

# Both distress and fatigue impact resident physician errors, study finds

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Mayo Clinic researchers report that distress and fatigue among medical residents are independent contributors to self-perceived medical errors. The findings appear today in the *Journal of the American Medical Association (JAMA)*.

VIDEO ALERT: Additional audio and video resources including excerpts from an interview with Dr. Colin West describing the research are available on the Mayo Clinic News Blog. password MC845.

"We looked at distress and [fatigue](#) together and found that both factors can lead to a significant risk of medical error," says Colin West, M.D., Ph.D., Mayo Clinic physician and lead author of the study. "Both fatigue and distress among medical residents represent a potential concern for patient safety."

Previous studies, including a 2006 *JAMA* article by the same authors, showed that burnout during the physician training process can lead to [medical errors](#). Other studies have suggested resident fatigue also increases the risk of medical errors. Collectively, these studies informed the 2008 Institute of Medicine recommendations that resident work hours be controlled. This new study confirms the previous findings but shows that distress should be addressed as a factor independent of fatigue. Distress can include such factors as burnout, depression, financial issues, family concerns or other [emotional stress](#).

Mayo Clinic Internal Medicine residents were surveyed every three months between July 2003 and February 2009. Standardized survey tools were used to measure burnout, symptoms of depression, sleepiness and fatigue. At quarterly intervals, residents were also asked if they had made a major medical error in the last three months. Of the 430 eligible residents, 88 percent answered at least one survey. Overall, 39 percent of the respondents reported at least one self-

perceived major medical error during the study period.

"While changes have been made to reduce fatigue and sleepiness during residency training, other changes may be necessary to more specifically address distress and burnout," says Tait Shanafelt, M.D., Mayo physician and senior author. The researchers say their findings may have implications beyond residency training and suggest that more attention to reducing non-fatigue-related [distress](#) among physicians may reduce errors and improve patient safety.

The authors note that the findings are somewhat limited by study size, by the fact the study was conducted at only one institution, and because the survey tool used for symptoms of depression may not allow definitive diagnosis of that condition. They recommend further research be conducted in larger, multi-institution populations to better identify the factors leading to medical errors.

Source: Mayo Clinic ([news](#) : [web](#))

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