Question to EURCAW-Pigs: Hospital pens
6 January 2025

Question
Received: 18 December 2023

EURCAW-Pigs received the following questions:

1. *In which situations (illness, injuries, etc.) does a pig need to be isolated and placed into a hospital pen?*
2. *What requirements does a hospital pen need to be optimal for an isolated pig?*
3. *What are the consequences to a pig's welfare when being isolated?*
4. *Which possibilities are there of re-introducing a pig to its pen mates after being isolated?*

Several EURCAW-Pigs experts contributed to the response below. The EURCAW-Pigs secretariat did the final editing, and may be contacted for queries: info.pigs@eurcaw.eu.

Answer
In short, the answer is:
Pigs should be moved to a hospital pen when their illness or injury is severe enough that staying within their original group prevents them from performing normal functional behaviour (e.g. eat, drink, rest) and would be adverse to their recovery. Hospital pens should offer a more comfortable and recovery-focused environment than the typical home pen, with appropriate bedding, easy access to food and water, and possibility to thermoregulate (e.g. provide additional warmth and options for cooling, if needed. Social separation impairs pigs' welfare and social mixing is challenging it as well (also upon return to the home pen). To mitigate these challenges, it's beneficial to keep separated pigs within visual or olfactory contact with their group or house them with a familiar individual. Reintroducing pigs into their group after a period of separation should in general be avoided, e.g. by establishing hospital sections, where pigs are kept until slaughter. Studies have shown, though, that aggression can be minimized with careful planning and handling during reintroduction, making the process achievable. Pigs should not be transferred to a recovery pen to die. If euthanasia is necessary for welfare reasons, it should be performed promptly to prevent further suffering.

Background
Maintaining the health of a pig herd is the fundamental concern for every farmer. But despite all efforts, diseases and injuries cannot be avoided. Consequently, the earlier sick and/or injured animals are detected and properly cared for and housed, the better the chances of recovery. The daily monitoring of animal health is, thus, one of the most important tasks of a farmer. The basis for this monitoring is careful observation of the animals, which requires sufficient time. The monitoring usually starts with the observation of all pigs in a pen but needs to extent to the individual pigs to ensure that any injury or sign of illness is detected. Many of the following management recommendations of hospital pens are summarized from a factsheet on managing compromised pigs by the DLG (German Agricultural Society) Pig Committee (DLG Merkblatt 430, in German).

'Questions to EURCAW' is a service provided by the EU Reference Centres for Animal Welfare. EURCAW-Pigs offers it via its website www.eurcaw-pigs.eu. The service is open to Competent Authorities and government policy workers of EU Member States. EURCAW-Pigs has made an effort to provide a scientifically correct answer. However, neither the Reference Centre, nor the experts involved can be held responsible for its use.

Conditions requiring that a pig needs to be isolated

Sick or injured animals often need to be housed in hospital pens. Transferral to a hospital pen is necessary, when a pig's illness or injury is too severe to stay with their group. This means, when staying in the group prevents them from performing normal functional behaviour (e.g. eat, drink, rest) and will be adverse to their recovery.

In many instances, the transfer to the hospital pen is associated with veterinary treatment. A hospital pen should be considered a recovery pen, providing a space where pigs with a realistic chance of recovery can receive the treatment and care they need in an undisturbed environment. Pigs should not be moved to a recovery pen if their condition is so severe that they should be euthanised for welfare reasons. The decision when to separate an animal or move it to a hospital pen, is always a case-to-case decision with the best interest for the health and welfare of the pig in mind (Figure 1). Examples of conditions that require an individual to be moved to a hospital pen are pronounced lameness, prolapses, significant weight loss, bite injuries with tissue loss, large umbilical outpouchings/hernias, and general weakness, including febrile states. Importantly, this list is not exhaustive, and should only be used as guidance. Most importantly, each case needs to be individually assessed to determine whether the pig can function normally in the competitive social environment of a standard pen and has a realistic chance of recovery.

