

*Drug Companies and Their Role in Aiding Executions*

**Prepared by**

**The National Coalition to Abolish the Death Penalty**

920 Pennsylvania Ave, SE

Washington, DC 20003-2140

(202) 543-9577 phone

(202) 543-7798 fax

[www.ncadp.org](http://www.ncadp.org)

2002

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## *Who Uses Lethal Injection Drugs as a Form of Execution*

The use of lethal injection as a form of execution began in Nazi Germany as early as the fall of 1939. Concerned with purifying the state and eliminating the “inferior” in society, Hitler began his *Euthanasie Programme T-4* designed to eradicate the undesirable. Included in the group to be *euthanized* (a term that typically means mercy killing), were Jews, Gypsies, the mentally and physically handicapped (including 5,000 children), the incurably ill, and insane.<sup>i</sup>

Today, five countries use lethal injection drugs to eliminate the unwanted members of their societies: China, Guatemala, the Philippines, United Arab Emirates, and the United States.<sup>ii</sup> Even though Taiwan and Thailand have legalized lethal injection, both countries still use the firing squad.<sup>iii</sup> China still favors a single shot to the back of the head. The only country that uses consistently lethal injection is the United States.

Texas performed the first lethal injection in the U.S. in 1982. This method of execution quickly became the preferred choice. Indeed, since reinstatement of the death penalty,<sup>iv</sup> the vast majority of death row inmates have been executed using lethal injection drugs.<sup>v</sup> Lethal injection is the method of execution in 36 of 38 states that still impose the death penalty.<sup>vi</sup> A 37<sup>th</sup> state, Alabama, will begin using lethal injection as of July 1, 2002.<sup>vii</sup> The U.S. military also uses lethal injection. The federal government uses lethal injection for any criminal defendant convicted under the Anti-Drug Abuse Act of 1988 and sentenced to death for commission of a capital offense under the federal statute.<sup>viii</sup> Further, under federal regulations, prisoners who committed offenses under the Violent Crime Control and Enforcement Act 1994 will be executed by the method of the state in which the crime took place.<sup>ix</sup> If the state does not have capital punishment, “the court shall designate another State, the law of which does provide for the implementation of a sentence of death, and the sentence shall be implemented in the latter State in the manner prescribed by such law.”<sup>x</sup>

## *Drugs Used in the Lethal Injection Process*<sup>xi</sup>

Typically, three drugs are injected intravenously into the condemned person.<sup>xii</sup> The drugs—in the order of their use—are sodium thiopental, pancuronium bromide, and potassium chloride. The timing and order in which these drugs are injected is extremely important. For example, if the anesthesia wears off too quickly, the inmate could wake up during the administration of the pancuronium bromide, thereby experiencing asphyxiation. Similarly, if the potassium chloride is administered first, the patient will experience the equivalent of a heart attack while fully conscious.

### **Sodium Thiopental**

Sodium thiopental, the first drug used in the lethal injection process, is injected into the bloodstream at a dosage ranging from 1 to 5 grams.<sup>xiii</sup> Sodium thiopental is an ultra short-acting anesthetic drug developed by Abbott Laboratories in the mid 1930s and is produced and sold under the brand name of Pentothal. It operates within a minute<sup>xiv</sup> to make the brain unconscious by depressing the central nervous system, slowing the heart rate and lowering the blood pressure.

The effects of sodium thiopental are very brief, and therefore, the timing of the injection is important. The drug begins to wear off almost immediately, rendering the person conscious within minutes. In this condition, a person may appear to be sleeping, but in actuality be fully aware of what is happening.<sup>xv</sup>

***Legitimate Uses.*** Sodium thiopental has been used as an important anesthetic agent for more than 50 years and was considered a tremendous breakthrough at the time of its conception.

