

Enhancing Paediatric Nursing: A webinar focusing on critical signs

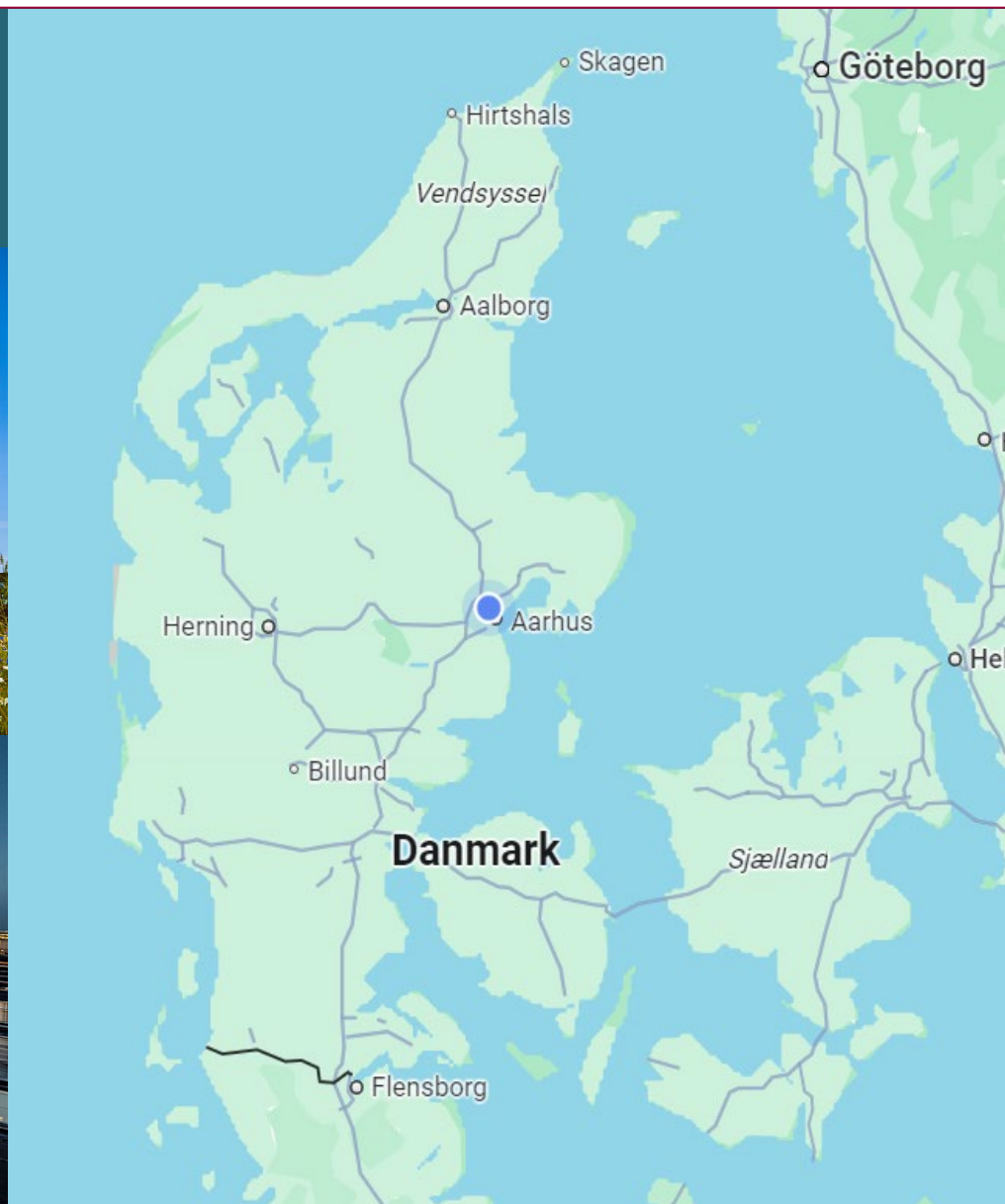
Claus Sixtus Jensen

PhD, MHSc(Nurs), RN

Associate Professor in Children's Nursing & Clinical Nurse Specialist
Department of Paediatrics and Adolescent Medicine & Research Center for
Emergency Medicine, Aarhus University Hospital



