

States and State Transitions – Dilemmas for Dialogue

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Aims

The state subsystem is difficult to understand as a NIDCAP Professional-in-Training. NIDCAP Professionals-in-Training are expected to reliably recognize the six Brazelton states¹, and the division of each state into the diffuse (A) or robust (B) subcategory.^{2,3}

The AA State is a unique feature of NIDCAP naturalistic observation, recognized as a respiratory pause greater than eight seconds and defined in the NIDCAP Training Manual as 'removal from the state continuum'.³ This definition seems to contradict Precht's definition of the state as a "discrete mode of neurological activity, during which a group of physiologic and behavioural characteristics that regularly recur together".⁴ This implies that the six states are *discrete*; whereas the AA State definition postulates a state *continuum*.

The complexity of states increases when referring to the APIB Manual, where States 1AA and 2AA are mentioned as "states in which *severe diffuseness is embedded*".⁵

The confusion about states, particularly the AA state, is a frequent topic of uncertainty at NIDCAP training days at our NIDCAP Training Centre. A lively discussion usually follows but without a conclusion. To gain a deeper understanding of, and to clarify uncertainties about infant state, a survey was sent to NIDCAP Trainers. Trainers were asked for their interpretation of the states seen on a short video, and for their understanding of states 1AA and 2AA.

Methods

A six-minute video from a training observation was sent to NIDCAP Trainers, with a Google distribution listserv survey. Trainers were asked to view the video, and then answer questions about states and transitions, and whether the two-minute intervals used in a NIDCAP observation accurately captured details of the infant's state profile. Trainers were also asked if the infant moved into State 2AA, and how they explained States 1AA and 2AA to NIDCAP Professionals-in-Training.

Results/Findings

Three responses have been received to date.

- A) The number of State Transitions identified during the video was either 7 or 15 (one respondent did not reply).
- B) Transitions between states: The number of respondents who identified any state(s) during each two-minute time interval is shown below. Multiple states could be chosen for each interval:

Table 1

State/ Time Interval	0 to 2 minutes	2 to 4 minutes	4 to 6 minutes
1A	-	-	-
2A	1	2	2
3A	2	2	2
4A			
5A	1		2
6A			
AA	1	2	

- C) All respondents felt that details of the state profile were not captured by simple recording in the table above.
- D) In response to "When baby stops breathing and becomes flaccid, is he moving into state AA or 2A?", two replied 'AA; one did not commit.
- E) In response to "How do you explain the states 1AA and 2AA to your trainees," the trainers were not sure; "Very good question, not sure myself!"

Limitations

Only three responses have been received to date. The link to the survey and video will remain live at <https://forms.gle/fNNmEMSTPY258JEv5>. Responses received between the submission of this abstract (30 June) and 31 August 2023 are presented.

The quality of the video (e.g. movement artifact) was challenging for some respondents.

Relevance to NIDCAP

Understanding states is critical for reliability as a NIDCAP Professional. Caregivers also ideally synchronise interactions to infants' states and need some appreciation of this concept. Our questions and the input from trainers highlight the complexity of 'State'. We hope to begin a dialogue with the NIDCAP community toward enhanced understanding of states, that will lead to improved care and outcomes for newborns in hospitals.

Conclusion

States and State Transitions are complex and confusing to