

# „Human Neonatal Care Lab“

Using innovative and advanced technology to optimize developmental opportunities of extreme preterm infants

Erasmus MC Hoofdingang

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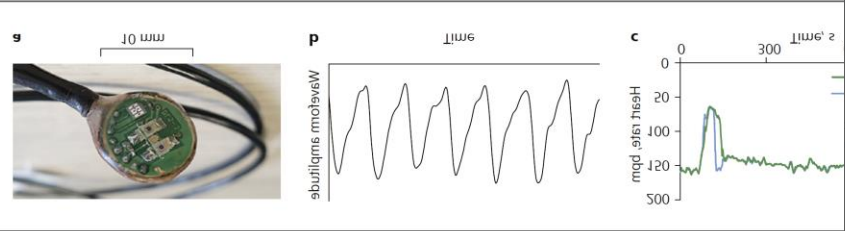
**Original Paper**

**Neonatology**

Neonatology Received: December 7, 2019  
 DOI: 10.1159/000506771 Accepted after revision: February 19, 2020  
 Published online: May 28, 2020

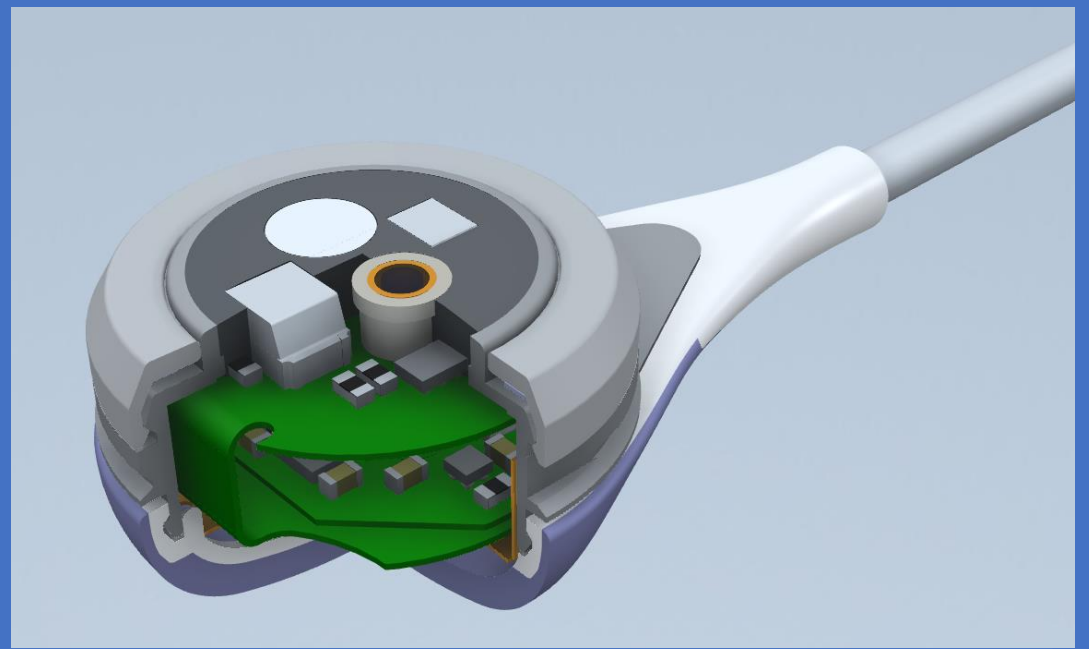
## Dynamic Light Scattering: A New Noninvasive Technology for Neonatal Heart Rate Monitoring

Norani H. Gangaram-Panday<sup>a</sup> Tanja van Essen<sup>a</sup> Tom G. Goos<sup>a,b</sup>  
 Rogier C.J. de Jonge<sup>c</sup> Irwin K.M. Reiss<sup>a</sup> Willem van Weteringen<sup>a,d</sup>