Aarhus University Hospital





Clinical deterioration and paediatric track and trigger tools



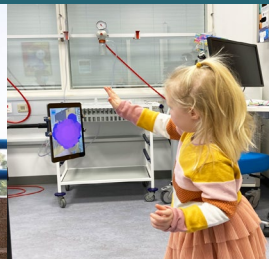
Children and young people and pain

- Virtual Reality
- Augmented Reality



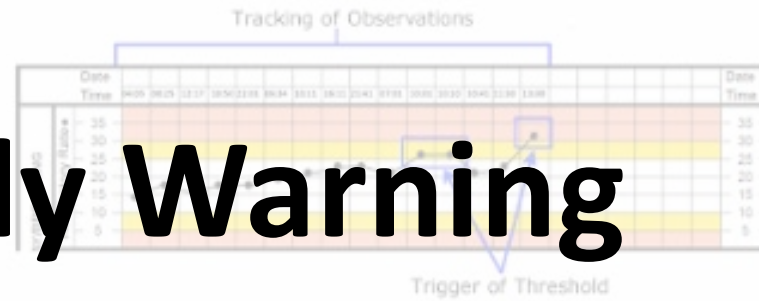
Child and Family Centered Care

Patient reported experience measure (PREM)
Involvement of children and young people
Restrain free clinical practice



Paediatric Early Warning Score:

- Reduces the need for critical care
- Gives staff an early indication of potential risk for clinical deterioration
- Provides an objective score



AGE	Approximate weight (kg)	Approx. Systolic Pressure (mmHg)	Heart Rate (beats/minute)	Respiratory Rate (breaths/minute)
Term	3.5	60-105	110-170	25-60
3 months	6	65-115	105-165	25-55
6 months	8	65-115	105-165	25-55
1 year	10	70-120	85-150	20-40
			85-150	20-40
			85-150	20-40
			70-135	16-34
			70-135	16-34
			70-135	16-34
			60-120	14-26
			60-120	14-26
			60-120	14-26

St Mary's Hospital Guidelines for the Management of Acute Paediatric Pain

Pain Assessment

Assessment of Pain Scale (WPA)

WPA Score	Assessment	Management
0	No pain	None
1	Mild pain	Paracetamol
2	Moderate pain	Paracetamol + Morphine
3	Severe pain	Paracetamol + Morphine + Fentanyl

Additional criteria for escalation on back page

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60

How difficult can it be?



Clinical deterioration in pediatric patients

Changes in vital parameters and behavior indicating a decline in a child's condition may be present in the 24 hours prior to an adverse event.

Nurses' bedside observations are thus essential in identifying signs of deterioration.

Nurses often use intuition to recognize patients whose condition is deteriorating.

Unrecognized deterioration in pediatric patients is still a problem.

(Chapman, Wray et al. 2016; Lambert, Matthews et al. 2017; Sorensen et al. 2016, Fox, Elliott 2015, Lydon et al. 2016, Jensen et al. 2018)



Nursing Surveillance for Deterioration in Pediatric Patients: An Integrative Review



James R. Stotts, RN, MS, PhD, CNS^{a,b,*}, Audrey Lyndon, PhD, RNC, FAAN^{a,1}, Garrett K. Chan, PhD, APRN, FAEN, FPCN, FAAN^{c,d}, Arpi Bekmezian, MD^{e,f}, Roberta S. Rehm, PhD, RN, FAAN^a

as surrogate measures (Jones, Mitchell, Hillman, & Story, 2013). For children hospitalized in acute care settings, the rates of clinical deterioration vary from 2 to 19% (Berg, Nadkarni, Zuercher, & Berg, 2008; Up to 16% of clinical deterioration events can be attributed to suboptimal care such as delays in recognition or escalation (Hayes et al., 2012).

