin Sensitivity**
- **Hearing and Smell**
- **Reflex for Flight**
- **Memory and Gregarious Nature**
- **Ability to feel ground vibrations**

# Sight

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- The vision for a horse is special in that they have both monocular vision and binocular vision which works well for grazing and watching for predators coming from either side, but poorly for judging height and distance.

# Sight

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- **Eyes set wide on head**
- **Monocular vs. Binocular Vision**
  - **Monocular Vision:**
    - **the horse can see separate scenes with each eye and thus a grazing horse can see almost all the way around its body.**
  - **Why was this vision developed?**
    - **To protect from predators**
    - **Allowed to see danger from either side**
      - **Horses see up to 270 degrees without turning their heads**

# Sight

## ● Binocular Vision:

- Used to judge distances
- Typically not as good as its monocular vision
- Some horses have better binocular vision
  - Why?
    - Their eyes are set closer together



Lengthened  
Binocular Vision



Foreshortened  
Binocular Vision

# Sight

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- **Some have to learn to develop binocular vision through training**
  - **Examples:**
    - **Rope horse following cattle at correct distance**
    - **Teaching a barrel horse to judge distance to the barrel**
    - **Teaching a jumper how to approach**

# Facts About Vision

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- **Blind spots**
  - **Where?**
    - **Directly behind its hindquarters**
- **Can't see directly below its head**
- **Must lower its head to**
  - **See far away**



# Facts About Vision

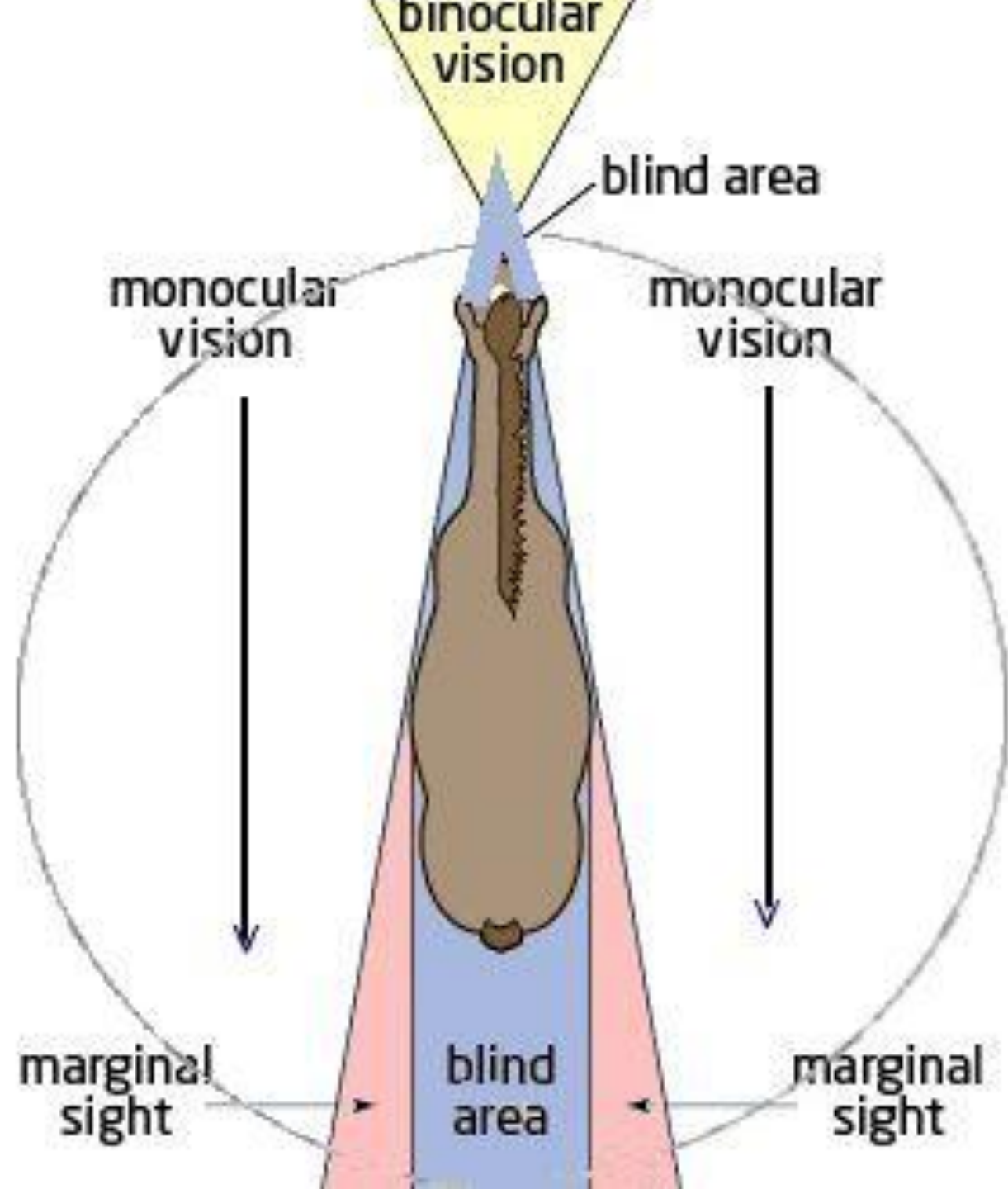
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- **Must raise its head to see?**
  - **Close objects**
- **If object is closer than \_\_\_, can't see with its binocular vision**
  - **4 feet**
- **Takes time to adjust eyesight to**
  - **Dark spaces**