Monitoring sepsis

## OxiVenT™ Sensor - Highly integrated microtechnology in a small package



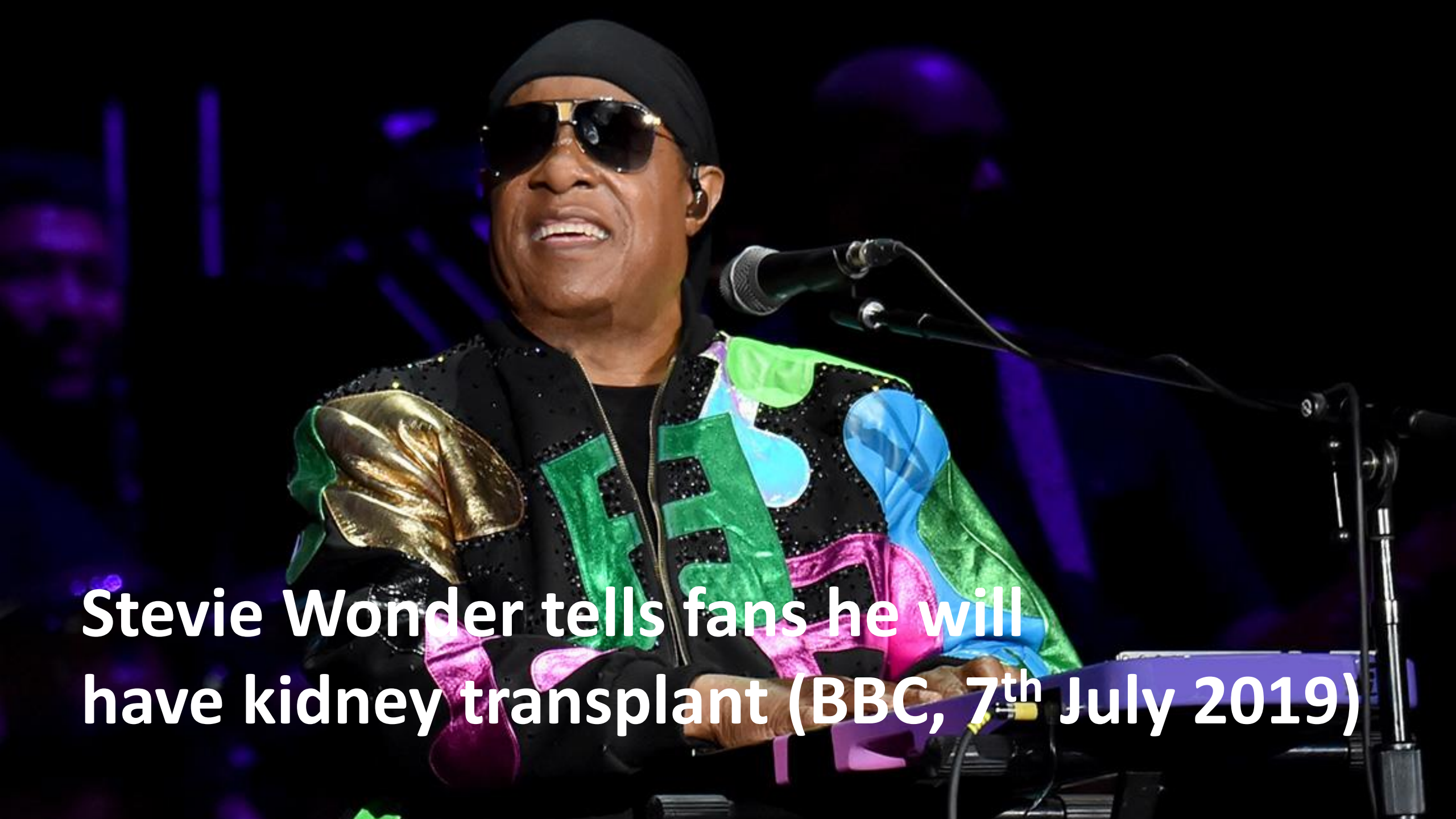
**Original Paper**

**Neonatology**

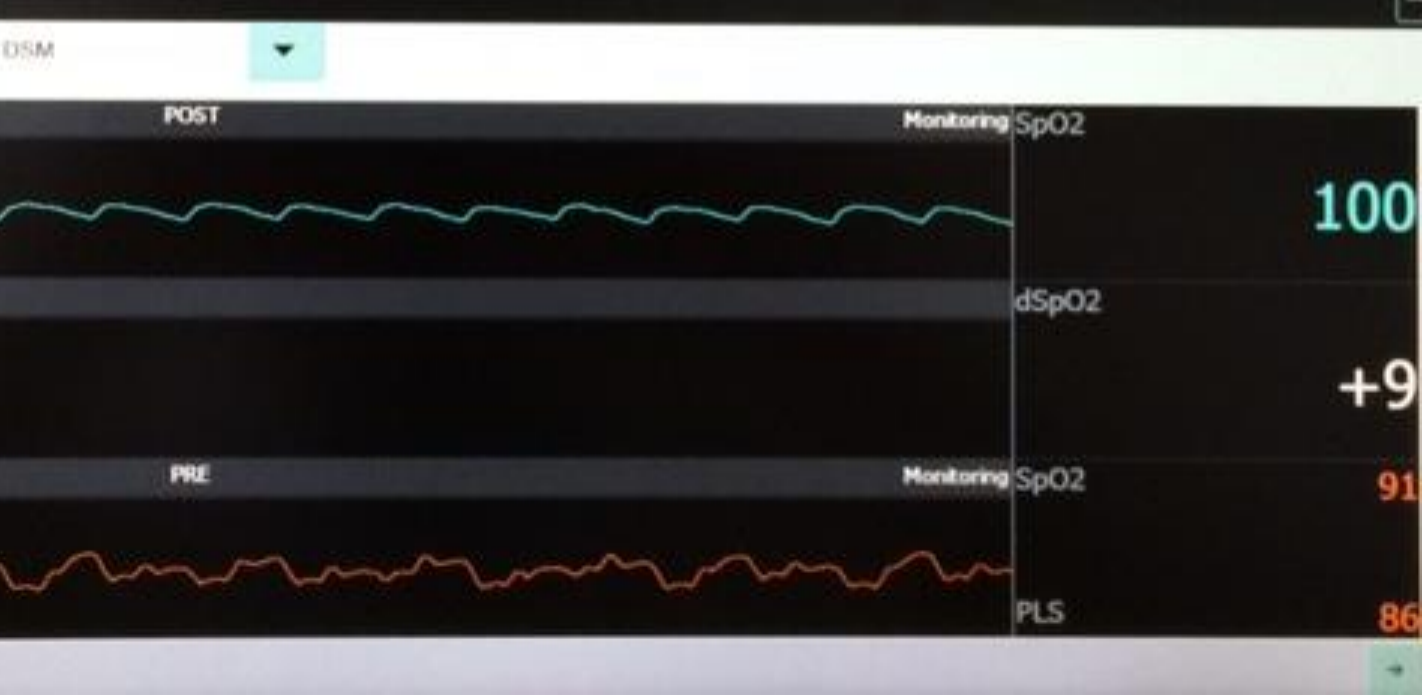
Neonatology Received: May 2, 2020  
 DOI: 10.1159/000510659 Accepted: July 20, 2020  
 Published online: September 30, 2020

Medical & Biological Engineering & Computing (2020) 58:239–247  
<https://doi.org/10.1007/s11517-019-02067-x>

