

ASSOCIATIONS BETWEEN POOR LOCOMOTION AND SEVERITY OF LIMB LESIONS IN FINISHING PIGS



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Aim:

- o The underlying aetiology of poor locomotion is unclear, but associations between limb lesions and floor type and limb lesions and poor locomotion have been established in this study.
- o The aim of this study is therefore to generate hypotheses as to the causal routes of poor locomotion

Materials and methods:

- o Cross sectional study on 1450 pigs aged 18 and 22 weeks old from 83 farms / 130 pens
- o Capped hock, bursitis and calluses scored 0-3
- o Gait score 0-5 used as a measure of poor locomotion¹, coded into binary variable for analysis: 0 = normal gait (score 0), 1 = abnormal gait (score 1-5)
- o Impact of floor type and severity of limb lesion tested in 3 level mixed effect model with random terms for between farm, pen and pig variation

Results:

Limb lesions



Callus – 48.2%² thickening of the epidermis



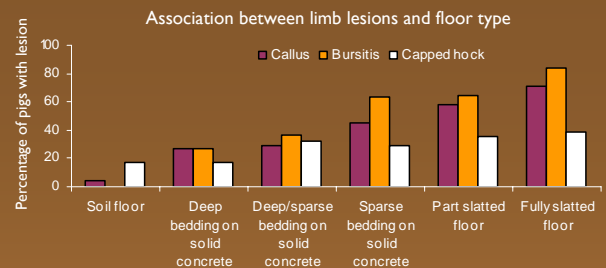
Bursitis – 57.8%³ soft tissue swelling occurring below the tarsal joint of pigs' limbs



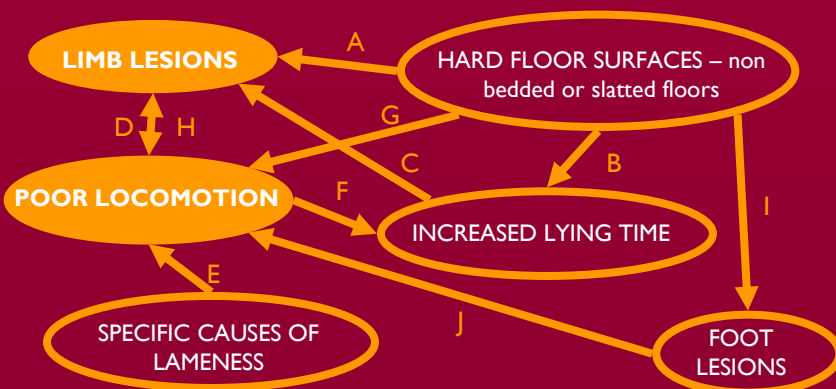
Capped hock - 31.7%⁴ thought to be pathologically similar to bursitis but occurs on point of hock

Poor locomotion

- o Prevalence of abnormal gait – 18.5%²
- o Significant increase in gait score as floor type went from deeply bedded to fully slatted²
- o Dose response effect – risk of abnormal gait increased with presence of more severe lesions²



What is the causal route of poor locomotion?



- A - hard lying surfaces associated with increased prevalence of limb lesions^{3,4}
- B - pigs lie inactive for longer periods in fully slatted pens compared with straw yards⁵
- C - pigs develop limb lesions whilst lying^{3,4}
- D - limb lesions directly cause abnormal locomotion³
- E - specific causes of lameness such as osteochondrosis and *M. hyosynoviae*
- F - pigs with abnormal gait may lie down more than those with normal gait
- G - pigs more likely to walk abnormally on slatted floors compared with bedded floors⁶
- H - abnormal locomotion causes limb lesions possibly through tendonitis²
- I - part and fully slatted floors associated with an increased prevalence of foot lesions⁷
- J - pigs with foot lesions may be more likely to have poor locomotion

Summary and conclusions:

- o The provision of a soft floor surface may reduce limb lesions particularly in the case of pigs with poor locomotion
- o Summary of generated hypotheses for the causal route of poor locomotion:
 - limb lesions are causal
 - limb lesions lie on causal pathway
 - limb lesions are a correlate for other damage

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