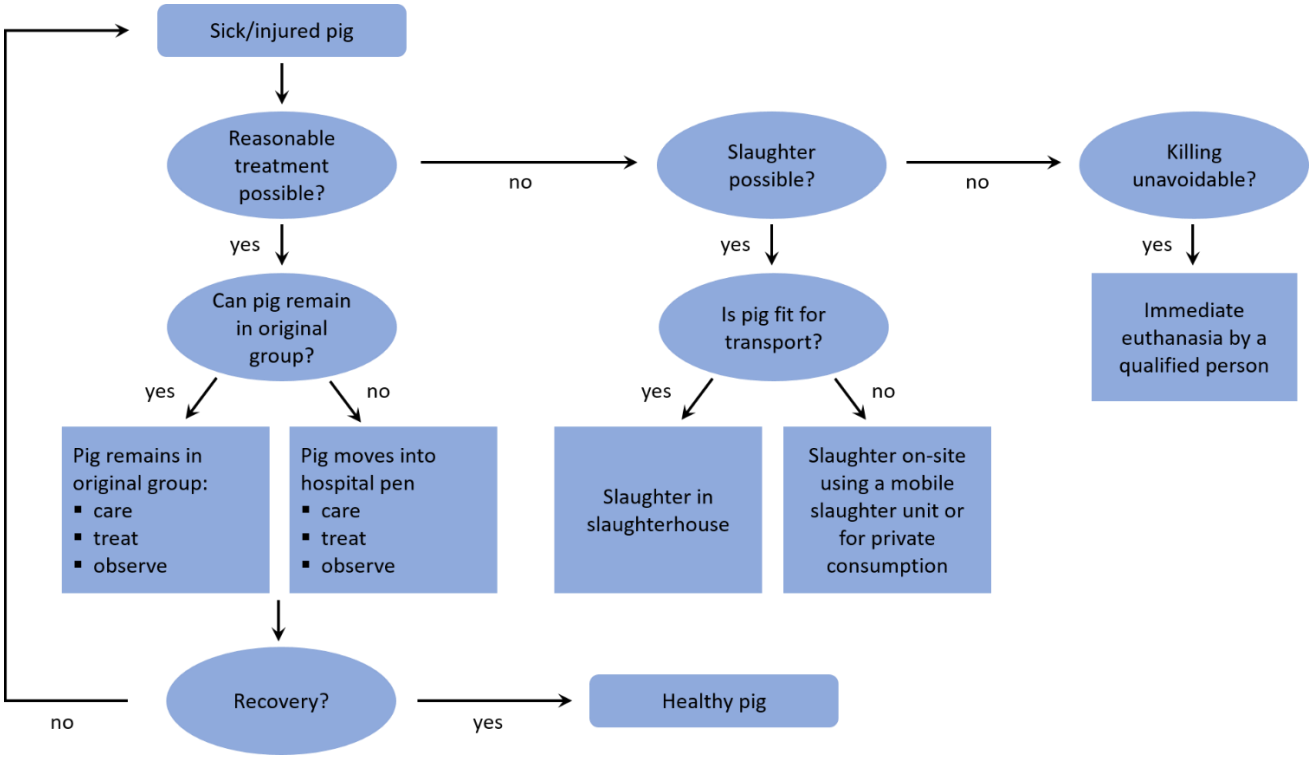

Figure 1: Key considerations for decision-making in the management of injured and sick pigs management of injured and sick pigs – adapted from Leßmann and Petermann (2016), translated from DLG-Merkblatt 430.

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In cases of minor injuries or illnesses, animals can remain with their group for treatment, but only if they are closely monitored to ensure that animals can perform functional behaviours in their pens and that the treatment is efficient (EFSA AHAW Panel, 2022). That said, a brief separation in an isolation pen can still help speed up the healing process (DLG-Merkblatt 430, 2018). This allows for easier monitoring, and rest along with unrestricted access to feed and water, which might help the animals to recover. Ideally, the separation can be achieved using partitions that allow pigs to be separated from their pen mates within the same pen, without losing visual or olfactory contact with the group. Alternatively, empty pens can be used as separation pens; however, as stated above, reintroducing the pigs to their original group is more difficult in this case, as they have had no contact with their group during the separation. When equipping such separation pens, legal requirements must be met. However, the separation pen should not become a long-term housing solution, even for mildly sick/injured pigs. If the expected recovery does not occur, the animal should be moved to the hospital pen. The recommended number of separation and hospital pens is around 2.5% of total animal spaces (Danish Pig Research Centre (SEGES)) or 3% (DLG-Merkblatt 430, 2018), as also discussed here in a Q2E on "How many hospital pens should a pig farm have?". However, in cases of frequent issues with e.g. tail biting, it's advisable to allocate space for 5–10% of animals (DLG-Merkblatt 430, 2018). Even so, in severe outbreaks, this capacity may still be insufficient, posing a challenge to animal welfare.

