**Toxicology Case Studies**

**Choose 5 of the case studies to summarize on a separate sheet of paper. For each summary include the following:**

**Case study #**

**People Involved:**

**Incident:**

**Cause of Death:** (if applicable)

**Drugs or Toxins Involved:** (prescription medication, narcotics, poisons, etc.)

**Summary:** (3-5 sentences summarizing the situation)

1. **Anna Nicole Smith**

On February 8, 2007, Smith was found unresponsive in room 607 at the [Seminole](http://en.wikipedia.org/wiki/Hard_Rock_Cafe#Seminole_Tribe_of_Florida_Takeover) [Hard Rock Hotel and Casino](http://en.wikipedia.org/wiki/Hard_Rock_Cafe#Casinos_and_hotels) in [Hollywood, Florida](http://en.wikipedia.org/wiki/Hollywood,_Florida). Tasma Brighthaupt, a friend of Smith who was a trained emergency nurse performed [CPR](http://en.wikipedia.org/wiki/Cardiopulmonary_resuscitation) for 15 minutes until her husband, Maurice "Big Moe" Brighthaupt, Smith's friend and bodyguard took over CPR. According to Seminole Police Chief Charlie Tiger, at 1:38 p.m. (18:38 [UTC](http://en.wikipedia.org/wiki/Coordinated_Universal_Time)) Maurice Brighthaupt, who was also a trained paramedic, called the hotel front desk from her sixth floor room. The front desk in turn called security, who then called [911](http://en.wikipedia.org/wiki/9-1-1). At 1:45 p.m. the bodyguard administered [CPR](http://en.wikipedia.org/wiki/Cardiopulmonary_resuscitation) until paramedics arrived and she was rushed to Memorial Regional Hospital at 2:10 p.m and pronounced [dead on arrival](http://en.wikipedia.org/wiki/Dead_on_arrival) at 2:49 p.m.

After a seven-week investigation led by Broward County Medical Examiner and Forensic Pathologist Dr. [Joshua Perper](http://en.wikipedia.org/wiki/Joshua_Perper) in combination with the Seminole police and several independent forensic pathologists and toxicologists, Dr. Perper announced that Smith died of "[combined drug intoxication](http://en.wikipedia.org/wiki/Combined_Drug_Intoxication)" with the sleeping medication [chloral hydrate](http://en.wikipedia.org/wiki/Chloral_hydrate) as the "major component." No illegal drugs were found in her system. The official report states that her death was not considered to be due to homicide, suicide, or natural causes.

Anna Nicole Smith had died from an accidental overdoes of prescription drugs, rather than as the result of foul play or illegal drug use. Specific forensic analyses by toxicologists helped determin the drugs Smith used and how they caused her death. The Broward County Medical Examiner in Florida reported that nine drugs and a few drug metabolites were found in Smith’s blood. The drugs included antianxiety and antidepression prescriptions, such as Valium, pain and allergy medications, such as Benadryl, the antibiotic Ciprofloxacin, as well as human growth hormones. All drugs were found at theraputic levels. Tests also found the presence of chloroal hydrate, a sedative and sleeping medication. Specialists determined that when this sedative combined with the other drugs in her system, it led to Smith’s accidental death. The combined drug effect acted on her respiratory and circulatory systems, causing them to stop working. The medical examiner ruled out that this was a suicide, as some suggested, because of the large amounts of chloral hydrate remaining in the bottle and the normal levels of the other medications in her system.

Drug interactions can cause death in even small doses. Anna Nicole Smith’s 20-year-old son Daniel also appears to have died from a lethal combination of drugs. In Daniel’s case, a lethal combination of antidepressants Lexapro and Zoloft, and the drug methadone. This drug cocktail appears to have affected his central nervous system and heart, leading to his sudden death.

It was reported that 8 of the 11 drugs in Smith's system, including the chloral hydrate, were prescribed to [Howard K. Stern](http://en.wikipedia.org/wiki/Howard_K._Stern), not Smith. Additionally, two of the medicines were written for Alex Katz and one was written for Smith's friend and psychiatrist, Dr. Khristine Eroshevitz. Dr. Perper acknowledged that all 11 prescriptions were written by Dr. Eroshevitz herself.

Before Smith's body was buried, it began [decomposing](http://en.wikipedia.org/wiki/Decomposition) at a faster-than-normal pace. The drugs found in Anna Nicole's body in the [autopsy](http://en.wikipedia.org/wiki/Autopsy), the fact that the legal battles delayed her [embalming](http://en.wikipedia.org/wiki/Embalming) until over a week after her death, and the nearly month-long wait for her burial in the warm Bahama weather, were cited as possible factors in her more rapid decomposition. The family ended up having a closed-casket funeral.