***The Manufacturers.*** Abbott Laboratories, Inc. is the sole manufacturer of sodium thiopental.<sup>xvi</sup>

### **Pancuronium Bromide**

Pancuronium bromide is the second drug used in the lethal injection process and is a neuromuscular blocking agent. Injected into the blood stream in the range of 50-100 mg, it paralyzes the diaphragm and ultimately arrests breathing.<sup>xvii</sup> The drug is not a sedative or an analgesic. Although the person is

paralyzed, s/he is capable of hearing, seeing and feeling.<sup>xviii</sup> Therefore, nurses are warned that a patient under effects of pancuronium bromide must be given a sedative, because paralysis without adequate sedation is terrifying. Indeed, the American Veterinary Medical Association has declared that it is “unacceptable to use...neuromuscular blocking agents” as the sole chemical agent in euthanizing animals.<sup>xix</sup>

**Legitimate Uses.** Pancuronium bromide is used as an adjunct to anesthesia when adequate skeletal muscle relaxation is needed.<sup>xx</sup> For example, it is given to critically ill and intensive care patients so that they can breathe with a ventilator or respirator without exerting energy. Pancuronium bromide is also used to accomplish the following:

Decrease oxygen consumption.

Stabilize metabolic rate and intracranial pressure with head injuries.

Minimize metabolic demand in the event of acute cardiovascular collapse.

Facilitate ventilatory support for newborn infants experiencing respiratory failure.

**The Manufacturers.** Organon, a pharmaceutical manufacturer, originally produced and sold pancuronium bromide under the brand name of Pavulon. That company stopped producing the drug in 1998. According to the FDA’s National Drug Code Directory, the following companies now manufacture and/or sell pancuronium bromide:

Abbott Laboratories, Inc.

Baxter Healthcare Corp.

Wyeth Pharmaceuticals

Gensia Sicor Pharmaceuticals, Inc.

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### **Potassium Chloride**

Potassium chloride is the third and final drug used during the process of lethal injection. Potassium is an essential element to human life. It is the principal positive ion inside of cells and is used in nerve conduction, muscle contraction and normal kidney function.

Potassium chloride causes an extreme burning sensation when injected into the body. In lethal injections, a dosage over 20 mEq administered rapidly will likely cause the heart to stop beating.<sup>xxi</sup>

**Legitimate Uses.** Potassium chloride is administered in the treatment of low potassium conditions (hypokalemia) caused by use of diuretics, diabetic ketoacidosis, severe diarrhea, and adrenal gland malfunction. It is also used to stop the heart from beating during heart surgery.<sup>xxii</sup>

**The Manufacturers.** While many companies produce potassium chloride, only a few produce it in injection form. According to FDA’s National Drug Code Directory, the following companies manufacture, distribute and/or sell potassium chloride in its injection form:

Abbott Laboratories, Inc.

American Pharmaceutical Partners, Inc.

AmerisourceBergen

B. Braun Medical, Inc.

Baxter Healthcare Corp

## **What's Wrong with Using Lethal Injection Drugs**

### **A Violation of Human Rights**

While lethal injection has been described as a humane procedure, the death penalty in any form is a violation of human rights. Capital punishment is antithetical to the concept of human dignity as enshrined in the right to life under the Universal Declaration of Human Rights. Further, several international human rights instruments prohibit or restrict the use of any form of capital punishment including Article 6 of the International Covenant on Civil and Political Rights (ICCPR), the Second Optional Protocol to the ICCPR, Protocol No. 6 to the European Convention for the Protection of Human Rights and Fundamental Freedoms, the Protocol to the American Convention on Human Rights to Abolish the Death Penalty, and the UN Convention on the Rights of the Child.

The majority of countries in the global community have followed human rights norms by abolishing the death penalty in law or in practice. Today, 111 countries have abolished the death penalty in law or practice.<sup>xxiv</sup> The United States is in the minority, joining countries like China, Cuba and Iraq whose human rights records the U.S. government consistently deplors.

