“Should a Resident Participate in My Cancer Operation?”: Elucidating Trainee Level Effect on Oncologic Outcomes  
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**RATIONALE/NEED**
Surgical complications delay adjuvant therapy in oncology patients. Current literature remains unclear regarding the effect of resident involvement on oncologic outcomes, with inappropriate resident coverage possibly endangering patients despite surgeon oversight. The aim of this study was to assess resident trainee level effect on 30-day overall morbidity in cancer patients undergoing major surgery.

**METHODS/DESCRIPTION**
Cancer patients undergoing non-emergent major intra-abdominal (appendix, bladder, colon, esophageal, gallbladder, gastric, gynecologic, kidney, liver, pancreas, rectal) and major non-abdominal (breast, skin and soft tissue, thyroid) operations from 2005 to 2012 were identified in the ACS-NSQIP database. Demographics, co-morbidities, recent chemotherapy, resident level and 30-day outcomes were analyzed. Multivariate logistic regression models assessed overall morbidity.

155,620 cancer patients undergoing major intra-abdominal (n=75,668) or major non-abdominal (n=79,952) procedures were captured. Demographics were clinically similar across attending and PGY levels. Rates of serious, minor and overall morbidity increased significantly with PGY level, along with operative time and length of stay. For major intra-abdominal procedures, all resident levels except PGY2 adversely affected overall morbidity (Table 1). Above PGY4 level, resident involvement had a stronger association with adverse outcome than preoperative co-morbidities and preoperative chemotherapy. In contrast, only PGY2 and PGY5 were independently associated with worsened overall morbidity following major non-abdominal cancer procedures, while PGY1 were associated with improved morbidity. Interestingly, on evaluation of procedure codes, esophageal, gastric, gallbladder, liver, pancreas, and thyroid procedures demonstrated no effect of resident involvement on overall morbidity (Table 2).

**RESULTS**

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**CONCLUSIONS**
Resident level is independently associated with increased overall morbidity in patients undergoing selected major surgical procedures. Understanding which complex oncologic procedures demonstrate effect of resident involvement on overall co-morbidity is necessary to maximize patient outcomes.

**ACKNOWLEDGEMENTS**
This poster was prepared with financial support from the American Medical Association (AMA) as part of the Accelerating Change in Medical Education Initiative. The content reflects the views of the authors and does not necessarily represent the views of the AMA or other participants in this initiative.