A review of generalized leg weakness in swine

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For decades a generalized disorder known as leg weakness has affected a large number of individual swine creating problems for both swine producers and swine veterinarians. The problems associated with and caused by leg weakness continue to plague the industry today, and are noted as clinical manifestations of abnormal gait and locomotion, abnormal posture, and other structural soundness pathologies. Current differential diagnoses of “leg weakness” are numerous, including osteoarthritis, osteoarthrosis, and osteochondrosis. As a veterinarian, it is important to understand and appreciate the primary and secondary causes of leg weakness for evaluation of clinical signs in the diagnosis, treatment, and prevention of the condition.

More than 16,000 articles are available containing the phrase “swine leg weakness.” The enormous amount of literature available about the generalized condition shows its clinical and economic importance to the international swine industry. Several articles claim that as much as 40 percent of all swine euthanasia is due to soundness problems and leg weakness. One article stresses that osteochondrosis is the principle cause of leg weakness and that all other conditions, including osteoarthritis and osteoarthritis, are secondary complications of primary osteochondrosis. This idea helps to narrow the search to 799 articles. Of these 799 articles, 20 peer reviewed articles have been selected for discussion here.

There is a general consensus among the articles that osteochondrosis is the primary cause of leg weakness. There are some studies that show a presence of osteochondrosis in nearly 100 percent of randomly selected young pigs, some of which showed no clinical signs of leg weakness. Assuming the apparent universal presence of osteochondritis in young swine, the factors leading to manifestation of secondary complications and clinical signs of leg weakness are addressed further in this review, which considers the following as possible causes: genetic selection, anatomical structure, nutrition and growth rate, and housing and exercise protocols.

Generalized leg weakness is a condition that all swine veterinarians will face during their careers. Ultimately, this review discusses a vital area of swine medicine that has been researched for many years and continues to be researched today. Swine production depends upon healthy and sound pigs, thus producers, veterinarians, and researchers must continue to consider causes so that economical losses to the industry due to leg weakness can be reduced through diagnosis, treatment, and prevention.