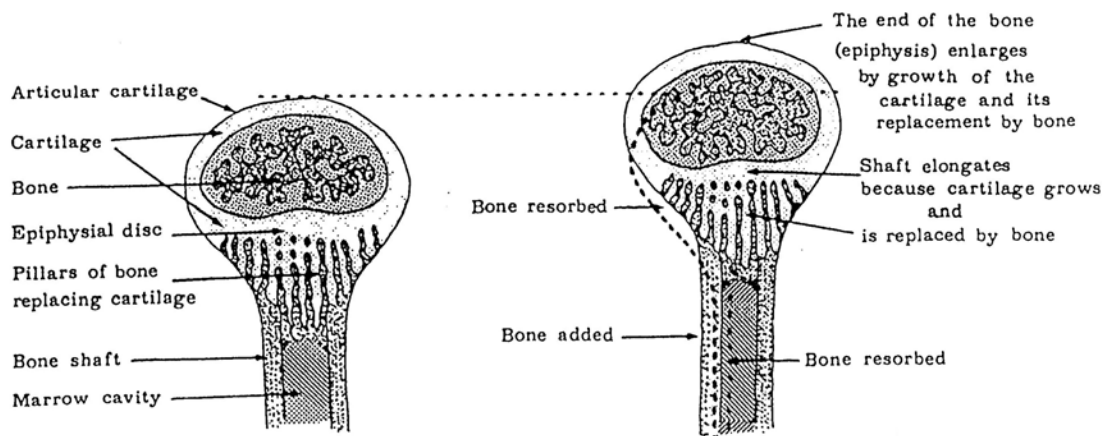


Meeting predetermined genetic needs with **McIntosh Pro Line Horse Nutrition Products**: “Your best insurance for optimized results.”

Skeletal integrity and strength with “**Maximize**”

Because skeletal integrity is of such importance to performance horses, calcium and phosphorus nutrition are of prime concern. Calcium and phosphorus are the major minerals in bone, accounting for about 50 percent of the equine skeleton. In addition, calcium has an integral role in muscle contraction, and phosphorus is essential in energy production. Dietary calcium and phosphorus requirements are highest in growing horses that are depositing new bone at a rapid rate. However, even adult horses require calcium and phosphorus to maintain bone integrity. Repeated bouts of exercise can cause bone remodeling and increased bone density, and thus exercise may increase the calcium and phosphorus requirements.



How a long bone grows.

McIntosh Pro Line “Maximize” starts with highly bioavailable bone building mineral sources so that your end results will be a horse with a skeletal system that fulfills its genetic potential for durability, correctness and integrity. The presence on the ingredient list of calcium, phosphorous and other bone building minerals is no longer good enough. **McIntosh Pro Line** is not interested in playing the tag comparison games most horse supplement suppliers are playing. Adding an essential vitamin or trace mineral to the horse’s diet is one thing. Making sure the molecule gets into the horse’s system is quite another.

Young horses in training will undergo more bone remodeling than older horses and thus will be most sensitive to calcium and phosphorus nutrition. However, the nutrition received by horses during their early growth period may be of more importance to overall soundness than the nutrition received as adults. Improper nutrition has been suggested as a predisposing cause of developmental orthopedic disease (DOD), but other factors such as genetics and activity level also may be involved. Many theories exist as to the primary nutritional agent responsible for DOD, but there is little consensus in this area. Excess calories, excess soluble carbohydrate, excess protein, excess calcium, excess phosphorus, excess vitamin A, deficient calcium, and deficient copper have each been implicated as causal factors.