One size does not fit all

- PTTTs do not distinguish amongst different diagnoses or individual patient characteristics
- Children with expected abnormal vital signs frequently undergo unnecessary clinical assessments
- PTTT does not allow much room for individual clinical assessment
- Nurses and medical doctors do not always comply with PTTT protocol
- This calls for reflection if the perfect one-size-fits-all PTTT has been developed

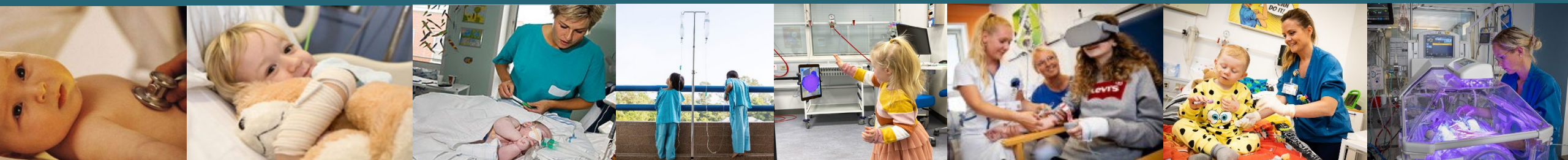
(Jensen, Aagaard, et al. 2018; Jensen, Olesen, et al. 2018; Jensen, Nielsen, et al. 2018; Jensen, Kirkegaard, et al. 2018)



Nurses play an important role

- **Nurses' clinical impressions are important in assessing a paediatric patient's condition**
- **Nurses often use intuition to recognise patients whose condition is deteriorating**
- **Lack of knowledge about the signs and symptoms other than vital signs that trigger nurses' concern for paediatric patients at risk of clinical deterioration**

(Zachariasse et al., 2017; Gawronski et al., 2018)



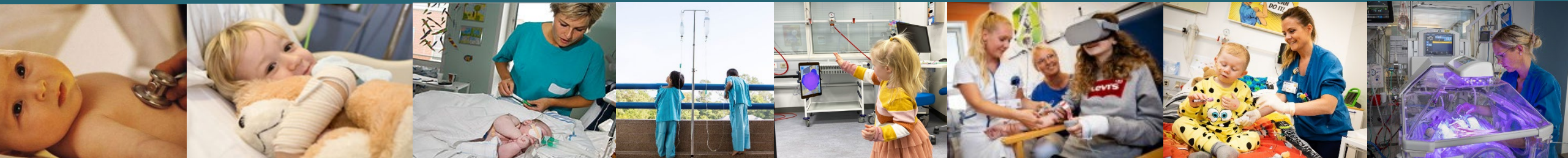


Lack of knowledge about the signs and symptoms other than vital signs that trigger nurses' concern for pediatric patients at risk of clinical deterioration



Which signs and symptoms other than vital signs trigger your concern for pediatric patients at risk of clinical deterioration

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Scoping review – Joanna Briggs
Institute methodology
(Jensen et al., 2018, 2022)

Qualitative Single Center Study
(Rørbech et al., 2022)

Multicenter focus group study
(Jensen et al., 2024)