Requirements for hospital pens

Council Directive 2008/120/EC specifies that "*Member States shall ensure that pigs […] that are sick or injured may temporarily be kept in individual pens. In this case the individual pen used shall allow the animal to turn around easily if this is not in contradiction with specific veterinary advice*." Apart from meeting legal requirements, no requirements for the pen design are specified at EU level, but may be at member state level. It is recommended to provide soft bedding, such as rubber mats or straw, especially for those with conditions like lameness, to support their recovery. Straw offers additional benefits, such as protection against decubitus and better insulation for pigs with impaired thermoregulation. For severely ill pigs, extra warmth can also be provided through covered areas or heat lamps. Additionally, designated cooling areas can be provided in hospital pens, allowing pigs to regulate their temperature and cool down as needed. Since sick/injured pigs often struggle with consuming water and feed, it's important to have sufficient, easily accessible drinkers and feeders, e.g. preferred bowl drinkers and constant access to food.

Welfare consequences of isolating a pig

As pigs are highly social animals, separation from their group is stressful and may impair welfare (e.g. Kanitz et al., 2009; Schrader and Ladewig, 1999; Ruis et al., 1997). However, there is currently no research that allows us to determine the extent of negative welfare effects of sick or injured animals when they are either allowed to remain in their original group or are socially separated without facing competition and disturbance from pen mates.

To mitigate separation stress, it can be considered to house pairs of pigs with similar conditions in hospital pens or allow at least some visual contact between pens, to reduce separation stress (EFSA AHAW Panel, 2022). It is, however, also stressful for pigs to be mixed with unfamiliar individuals, potentially leading to group stress (EFSA AHAW Panel, 2022), especially when they are also suffering from sickness/injury.

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Possibilities to reintroduce a pig to its pen mates

After a stay in a hospital pen, reintroducing the animals to their original group can be difficult or might no longer be possible, since pigs have shown aggression upon the re-introduction of temporally separated group members (Ewbank & Meese, 1971). The negative effects of aggressive interactions are well-documented (e.g. reviewed by Peden et al., 2018). Despite these issues, Chou et al. (2019) successfully reintroduced tail biting and tail bitten pigs into their original group 14 days after temporal separation, with limited occurrence of aggression. It has to be noted that the separation and re-introduction in this study followed a strict management protocol that involved measures such as always removing and re-introducing pigs in pairs, returning them to their original group, and reintroducing them within 14 days to minimize aggression. Additionally, distractions like ropes and antiseptic spray were employed to ease the process. Pigs were never mixed with unfamiliar animals during separation.

To reintroduce previously separated animals successfully, especially the following mitigation techniques (Marchant-Forde & Marchant-Forde, 2005) can be considered for on-farm use during the rearing and fattening period:

- **Environmental modifications**: Providing barriers or hiding areas within the pen allows pigs to retreat during conflicts, significantly reducing the intensity of aggressive interactions. Pens with kennels or hide areas are also helpful, as they offer a safe retreat during fights.
- **Pre-exposure:** Allowing pigs to become familiar with each other through sensory contact (e.g., auditory, olfactory) before physical mixing has been shown to reduce aggressive behaviour over the long term. This method reduces the need for intense fighting when pigs are eventually mixed.
- **Novelty and distractions:** Introducing new and engaging objects or enrichment materials the pen can distract pigs during mixing, reducing the frequency and intensity of aggressive encounters.

If these initiatives are not possible, reintroduction of pigs into their group after a period of separation should be avoided, e.g. by establishing hospital sections, where pigs are kept until slaughter.

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