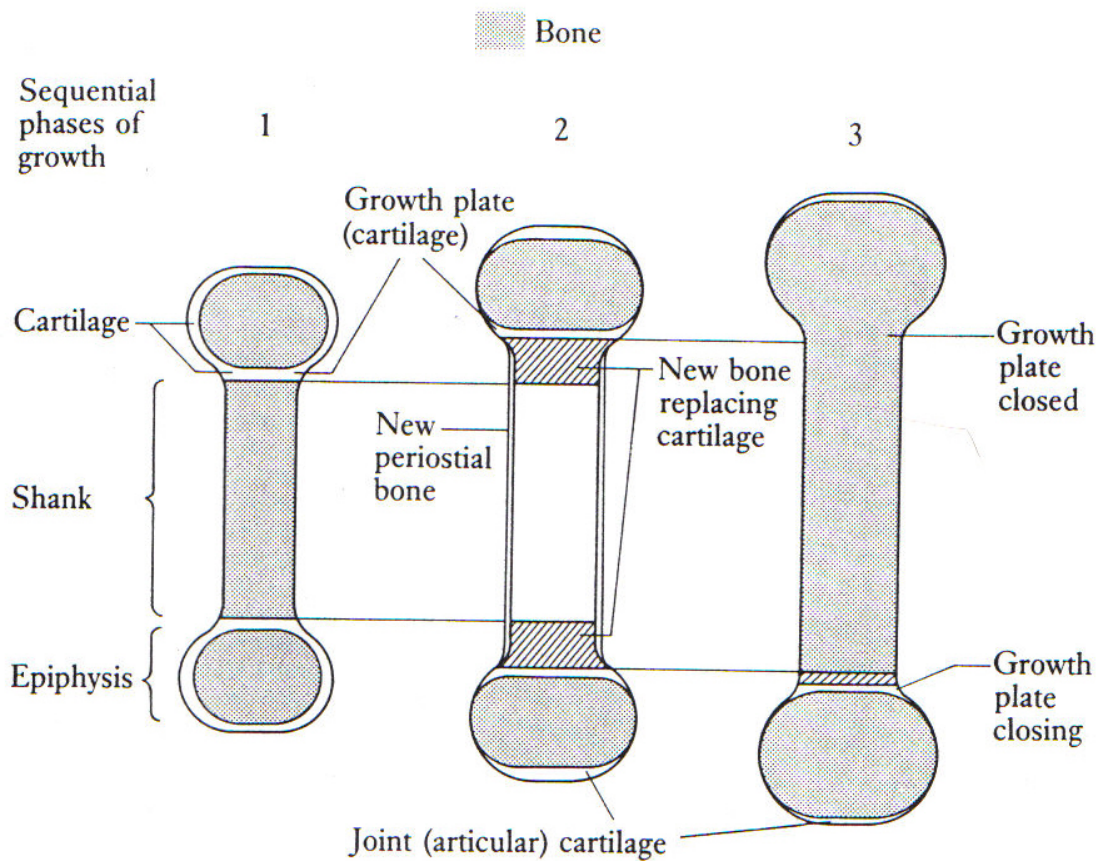
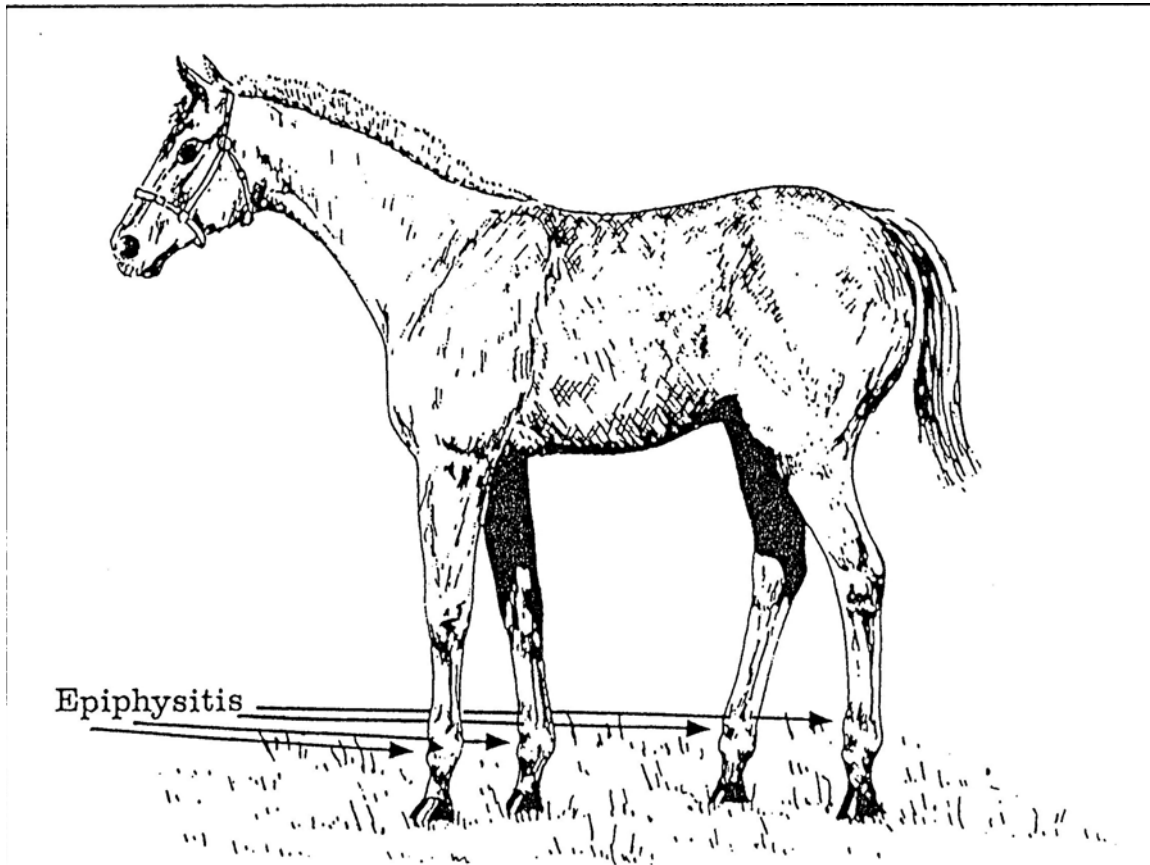