Smith's will, drawn up in April 2001, named her son Daniel as the sole beneficiary of her estate, specifically excluded other children, and named Howard K. Stern as the executor. It indicated personal property valued at $10,000 and real property valued at $1.8 million (with a $1.1 million mortgage) at the time of death. A petition to probate Smith's will was filed in Los Angeles County Superior Court. The petition to probate lists Larry Birkhead as a party with interest to Anna's estate.

1. **Heath Ledger**

At about 2:45 [p.m.](http://en.wikipedia.org/wiki/12-hour_clock) ([EST](http://en.wikipedia.org/wiki/Eastern_Time_Zone)), on 22 January 2008, Ledger was found unconscious in his bed by his [housekeeper](http://en.wikipedia.org/wiki/Housekeeper_(servant)), Teresa Solomon, and his [masseuse](http://en.wikipedia.org/wiki/Massage), Diana Wolozin, in his fourth-floor loft apartment at 421 Broome Street in the [SoHo](http://en.wikipedia.org/wiki/SoHo) neighborhood of [Manhattan](http://en.wikipedia.org/wiki/New_York_City).

According to the police, Wolozin, who had arrived early for a 3:00 p.m. appointment with Ledger, called Ledger's friend, actress [Mary-Kate Olsen](http://en.wikipedia.org/wiki/Mary-Kate_Olsen), for help. Olsen, who was in [California](http://en.wikipedia.org/wiki/California), directed a New York City private security guard to go to the scene. At 3:26 p.m., "[fewer] than 15 minutes after Wolozin first saw him in bed and only a few moments" after first calling Olsen and then calling her a second time to express her fears that Ledger was dead, Wolozin telephoned [9-1-1](http://en.wikipedia.org/wiki/9-1-1) "to say that Mr. Ledger was not breathing." At the urging of the 9-1-1 operator, Wolozin administered [CPR](http://en.wikipedia.org/wiki/Cardiopulmonary_resuscitation), which was unsuccessful in reviving him. [Emergency medical technicians](http://en.wikipedia.org/wiki/Emergency_medical_technician) (EMT) arrived seven minutes later, at 3:33 p.m. ("at almost exactly the same moment as a private security guard summoned by Ms. Olsen"), but were also unable to revive him. At 3:36 p.m., Ledger was pronounced dead and his body removed from the apartment.

After two weeks of intense media speculation about possible causes of Ledger's death, on 6 February 2008, the [Office of the Chief Medical Examiner of New York](http://en.wikipedia.org/wiki/Coroner) released its conclusions, based on an initial [autopsy](http://en.wikipedia.org/wiki/Autopsy) of 23 January 2008, and a subsequent complete [toxicological analysis](http://en.wikipedia.org/wiki/Toxicology). The report concludes, in part, "Mr. Heath Ledger died as the result of [acute intoxication](http://en.wikipedia.org/wiki/Combined_drug_intoxication) by the combined effects of [oxycodone](http://en.wikipedia.org/wiki/Oxycodone), [hydrocodone](http://en.wikipedia.org/wiki/Hydrocodone), [diazepam](http://en.wikipedia.org/wiki/Diazepam), [temazepam](http://en.wikipedia.org/wiki/Temazepam), [alprazolam](http://en.wikipedia.org/wiki/Alprazolam) and [doxylamine](http://en.wikipedia.org/wiki/Doxylamine)." It states definitively: "We have concluded that the manner of death is accident, resulting from the [abuse of prescription medications](http://en.wikipedia.org/wiki/Drug_abuse)." The medications found in the toxicological analysis are commonly prescribed in the United States for [insomnia](http://en.wikipedia.org/wiki/Insomnia), [anxiety](http://en.wikipedia.org/wiki/Anxiety), [depression](http://en.wikipedia.org/wiki/Clinical_depression), [pain](http://en.wikipedia.org/wiki/Pain), and/or [cold](http://en.wikipedia.org/wiki/Common_cold) symptoms. Although the [Associated Press](http://en.wikipedia.org/wiki/Associated_Press) and other [media](http://en.wikipedia.org/wiki/Mass_media) reported that "police estimate Ledger's time of death between 1 p.m. and 2:45 p.m." (on 22 January 2008), the Medical Examiner's Office announced that it would not be publicly disclosing the official estimated time of death. The official announcement of the cause and manner of Ledger's death heightened concerns about the growing problems of prescription drug abuse or misuse and [Combined Drug Intoxication](http://en.wikipedia.org/wiki/Combined_drug_intoxication) (CDI).