Methods

Scoping review

7 Studies included in the scoping review - All using a qualitative design

Qualitative Single Center Study

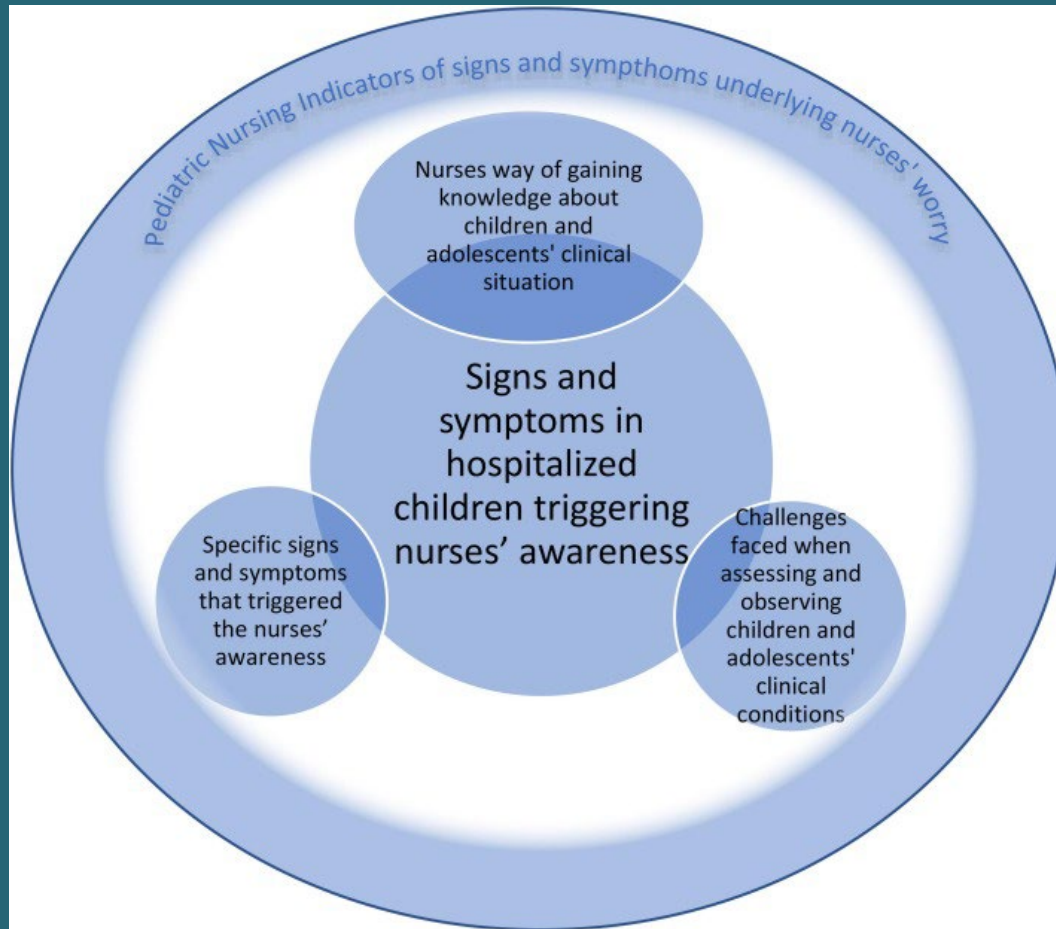
Data were obtained through participant observation of experienced nurses working in a Danish pediatric unit and focus group interviews with nurses.

Multicenter focus group study

Three pediatric departments in Denmark and a nursing department of a university in Norway, offering post graduate education programs for health care professions working with children and adolescents throughout Norway.



Findings



Nurses' way of gaining knowledge about children and adolescents' clinical situation

Intuition or "gut feeling"

Use of senses: touch, sight, listening

Information from parents

Experience shapes accurate judgment



Challenges when observing and assessing children and adolescent's clinical conditions

Night-time assessments

Physiological compensation in children

Parental behavior and perceptions

Presence of electronic devices



Specific signs and symptoms that triggered the nurses' awareness

Respiration: Accessory muscles, breathing patterns

Circulation: Skin color, clamminess, puffiness

Consciousness: Lethargy, eye contact, interaction changes

Facial expressions: Worry lines, panic look

Parental concern

Nurses' clinical judgment

"It is the feeling that something is not quite right with the patient"

"The more experience I gain, the more I use my gut and use gut feeling frequently in conjunction with vital signs"



Changes in respiration

- Use of accessory muscles
- Wheezing or shallow breathing

Changes in circulation

- Changing colour: pale, grey, mottled/ marbled
- Clammy or sweaty
- Puffy around the eyes

Level of consciousness

- Apathetic
- Edginess
- Change in crying or high-pitched crying
- Unexpected reaction to procedures or contact with healthcare professionals
- Child's posture, muscle tone and movement patterns

Facial expression

- Looking worried
- Worry lines in the child's face

Parental concern

- Parents express concern for their child

Nurses' clinical judgment

- "Gut feeling" that something is wrong

Conclusion

- Nurses 'use' several signs and symptoms that are not part of Pediatric Track and Trigger Tools
- Nurses gut feeling seems to play an important role
- Access to the non-measurable signs requires proactive observations where the nurse engages with and stimulates the child to respond



Questions?

claus.sixtus@skejby.rm.dk

<https://orcid.org/0000-0001-5416-7744>

[Unit for Research in Children's Nursing| LinkedIn](#)

