Current knowledge and **ways forward** to improve **welfare** of **cull sows** during **transport** and in **lairage**

Photo: Carsten K. Christensen

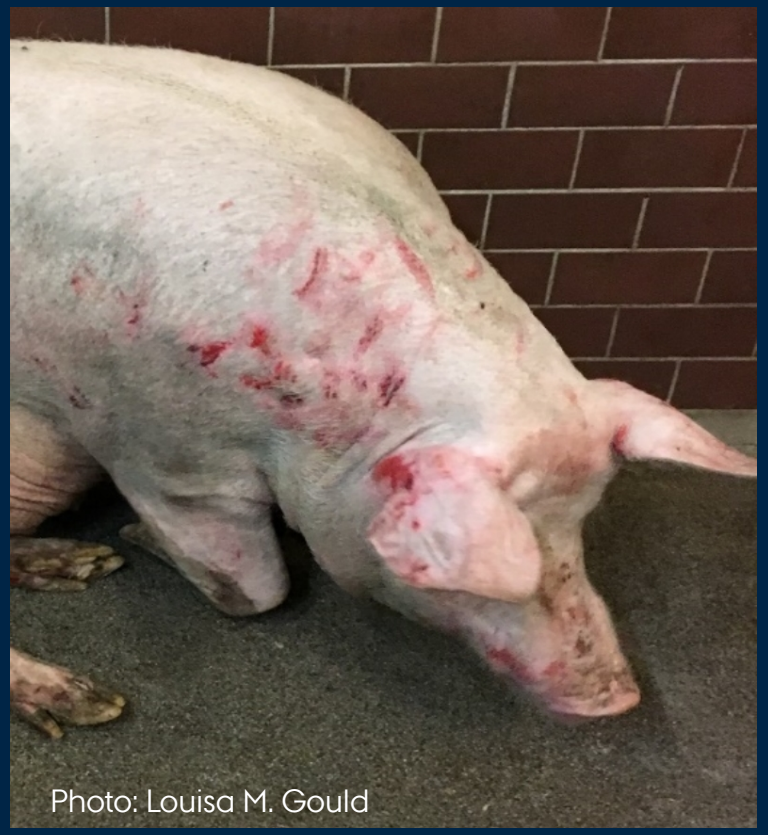

Photo: Louisa M. Gould

CULL SOWS

- "End of career" → slaughter
- Only few slaughterhouses accept sows

  → longer transport durations
- Danish national legislation max. 8 h (EU: 24 h)
- Prolific, often lactating → high metabolism

  → increased sensitivity to heat stress
- Upper critical temperature for sows in late

Photo: Kalle S. Herskin

CURRENT KNOWLEDGE

The pre-slaughter logistic chain:

