

# Effect on exam scores of attending clinical and tutorial-based activities by medical students

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Among fourth-year medical students completing an 8-week obstetrics/gynecology clinical rotation, there was a positive association between attendance at clinical and tutorial-based activities and overall examination scores, according to a study appearing in the December 4 issue of *JAMA*, a medical education theme issue.

"Student attendance is thought to be an important factor in the [academic performance](#) of medical students on the basis that clinical contact and teaching are necessary to develop competence. Student attendance also has wider implications for institutions providing medical education. The educational value of clinical teaching is resource-dependent and expensive. Medical schools are increasingly challenged in providing clinical teaching in the face of increasing student numbers. In this context, medical schools must appraise the educational value of attendance at their clinical teaching programs," according to background information in the article. "Previous studies evaluating the relationship between attendance and academic performance among medical students have been limited and related to classroom-based lectures only rather than clinical activities."

Richard P. Deane, M.B., B.Ch., and Deirdre J. Murphy, M.D., of Trinity College, University of Dublin, Ireland, evaluated the relationship between student attendance and academic performance in a medical student obstetrics/gynecology clinical rotation during a full academic

year (September 2011 to June 2012) at a university teaching hospital in Dublin. Students were expected to attend 64 activities (26 clinical activities and 38 tutorial-based activities) but attendance was not mandatory. All 147 fourth-year [medical students](#) who completed an 8-week obstetrics/gynecology rotation were included.

The average attendance rate was 89 percent ( $n = 57/64$  activities). Male students (84 percent attendance) and students who failed an end-of-year examination previously (84 percent attendance) had significantly lower rates. The researchers found that both clinical attendance and tutorial-based attendance were positively correlated with overall examination score. The associations persisted after controlling for confounding factors (factors that can influence outcomes) of student sex, age, country of origin, previous failure in an end-of-year examination, and the timing of the rotation during the academic year.

Distinction grades (grades above the expected basic standard [i.e., demonstrated additional items for the competency tested]) were present only among students with attendance rates of 80 percent or higher. The odds of a distinction grade increased with each 10 percent increase in attendance. The majority of failure grades occurred in students with attendance rates lower than 80 percent.

The researchers write that further research is needed to understand whether the relationship found in this study is causal, and whether improving [attendance rates](#) can improve academic performance.

"If a causal relationship can be identified, interventions to preemptively target potential poor attenders should be investigated to avoid the cycle of persistent failure and remedial education among a subset of [students](#) from year to year. The effect of rapidly evolving electronic learning resources on attendance patterns should also be evaluated."

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