Hello and welcome to the Death Penalty Information Center’s podcast, exploring issues related to capital punishment. In this edition, we will be discussing lethal injection. Although it is the most frequently used method of execution in the United States, lethal injection has generated controversy as states have struggled with a shortage of one of the drugs used in executions.

How prevalent is the use of lethal injection in executions?
Lethal injection is the primary method of execution in every state that allows the death penalty. Some states allow other methods, such as electrocution, if the inmate requests it, or in case lethal injection is ruled unconstitutional, but lethal injection is still used more than any other method of execution. There have been more than 1,000 executions by lethal injection since the death penalty was reinstated in 1976.

What happens during an execution by lethal injection?
Most states use three drugs in a lethal injection. The drugs are injected intravenously into the inmate in a specific order. The first drug is an anesthetic called sodium thiopental, which is used to render the inmate unconscious. The second drug, pancuronium bromide, paralyzes the inmate and stops breathing. The third drug, potassium chloride, stops the heart and causes immediate death.

Two states, Washington and Ohio, use a single-drug protocol for lethal injections. In those states, the inmate is given a fatal dose of an anesthetic.

When did lethal injection first emerge as the primary method of execution in the United States?
Lethal injection was promoted as a more humane and inexpensive alternative to existing methods of execution, such as electrocution or lethal gas. In 1977, Oklahoma became the first state to adopt lethal injection as a method of execution, using a three-drug protocol written by Dr. Jay Chapman, the state medical examiner. State legislators approached Dr. Chapman after the Oklahoma Medical Association refused to participate in developing a protocol, citing ethical concerns. States gradually followed Oklahoma in adopting lethal injection, and its three-drug protocol.

The first inmate to be executed by lethal injection was Charlie Brooks, executed in Texas on December 7, 1982.

Do doctors participate in executions by lethal injection?
Medical associations oppose doctors' involvement in executions, saying that assisting with executions violates the Hippocratic Oath. The American Medical Association's "Code of Ethics" states: "A physician, as a member of a profession dedicated to preserving life when there is hope of doing so, should not be a participant in a legally authorized execution." The AMA code allows physicians to participate in executions only to give a prisoner a sedative prior to execution, if
requested, and to certify the prisoner's death. However, the AMA's code is not binding on doctors and some do participate in executions.

**Has the lethal injection process ever been reviewed by the Supreme Court?**
Yes. In 2008, the United States Supreme Court upheld Kentucky's lethal injection statute, ruling that it did not constitute cruel and unusual punishment. Kentucky's statute specified the three-drug protocol described above, which is similar to the method in most other death penalty states.

Because this ruling addressed Kentucky's statute specifically, inmates in states with different protocols can still challenge their state's methods if they, in the words of the Court's plurality opinion, establish "that the State's lethal injection protocol creates a demonstrated risk of severe pain" The inmate "must show that the risk is substantial when compared to the known and available alternatives."

**Have there been problems with carrying out executions by lethal injection in the past?**
Yes. Execution technicians have had difficulty finding a suitable vein for an intravenous line, forcing them to make multiple attempts at inserting the needle. Perhaps the most famous case of a botched execution is the 2009 case of Romell Broom. Executioners spent two hours trying to find a usable vein, while Broom was seen wincing and grimacing in pain. Ohio Governor Ted Strickland halted the execution so that physicians could be consulted on how to carry out the execution more efficiently. As of March, 2011, Broom remained on Ohio's death row.

Other executions have resulted in violent convulsions when the inmate reacted badly to the drugs. If the first drug is inadequate, then the inmate remains conscious and can feel pain while the second and third drugs cause paralysis, suffocation, and cardiac arrest.

**What recent problems have arisen concerning lethal injection?**
Hospira, the sole U.S. manufacturer of sodium thiopental, the anesthetic typically used in lethal injections, halted production of that drug in 2010 because they ran out of a crucial raw ingredient. This led to a nationwide shortage of the drug, which is also used to induce anesthesia in hospital procedures. The state of Arizona could not obtain a U.S. supply of sodium thiopental for the execution of Jeffrey Landrigan in October, 2010, so it purchased the drug from Dream Pharma, a London-based pharmaceutical supplier run out of the back of a driving school.

In early 2011, when states were expecting Hospira to resume production, the company announced they would no longer produce sodium thiopental. Hospira had intended to move production to an Italian manufacturing facility, but Italian officials asked the company for assurance that the drug would not be used in executions. Since Hospira could not make such a guarantee, they chose to stop producing the drug.

As a result of Hospira's decision, states are seeking alternative sources of thiopental or other anesthetics. At least six states have obtained sodium thiopental from a supplier in Great Britain, and Nebraska obtained a supply from India. Since the U.S. Food and Drug Administration has
not inspected the quality of these imports, the drugs may be illegal or unsafe to use.

Two states, Oklahoma and Ohio, have changed their protocols to use an alternative drug, pentobarbital. Oklahoma has carried out three executions using pentobarbital as the first drug in their three-drug protocol. Ohio plans to use pentobarbital as the sole drug in a one-drug protocol.

**How will the shortage of lethal injection drugs affect executions around the nation?**
As of February, 2011, no executions had been halted due solely to the shortage of lethal injection drugs, though some states may have refrained from setting execution dates, and an appeal in California was further delayed due to the shortage. Executions may still be delayed if states run out of sodium thiopental and if inmates challenge the legality of foreign sources of the drug, or the use of alternative drugs.

**What are the concerns associated with procuring lethal injection drugs not approved by the FDA?**
Foreign suppliers of sodium thiopental have not been regulated or approved by the FDA, but the FDA has allowed these drugs to reach the states. As a result, states are using drugs that have not had the same safety and quality testing that medications generally have. This means their supplies could be impure, expired, or unsafe. If the anesthetic used in an execution is not effective, then the inmate could be conscious while the other, more painful drugs paralyze him and stop his heart.

**What are some of the concerns associated with the use of alternative drugs, such as pentobarbital, in executions?**
Pentobarbital has been used in pet euthanasia and in assisted suicides, but has hardly ever been used to induce anesthesia, which would be its role in a three-drug protocol. Members of the American Society of Anesthesiologists have raised concerns about the use of pentobarbital in executions, and Lundbeck, Inc., the sole U.S. manufacturer of pentobarbital, has said it opposes its use in executions. In a three-drug regimen, it poses the same risk of inadequate anesthesia, which would result in a very painful execution.

**What legal challenges to lethal injection have been recently raised in courts?**
Questions about lethal injection protocols have already stayed a number of executions, and additional delays may occur as a result of the shortage. In February, 2011, Sidley Austin, a Washington, DC-based law firm representing a number of death row inmates, filed a lawsuit against the FDA alleging that the agency violated federal law by allowing states to import unapproved sodium thiopental. Lawyers for Georgia inmate Andrew DeYoung wrote a letter to U.S. Attorney General Eric Holder asking him to investigate the Georgia Department of Corrections for violating the federal Controlled Substances Act by failing to register as an importer of sodium thiopental. Many states have asked Eric Holder to assist them in finding the drugs needed for lethal injection.
Other inmates are also challenging lethal injection as alternative drugs and changes in lethal injection protocols emerge.