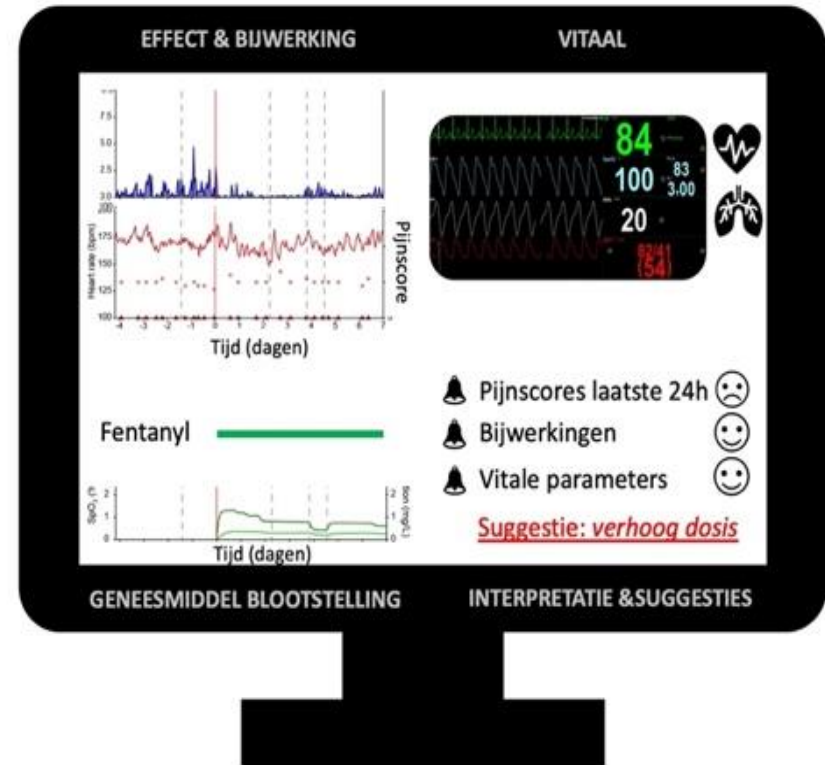
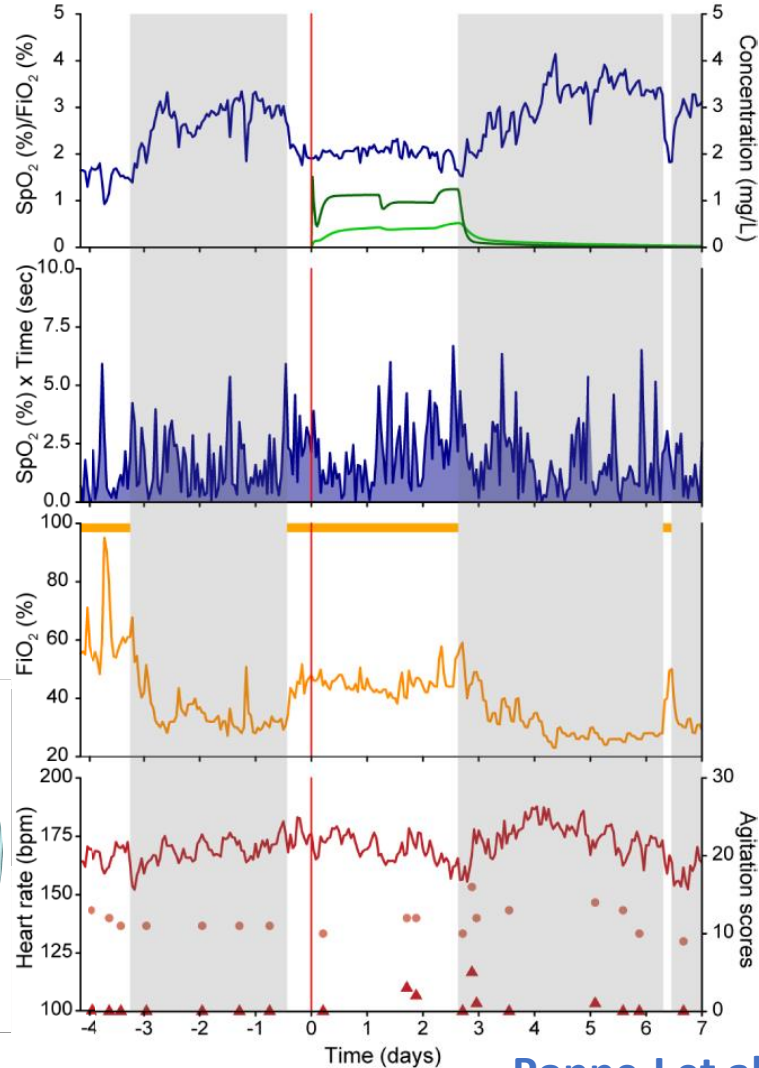




