

# National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



## **Addendum to Medical Factual Report**

August 11, 2023

### **A. CRASH INFORMATION**

NTSB ID: HWY22FH004  
Location: North Las Vegas, Nevada  
Date: January 29, 2022

### **B. MEDICAL SPECIALIST (ADDENDUM)**

Specialist                                      Turan Kayagil, MD, FACEP  
National Transportation Safety Board  
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### **C. DETAILS OF ADDENDUM**

#### **1.0 Description**

This addendum supplements the Medical Factual Report dated June 21, 2022, (in the docket for this investigation) with additional information from reports provided by the Clark County Coroner-Medical Examiner's Office regarding the autopsy and toxicology results of the Dodge Challenger driver (Dodge driver). Results from a supplemental toxicology report issued by the Federal Aviation Administration (FAA) Forensic Sciences Laboratory for the Dodge driver are also addressed. Additionally, minor corrections to the Medical Factual Report are provided.

#### **2.0 Additional Autopsy Information**

A limited external examination of the Dodge driver was performed at the Clark County Coroner-Medical Examiner's Office on January 30, 2022. Findings of this examination are provided in the Medical Factual Report in the docket for this investigation.

Additionally, a full autopsy examination of the Dodge driver was performed at the Clark County Coroner-Medical Examiner's Office on February 2, 2022. The report

of this autopsy was reviewed for this investigation. According to the autopsy report, the cause of death was blunt force injuries and the manner of death was accident (same as were documented in the report of the limited external examination). The autopsy did not identify significant natural disease.

### **3.0 Additional Toxicology Information**

At the request of the Clark County Coroner-Medical Examiner's Office, NMS Labs performed toxicological testing of peripheral blood collected during the Dodge driver's limited external examination on January 30, 2022. Results of this testing are provided in the Medical Factual Report in the docket for this investigation.

At the request of the Clark County Coroner-Medical Examiner's Office, NMS Labs also performed toxicological testing of urine collected during the Dodge driver's full autopsy examination on February 2, 2022. The NMS Labs report of this testing was reviewed for this investigation.<sup>1</sup> According to the NMS Labs report, cocaine (greater than 20,000 ng/mL) and its metabolite benzoylecgonine (greater than 100,000 ng/mL) were identified in urine, as were phencyclidine (PCP; 120 ng/mL), gabapentin (88 µg/mL), and a low level of ethanol (0.012 g/dL).<sup>2</sup> Nicotine and its metabolite cotinine were presumptively detected (identified by the initial screening test without a second confirmatory test being performed). Levamisole was also presumptively detected.

A supplemental toxicology report issued by the FAA Forensic Sciences laboratory noted that tamsulosin was detected in the Dodge driver's liver tissue and was not detected in his muscle tissue.

Cocaine, benzoylecgonine, PCP, gabapentin, nicotine, and cotinine are described in the Medical Factual Report in the docket for this investigation.

Ethanol is a type of alcohol. It is the intoxicating alcohol in beer, wine, and liquor, and, if consumed, can impair judgment, psychomotor performance, cognition, and vigilance, generally with worse impairment at higher blood alcohol concentrations.<sup>3</sup> One large study of drivers observed elevated crash risk at blood ethanol concentrations of 0.04-0.05 g/dL, with crash risk rising exponentially at higher

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<sup>1</sup> Information about the urine testing procedure, including tested-for substances, is available on the NMS Labs website at Test Codes [8052U](#) and [8756U](#). Information about the testing procedure used for the January 30, 2022, peripheral blood specimen is available at Test Code [8042B](#).

<sup>2</sup> Notably, neither NMS Labs testing of peripheral blood nor Federal Aviation Administration testing of cavity blood (discussed in the Medical Factual Report in the docket for this investigation) detected ethanol. Both these blood tests used an ethanol reporting threshold of 0.01 g/dL.