1. **Marilyn Monroe (Norma Jeane Mortenson)**

On August 5, 1962, [LAPD](http://en.wikipedia.org/wiki/LAPD) police sergeant [Jack Clemmons](http://en.wikipedia.org/wiki/Jack_Clemmons) received a call at 4:25AM from Dr. Hyman Engelberg proclaiming that Monroe was dead at her home in [Brentwood, Los Angeles, California](http://en.wikipedia.org/wiki/Brentwood,_Los_Angeles,_California). Sergeant Clemmons was the first police officer to arrive at the death scene. Many questions remain unanswered about the circumstances of her death and the timeline after Monroe's body was found.

The official cause of Monroe's death was classified by Dr. [Thomas Noguchi](http://en.wikipedia.org/wiki/Thomas_Noguchi) of the Los Angeles County Coroner’s office as "acute barbiturate poisoning", which he recorded as an accidental overdose. Eight milligram percent of [chloral hydrate](http://en.wikipedia.org/wiki/Chloral_hydrate) and 4.5 milligram percent of [Nembutal](http://en.wikipedia.org/wiki/Nembutal) were found in her system after the autopsy. Her death was rumored to be a "probable suicide", but because of a lack of evidence, investigators could not classify her death as suicide or homicide. Also, some conspiracy theories involve [John](http://en.wikipedia.org/wiki/John_F._Kennedy) and [Robert Kennedy](http://en.wikipedia.org/wiki/Robert_Kennedy) with her death, while other theories suggest CIA or [mafia](http://en.wikipedia.org/wiki/Mafia) complicity.

On August 8, 1962, Monroe was interred in a crypt at Corridor of Memories, #24, at the [Westwood Village Memorial Park Cemetery](http://en.wikipedia.org/wiki/Westwood_Village_Memorial_Park_Cemetery) in [Los Angeles, California](http://en.wikipedia.org/wiki/Westwood,_Los_Angeles,_California). [Lee Strasberg](http://en.wikipedia.org/wiki/Lee_Strasberg) delivered the [eulogy](http://en.wikipedia.org/wiki/Eulogy).

1. **Mary Ansell (1899)**

Mary Ansell, an English Housemaid, poisoned her sister Caroline to obtain an insurance settlement. Mary sent Caroline a cake tainted with phosphorus. Caroline died after eating the poisoned cake. Evidence of Mary’s recent purchases of phosphorus and a life insurance policy in her sister’s name was provided at her trial. Based on this evidence, Mary was quickly convicted and executed.

1. **River Phoenix**

On October 31, 1993, Phoenix collapsed from a drug [overdose](http://en.wikipedia.org/wiki/Overdose) of [heroin](http://en.wikipedia.org/wiki/Heroin) and [cocaine](http://en.wikipedia.org/wiki/Cocaine) (known as a [speedball](http://en.wikipedia.org/wiki/Speedball_(drug))) outside the [Viper Room](http://en.wikipedia.org/wiki/Viper_Room), a [Hollywood](http://en.wikipedia.org/wiki/Hollywood) [night club](http://en.wikipedia.org/wiki/Night_club) partially owned by actor [Johnny Depp](http://en.wikipedia.org/wiki/Johnny_Depp) until 2004. Phoenix had returned to [Los Angeles](http://en.wikipedia.org/wiki/Los_Angeles) the previous day from [Utah](http://en.wikipedia.org/wiki/Utah) to complete the three weeks of interior shots left on his last (and, uncompleted) project Dark Blood. His younger sister [Rain](http://en.wikipedia.org/wiki/Rain_Phoenix) and brother [Joaquin](http://en.wikipedia.org/wiki/Joaquin_Phoenix) had flown out from [Florida](http://en.wikipedia.org/wiki/Florida) to join him at his hotel, Phoenix's girlfriend [Samantha Mathis](http://en.wikipedia.org/wiki/Samantha_Mathis) had also come to meet him and all would be present at the scene of Phoenix's death. On the evening of October 30th, River was to perform onstage with his close friend [Flea](http://en.wikipedia.org/wiki/Flea_(musician)) from the [Red Hot Chili Peppers](http://en.wikipedia.org/wiki/Red_Hot_Chili_Peppers). At some point in the evening Phoenix went to the bathroom to take drugs with various friends and dealers. It is reported that an acquaintance offered him some Persian Brown (a powerful form of [methamphetamine](http://en.wikipedia.org/wiki/Methamphetamine) mixed with [opiates](http://en.wikipedia.org/wiki/Opiate), which is then [snorted](http://en.wikipedia.org/wiki/Insufflation)) and soon after consuming the drug he became ill. Upon leaving The Viper Room, he collapsed onto the sidewalk and began [convulsing](http://en.wikipedia.org/wiki/Seizure) for eight minutes. Joaquin dialed [911](http://en.wikipedia.org/wiki/9-1-1); during the call Joaquin was unable to determine whether River was breathing. River had, in fact, already stopped breathing. Rain proceeded to give mouth-to-mouth resuscitation. During the episode [Johnny Depp](http://en.wikipedia.org/wiki/Johnny_Depp) and his band [P](http://en.wikipedia.org/wiki/P_(group)) (featuring Flea and Phoenix's friend [Gibby Haynes](http://en.wikipedia.org/wiki/Gibby_Haynes) of the [Butthole Surfers](http://en.wikipedia.org/wiki/Butthole_Surfers)) had taken to the stage. According to Haynes the band were in the middle of their song, "Michael Stipe" (which includes the line "but we didnt have a part, not a piece of our heart, not Michael, River Phoenix or Flea or me."), while Phoenix was outside the venue having seizures on the sidewalk. When the news filtered through the club, [Flea](http://en.wikipedia.org/wiki/Flea_(musician)) left the stage and rushed outside. Paramedics had arrived on the scene and found Phoenix in [asystole](http://en.wikipedia.org/wiki/Asystole) (flatline), when they administered drugs in an attempt to restart his heart. He was rushed to the [Cedars-Sinai Medical Center](http://en.wikipedia.org/wiki/Cedars-Sinai_Medical_Center), accompanied by [Flea](http://en.wikipedia.org/wiki/Flea_(musician)), via an ambulance. Further attempts to resuscitate Phoenix (including the insertion of a [pacemaker](http://en.wikipedia.org/wiki/Artificial_pacemaker)) were unsuccessful. He was pronounced dead at 1:51 a.m. [PST](http://en.wikipedia.org/wiki/Pacific_Standard_Time) on the morning of October 31, 1993.

1. **Eva Rablen (1929)**

Eva Rablen loved to dance. On several occasions, her husband Carroll drove her to the schoolhouse, where weekly dances were held. The First World War had left Carroll wounded and deaf. He often remained in the car while his wife danced in the schoolhouse. Eva would frequently bring Carroll coffee and sandwiches while he waited in the car. On one such evening Carroll was found dead after consuming his food and coffee. Initially, the death was attributed to natural causes, but later a bottle of strychnine was found below the floorboards of the school house. Eva was identified by a druggist as the person who purchased the poison a few days before the death of her husband.

When Dr. Edward Heinrich examined Caeeoll’s body, traces of strychnine were found in his stomach, in the coffee cup, and on the seat of the car. On the way to the car Eva bumped into a woman and spilled some of the poisoned coffee on the woman’s dress. Dr. Heinrich examined several cups of coffee left on that woman’s dress and found strychnine. In the face of the mounting evidence, Eva changed her plea from not guilty to guilty to avoid the death penalty.

1. **The Death of Georgo Markov (1978 and the Attack on Vladimir Kostov (1978)**

After defecting from Bulgaria, Georgi Markov moved to London. While walking one day he was injected in the leg with ricin, The delivery method used a specially constructed umbrella with a modified tip for injection. He became gravely ill, and on the third day after the attack was vomiting blood. He suffered complete heart blockages and died. The autopsy revealed a platinum-iridium pellet the size of the head of a pin in his leg. It had been cross-drilled with 0.016-inch holes to contain the toxin. The amount of ricin in the pellet, only two milligrams, was sufficient to cause his death.

Ten days earlier, a similar assassination attempt was med against Vladimir Kostov in Paris. Kostov’s heavy clothing prevented an identical projectile from entering a major blood vessel. Instead, the pellet lodged in muscle tissue, preventing the poison from circulating as it had in Markov’s body. This saved Kostov’s life. On hearing of Markov’s death, Kostov underwent a surgical examination, and the pellet was found before sufficient toxin could be absorbed to cause his death.

1. **Kurt Cobain**

Following a tour stop at [Terminal Eins](http://en.wikipedia.org/wiki/Munich-Riem_airport) in [Munich](http://en.wikipedia.org/wiki/Munich), Germany, on March 1, 1994, Cobain was diagnosed with [bronchitis](http://en.wikipedia.org/wiki/Bronchitis) and severe [laryngitis](http://en.wikipedia.org/wiki/Laryngitis). He flew to [Rome](http://en.wikipedia.org/wiki/Rome) the next day for medical treatment, and was joined there by his wife on March 3. The next morning, Love awoke to find that Cobain had overdosed on a combination of [champagne](http://en.wikipedia.org/wiki/Champagne_(wine)) and [Rohypnol](http://en.wikipedia.org/wiki/Flunitrazepam) (Love had a prescription for Rohypnol filled after arriving in Rome). Cobain was immediately rushed to the hospital, and spent the rest of the day unconscious. After five days in the hospital, Cobain was released and returned to Seattle. Love later stated that the incident was Cobain's first [suicide attempt](http://en.wikipedia.org/wiki/Parasuicide).