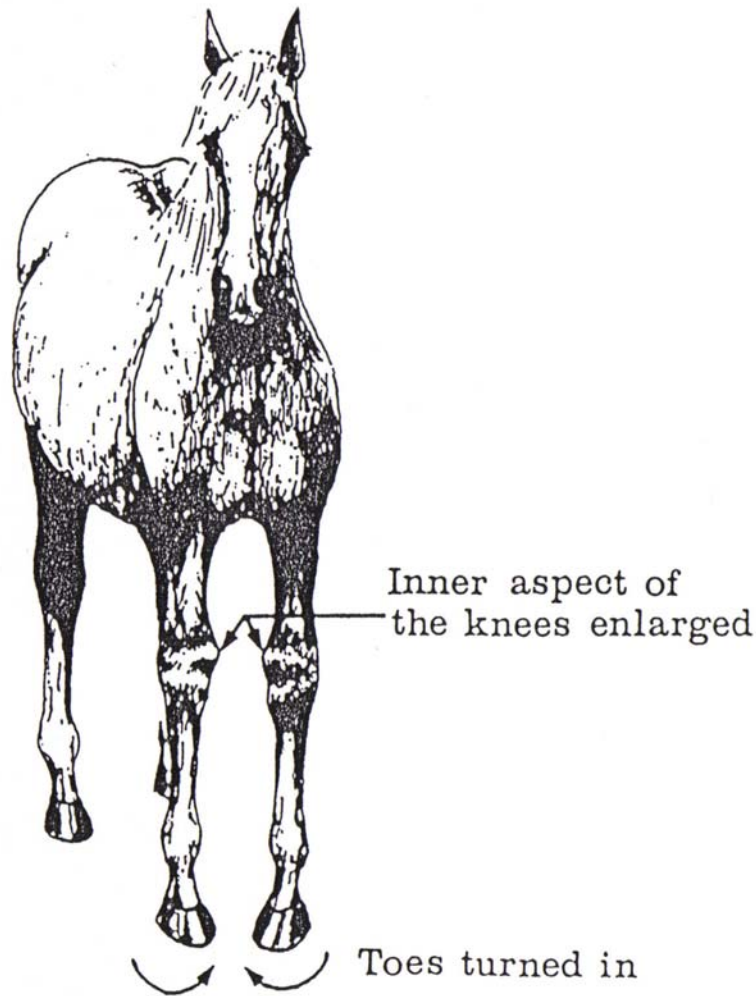
Fig. 8.3 Typical growth of long bone, for example radius or tibia. (After Rosedale & Ricketts 1980).

DOD include, but are not limited to osteochondritis dissecans (OCD, improper maturation of cartilage into bone), physitis or epiphysitis (irregular cartilage growth plates), flexural deformities (also called contracted tendons) and cervical vertebral malformation (wobbler syndrome).



