Objectives (1) To determine the prevalence of cannabis use in drivers presenting to hospital following a traffic collision; (2) To determine if cannabis use leads to an increased collision risk.

Methods Participants were drivers presenting to emergency departments in Toronto and Halifax with an injury due to a traffic collision, between April 2009 and July 2011. Drivers were interviewed about the collision event and substance use. A case-crossover design was employed with a fixed control condition measuring substance use retrospectively for the same comparable time interval in the preceding week. Blood samples were tested for cannabis, alcohol, and other drugs, with examination of active THC metabolites through gas chromatography-mass spectrometry.

Results Of 864 eligible driver, self-report and blood samples found that 95 (11%) used cannabis prior to driving. Among those who provided blood, 73 of 368 drivers (19.8%) tested positive for cannabis (+ >0.2 ng/ml active THC metabolites), indicating pre-collision use. Conditional fixed effects models indicate that cannabis use increased the odds of a crash by 5.17 (CI 2.78 to 9.58). Sensitivity analyses were also performed.

Significance Nearly one in five collision-involved drivers who provided blood was impaired by cannabis, a higher rate than found in previous studies. Cannabis was also shown to dramatically increase collision risk, and trend that has been confirmed in recent mFeta analyses.

| 30 |

CANNABIS AND TRAFFIC COLLISIONS: FINDINGS FROM A CASE CROSSOVER STUDY OF PATIENTS PRESENTING TO EMERGENCY DEPARTMENTS IN TWO CANADIAN CITIES

[1]M Asbridge*, [2]J Rehm, [2]R Mann, [3]M Cusimano. [1]*Dalhousie University, Halifax, Canada;* [2]*Centre for Addiction and Mental Health, Toronto, Canada;* [3]*St. Michaels Hospital, Toronto, Canada*

Background Limited epidemiological data exist on the role of cannabis in traffic collisions, and existing research has employed designs that have been weak in several respects (measurement, control group, confounders). Our study addresses these limitations.