Pick-up facilities,

transport and

lairage at the slaughterhouse

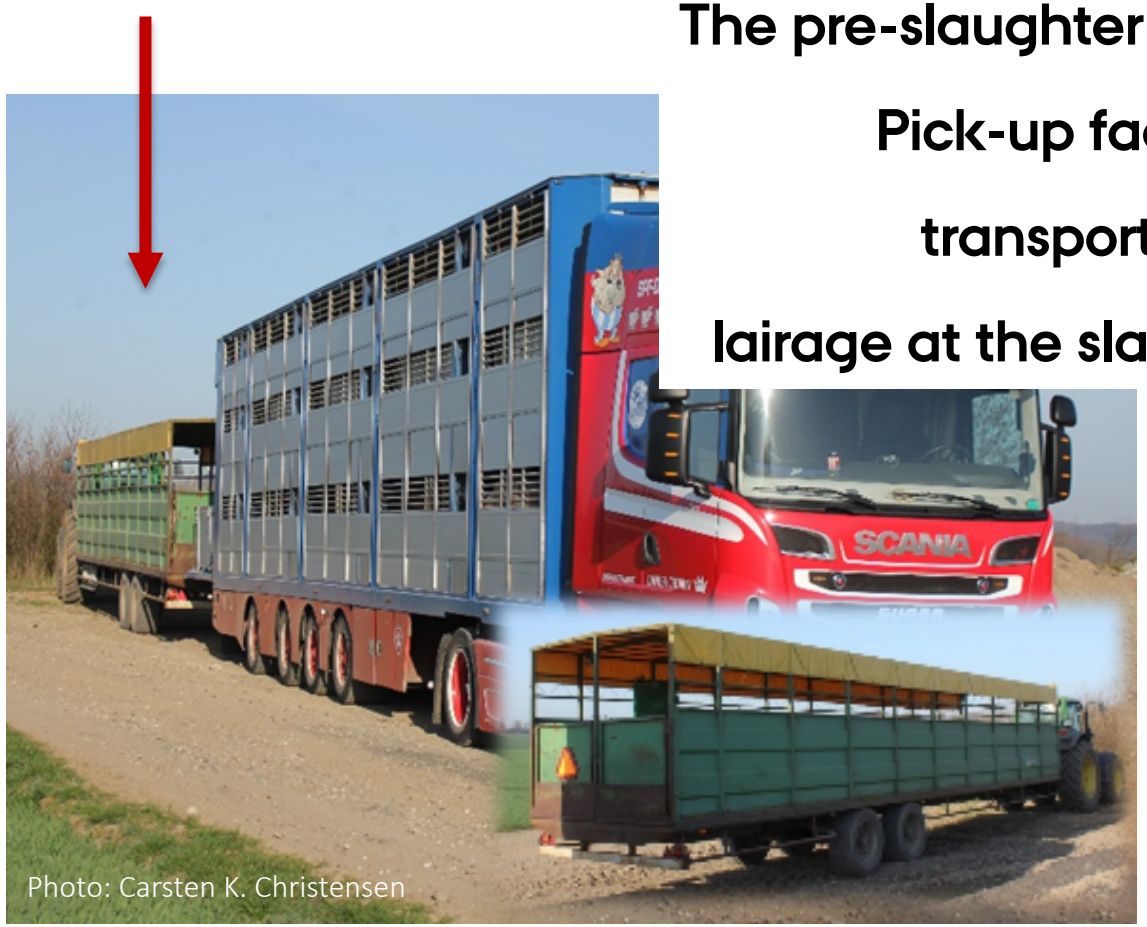

Photo: Carsten K. Christensen


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CURRENT KNOWLEDGE

- Mixing → aggression
  - on-farm (Herskin et al., 2020)
  - in the pick-up facility (Herskin et al., 2020)

Photo: Carsten K. Christensen


Photo: Louisa Gould

CURRENT KNOWLEDGE

- Clinical condition
  - Before transport: worse than known from younger pigs sent to slaughter → transport can become a challenge (Fogsgaard et al., 2018)
  - After transport: deterioration (Thodberg et al., 2019)
    - Associated with longer transport duration

CURRENT KNOWLEDGE

- Temperature

  Questionnaire for drivers (Thodberg et al., 2020)

Risks to welfare:
prior clinical condition, mixing, high temperature

  - When stationary → temperature ↑ and always warmer inside the vehicle

    (Thodberg et al., 2022)