# Facts About Vision

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- **A grazing horse can see?**
  - **Almost all the way around its body**
- **Has a hard time focusing clearly on objects**
  - **Very good at detecting movement**



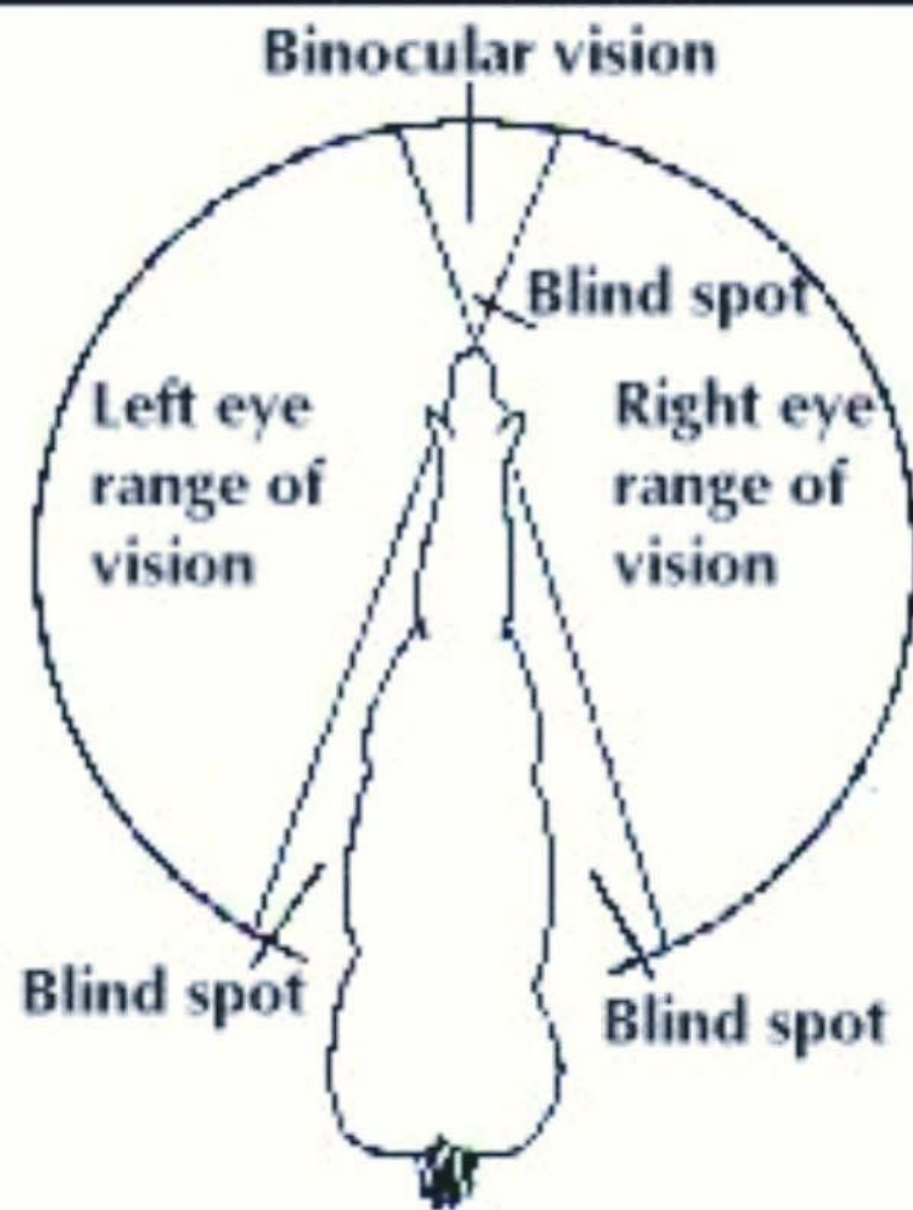
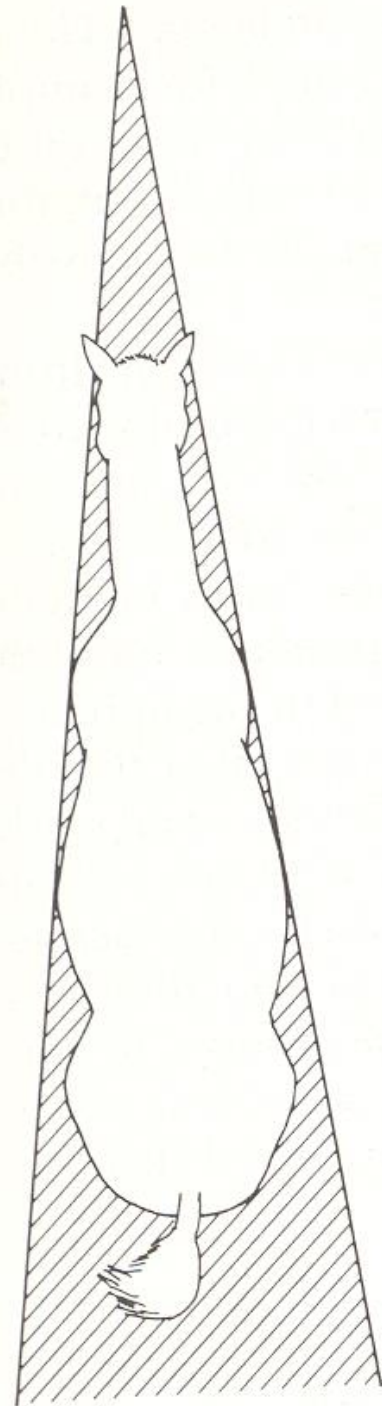