In April 2002, the United Nations Commission on Human Rights once again called upon countries that had not eradicated the death penalty to “establish a moratorium on executions with a view to completely abolishing the death penalty.”<sup>xxv</sup> The United States, joined by 19 countries, voted against the resolution.<sup>xxvi</sup>

### **Assailed by the Medical Profession**

All major medical societies are on record as opposing physician participation in any form of execution. The American Medical Association (AMA), American College of Surgeons, American College of Physicians and the American College of Pathologists have assailed the participation of physicians for ethical reasons. State medical societies have also objected to the involvement of doctors in executions.<sup>xxvii</sup>

In California, the Global Lawyers and Physician Association filed an *amicus* brief on behalf of physicians who sought a court injunction against that state's use of doctors in conducting lethal injection.<sup>xxviii</sup> The suit argued that it is particularly unacceptable for physicians to participate in the lethal injection procedure because the process “insidiously mimics medical care.”<sup>xxix</sup>

Moreover, the AMA has specifically determined that a physician must not participate in any aspect of the lethal injection procedure, including the following:

- (1) an action that would directly cause the death of the condemned (e.g., administering a lethal injection);
- (2) an action that would assist, supervise, or contribute to the ability of another individual to directly cause the death of the condemned (e.g., *prescribing the drugs necessary for a lethal injection*); and
- (3) an action that could automatically cause an execution to be carried out on a condemned prisoner (e.g., determining whether death has occurred during an execution).<sup>xxx</sup>

### **Unauthorized and Unapproved Use**

Sodium thiopental is a controlled substance,<sup>xxxi</sup> and pancuronium bromide and potassium chloride are available only by prescription.<sup>xxxii</sup> Only a licensed medical practitioner can obtain and use the drugs. Neither the executioner nor warden is so licensed. If prison officials are obtaining or using these drugs without proper authority, they are violating federal and state law.

Moreover, the FDA approved these drugs for specific medical purposes. Their use in lethal injections constitutes an unapproved use of a drug in violation of

the Federal Food, Drug, and Cosmetic Act.<sup>xxxiii</sup> In a suit brought on behalf of death row inmates in Texas and Oklahoma, the Supreme Court ruled that the FDA had discretion *not* to engage in enforcement actions to prevent this statutory violation.<sup>xxxiv</sup>

### **High Rates of Error**

There have been many “botched” executions using lethal injection drugs. Theoretically, if these drugs were administered correctly, the condemned person would be unconscious after the first injection, and stay that way throughout the entire procedure. However, according to Dr. Edward Brunner, professor and chairman emeritus of anesthesia at Northwestern University Medical School, the lethal injection process can be riddled with errors:

If the drugs are not used properly, the sleep drug can wear off, allowing the patient to be aware but unable to move, even to breathe. He undergoes suffocation and asphyxiation in a horribly painful way, even though he looks completely calm as he is lying on the table. Then he experiences that deep burning sensation as the potassium courses through his veins on the way to his heart.<sup>xxxv</sup>

If done by an anesthesiologist, using secure and working intravenous lines, the injection process could be complete in five minutes.<sup>xxxvi</sup> Due, however, to complications that arise from clogged intravenous lines and lack of suitable veins, the process does not run free of errors. Further compounding the problem, states’ protocols often do not indicate dosage amounts and executioners are poorly trained in administering the drugs.<sup>xxxvii</sup> As a result, there are times when it has taken the condemned inmate up to 45 minutes to die.

For example, on November 6, 2001, during Georgia’s execution of Jose High in Georgia, attempts to insert a needle into his arm took 39 minutes. The contract emergency medical technicians ultimately had to insert a catheter at the base of his neck.<sup>xxxviii</sup>

### **How Lethal Injection Drugs Are Obtained**

The following section provides clear examples of how drugs have been obtained for use in lethal injections. Each one directly implicates the involvement of doctors, pharmacists, health and prison officials and sheds light on the ethical challenges involved in supplying or obtaining these drugs.