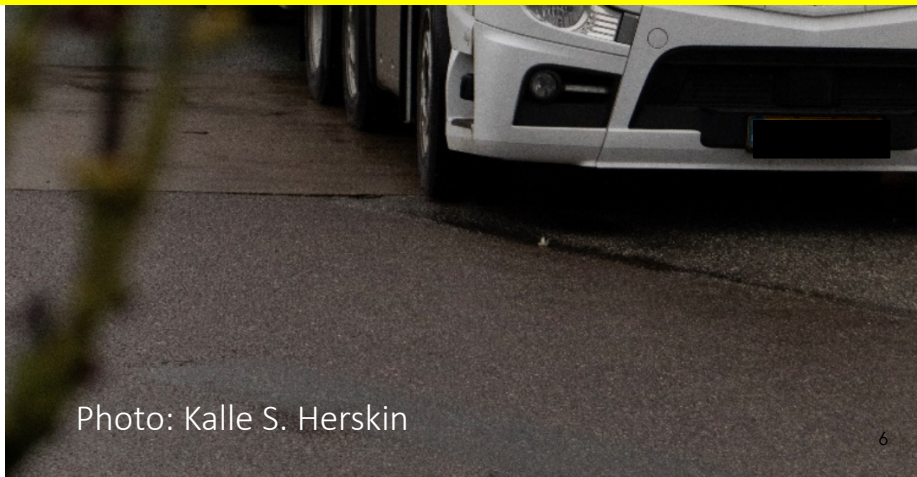


Photo: Kalle S. Herskin

NEW KNOWLEDGE

Study 1: Behaviour during transport

Study 2: Behaviour during lairage

Photo: Kalle S. Herskin

NEW KNOWLEDGE

Study 1: Behaviour during transport

Aim:

To examine effects of

1) journey duration

2) a long stationary period

3) temperature inside the vehicle

Photo: Kalle S. Herskin

DURING TRANSPORT

- 3 × 2 factorial design
  - Journey duration: 4 h, 6 h or 8 h
  - ± Stop
- 28 loads
- 11-12 sows per compartment

Photo: Louisa Gould

DURING TRANSPORT

- Higher temperature → less upright

- Avg. temperature: 17 (8-30°C)

DURING TRANSPORT

Interaction: Stop × latency to stop

- With a longer latency until the stop,

Risks to welfare:

