WHITE BLOOD CELL NADIR FOLLOWING INTENSIVE CHEMOTHERAPY IS A NEGATIVE PREDICTIVE FACTOR FOR TREATMENT OUTCOME IN PATIENTS WITH AML. JS Fang, (MD., GS), and DA Pollyea (MS., MD.), Grace Bosma, Department of Medicine, University of Colorado, Denver, Co.

Introduction: The standard of care for patients with acute myeloid leukemia (AML) is intensive chemotherapy or allogenic hemopoietic stem cell transplant (HSCT). However, outcomes following intensive chemotherapy remain poor. Kinetics of white blood cell (WBC) elimination and nadir value may serve as a predictive factor for response to therapy. **Methods:** We conducted a retrospective analysis of 162 patients with AML treated with at least one round of intensive chemotherapy at University of Colorado Health. The WBC count was monitored for nadir for 28 days following initial treatment. A WBC count less than 0.1*10^9/L was defined as a WBC nadir=0. We performed a multivariate analysis examining the relationship between WBC nadir, age, percent blasts in marrow, secondary AML, treatment-related AML, and ELN group and response. Response to therapy was examined via two definitions: complete response (CR) and CR or complete response with incomplete hematopoietic recovery (CRi). **Results**: Multivariate analysis showed that a WBC nadir=0 was an independent factor significantly associated with reduced odds of response by both definitions (1st definition: OR: 0.295, 95% CI: 0.110-0.762, p=0.013, 2nd definition: OR: 0.298, 95% CI: 0.110-0.781, p=0.015). **Conclusion:** In patients with AML treated with an initial round of intensive therapy a WBC nadir=0 is an independent negative predictive factor for response to therapy.