Introduction:

Many factors influence bit selection. Individual characteristics of each horse play an important role when selecting a particular bit. There is a great deal of variation among horses. Differences to consider are: Age, width of jaw, tongue thickness, height of palate, depth of mouth, size of bars, thickness of lips, length of head, and the amount of pressure applied to specific areas of the head.

It is important that the bit fit the mouth correctly so the horse is comfortable and feels good. A poor fitting bit can be painful and distracting to the horse. Bit selection is also influenced by the horse's training, temperament, and type of riding the trainer/owner does. Additionally, a horse must be taught to respond to bit pressure before proper control can be achieved. An understanding of the types and uses of bits is helpful in selection of the right bit.

Rider ability is an important factor that should not be overlooked. Skilled, knowledgeable, and considerate riders may effectively use a potentially severe bit with little punishment to the horse because of "fight - sensitive hands". Good hands are the result of a strong well-balanced seat. The reins are not used to support the rider. The same bit in the hands of beginning riders or those with poor riding skills who use the reins for balance and support may produce vastly different results.

Pressure Points:

In most situations control of the horse is obtained when we apply pressure to the sensitive areas on the body of the horse. Bits are designed to put pressure on the sensitive areas of the horse's mouth and head. Knowledge of these pressure points is useful in understanding the function of the various types of bits.

Sensitive areas of the mouth and head used to control the horse are (listed in order of response to pressure):
- **Tongue**: The tongue is a basic point of pressure. Regardless of the mouthpiece design there is always some pressure on the tongue.

- **Lips**: The lips are a good control area since in most cases they are covered by a thin layer of skin and are highly sensitive. This is especially true at the corners of the mouth.

- **Bars**: The bars play an important role in control. They are the spaces in the lower jaw located between the third incisor (females) or bridle tooth (males) and the first pre-molar. This space is covered with a thin layer of flesh and is highly sensitive.

- **Chin Groove**: The chin groove is the fourth sensitive area of pressure application. It is also called the chin area. This is where the curb chain or strap fits and is highly sensitive.

- **Poll**: The poll is a fleshy area on the top of the head immediately behind the ears. It is the fifth pressure point brought into action. It is especially useful when using a halter or gag bit.

- **Nose**: The nose is the sixth point of pressure. This is a very sensitive area because it is somewhat bony and has a thin covering of skin. It becomes effective in control when a hackamore or certain types of curb-bit headstalls are used.

- **Lower Jaw**: The lower jaw can also be an effective point of pressure and control. The jaw bone directly below the eye is thin skinned and fleshy making it highly sensitive.

Keep in mind that each horse is different and sensitivity to specific pressure points will vary among horses. Therefore, the effectiveness of a bit will vary among horses. Also, remember that as a horse grows older its sensitivity to a particular pressure point may change. An important point to keep in mind when selecting a bit is that we want maximum control with minimum pressure or discomfort to the horse.

**Function of the bit:**

The bridle (headstaff and bit) when properly fit and adjusted to the horse, can apply pressure in one pressure point or in a combination of pressure points.

- **Tongue Pressure**: The thickness of the horse’s tongue along with the size, weight, and shape of the mouthpiece determine pressure. When a thick mouthpiece is used in a horse with a thick tongue, the mouth cannot be closed with comfort. When the mouth is closed too much pressure is placed on the tongue. Consequently the horse attempts to keep its mouth open.

- **Chin Groove**: The chin strap/chain applies pressure to the groove of the chin. Correct adjustment for different bits is required for proper function. Curb chains that are too loose do not apply correct pressure in the chin groove and will pinch the corners of the mouth when the reins are pulled tight. A good rule to follow is that you should be able to place two fingers between the curb strap/chain and the chin groove. A spade-bit or a half-breed with roller should have a tighter curb
strap/chain that a typical curb bit. This will prevent the port from rising too high resulting in injury to the roof of the mouth.