On March 18, Love phoned police to inform them that Cobain was suicidal and had locked himself in a room with a gun. Police arrived and confiscated several guns and a bottle of pills from Cobain, who insisted that he was not suicidal and had locked himself in the room to hide from Love. When questioned by police, Love said that Cobain had never mentioned that he was suicidal and that she had not seen him with a gun.

Love arranged an [intervention](http://en.wikipedia.org/wiki/Intervention_(counseling)) concerning Cobain's drug use that took place on March 25. The ten people involved included musician friends, record company executives, and one of Cobain's closest friends, [Dylan Carlson](http://en.wikipedia.org/wiki/Dylan_Carlson). But bassist Krist Novoselic tipped him off as he considered the idea to be "stupid". However, by the end of the day, Cobain had agreed to undergo a [detox](http://en.wikipedia.org/wiki/Detoxification) program.[[30]](http://en.wikipedia.org/wiki/Kurt_Cobain#cite_note-29) Cobain arrived at the Exodus Recovery Center in [Los Angeles](http://en.wikipedia.org/wiki/Los_Angeles), [California](http://en.wikipedia.org/wiki/California) on March 30. The following night, Cobain walked outside to have a cigarette, then climbed over a six-foot-high fence to leave the facility. He took a taxi to [Los Angeles Airport](http://en.wikipedia.org/wiki/Los_Angeles_Airport) and flew back to Seattle. Over the course of April 2 and April 3, Cobain was spotted in various locations around Seattle, but most of his friends and family were unaware of his whereabouts. On April 3, Love contacted a private investigator, [Tom Grant](http://en.wikipedia.org/wiki/Tom_Grant_(private_investigator)), and hired him to find Cobain. On April 7, amid rumors Nirvana was going to break up, the band pulled out of the [Lollapalooza](http://en.wikipedia.org/wiki/Lollapalooza) that year.

On April 8, 1994, Cobain's body was discovered at his [Lake Washington](http://en.wikipedia.org/wiki/Denny-Blaine,_Seattle,_Washington) home by an electrician who had arrived to install a security system. Apart from a minor amount of blood coming out of Cobain's ear, the electrician reported seeing no visible signs of [trauma](http://en.wikipedia.org/wiki/Physical_trauma), and initially believed that Cobain was asleep until he saw the shotgun pointing at his chin. A [suicide note](http://en.wikipedia.org/wiki/Suicide_note) was found that said, "I haven't felt the excitement of listening to as well as creating music, along with really writing . . . for too many years now". A high concentration of heroin and traces of Valium were also found in his body. Cobain's body had been lying there for days; the coroner's report estimated Cobain to have died on April 5, 1994.

1. **Tylenol Tampering (1982)**

Extra Strength Tylenol tablets dosed with cyanide claimed seven lives. The person(s) responsible have never been caught. It is believed that cyanide was added to the Tylenol and that the tainted bottles were placed on the shelves of several supermarkets and pharmacies in Chicago area. In addition to the five bottles responsible for the seven deaths, three poisoned bottles were found on the shelves. Because they were from different production locations, investigators believed the tampering occurred after the product was shipped, rather than in the factory. This was the first documented example of random drug poisoning. The $100,000 reward posted by the drug manufacturer, Johnson and Johnson, has never been claimed. This incident led to the development of tamper-resistant packaging and caplets designed to protect the public.

In 1986, Stella Nickell, a Seattle woman, laced some Excedrin with cyanide and killed her husband for his life insurance. She placed three other poisoned bottles of Excedrin in the store to make it look like a random killing and killed another woman, Susan Snow, in the process. In 1988, Stella was sentenced to 99 years in prison.

1. **Agent Orange**

Agent Orange is the code name for a powerful [herbicide](http://en.wikipedia.org/wiki/Herbicide) and [defoliant](http://en.wikipedia.org/wiki/Defoliant) used by the [U.S. military](http://en.wikipedia.org/wiki/United_States_armed_forces) in its [Herbicidal Warfare](http://en.wikipedia.org/wiki/Herbicidal_Warfare) program during the [Vietnam War](http://en.wikipedia.org/wiki/Vietnam_War). During the Vietnam War, an estimated 21,136,000 gal. (80 000 m³) of Agent Orange was sprayed across South Vietnam.

