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The Defense Department forced all "war on terror" detainees at the Guantanamo Bay prison to take a high dosage of a controversial antimalarial drug, mefloquine, an act that an Army public health physician called "pharmacologic waterboarding."

The US military administered the drug despite Pentagon knowledge that mefloquine caused severe neuropsychiatric side effects, including suicidal thoughts, hallucinations and anxiety. The drug was used on the prisoners whether they had malaria or not.

The revelation, which has not been previously reported, was buried in [documents](#) publicly released by the Defense Department (DoD) two years ago as part of the government's investigation into the June 2006 deaths of three Guantanamo detainees.

Army Staff Sgt. Joe Hickman, who was stationed at Guantanamo at the time of the suicides in 2006, and has presented evidence that demonstrates the three detainees could not have died by hanging themselves, noticed in the detainees' medical files that they were given mefloquine. Hickman has been investigating the circumstances behind the detainees' deaths for nearly four years.

Interviews with mefloquine and malaria experts and a review of peer-reviewed journals and government documents show there were no preexisting cases where mefloquine was ever prescribed for mass presumptive treatment of malaria.

All detainees arriving at Guantanamo in January 2002 were first given a treatment dosage of 1,250 mg of mefloquine, before laboratory tests were conducted to determine if they actually had the disease, according to a section of the DoD documents entitled " [Standard Inprocessing Orders For Detainees](#). "

The 1,250 mg dosage is what would be given if the detainees actually had malaria. That dosage is five times higher than the prophylactic dose given to individuals to prevent the disease.

[Maj. Remington Nevin](#) , an Army public health physician, who formerly worked at the Armed Forces Health Surveillance Center and has [written extensively](#) about mefloquine, said in an interview the use of mefloquine "in this manner ... is, at best, an egregious malpractice."

The government has exposed detainees "to unacceptably high risks of potentially severe neuropsychiatric side effects, including seizures, intense vertigo, hallucinations, paranoid delusions, aggression, panic, anxiety, severe insomnia, and thoughts of suicide," said Nevin, who was not speaking in an official capacity, but offering opinions as a board-certified, preventive medicine physician. "These side effects could be as severe as those intended through the application of 'enhanced interrogation techniques.'"

Mefloquine is also known by its brand name Lariam. It was researched by the US Army in the 1970s and licensed by the Food and Drug Administration in 1989. Since its introduction, it has been directly linked to [serious adverse effects](#) , including depression, anxiety, panic attacks, confusion, hallucinations, bizarre dreams, nausea, vomiting, sores and homicidal and suicidal thoughts. It belongs to a class of drugs known as quinolines, which were part of a 1956 human experiment study to investigate "toxic cerebral states," as part of the CIA's MKULTRA mind-control program.

The Army tapped the Walter Reed Army Institute of Research (WRAIR) to develop mefloquine and it was later licensed to the Swiss pharmaceutical company F. Hoffman-La Roche. The first human trials of mefloquine were conducted in the mid-1970s on prisoners, who were

deliberately inoculated with malaria at Stateville Correctional prison near Joliet, Illinois, the site of controversial [antimalarial experimentation](#) in the early 1940s.

The drug was administered to Guantanamo detainees without regard for their medical or psychological history, despite its considerable risk of exacerbating pre-existing conditions. Mefloquine is also known to have serious side effects among individuals under treatment for depression or other serious mental health disorders, which numerous detainees were said to have been treated for, [according to their attorneys](#) and published [reports](#) .

In 2002, when the prison was established and mefloquine first administered, there were dozens of suicide attempts at Guantanamo. That same year, the DoD stopped reporting attempted suicides.

By February 2002, there were at least 459 detainees imprisoned at Guantanamo. In March of that year, according to the book " [Saving Grace at Guantanamo Bay: A Memoir of a Citizen Warrior](#) " by Montgomery Granger, "the situation" at the prison began "deteriorating rapidly."

"There is more and more psychosis becoming evident in detainees ...," wrote Granger, an Army Reserve major and medic who was stationed at Guantanamo in 2002. "We already have probably a dozen or so detainees who are psychiatric cases. The number is growing."