- **Bars:** The bars of the mouth will carry the weight of a snaffle bit when it is passive unless the horse breaks at the poll to relieve pressure. A curb bit will put pressure on the bars when the curb strap/chain becomes tight when the reins are pulled.

- **Poll:** Curb bits will put some pressure on the poll when the reins are tightened because of the fulcrum action of the mouthpiece. This pressure occurs when the curb strap loop moves forward and downward. Pressure to the poll is determined by how tight the bridle fits.

- **Lips:** Receive pressure at the comers of the mouth and over the bars that they cover until increased pressure is applied by either a curb or snaffle bit.

- **Roof of Mouth:** Pressure to this area is controlled by type and movement of the port of a curb bit.

- **Balance/Collection:** Influenced to some degree by type of bit. The distance from the curb strap/chain loop to the mouth piece and the distance from the mouthpiece to the rein loop influences the collection/balance of the horse. A horse that is light in the front and sensitive in the mouth will work well when the ratio is 1:1 - 1:2.

A horse heavy on the forehand (center of balance too far forward) will raise its neck, break at the poll and shift its center of balance back with a curb bit with a longer shank and greater ratio (1-3). Greater pressure is obtained with a moderate pull.

**Terms Relative to Bit Design:**

- **Cannon:** Snaffle or Jointed bit. In a Snaffle or Jointed-Bit the cannon is that part of the mouthpiece from the joint to the ring. Whereas in a Curb or Leverage Bit the cannon is that part of the mouthpiece from the port to the shank.

- **Curb Bit:** Any bit regardless of mouthpiece style that has shanks. This is a leverage bit.

- **Curb strap/chain:** An accessory to a curb bit. Provides for normal function of the curb bit by restricting degree of movement of the mouthpiece. Applies pressure at the chin groove when reins are drawn tight.

- **Eggbutt:** Bit design in which the ends of the cannons are widened and molded around the rings of a snaffle bit. Rings are not loose to pinch the lips of the horse.

- **Jointed mouth piece:** Mouthpiece is made of two or three parts. Not a solid bar. Examples: Snaffle Bit.

- **Kimberwick:** Solid mouthpiece - open port. D-like rings attached to mouthpiece. This bit is used with a curb strap or chin to obtain some leverage action.

- **Leverage Bit:** Jointed or solid mouthpiece attached to shanks.
• **Non-leverage Bit:** Jointed or solid mouthpiece attached to rings.

• **Pelham Bit:** A bit with a solid mouthpiece. May be straight or have a port. Rein rings are located at the mouthpiece and at end of shanks.

• **Port:** Upward curve in center of a solid mouthpiece. Commonly found in leverage bits - Curb, Weymouth, Kimberwick.

• **Balance:** The hands of the rider influence bit action. The severity of the bit is determined by the hands and the riders ability. The balance of a bit plays a big role in its function. Balance of the bit will determine when the port will come in contact with the palate of the mouth. To check bit balance, rest the bit on your fingers so that the cannons of the mouth piece are on your thumb and index finger. When in a balanced position a port that is tilted back will require more pull than one in a vertical position to make contact with the palate.

• **Taste:** An important factor in bit design and function. A bit that is acceptable in taste to the horse is more readily accepted. Bits should be constructed of two different type of metals. A steel or sweet iron in combination with copper will stimulate salivation. When a horse is salivating, it’s moving its tongue and has a relaxed lower jaw. A horse that is relaxed will be more responsive and will carry the bit in a more natural manner.

Summary:

Bits may be either leverage or non-leverage in function. Severity of a bit lies in the hands of the rider. Each horse is different. The following factors should be considered when selecting a bit:

• **Mouth Characteristics:** Palate height, tongue thickness, height and width of bars, and depth of mouth will influence size and style of mouth piece.

• **Riding Style.** English and Western riding may require specific bits, particularly in competitive events.

• **Training Level:** Horses are usually started in a snaffle bit and then moved into other forms of bits depending upon specific function in Western or English riding events.

It may be necessary to change the type of bit used as influenced by the response of the horse and the needs of the rider.

References:
