



HEALTH

Shoulder sores

It is of interest to all parties to reduce the number of sows with shoulder sores, as sores not only affect performance but are also a major welfare concern. Reducing shoulder sores may have a greater impact on productivity than initially thought, as many factors that cause shoulder sores can be linked with other areas of production, and a chain reaction of improved production efficiency will occur once the action plan is implemented.

What are shoulder sores?

Shoulder sores on sows are not common on pig units in England but they can occur from time to time, the most likely stage for them to develop is during the first two weeks in the farrowing house. The sores can vary from small red patches on the skin, to wounds of up to 10cm in diameter. Various factors can lead to the development of shoulder sores, with poor sow condition and prolonged lying periods on hard floors during lactation being the main contributors.

Sores are caused by pressure compressing the blood vessels supplying the skin and tissues covering the shoulder blade, this interrupts the blood flow causing tissue damage and the formation of lesions. These are different from other skin wounds resulting from causes such as fighting, and need different treatment.

The best method of prevention is good management, however if sores do develop, interventions must be put in place immediately; these include fitting a mat in the crate or moving the sow to a more spacious pen with soft bedding.

Categorisation	
0	No sores or sores caused by other factors such as fighting and physical injury
1	Sores in the top layer of the skin
2	Sores in the top layer of the skin, with crust formation and scar tissues
3	Sores in the deeper layer of the skin and with crust formation and severe scar tissue
4*	Deep sores into the muscles, sometimes with visible shoulder bone

* Sores in this category are considered totally unacceptable and something which should not, but could, occur



Degree 1 - Lesion in the dead part of the top layer of the skin



Degree 2 - Deeper lesion with crust formation and scar tissue



Degree 3 - Deep lesion with scar tissue



Degree 4* - Lesion with visible bone

Causes of shoulder sores

- **Lying down:** During lactation considerable pressure is placed on the shoulders as sows are lying down for long periods; this reduces blood circulation to the side on which the sow is lying
- **Skinny sows** (condition score below 3) are more prone to shoulder pressure when lying down
- **Overfat sows** (condition score above 3.5) will lie down for longer periods and may struggle to get up; this can increase pressure on the shoulders
- **Illness:** Any illness, including lameness, during the farrowing and lactation period can increase the time a sow spends lying down and the chances of developing sores
- **Age:** Older sows are at higher risk of developing shoulder sores; this may be related to the increased weight of the animal or loss of body condition over consecutive lactations
- **History of sores:** Sows that have previously had shoulder sores are prone to getting them again. Generally, sows with healed shoulder sores should be culled. Sows with mild sores, scoring less than 2, could be retained, provided that the sore is healing and the sow is otherwise in good health and physical condition
- **Genetics:** In a Danish trial in the Danbred herds, a record of shoulder sores was collected for sows during their time in the farrowing crate. It was found that twice as many Landrace sows had shoulder sores compared to the Yorkshire sows.

Treatment of shoulder sores

- Interventions must be put in place if a sow has a sore between degree 1 and 2. If a sow has a shoulder sore of degree 3 or 4, euthanasia should be the only solution to prevent unnecessary pain and suffering
- Any shoulder sores that do develop should be kept clean and treated according to veterinary advice or farm health protocols, developed in conjunction with your vet
- Lame sows and sows with a shoulder sore of degree 1-2 should be moved to recovery pens (See *Action for Productivity 15: Hospital and recovery pen management*)
- It is critical to seek immediate veterinary advice when sows are detected with severe scores of degree 3 or 4.

Preventing shoulder sores

Accommodation

- The farrowing crate should allow the sow to easily get up and lie down
- The recommended length of the farrowing crate is 210cm, measured from the front of the trough to the back of the crate. The crate itself should measure 65cm wide at the trough and should be adjustable in width, to a maximum of 90cm, at the back end of the crate
- Breeding has increased the size of sows over the years and adjustable crates may be needed to give more length and accommodate the natural standing and lying actions of longer breed types
- Where adjustable farrowing crates are used, open to the widest position when sows enter the farrowing house, reduce at farrowing to minimise crushing and then open up again 1-2 days later
- Bedding can help to reduce shoulder sores but can be difficult to manage in crates with perforated floors
- Creep floor heating is good for piglets but should not be laid under the crates as this will be too warm and uncomfortable for the sow
- A dry and non-slippery concrete floor where the sow is lying may reduce shoulder sores
- Ensure that the floor surface under the sow is not abrasive; worn and rough concrete surfaces should be repaired/resurfaced
- Slippery floors, such as some fully slatted plastic floors, deter sows from trying to stand and can increase shoulder sores
- Fully slatted floors, which apply uneven pressure on the shoulder of the sows, should be avoided
- Mats can help reduce the pressure on the shoulders, particularly if they are made of softer material
- Mats should be used as a temporary solution and only for high-risk sows, as they can reduce a sow's ability to keep cool and increase heat stress. Mats can also lead to poorer hygiene around feed troughs

- Loose housing with deep bedding for dry sows can improve the physical condition of the sow on entry to the farrowing house
- If reddening is seen on the skin in the shoulder area, interventions must be put in place to reduce the development of shoulder sores; sows should be moved to recovery pens or mats should be fitted in the crates.

Body condition

- Sows should stay in similar body condition score throughout their cycle; aim for sows to maintain a condition score of 3 (on a scale of 1-5)
- If the hipbone can be felt easily when laying the palm of the hand on the hip of the sow, the sow is too skinny and her body condition must be increased
- If the hipbone cannot be felt, the sow is probably too fat
- Body condition scoring (BCS) should be carried out regularly. If condition deviates from the target of 3 or slightly higher (3.5), the risk of developing shoulder sores increases; if this happens discuss diet specification with your nutritional adviser
- In modern lean genotypes BCS is an indicator of the animal's overall muscularity but a poor indicator of fat cover or fatness. Diets should be formulated to meet sow protein and energy requirements, taking into account requirements to support body lean gain in gilts and young sows to maintain them in good body condition at all times
- Sows that have lost body condition during lactation should not be placed on low protein diets to increase fatness, as this is counter productive to improving their BCS. The diet must be balanced for energy AND protein to support the re-gain of muscle mass and associated fat cover to reduce their risk of developing shoulder sores.

Food and water

- To achieve optimal body condition (score 3) at farrowing, sows should ideally be individually fed during gestation so that their daily feed allowance can be adjusted for weight gain management. If this is not possible, ensure that sows are grouped according to size and condition and that extra attention is paid to the smaller/weaker sows
- When floor feeding, it is important to distribute feed evenly and to provide sufficient space per sow eg 2.7 m²/sow
- Aim to maximise feed intake during lactation to avoid loss of body weight and condition. This can be achieved by using an appropriate feeding scale geared for day of lactation, parity and litter size. Feed management is especially critical in the first few days after farrowing when appetite is low and the risk of feed rejection is high.

Food and water (continued)

- Ensure that sows have access to a free supply of fresh drinking water at all times (see *Action for Productivity 16*). Water management is particularly important during lactation as the intake of fresh drinking water enhances feed intake, reducing the loss of body condition.

Sow management

- Sows with a history of shoulder sores should be given extra care and attention
- It is important that sows have good legs and sound feet so that they can move freely and without discomfort enabling them to alter their lying positions, reducing the risk of developing sores
- Feet should be trimmed to avoid soreness when standing up
- During the first two to three weeks in the farrowing house, sows should be inspected daily on both sides
- Specific shoulder vests can be fitted on sows that are at risk of developing shoulder sores; they should not be used if there is already a visible shoulder sore. If shoulder vests are used, the sow and the vest should be checked daily
- When choosing foster sows, ensure that they are healthy and in good body condition (score 3-3.5), and that no sow has a history of shoulder sores
- Foster sows should not lose more condition than other sows if sufficient feed intake is maintained.

It is important to establish why shoulder sores are occurring on sows in herds that are experiencing this problem. Working with your vet, draw up an action plan with unit managers and staff for the control and future prevention of shoulder sores. All staff should be involved with the process, with each individual taking responsibility for an area. The action plan should set targets and be regularly evaluated to assess its effectiveness.

Source: Danish Pig Production

10 top tips to prevent shoulder sores

- I The target is for sows to stay in similar body condition score (BCS) throughout their lives; aim for sows to maintain a condition score of 3 (on a scale of 1-5). Sows that have lost body condition during lactation should not be placed on low protein diets to increase fatness, as this is counter productive to improving their BCS. Sows weaned with BCS under 3 should be fed diets that are adequate in protein content with daily feed allowances to support body lean mass plus fat cover for the recovery of body condition.

- 2 Body condition scoring should be carried out regularly. If condition deviates from the target of 3 or slightly higher (3.5), the risk of developing shoulder sores increases; if this happens discuss diet specification with your nutritional adviser.
- 3 To achieve optimal body condition (score 3) at farrowing, sows should ideally be individually fed during gestation so that their daily feed allowance can be adjusted for weight gain management. If this is not possible, ensure that sows are grouped according to size and condition and that extra attention is paid to the smaller/weaker sows.
- 4 Aim to maximise feed intake during lactation to avoid loss of body weight and condition. This can be achieved using an appropriate feeding scale geared for day of lactation, parity and litter size. Feed management is especially critical in the first few days after farrowing when appetite is low and the risk of feed rejection is high.
- 5 Identify high-risk sows and pay extra attention to them
 - a Skinny sows
 - b Sows which have previously had shoulder sores
 - c Lameness or sows with other leg and claw problems
 - d Ill sows
 - e Old sows
 Provide high-risk sows with mats in the farrowing crate and make appropriate notes on the sow card, eg on which side she is prone to getting a sore.
- 6 Loose housing with deep bedding for dry sows can improve the physical condition of the sow on entry to the farrowing house
- 7 If reddening is seen on the skin in the shoulder area, interventions must be put in place to reduce the development of shoulder sores; sows should be moved to recovery pens or mats should be fitted in the crates.
- 8 A dry and non-slippery concrete floor where the sow is lying may reduce shoulder sores; slippery floors, such as some fully slatted plastic floors, deter sows from trying to stand and can increase shoulder sores.
- 9 Ensure that the floor surface under the sow is not abrasive; worn and rough concrete surfaces should be repaired/resurfaced.
- 10 Where adjustable farrowing crates are used, open to the widest position when sows enter the farrowing house, reduce at farrowing to minimise crushing and then open up again 1-2 days later.

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