"Presumptively Treating" Malaria

Though malaria is nonexistent in Cuba, DoD spokeswoman Maj. Tanya Bradsher told Truthout that the US government was concerned that the disease would be reintroduced into the country as detainees were transferred to the prison facility in January 2002.

A "decision was made," Bradsher said in an email, to "presumptively treat each arriving Guantanamo detainee for malaria to prevent the possibility of having mosquito-borne [sic] spread from an infected individual to uninfected individuals in the Guantanamo population, the guard force, the population at the Naval base or the broader Cuban population."

But Granger wrote in his book that a Navy entomologist was present at Guantanamo in January and February 2002 and during that time only identified insects that were nuisances and did not identify any insects that were carriers of a disease, such as malaria.

Nevertheless, Bradsher said the "mefloquine dosage [given to detainees] was entirely for public health purposes ... and not for any other purpose" and "is completely appropriate."

"The risks and benefits to the health of the detainees were central considerations," she added.

But a September 13, 2002, [DoD memo](#) governing the operational use of mefloquine said, "Malaria is not a threat in Guantanamo Bay." Indeed, there have only been [two to three reported cases](#) of malaria at Guantanamo.

The DoD memo, signed by Assistant Secretary of Defense for Health Affairs William Winkenwerder, was sent to then-Rep. John McHugh, the Republican chairman of the House Veterans Affairs Subcommittee on Military Personnel. McHugh is now Secretary of the Army.

A Senate staff member told Truthout the Senate Armed Services Committee was never briefed about malaria concerns at Guantanamo nor was the committee made aware of "any issue related to the use of mefloquine or any other anti-malarial drug" related to "the treatment of detainees."

When questions were raised at a [February 19, 2002 meeting](#) of the Armed Forces Epidemiological Board (AFEB) about what measures the military was taking to address malaria concerns at Guantanamo, Navy Capt. Alan J. Lund did not disclose that mefloquine was being administered to detainees as a form of presumptive treatment.

Yund said the military gave detainees a different anti-malarial drug known as primaquine and noted that "informed consent" was "absolutely practiced" prior to administering drugs to

detainees, an assertion that contradicts claims made by numerous prisoners who said they were forced to take drugs even if they protested. Yund did not return calls for comment.

Bradsher declined to respond to a follow-up question about who made the decision to presumptively treat detainees with mefloquine.

An April 16, 2002, meeting of the Interagency Working Group for Antimalarial Chemotherapy, which DoD, along with other federal government agencies, is a part of, was specifically dedicated to investigating mefloquine's use and the drug's side effects. The group concluded that study designs on mefloquine up to that point were flawed or biased and criticized DoD medical policy for disregarding scientific fact and basing itself more on "sensational or best marketed information."

The Working Group called for additional research, and warned, "other treatment regimes should be carefully considered before mefloquine is used at the doses required for treatment."

Still, despite the red flags that pointed to mefloquine as a high-risk drug, the DoD's mefloquine program proceeded.

In fact, a June 2004 set of guidelines issued by the [Centers for Disease Control and Prevention](#) (CDC) says mefloquine should only be used when other standard drugs were not available, as it "is associated with a higher rate of severe neuropsychiatric reactions when used at treatment doses."

According to the CDC, "'presumptive treatment' without the benefit of laboratory confirmation should be reserved for extreme circumstances (strong clinical suspicion, severe disease, impossibility of obtaining prompt laboratory confirmation)."

A CDC spokesman refused to comment about the "presumptive treatment" of malaria at Guantanamo and referred questions to the DoD.

Nevin said, if "mass presumptive treatment has been given consistently, many dozens of detainees, possibly hundreds, would almost certainly have suffered such disabling adverse events."

"It appears that for years, senior Defense health leaders have condoned the medically indefensible practice of using high doses of mefloquine ostensibly for mass presumptive treatment of malaria among detainees from the Middle East and Asia lacking any evidence of disease," Nevin said. "This is a use for which there is no precedent in the medical literature and which is specifically discouraged among refugees by malaria experts at the Centers for Disease Control."

