

Shifts Happen: The Neurobehavioral Consequences of 24+-Hour versus 16-Hour Shifts on Residents Rotating in the Pediatric Intensive Care Unit

March 1, 2021

The toll that prolonged work hours can take on a physician has been a frequent subject of studies and editorials in our journal and others.

Lewis First, MD, MS, Editor in Chief, Pediatrics

Content License: FreeView

Article type: [Pediatrics Blog](#)



The toll that prolonged work hours can take on a physician has been a frequent subject of studies and editorials in our journal and others. While the Accreditation Council for Graduate Medical Education (ACGME) changed their guidelines over a decade ago to ask that first year residents limit their work hours to 16-hour shifts, in 2017 these guidelines were revised allowing residents of any year of training to work shifts up to 24 hours with an addition 4 hours for transitions of care or participation in resident

educational activities. Does increasing a work shift by 8+ hours from 16 to 24+ make a difference regarding the ability of a resident to perform their duties safely? Do the benefits of longer shifts outweigh the risks of potential fatigue translating into increased risk of medical errors?

Rahman et al ([10.1542/peds.2020-009936](https://doi.org/10.1542/peds.2020-009936)) addressed these questions with a multi-center cluster randomized crossover clinical trial called the Randomized Order Safety Trial Evaluating Resident-Physician Schedules study. The authors randomized second- and third-year residents working in the pediatric intensive care unit (PICU) to work 4-week rotations on 24+ shifts (referred to in the study as extended duration work rosters or EDWRs) or on 16-hour shifts (referred to as rapid cycling work rosters or RCWRs). While on these shifts, residents kept sleep and work logs, performed psychomotor vigilance tasks, and filled out validated sleepiness scales. The results of this study are both extremely interesting and concerning. Residents on the EDWR shifts demonstrated more attentional failures and had significantly higher serious medical errors than those on the RWCR shifts.

So, what are the ramifications of these findings? We invited work-hour experts Dr. Abimbola Oguntebi at Kaiser Permanente Santa Clara and Dr. Glenn Rosenbluth at University of California San Francisco to weigh in with an accompanying commentary ([10.1542/peds.2020-034017](https://doi.org/10.1542/peds.2020-034017)). They point out the strengths of the study and some important limitations. Drs. Oguntebi and Rosenbluth also extrapolate the findings not just to

residents in a PICU but to other rotations and to pediatricians out of residency and fellowship as well, who are in active general and subspecialty practice. While the authors of this commentary recognize the fiscal ramifications of needing more staffing if shifts are shorter and that some physicians prefer longer but less frequent shifts, they also point out the benefits of shorter duration shifts in physician quality of life. Most importantly, they emphasize the reduction of unnecessary errors as demonstrated in this study associated with fatigue and in attentiveness that could be prevented with shorter shifts. Schedule some time to link to this study and commentary and then share your thoughts on longer versus shorter workhour shifts for pediatricians by posting a comment with this blog, on our website, or on our social media platforms (Facebook, Twitter, or Instagram).

- [Burnout in Pediatric Residents: Three Years of National Survey Data](#)
- [Decreasing Resident Physician Burnout Requires a Multifaceted Approach](#)
- [Grief and Burnout in the PICU](#)
- [Facebook](#)
- [Instagram](#)

Copyright © 2021 American Academy of Pediatrics