Epiphysitis in the foal. Foal or yearling up to twelve months old showing upright pasterns and round fetlock joints which are typical of epiphysitis at this age.



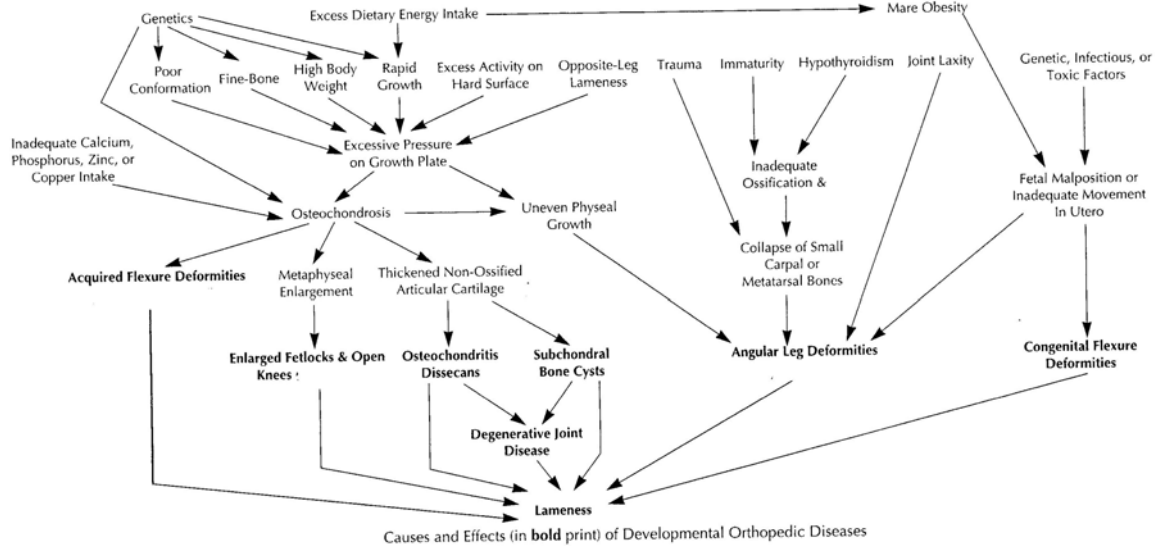


Epiphysitis in the yearling. Yearling or two year old up to thirty months old showing enlargements on the inner aspect of the knees and associated toes-in position.

The major factors predisposing the growing horse to any of the developmental orthopedic diseases (DOD) are:

1. rapid growth
2. trauma to the metaphyseal growth plate or articular cartilage
3. genetic predisposition
4. Nutritional imbalances and such things as:
 - a.mineral deficiencies
 - b.mineral excess
 - c.overfeeding
 - d.incorrect form of minerals and vitamins
5. Environment

These factors are interrelated, and these are many additional factors that affect each one.



When horses are supplied only with nutritional inputs designed to impress a horse’s caretaker instead of addressing the needs of today’s modern horse, many of the nutritional imbalances interact at an even greater rate. While some vitamin and minerals survive the trip from the feed bag or supplement container to the digestive site in the small intestine unchanged. Others, unfortunately, are unstable and react with other essential nutrients in random and uncontrollable ways. When this happens, the nutritional balance so carefully formulated in the feed or supplement can become nutritional chaos in the animals system.

McIntosh Pro Line only uses “controllable” nutritional sources which lead to predictable and consistent results.

Checklist of factors which may contribute to Developmental Orthopedic Disease (DOD) in young horses.

Factor	Evaluation	Treatment
Mineral Deficiency	Ration analysis: 1. Hay 2. Pasture 3. Grain	Balance Ration Use Maximize
Mineral Excess	Ration analysis: 1. Hay 2. Pasture 3. Grain 4. Supplements	Balance Ration Use maximize
Overfeeding		
1. Daily energy intake	Monitor growth rate (weigh)	Regulate grain intake
2. Energy intake per meal	Measure amount fed per meal	Increase feeding frequency
Environment	1. Hardness of ground 2. Amount of exercise	Soften ground Regulate exercise
Genetics	Observe soundness, performance of offspring	Introduce new bloodlines



Advancing Health naturally

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