Feeds and feeding for developmental orthopedic disease (DOD) and splints in horses

What is DOD and Splints in horses

DOD is a general term for the degeneration of the joints in horses.

DOD encompasses many different degenerative diseases of the joints. These conditions usually occur as a result of age, trauma to a joint or the overfeeding young horses to promote higher growth rates. A lot of joint disorders concerning younger horses have to do with abnormalities in the ossification process (cartilage turning to bone) and the epiphyseal growth plate. Typically the growth plate will grow on each side of the bone at different rates causing a deformity in the leg at the joint. In other cases there is a gradual loss of cartilage from the bearing surfaces of the joint sometimes right down to the bone and a concurrent growth of new bone in an attempt by the body, to compensate for the misalignment. It can be recognised as pain and swelling at the joint with possible heat and lameness.

How do I know my horse has DOD or Splints

- Degenerative joint disease
- Wobbler's Syndrome
- Contracture of tendons
- Misalignment of the limbs
- Club feet

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Feeding to Prevent Gastric Ulcers

- Bog spavin (hocks)
- Puffy joints (fluid in the joint space)
- Stiffness
- Flexion responses
- Lameness (Often seen when training begins)
- Pain

Ref: http://horsehints.org/MedicalDOD.htm

What causes DOD and Splints in horses

The exact cause of DOD is unknown though there are many factors that contribute to disease. Feeding young horses feeds with high levels of sugar and starch (NSC), which in turn promote elevated insulin concentrations in the blood which is associated with the onset of DOD. Strenuous exercise routines can also have a detrimental effect upon the limbs of young horses though repeated concussion. In some instances this disease is put down to genetics with the incidence of DOD as high as 45% in some blood lines. Pumping yearling thoroughbreds with grain prior to yearling sales is a major cause of lameness.

Disorders that are classified under the heading of DOD include;

- Osteochondritis dissecans (OCD)
- Epiphysitis,
- Flexural and angular limb deformities
- Wobblers syndrome

How diet helps DOD and Splints in horses

There are many nutritional factors that contribute to growth deformities in younger horses such mineral deficiencies of copper, calcium and phosphorus. Both deficiency and toxicity of zinc can be associated with the onset of DOD though the effects of zinc deficiency are not well documented.

Protein levels in the diet of a young horse, greater than16% has been suggested to cause DOD however, decreasing a weanlings diet to less than12% protein can result in growth deformities associated with poor growth rate and bone mineralisation.

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Feeding high levels of sugars and starch (NSC's) to young horses increases the chances of DOD, especially if more than 50% of the ration is made up of sweet feed (i.e. grain and molasses). The increased chance of DOD is due to the absorption of high levels of glucose and the production of high levels of insulin. Overweight horses are also prone to this disease due to the metabolic repercussions of being overweight and the physical strain on joints.

**Recommended Stance Horse Feed for DOD and Splints in horses**

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The **Stance Equine Feeding System** outlines several feeds suitable for providing energy for growth of young horses, without feeding high levels of NSC. These include

- **CoolStance** contains <12% NSC, and yet provides a high level of digestible energy (DE) from non NSC sources (i.e. form digestible fiber and oil) to support growth in young horses.
- **CoolStance** and **PowerStance** contain MCT in the coconut oil

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