Figure 1: The horse has a large peripheral vision--and three areas of blind spots.

# Blind Spots



# Touch

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- **Do horses have a keen sense of touch?**
- **Sense of touch is very important in riding**
  - **Rider's hands through the touch of the bit**
  - **Rider's legs on the ribs**
  - **Important that the rider remains soft**

# Touch

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- **Where are the most sensitive areas?**
  - **Eyes, ears, and nose**
  - **Withers, ribs, flanks, and legs**
- **Fearful of anything touching flanks**
- **Horses are particularly fearful of anything touching or holding their legs and regular handling is required to overcome that fear.**

# Hearing

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- **Do horses have a good sense of hearing?**
  - **Excellent**
- **Much better than sight**
  - **Eyes and ears are always working together**
- **First ears will point toward the sound then**
  - **Horse will try to see what it is**



# Smell

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- **Sense of smell?**
  - **Good**
- **Smell is the first sense that mares use in accepting their foal and this becomes critical in the case of orphaned or foals that are pulled.**
- **Stallions can identify mares in heat from great distances**



# Smell

- Colts/Fillies should be allowed to smell the saddle and blanket when being saddled for the first few times to reassure them that the saddle and blanket has been used by other horses and that they are not dangerous.



# Flight Reflex

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- **Quick reflexes and panic**
  - **Characterized the prehistoric horse**
- **Endowed with an extensive system of ligaments which permit them to what?**
  - **Sleep while standing**
- **Will panic into flight without much consideration of such an action**

# Flight Reflex

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- **Young horse especially will try to flee**
- **As horses get older**
  - **Most tend to become desensitized**
- **Careful management and good horsemanship skills should be used**

# Memory

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- **Considered to have memories**
  - **Second only to elephants**
- **In wild, if an attack came at a certain place**
  - **The herd avoided that spot in the future**
- **Horses are creatures of habit**
  - **Creatures of laziness?**

# Memory

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- **Memory and temperament are linked to?**
  - **Breeding**
- **Well-trained horse never forgets its training**
  - **Neither does a poorly trained one**
- **Bad habits should be**
  - **Corrected before they become fixed**

# Memory

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- **Performance on intelligence tests have**
  - **Not been outstanding**
    - **However, able to complete complex things routinely when trained**
- **What can they not associate with?**
  - **Overeating**