Mixing → aggression

Standing during transport → fatigue

Temperatures >22° C → heat stress

Study 2: Behaviour during lairage

To examine effects of

1) temperature

2) journey duration

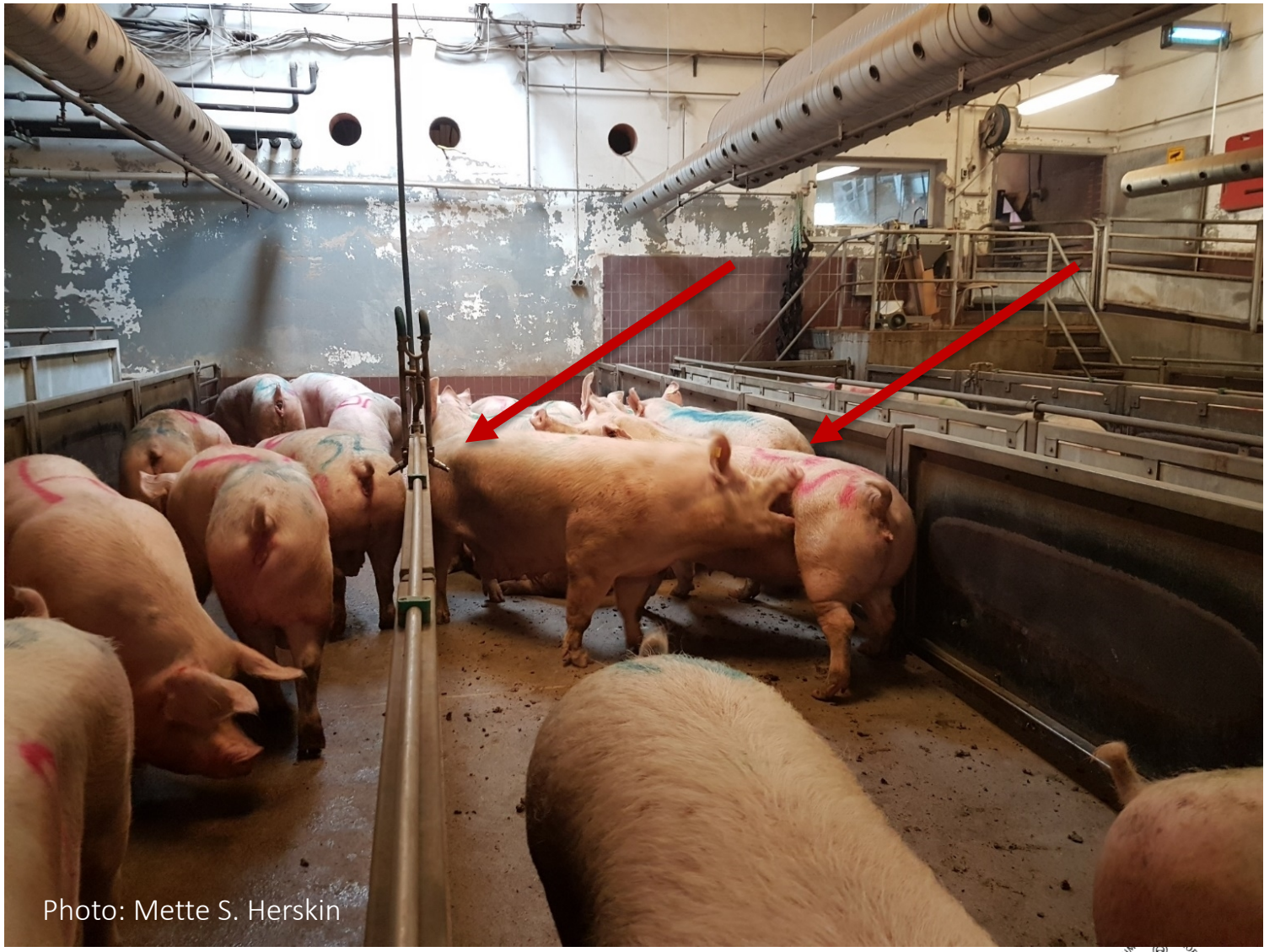
Photo: Kalle S. Herskin

DURING LAIRAGE

- Mixing unfamiliar sows
- Water nipples
- Duration of stay: minutes to overnight

  → ready for slaughter next day

    - Fed on the floor



DURING LAIRAGE

- Observational
- 23 commercial loads
- Different journey durations within a load
- In the lairage pen: 25 sows