#### **Oklahoma**

In June 2001, Human Rights Watch sent a letter to McAlester Regional Health Center, provider of lethal injection drugs in Oklahoma, urging the Center to end its role in executions.<sup>xxxix</sup> Subsequently, the Center discontinued its arrangement with the Department of Corrections.<sup>xl</sup>

#### **New Mexico**

Terry Clark was executed by lethal injection in New Mexico on November 6, 2001. The company contracted to provide prison health services refused to supply the lethal injection drugs. This prompted Governor Gary E. Johnson to ask the state’s Secretary of Health, J. Alex Valdez, to make the purchase. Valdez requested the drugs from a pharmacy, but the pharmacist refused to comply since Valdez was not a physician. Fred Pintz, the state’s Chief Medical Officer, was then called upon to write the prescription.<sup>xli</sup>

In reaction, Public Citizen’s Health Research Group asked New Mexico’s State Board of Medical Examiners to suspend Dr. Pintz’s license to practice medicine, followed by revocation. This request was made on the basis that Pintz—by authorizing acquisition of drugs to be used for lethal injection—had flagrantly violated a principal implicit in New Mexico’s Medical Practice Act.<sup>xlii</sup> With pressure mounting, the execution drugs that Pintz ordered were returned. The State then obtained the drugs from Colorado-based Bindley Western Industries, Inc., which is a subsidiary of Cardinal Health.

#### **Texas**

At least part of the time, Texas has obtained lethal injection drugs from a pharmacy in Austin and carried them a hundred miles to the execution chamber in Huntsville. The purpose behind this strategy was to relieve the prison health facility of any responsibility for or involvement in the procurement process.<sup>xliii</sup>

### **Holding Corporations Accountable**

Over the past several decades, corporations, nongovernmental organizations, and international institutions have made progress in developing codes of conduct and integrating human rights standards into corporate practices to guide operations and investments, giving consideration to environmental, social and economic concerns. Some of the most comprehensive global standards include the United Nations Global Compact proposed by UN Secretary-General Kofi Annan and launched in September 2000, the Global Sullivan Principles, OECD Guidelines for Multinational Corporations and Principles for Global Corporate Responsibility.

Most of these guidelines have at their core a call for businesses to operate in harmony with laws, societal expectations and human rights and labor standards, which are reflected in the framework of international declarations and conventions, such as the Universal Declaration of Human Rights. The OECD guidelines, for example, contain specific recommendations including provisions on human rights. The nine principles of the Global Compact also call for business to “support and respect the protection of internationally proclaimed human rights.”<sup>xliv</sup>

A well-known example of corporate social responsibility has been the adoption of Supplier Codes of Conduct by U.S. companies, notably Nike and Reebok. Through the advocacy efforts of human rights organizations, many other corporations have also implemented socially responsible business practices.

Despite progress either through voluntary compliance with corporate social responsibility programs or through public protest and shareholder activism, many companies still do not fully support basic codes of conduct or internationally accepted human rights standards. The pharmaceutical industry, for example, has increasingly come under attack for the high cost of HIV/AIDS drugs, making them inaccessible to patients in developing countries. Pharmaceutical companies that produce lethal injection drugs have also largely failed to acknowledge that use of their products in executions violates their own corporate mission, ethical codes of conduct, and basic human rights norms, which affirm the right to life.<sup>xlv</sup>

### **Recommendations**

NCADP calls upon every manufacturer of the drugs used in the lethal injection to do the following:

Provide a public statement condemning the use of their products in executions.

Provide written instructions prohibiting the use of their products in executions on all medical literature accompanying the sale, distribution and marketing of such drugs.

Send written notice to the wholesalers or major group purchasing organizations that these drugs must not be distributed or sold to institutions that plan to use them in executions.

Write to all state Departments of Correction to inform corrections officials that these drugs must not be used in executions.

Require state Departments of Correction to provide written verification that these drugs will not be used in executions.

Monitor, on a regular basis, the sale of these drugs to state Departments of Correction, wholesalers, hospitals, major group purchasing organizations, agents and vendors.

Allow outside monitoring by making public a current list of all state Departments of Correction, wholesalers, hospitals, major group purchasing organizations, agents and vendors that buy these drugs.

Ascertain and publicly report on whether these drugs are required for routine medical needs in prison infirmaries, or whether one or more of these drugs are used primarily or exclusively for executions.