Even proponents of limited mefloquine usage are seriously questioning the logic behind the DoD's actions. Professor James McCarthy, chair of the Infectious Diseases Division of the Queensland Institute of Medicine in Australia, who is an advocate of the safe use of mefloquine under proper safeguards, and takes it himself when traveling, told Truthout he was unaware of the use of mefloquine for mass presumptive treatment as described by the DoD, but could imagine it under certain circumstances.

However, when informed that lab tests were available and the detainees were screened for the blood product G6PD, used to determine the suitability of certain antimalarial drugs, McCarthy found the DoD's use of mefloquine at Guantanamo difficult to understand and "hard to support on pure clinical grounds as an antimalarial."

Treatment, Torture or an Experiment?

Another striking point about the DoD's decision to presumptively treat mostly Muslim detainees with mefloquine beginning in 2002 is that it is the exact opposite of how the DoD responded to malaria concerns among the Haitian refugees who were held at Guantanamo a decade earlier.

Between 1991 and 1992, more than 14,000 Haitian refugees were held in temporary camps set up at Guantanamo. A large number of Haitian refugees - 235 during a four-month period - were [diagnosed](#) with malaria. But instead of presumptively treating the refugee population at Guantanamo, the DoD conducted laboratory tests first and only the individuals who were found to be malaria

carriers were
[administered chloroquine](#)

Another example of how the DoD approached malaria treatment differently for other subjects is in the case of Army Rangers who returned from malarial areas of Afghanistan between June and September 2002 and were infected with the disease at an attack rate of 52.4 cases per 1,000 soldiers.

However, the Rangers did not receive mass presumptive treatment of mefloquine. They were given other standard drugs after laboratory tests, according to documents obtained by Truthout.

Nevin said the DoD's treatment of Haitian refugees represented "a situation that arguably presented a much higher risk of disease and secondary transmission, but one which US medical experts stated at the time could be safely managed through more conservative and focused measures."

Why did the government use the "conservative and focused" approach in treating Haitian refugees and the Army rangers, but then revert to presumptive mefloquine treatment in the case of the Guantanamo detainees, who - a month after the prison facility opened in January 2002 - were stripped of their protections under the Geneva Conventions?

According to Sean Camoni, a Seton Hall University law school research fellow, "there is no legitimate medical purpose for treating malaria in this way" and the drug's severe side effects may actually have been the DoD's intended impact in calling for the drug's usage.

Camoni and several other Seton Hall law school students have been working on a report about mefloquine use on Guantanamo detainees. Their work was conducted independently of Truthout's investigation.

A copy of the Seton Hall report, "Drug Abuse? An Exploration of the Government's Use of Mefloquine at Guantanamo," says mefloquine's extreme side effects may have violated a provision in the [antitorture statute](#) related to the use of "mind altering substances or other procedures" that "profoundly disrupts the senses or the personality."

Legal memos prepared in August 2002 by former DoD attorneys Jay Bybee and John Yoo for the CIA's torture program permitted the use of drugs for interrogations. The authority was also contained in a legal memo Yoo prepared for the DoD less than a year later after Secretary of Defense Donald Rumsfeld convened a [working group](#) to address "policy considerations with respect to the choice of interrogation techniques."

In September, [Truthout](#) reported that the DoD's inspector general (IG) conducted an investigation into allegations that detainees in custody of the US military were drugged. The IG's report, which remains classified, was completed a year ago and was shared with the Senate Armed Services Committee.

Kathleen Long, a spokeswoman for the Armed Services Committee, told Truthout at the time that the IG report did not substantiate allegations of drugging of prisoners for the "purposes of interrogation."

The medical files for detainee 693 released in 2008 shows that, two weeks after he first started taking mefloquine in June 2002, he was interviewed by Guantanamo medical personnel and reported he was suffering from nightmares, hallucinations, anxiety auditory and visual hallucinations, anxiety, sleep loss and suicidal thoughts.

The detainee said he had previously been treated for anxiety and had a family history of mental illness. He was diagnosed with adjustment disorder, according to the DoD documents. Guantanamo medical staff who interviewed the detainee did not state that he may have been experiencing mefloquine-related side effects in an evaluation of his condition.

[Mark Denbeaux](#), the director of the Seton Hall Law Center for Policy and Research, who conducted an independent investigation into the 2006 deaths of the three Guantanamo detainees, said in an interview "almost every remaining question here would be solved if the [detainees'] full medical records were released."