From 1961 to 1971, Agent Orange was by far the most widely used of the so-called "[Rainbow Herbicides](http://en.wikipedia.org/wiki/Rainbow_Herbicides)" employed in the [Herbicidal Warfare](http://en.wikipedia.org/wiki/Herbicidal_Warfare) program. During the production of Agent Orange (as well as [Agents Purple](http://en.wikipedia.org/wiki/Agent_Purple), [Pink](http://en.wikipedia.org/wiki/Agent_Pink), and [Green](http://en.wikipedia.org/wiki/Agent_Green)) [dioxins](http://en.wikipedia.org/wiki/Polychlorinated_dibenzodioxins) were produced as a contaminant, which have caused health problems for those exposed during the Vietnam War. Agents [Blue](http://en.wikipedia.org/wiki/Agent_Blue) and [White](http://en.wikipedia.org/wiki/Agent_White) were part of the same program but did not contain dioxins.

Studies of populations exposed to dioxin, though not necessarily Agent Orange, indicate increased risk of various types of cancer and genetic defects; the effect of long-term low-level exposure has not been established.

Since the 1980s, several lawsuits have been filed against the companies which produced Agent Orange, among them; [Dow Chemical](http://en.wikipedia.org/wiki/Dow_Chemical_Company), [Monsanto](http://en.wikipedia.org/wiki/Monsanto), and [Diamond Shamrock](http://en.wikipedia.org/wiki/Diamond_Shamrock) (which produced 5%[[2]](http://en.wikipedia.org/wiki/Agent_Orange#cite_note-1)). U.S. veterans obtained a $180 million settlement in 1984, with most affected veterans receiving a one-time lump sum payment of $1,200. According to the Department of Veterans Affairs, shortly after the Vietnam War veterans reported various health complications which can be traced to exposure to the chemical Agent Orange. In 1991, the US Congress enacted the Agent Orange Act giving the Department of Veterans Affairs the authority to declare certain conditions 'presumptive' to exposure to Agent Orange/Dioxin enabling these veterans who served in Vietnam eligible to receive treatment and compensation for these conditions. The same law required the National Academy of Sciences to periodically review the science on dioxin and herbicides used in Vietnam to inform the Secretary of Veterans Affairs about the strength of the scientific evidence showing association between exposure to Agent Orange/Dioxin and certain conditions. Through this process, the list of 'presumptive' conditions has grown since 1991 and currently the U.S. Department of Veterans Affairs has listed prostate cancer, respiratory cancers, multiple myeloma, type II diabetes, Hodgkin’s disease, non-Hodgkin's lymphoma, soft tissue sarcoma, chloracne, porphyria cutanea tarda, peripheral neuropathy, chronic lymphocytic leukemia, and spina bifida in children of veterans exposed to Agent Orange as conditions associated with exposure to the herbicide.

American veterans of the Vietnam war were seeking recognition of Agent Orange syndrome, compensation and treatment for diseases that they and their children suffered from; many exposed to Agent Orange have not been able to receive promised medical care through the [Veterans Administration](http://en.wikipedia.org/wiki/United_States_Department_of_Veterans_Affairs) medical system, and only in exceptional cases have their affected children received health care assistance from the government.

Vietnam veterans and their families who brought the original Agent Orange lawsuit 25 years ago alleged that the government "is just waiting for us all to die" They alleged that most of those still alive would succumb to the effects of toxic exposure before the age of 65.

In [Australia](http://en.wikipedia.org/wiki/Australia), [Canada](http://en.wikipedia.org/wiki/Canada) and [New Zealand](http://en.wikipedia.org/wiki/New_Zealand), veterans obtained compensation in settlements that same year. In 1999, [South Korean](http://en.wikipedia.org/wiki/South_Korea) veterans filed a lawsuit in the Korean courts. In January 2006, the Korean Appeal Court ordered Monsanto and Dow to pay [US$](http://en.wikipedia.org/wiki/United_States_dollar)62 million in compensation. However, no Vietnamese have received compensation, and on March 10, 2005, Judge [Jack B. Weinstein](http://en.wikipedia.org/wiki/Jack_B._Weinstein) of the [United States District Court for the Eastern District of New York](http://en.wikipedia.org/wiki/United_States_District_Court_for_the_Eastern_District_of_New_York) dismissed the lawsuit filed by the Vietnamese victims of Agent Orange against the chemical companies which produced the defoliants and herbicides. The case was appealed and heard by the [Second Circuit Court of Appeals](http://en.wikipedia.org/wiki/Second_Circuit_Court_of_Appeals) on June 18, 2007. The Court of Appeals upheld the dismissal of the case stating that the herbicides used during the war were not intended to be used to poison humans and therefore did not violate international law. The lawyers for the Vietnamese have petitioned the [US Supreme Court](http://en.wikipedia.org/wiki/US_Supreme_Court) to consider the case.

