

# Do healthcare professionals follow the airway-breathing-circulation-disability-exposure (ABCDE) structure during simulated resuscitations and does this depend on how it was taught?

<b>Submission date</b> 09/10/2020	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 13/10/2020	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 18/10/2021	<b>Condition category</b> Other	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

The Airway, Breathing, Circulation, Disability, and Exposure (ABCDE) approach is widely recommended and taught in many resuscitation courses. In this study we assess the adherence to the ABCDE algorithm and whether this is affected by the instruction method used to teach this approach in healthcare professionals who work with new born babies (neonates).

### Who can participate?

Neonatal healthcare providers (nurses, ward physicians, and consultants) of all ages, employed at the Radboudumc, Nijmegen, the Netherlands.

### What does the study involve?

Performing neonatal advanced life support (NALS) scenarios on a manikin and determining to what extent the professionals follow the ABCDE approach during such simulated resuscitations, and whether or not the adherence to the ABCDE structure differs between professionals who are trained regarding the ABCDE structure by means of a lecture or through a video-based instruction.

### What are the benefits and risks of participating?

There are no risks involved in this study. The benefit for the partaking professionals may be that they are better trained in the ABCDE approach by one of the two instructional methods.

### Where is the study run from?

The simulation facility of the tertiary care perinatal center (Radboudumc, Nijmegen, the Netherlands).

When is the study starting and how long is it expected to run for?  
May 2017 to January 2018

Who is funding the study?  
Investigator initiated and funded

Who is the main contact?  
Mathijs Binkhorst, mathijs.binkhorst@radboudumc.nl

## Contact information

**Type(s)**  
Scientific

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## Additional identifiers

**EudraCT/CTIS number**  
Nil known

**IRAS number**

**ClinicalTrials.gov number**  
Nil known

**Secondary identifying numbers**  
Nil known

## Study information

**Scientific Title**  
Adherence to the ABCDE approach in relation to the method of instruction: a randomized controlled simulation study

**Acronym**  
ABCDE

## **Study objectives**

We want to investigate to what extent neonatal healthcare professionals follow or adhere to the ABCDE structure (also referred to as ABCDE approach or algorithm) during simulated neonatal advanced life support (NALS) scenarios. In addition, we want to determine whether this adherence is different between professionals trained in this structure by means of a lecture or through video-based instruction (VBI).

## **Ethics approval required**

Old ethics approval format

## **Ethics approval(s)**

Approved 19/06/2017, Institutional Review Board (IRB) of the Radboud UMC (Geert Grooteplein-Zuid 10, 6525 GA, Nijmegen, the Netherlands; +31-24-3613154; commissiemensgebondenonderzoek@radboudumc.nl), ref: 2017-3513

## **Study design**

Single-center single-blinded randomized controlled simulation study

## **Primary study design**

Interventional

## **Secondary study design**

Randomised controlled trial

## **Study setting(s)**

Hospital

## **Study type(s)**

Other

## **Participant information sheet**

No participant information sheet available

## **Health condition(s) or problem(s) studied**

Adherence to guideline among neonatal healthcare professionals during the simulated resuscitation of newborns.

## **Interventions**

Participants are randomly assigned to the two study groups, using sequentially numbered opaque sealed envelopes by an independent third party, with an allocation ratio of 1:1. One group of professionals receives training/instruction regarding the ABCDE algorithm by means of a conventional (PowerPoint) lecture (20-30 min in duration, provided by an experienced simulation specialist).

The other group receives a video-based instruction (15 min, video specifically recorded for this study, showing peer professionals performing the ABCDE approach, just like the lecture only available on study days, not online or elsewhere).

All participants then perform neonatal advanced life support scenarios in the simulation facility of our tertiary perinatal care center (Radboudumc, Nijmegen, the Netherlands). During these scenarios, they systematically evaluate the condition of simulated, vitally unstable neonatal patients using the ABCDE structure. All scenarios are videotaped for later analysis.

**Intervention Type**

Behavioural

**Primary outcome measure**

Adherence to the ABCDE structure/approach is measured by a specifically trained video observer with an assessment instrument/scoring list, which was specifically developed and validated for this study. This video-based scoring procedure takes place several weeks after the scenarios are performed.

**Secondary outcome measures**

1. Adherence of each profession category (nurses, ward physicians, fellows/neonatologists) to the ABCDE approach, measured using the abovementioned assessment instrument, at the same time point (several weeks after the actual scenarios)
2. Adherence to the domains (A, B, C, D, E) of the ABCDE approach, measured using the abovementioned assessment instrument, at the same time point (several weeks after the actual scenarios)

**Overall study start date**

18/05/2017

**Completion date**

24/01/2018

**Eligibility****Key inclusion criteria**

Neonatal healthcare professionals of all ages, working at the neonatal intensive care unit (NICU) and/or high care (HC) of the Radboudumc, Nijmegen, the Netherlands

**Participant type(s)**

Health professional

**Age group**

Adult

**Sex**

Both

**Target number of participants**

Based on a sample size estimation, the target total number of participants was 42 (21 per group)

**Total final enrolment**

92

**Key exclusion criteria**

Participant refuses to give permission to use his/her videotaped scenarios for study purposes

**Date of first enrolment**

12/06/2017

**Date of final enrolment**

24/01/2018

## Locations

**Countries of recruitment**

Netherlands

**Study participating centre**

**Radboud University Medical Center Amalia Children's Hospital**

Geert Grooteplein-Zuid 10

Nijmegen

Netherlands

6525 GA

## Sponsor information

**Organisation**

Amalia Kinderziekenhuis

**Sponsor details**

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**Sponsor type**

Hospital/treatment centre

**Website**

<http://www.amaliakinderziekenhuis.nl/>

**ROR**

<https://ror.org/024pk8k39>

## Funder(s)

**Funder type**

Other

**Funder Name**

Investigator initiated and funded

## Results and Publications

**Publication and dissemination plan**

Planned publication in a journal for the target audience (i.e. resuscitation of medical education journal). All data generated in this study will be incorporated in the manuscript.

**Intention to publish date**

01/12/2020

**Individual participant data (IPD) sharing plan**

All data generated or analysed during this study will be included in the subsequent results publication

**IPD sharing plan summary**

Other

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>		15/10/2021	18/10/2021	Yes	No