**Stevie Wonder tells fans he will  
have kidney transplant (BBC, 7<sup>th</sup> July 2019)**



# Precision Dosing of Doxapram in Preterm Infants Using Continuous Pharmacodynamic Data and Model- Based Pharmacokinetics



signalen



ouders op afstand



extern consult





Click on logo to start video

# Better Soundscapes

With an evidence-based design approach, our aim is to ensure

- Healthy start to hearing
- Parenting without anxiety
- Smoother workflows



## Issues with NICU sounds

- one unit with 8 babies can produce up to 5000 alarms in 24 hours
- peak sound levels can reach up to 125 dB
- premature babies show signs of PTSD towards sounds in later stages of life
- families develop PICS - post intensive care syndrome



Dr. Elif Ozcan  
Director - Critical Alarms Lab



# Better

With an evidence-based design

- Healthy start to
- Parenting witho
- Smoother work



Dr. Elif Ozcan  
Director - Critical Alarms Lab



# ICN Alarmdashboard

ICN1

Unit

5139

Aantal alarmen

## Filters

Unit

- ICN1
- ICN2
- ICN3

Aantal uur geleden

0 24

Alarmduur (sec)

1 2988

Profiel

- Circulatoir
- Respiratoir
- Temperatuur

Aantal bedden bezet

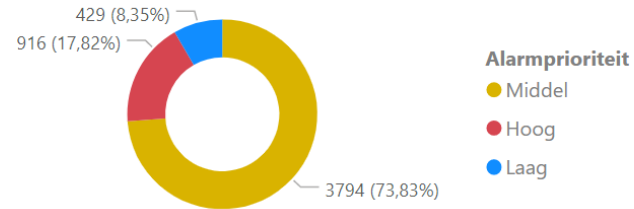
9

Gemiddeld aantal alarmen per bed

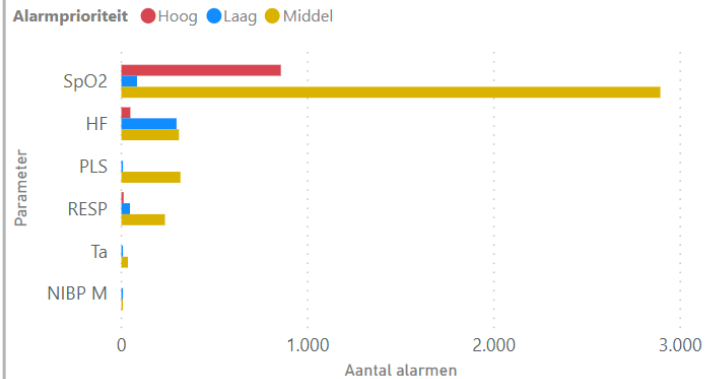
571.00

Laatste update  
27-4-2021 11:01:18

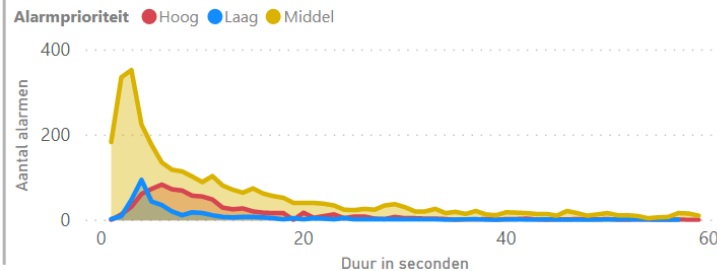
## Verdeling alarmen naar prioriteit



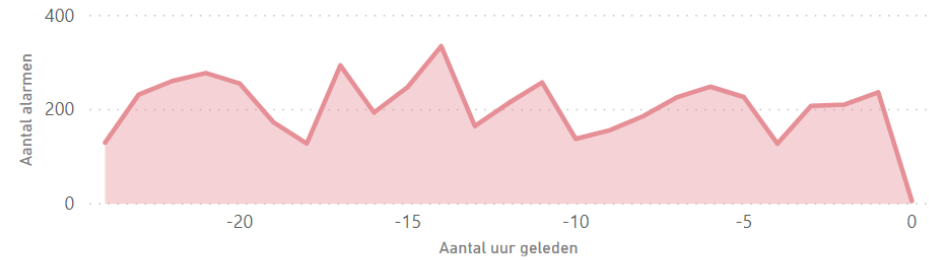
## Aantal alarmen per parameter en alarmprioriteit



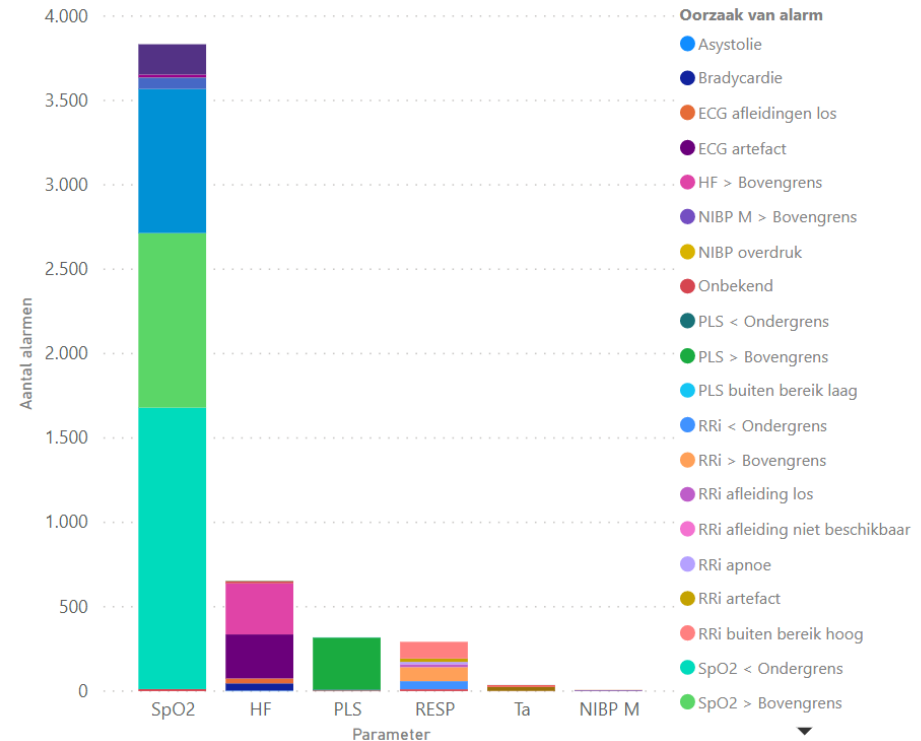
## Aantal alarmen per alarmduur en alarmprioriteit



## Aantal alarmen per uur



## Aantal alarmen per parameter en oorzaak van alarm



# Conclusion:

- The *“Erasmus MC -Neonatal Care Lab”* is a platform using innovative and advanced technology to optimize developmental opportunities of extreme preterm infants
- *“Healthy Start”* enable us to join forces and to bring expert from different disciplines together to develop, study and implement advanced technology in neonatal intensive care



Neolook Solutions