<sup>3</sup> National Highway Traffic Safety Administration. Drunk driving. National Highway Traffic Safety Administration website. <https://www.nhtsa.gov/risky-driving/drunk-driving>. Accessed July 6, 2023.

blood ethanol concentrations.<sup>4</sup> In Nevada, as in most of the United States, it is illegal for a person to drive with a blood alcohol concentration of 0.08 g/dL or higher.<sup>5</sup> Ethanol detected in postmortem specimens does not necessarily come from consumption of alcohol. Ethanol can be produced by microbes in a person's body after death. This is more likely to happen in cases of severe traumatic injury. Urine is generally better protected against postmortem ethanol formation than are many other specimen types, but postmortem ethanol formation can occur in urine.<sup>6</sup>

Levamisole is a veterinary drug that can be used in animals to treat parasites. In humans, levamisole is mainly encountered as an adulterant in illicitly produced cocaine. Levamisole may enhance cocaine's stimulant effects.<sup>7</sup>

Tamsulosin is a prescription medication commonly used to treat symptoms of an enlarged prostate.<sup>8</sup> Tamsulosin is not generally considered impairing.

#### 4.0 Errata

The following corrections apply to the Medical Factual Report in the docket for this investigation.

FAA toxicology results for gabapentin and dextromethorphan were determined in cavity blood and liver tissue, not (as stated in the Medical Factual Report) in peripheral blood and liver tissue. Additionally, FAA testing detected levamisole, atorvastatin, and famotidine in cavity blood and liver tissue. Atorvastatin is a prescription medication used to control cholesterol and lower cardiovascular risk.<sup>9</sup> Famotidine is an over-the-counter stomach acid suppression medication.<sup>10</sup> Atorvastatin and famotidine are not generally considered impairing.

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<sup>4</sup> Blomberg RD, Peck RC, Moskowitz H, Burns M, Fiorentino D. The Long Beach/Fort Lauderdale relative risk study. *J Safety Res.* 2009;40(4):285-92. doi:10.1016/j.jsr.2009.07.002.

<sup>5</sup> Nevada Department of Motor Vehicles. DUI laws. Nevada Department of Motor Vehicles website. <https://dmv.nv.gov/pdf/forms/qtdui.pdf>. Updated October 2018. Accessed July 6, 2023.

<sup>6</sup> Kugelberg FC, Jones AW. Interpreting results of ethanol analysis in postmortem specimens: a review of the literature. *Forensic Sci Int.* 2007;165(1):10-29. doi:10.1016/j.forsciint.2006.05.004.

<sup>7</sup> United States Drug Enforcement Administration. Levamisole. Drug & Chemical Evaluation Section. [https://www.deadiversion.usdoj.gov/drug\\_chem\\_info/levamisole.pdf](https://www.deadiversion.usdoj.gov/drug_chem_info/levamisole.pdf). Updated April 2023. Accessed July 6, 2023.

<sup>8</sup> National Institutes of Health National Library of Medicine. Flomax. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/druginfo.cfm?setid=6771ad8e-ac92-4aec-b484-5d8350a353f8>. Updated January 4, 2023. Accessed August 11, 2023.

<sup>9</sup> National Institutes of Health National Library of Medicine. Lipitor. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/druginfo.cfm?setid=c6e131fe-e7df-4876-83f7-9156fc4e8228>. Updated December 1, 2022. Accessed July 6, 2023.

<sup>10</sup> National Institutes of Health National Library of Medicine. Pepcid AC Original Strength. DailyMed.

Under federal law, PCP is controlled in Schedule II, not (as stated in the Medical Factual Report) Schedule I.<sup>11</sup> PCP is a Schedule I controlled substance under Nevada law (has high potential for abuse and has no accepted medical use in treatment in the United States or lacks accepted safety for use in treatment under medical supervision).<sup>12</sup>

Addendum submitted by:

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Medical Officer

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<https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=54f4086f-e443-4e7e-8c7e-94e152e1c256>. Updated March 27, 2023. Accessed July 6, 2023.

<sup>11</sup> United States Drug Enforcement Administration. Phencyclidine. Drug & Chemical Evaluation Section. <https://www.dea.gov/divisions/ce/chemicals/pcp.pdf>. Updated April 2023. Accessed July 6, 2023.

<sup>12</sup> See [Nevada Administrative Code § 453.510](#) and [Nevada Revised Statutes § 453.166](#).