The government has refused to release Guantanamo detainees' medical records, citing privacy concerns in some cases, and assertions that they are "protected" or "classified" in other instances. The few medical records that have been released have been heavily redacted.

"A crucial issue is dosage" Denbeaux said. "Giving detainees toxic doses of mefloquine has mind-altering consequences that may be permanent. Without access to medical records, which the government refuses to release, the use of mefloquine in this manner appears to be grotesque malpractice at best, if not human experimentation or 'enhanced interrogation.' The question is where are the doctors who approved this practice and where are the medical records?"

Bradsher did not respond to questions about whether the government kept data about the adverse effects mefloquine had on detainees.

An absolute prohibition against experiments on prisoners of war is contained in the Geneva Conventions, but President George W. Bush stripped war on terror detainees of those protections. Some of the "enhanced interrogation techniques" also had [an experimental quality](#).

At the same time detainees were given high doses of mefloquine, Deputy Secretary of Defense Paul Wolfowitz issued a [directive](#) changing the rules on human subject protections for DoD experiments, allowing for a waiver of informed consent when necessary for developing a "medical product" for the armed services. Bush also granted unprecedented authority to the secretary of Health and Human Services to classify information as secret.

Briefings on Side Effects

As the DoD was administering mefloquine to Guantanamo prisoners, senior Pentagon officials were being [briefed](#) about the drug's dangerous side effects. During one such briefing, questions arose about what steps the military was taking to address malaria concerns among detainees sent to Guantanamo.

[Internal documents](#) from Roche, obtained by UPI in 2002, indicated that the pharmaceutical company had been tracking suicidal reactions to Lariam going back to the early 1990s.

In September 2002, Roche sent a letter to physicians and pharmacists [stating](#) that the company changed its warning labels for mefloquine.

Roche further said in one of two new warning paragraphs that some of the symptoms associated with mefloquine use included suicidal thoughts and suicide and also "may cause psychiatric symptoms in a number of patients, ranging from anxiety, paranoia, and depression to hallucination and psychotic behavior," which "have been reported to continue long after mefloquine has been stopped."

Military Struggles

Cmdr. William Manofsky, who is retired from the US Navy and currently on disability due to post-traumatic stress disorder and side effects from mefloquine, said those are some of the symptoms he initially suffered from after taking the drug for several months beginning in November 2002 after he was deployed to the Middle East to work on two Naval projects.

In March 2003, "I became violently ill during a night live-fire exercise with the [Navy] SEALs," Manofsky said. "I felt like I was air sick. All the flashing lights from the tracers and rockets ... targeting device made me really sick. I threw up for an hour straight before being medevac'd back to the Special Forces compound where I had my first ever panic attack."

For three years, he had to walk with a cane due to a loss of equilibrium. Numerous other accounts like Manofsky's can be found on the web site lariaminfo.org.

In 2008, Dr. Nevin published a study detailing a high prevalence of mental health contraindications to the safe use of mefloquine in soldiers deployed to Afghanistan. Responding in part to concerns raised by the mefloquine-associated [suicide](#) of Army Spc. Juan Torres, internal Army presentations confirmed that the drug had been widely misprescribed to soldiers with contraindications, including to many on antidepressants.

A formal policy memo in February 2009 from Army Surgeon General Eric Schoomaker removed mefloquine as a "first-line" agent, and changed the policy so that mefloquine would not be prescribed to Army personnel unless they had contraindications to the preferred drug, the antibiotic doxycycline. Nor could mefloquine be prescribed to any personnel with a [history of traumatic brain injury or mental illness](#)

By September 2009, the policy was extended throughout the DoD.

New prisoners are no longer arriving at Guantanamo and the prison population has been in decline in recent years as detainees are released or transferred to other countries. Currently, the detainee population at Guantanamo is a reported 174.

But Nevin said the justification the Pentagon offered for using mefloquine to presumptively treat detainees transferred to the prison beginning in 2002 "betrays a profound ignorance of basic principals of tropical medicine and suggests extremely poor, and arguably incompetent, medical oversight that demands further investigation."