

## **Ethnic differences in propofol and fentanyl response: a comparison among Caucasians, Kenyan Africans and Brazilians.**

### **Abstract:**

**BACKGROUND AND OBJECTIVE:** Differences in sensitivity to anaesthetic drugs may exist among human races. Allelic variants for drug metabolizing isoenzymes and other pharmacokinetic/pharmacodynamic differences may account for a variable response to anaesthetic drugs. This study was designed to investigate comparatively the anaesthetic requirements and the recovery trends of three different ethnic groups: Caucasians, African blacks and Brazilians. **METHODS:** The anaesthetic depth and recovery of groups of 45 patients undergoing total intravenous anaesthesia with propofol and fentanyl were compared. The bispectral index and clinical parameters were used to assess the depth of anaesthesia. The bispectral index, the response to verbal stimuli and the eye opening time were used to assess recovery. **RESULTS:** After stopping propofol, the bispectral index values of Caucasians returned to the baseline in about 10.8 +/- 4 min, that of Kenyan African blacks in 18 +/- 7 min and that of Brazilians in a highly variable time ranging from 5 to 25 min, (14.9 +/- 9.9). The time from discontinuation of propofol and fentanyl infusion to eye opening was 18.8 +/- 7.1 min in African blacks ( $P < 0.01$ ) and 13.5 +/- 8.8 min in Brazilians ( $P > 0.05$ ) vs. 11.6 +/- 4.5 min in Caucasians. Time to respond to verbal commands was 16.8 +/- 8 min in African blacks ( $P < 0.01$ ) and 12.8 +/- 8.1 min in Brazilians ( $P > 0.05$ ) vs. 9.9 +/- 4.5 min in Caucasians. **CONCLUSIONS:** The recovery of Kenyan African blacks from anaesthesia with propofol and fentanyl is much slower, in comparison with Caucasians. The recovery time of Brazilians is much more variable, in comparison with Caucasians.