  (~ 5 sows/duration)
- Observed for 60 min after unloading


Photo: Kalle S. Herskin

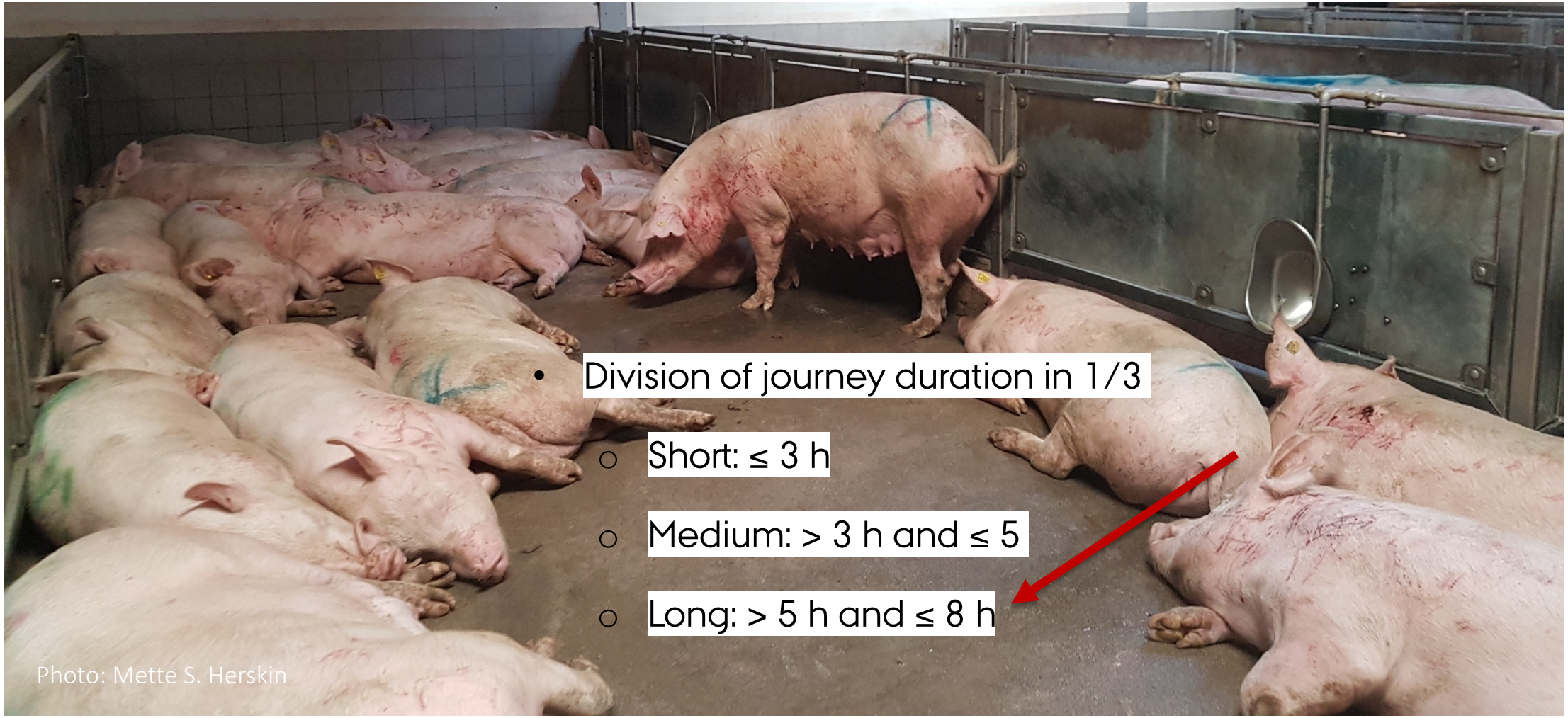
DURING LAIRAGE

- Temperature averages: 4-26˚C
- The initial 30 min:

Standing, aggression and drinking

- After 60 min:
- ~ 90% lying
- Aggression initiated: 36%
- Aggression received: 72%
- Drinking: 36%

DURING LAIRAGE



- Division of journey duration in 1/3
  - Short: ≤ 3 h
  - Medium: > 3 h and ≤ 5
  - Long: > 5 h and ≤ 8 h

DURING LAIRAGE

- Journey duration × temperature interactions:
  - Short journeys and ↑ temperature → aggression ↑
  - Long journeys and ↑ temperature → aggression ↓, drinking ↓, lying ↑

- Prioritising lying over re-establishing dominance hierarchy and rehydrating
  - A sign of fatigue?
    - Motivational or physiological indicators are needed

Photo: Kalle S. Herskin

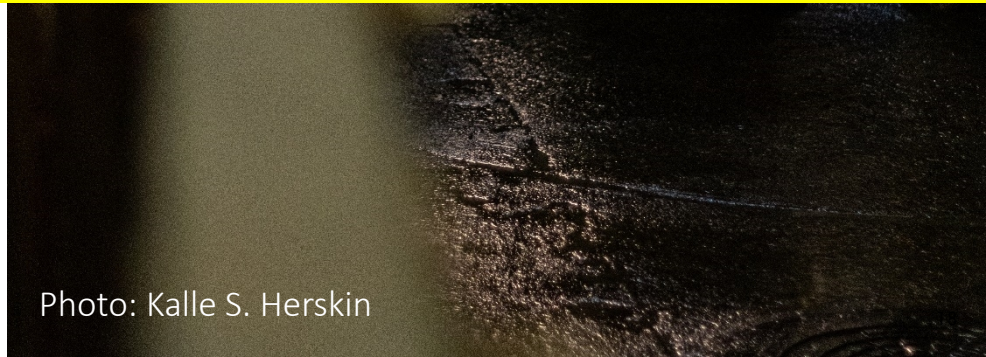
WAYS FORWARD

- Plan the trip so journeys are as short as possible

Emerging risk to welfare:
Climate change → temperatures ↑

Question:
Are cull sows ever really fit for transport?

- Minimise mixing of unfamiliar sows



Thank you for your attention

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