1. **Steroid Use and Major League Baseball**

In July 2007, former outfielder and [steroid-user](http://en.wikipedia.org/wiki/Banned_substances_in_baseball) [José Canseco](http://en.wikipedia.org/wiki/Jos%C3%A9_Canseco) said that he was planning to publish another book about Major League Baseball, to follow his 2005 bestseller [Juiced: Wild Times, Rampant 'Roids, Smash Hits & How Baseball Got Big](http://en.wikipedia.org/wiki/Juiced:_Wild_Times,_Rampant_%27Roids,_Smash_Hits_%26_How_Baseball_Got_Big). Canseco said his new book would have "other stuff" on Rodriguez, and called him a hypocrite. At the time, Rodriguez denied accusations of steroid use. In a 2007 interview with [Katie Couric](http://en.wikipedia.org/wiki/Katie_Couric), Rodriguez flatly denied ever having used performance-enhancing drugs.

In February 2009, Selena Roberts and David Epstein of [Sports Illustrated](http://en.wikipedia.org/wiki/Sports_Illustrated) reported that Rodriguez had tested positive for two [anabolic steroids](http://en.wikipedia.org/wiki/Anabolic_steroids), [testosterone](http://en.wikipedia.org/wiki/Testosterone) and [Primobolan](http://en.wikipedia.org/wiki/Primobolan), during his [2003](http://en.wikipedia.org/wiki/2003) season playing for the Texas Rangers, the same season in which he captured his first American League [Most Valuable Player](http://en.wikipedia.org/wiki/Most_Valuable_Player) award, broke 300 career home runs (hitting 47 runs that year), and earned one of his ten [Silver Slugger Awards](http://en.wikipedia.org/wiki/Silver_Slugger_Award). The information had been part of a government-sealed report detailing 104 [major league](http://en.wikipedia.org/wiki/Major_league) players (out of 1200 players tested) who tested positive for performance enhancers during a [2003](http://en.wikipedia.org/wiki/2003) drug [survey](http://en.wikipedia.org/wiki/Statistical_survey). Approved by the players themselves with the promise of anonymity, the survey was conducted by Major League Baseball to see whether a mandatory drug testing program might be necessary.

Although testosterone is available by prescription for some uses, Primobolan has no approved prescription use. Also known as methenolone or metenolone enanthate, it is the same [steroid](http://en.wikipedia.org/wiki/Steroid) that [Barry Bonds](http://en.wikipedia.org/wiki/Barry_Bonds) is alleged to have tested positive for in 2000 and 2001. A fairly weak steroid on its own, it is generally used in conjuction with other steroids. The drug is generally preferred in injected rather than oral form due to its cost. An official statement by Major League Baseball made shortly after Rodriguez's test results became public expressed "grave concern" without naming Rodriguez, noting that "because the survey testing that took place in 2003 was intended to be non-disciplinary and anonymous, we cannot make any comment on the accuracy of this report as it pertains to the player named."

1. **Anthrax and Bioterrorism**

"Anthrax was first tested as a biological warfare agent by Unit 731 of the Japanese Kwantung Army in Manchuria during the 1930s; some of this testing involved intentional infection of prisoners of war, thousands of whom died. Anthrax, designated at the time as Agent N, was also investigated by the allies in the 1940's. The British army tested experimental anthrax weapons on Gruinard Island, off the northwest coast of Scotland, in 1943. Gruinard was burned over at least once, yet as of the late 1980's, it was still too heavily contaminated with spores to allow unprotected human access, indicating the hardiness of anthrax spores. Weaponized anthrax was part of the U.S. stockpile prior to its destruction in 1972."

Weaponized stocks of anthrax in the US were destroyed in 1971–72 after President [Nixon](http://en.wikipedia.org/wiki/Richard_Nixon) ordered the dismantling of US biowarfare programs in 1969 and the destruction of all existing stockpiles of bioweapons. Research is known to continue in the United States on ways to counteract bioweapons attacks.

The Soviet Union created and stored 100 to 200 tons of anthrax spores on [Vozrozhdeniya Island](http://en.wikipedia.org/wiki/Vozrozhdeniya_Island). They were abandoned in 1992 and destroyed in 2002.

