



# The bubbler did it? Methemoglobinemia from a water fountain

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## Introduction

- ☒ Methemoglobinemia due to elevated nitrates/nitrites in drinking water has been reported
- ☒ Nitrate/nitrite contamination is typically due to well water contaminated with chemical fertilizers, human and/or animal waste, and food processing waste

## Case Details

- ☒ 32 year old male presented with lightheadedness, paresthesias, and refractory cyanosis
- ☒ Vital Signs: HR 76 BP 111/58 RR 20 SpO2 92% T 36.4C
- ☒ His reported medication exposures included therapeutic doses of gabapentin, fluoxetine, risperidone, and intranasal fluticasone
- ☒ A methemoglobin level of 16.3% was measured (Masimo Rainbow® RAD 57) one hour after presentation
- ☒ No methylene blue was given due to resolution of symptoms.



## Water Testing Results

Source	Total Nitrite/Nitrate Level
Offending Water Fountain	Sample 1: 180 mg/L Sample 2: 266 mg/L
Adjacent water fountain	Sample 1: 1.75 mg/L Sample 2: 1.74 mg/L
EPA Regulatory Limit	10 mg/L
WHO Regulatory Limit	50 mg/L

## Case Details

- ☒ The patient's methemoglobin level was 1.2% 24 hours later.
- ☒ Further history revealed the patient had imbibed >1 Liter of metallic-tasting water from a water fountain in an attempt to subvert a urine drug screen.
- ☒ The offending water fountain as well as the adjacent water fountain were tested for nitrites/nitrates
- ☒ The patient recovered without sequelae

## Discussion

- ☒ We report a case of methemoglobinemia in an adult after a single, large volume exposure to a high nitrite/nitrate concentration water source
- ☒ In the absence of other apparent etiologies, testing of a water source revealed a possible etiology of disease and may have prevented future exposures

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