Despite signing the 1972 agreement to end bioweapon production the government of the Soviet Union had an active bioweapons program that included the production of hundreds of tons of weapons-grade anthrax after this period. On April 2, 1979 some of the over one million people living in Sverdlovsk (now called [Ekaterinburg, Russia](http://en.wikipedia.org/wiki/Ekaterinburg,_Russia)), about 850 miles east of Moscow, were exposed to an [accidental release of anthrax](http://en.wikipedia.org/wiki/Sverdlovsk_anthrax_leak) from a biological weapons complex located near there. At least 94 people were infected, of whom at least 68 died. One victim died four days after the release, ten over an eight-day period at the peak of the deaths, and the last six weeks later. Extensive cleanup, vaccinations and medical interventions managed to save about 30 of the victims. Extensive cover-ups and destruction of records by the [KGB](http://en.wikipedia.org/wiki/KGB) continued from 1979 until Russian President [Boris Yeltsin](http://en.wikipedia.org/wiki/Boris_Yeltsin) admitted this anthrax accident in 1992. Jeanne Guillemin reported in 1999 that a combined Russian and United States team investigated the accident in 1992.

Theoretically anthrax spores can be cultivated with minimal special equipment and a first-year collegiate [microbiological](http://en.wikipedia.org/wiki/Microbiology) education, but in practice the procedure is difficult and dangerous. To make large amounts of an [aerosol](http://en.wikipedia.org/wiki/Particulate) form of anthrax suitable for biological warfare, extensive practical knowledge, training and highly advanced equipment are required.

Concentrated anthrax spores were used for [bioterrorism](http://en.wikipedia.org/wiki/Bioterrorism) in the [2001 anthrax attacks](http://en.wikipedia.org/wiki/2001_anthrax_attacks) in the United States, delivered by mailing postal letters containing the spores. Only a few grams of material were used in these attacks and in August 2008 the US Department of Justice announced they believed that [Dr. Bruce Ivins](http://en.wikipedia.org/wiki/Bruce_Edwards_Ivins), a senior biodefense researcher, was responsible. These events also spawned many [anthrax hoaxes](http://en.wikipedia.org/wiki/Anthrax_hoaxes).

In response to the postal anthrax attacks and hoaxes the [US Postal Service](http://en.wikipedia.org/wiki/US_Postal_Service) sterilized some mail using a process of gamma [irradiation](http://en.wikipedia.org/wiki/Irradiation) and treatment with a proprietary [enzyme](http://en.wikipedia.org/wiki/Enzyme) formula supplied by [Sipco Industries Ltd](http://en.wikipedia.org/wiki/Sipco_Industries_Ltd).

A scientific experiment performed by a high school student, later published in The Journal of Medical Toxicology, suggested that a domestic [electric iron](http://en.wikipedia.org/wiki/Ironing) at its hottest setting (at least 400 °F (204 °C)) used for at least 5 minutes should destroy all anthrax spores in a common postal envelope.

1. **N.J. freshman dies from suspected alcohol poisoning at University of Delaware**

**by** [**Katie Wang**](mailto:kwang@starledger.com)**/The Star-Ledger**

**Sunday November 09, 2008, 9:15 AM**

University of Delaware freshman from South Brunswick died Saturday of apparent alcohol poisoning after a fraternity party, police said.

Brett Griffin, 18, was discovered in cardiac arrest about 3 a.m. at an off-campus house where members of Sigma Alpha Mu were hosting a party, said Newark, Del., Police Lt. Brian Henry. The student, who had been in the process of joining the fraternity, was taken to nearby Christiana Hospital and pronounced dead, Henry said.

"It's just a nightmare," said Louis Braschi, 19, one of Griffin's fellow fraternity pledges. "Everyone is just beside themselves."

Griffin grew up in Kendall Park and graduated in June from South Brunswick High School, where -- like his two older brothers -- he had competed on the wrestling team.

"He was one of those kids who never missed a practice," said Joseph Dougherty, the team's coach. "He wanted to be the best wrestler he could be. He was very inspirational to the other kids on his team."

The pale-yellow clapboard house where Griffin was found unconscious stands several blocks north of campus and is home to several members of Sigma Alpha Mu, school officials said.

Griffin lived on campus and was among about 40 people who attended the party that night, police said.

At 2:52 a.m., authorities received a 911 call and arrived at the house to find Griffin on the second floor, police said.

The preliminary cause of death was an alcohol overdose, and an autopsy was scheduled for today, Henry said. No one has been charged in the death, he said.

Police have had no previous problems with the fraternity, he said.

Griffin's friends recalled him as shy, fiercely loyal and charismatic. He liked staying up late, listening to Red Hot Chili Peppers music and playing acoustic guitar with his band back home in New Jersey, they said.

He was studying nutrition but had not picked a major, friends said. His quiet confidence, athletic build and shaggy blond hair -- uncut since August -- made him popular with girls, they said.

"He was a kid people wanted to be around," said Braschi, a sophomore who grew up in Verona.

He declined to talk about the specifics of Griffin's death.