Stop supplying any of these drugs, directly or indirectly through other vendors, if not needed for routine medical purposes.

Issue and make publicly available an annual report on compliance.

## **APPENDIX**

### **Companies That Produce or Distribute the Drugs Used in Lethal Injections**

According to research done by the National Coalition to Abolish the Death Penalty, there are eight companies that manufacture, sell and/or distribute those drugs used in lethal injections.

#### ***Sodium Thiopental***

Abbott Laboratories, Inc. (Pentothal) – *(manufactures and sells)*

#### ***Pancuronium Bromide***

Abbott Laboratories, Inc. *(manufactures and sells)*

Baxter International Inc. *(sells only)*

Wyeth Pharmaceuticals *(manufactures and sells)*

Gensia Sicor Pharmaceuticals, Inc. *(manufactures – distributes to Baxter)*

#### ***Potassium Chloride*** (the only companies that produce it in injectable forms)

Abbott Laboratories, Inc. *(manufactures and sells)*

American Pharmaceutical Partners, Inc. *(manufactures and sells)*

AmerisourceBergen *(distributes only)*

B. Braun Medical, Inc. *(manufactures and sells)*

Baxter International Inc. *(manufactures and sells)*

Cardinal Health *(distributes only)*

All of the companies above are publicly traded companies on the New York Stock Exchange with the exception of B. Braun Medical, Inc. <sup>xlvi</sup>

## **Glossary**

**Abbott Laboratories, Inc.**

Abbott Laboratories manufactures all three drugs used in the lethal injection process. In the year 2001, Abbott's company's sales reached \$16.2 billion and their net earnings were \$1.5 billion. *Forbes Magazine* ranks them number 70 in the top 500 companies, and *Fortune Magazine* lists them as 135 out of 500 of the largest U.S. based companies. They are on many other prominent lists and have won many other awards.

Abbott prides itself on its advances in health care management around the world and its "corporate philanthropy." They sell themselves as being "focused" on creating products that "enhance the lives of millions of people around the world." For three years in a row, Abbott Laboratories was named one of the "50 Best Companies for Minorities" from *Fortune Magazine's* annual survey.

Abbott has issued a statement regarding use of the drug, Pentothal (sodium thiopental), in the lethal injection process. Part of the statement released includes the following:

*The company has, in fact, communicated with departments of corrections in the United States, to request that this product not be used in capital punishment procedures. Correctional facilities do purchase sodium thiopental for use as an anesthetic in needed medical treatments provided by those institutions. Sodium thiopental has long been a generic drug, manufactured by multiple companies and available from a wide variety of suppliers.*

#### Contact Information

Miles D. White

Chairman and Chief Executive Officer

Abbott Laboratories, Inc.

100 Abbott Park Rd.

Building D392, AP6D

Abbott Park, IL 60064-6020

(847) 938-5571

[www.abbott.com](http://www.abbott.com)

Catherine Babington

Corporate Vice President of Investor Relations

& Public Affairs

Abbott Laboratories, Inc.

100 Abbott Park Rd.

Dept. 383

Building AP6D-2

Abbott Park, IL 60064-6020

(847) 937-3931



## **American Pharmaceutical Partners, Inc.**

American Pharmaceutical Partners manufactures potassium chloride in its injection form,

and is one of the major suppliers of “multisource injectable pharmaceuticals.” Headquartered in Los Angeles, APP also has offices and facilities in Illinois and New York. Additionally, APP has a distribution center in Bensenville, Illinois and has a Canadian sales office near Toronto.

For the nine months ended 12/31/01, revenues rose 16% to \$192 million. Net income applicable to Common totaled \$11.7 million versus a loss of \$9.8 million. Results reflect the launch of new products, offset by lower gross margins.

### Contact Information

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Patrick Soon-Shiong

President and Chief Executive Officer

American Pharmaceutical Partners, Inc.

11777 San Vicente Blvd.

Suite 550

Los Angeles, CA 90049

(310) 826-8505

[www.am-pp.com](http://www.am-pp.com)

American Pharmaceutical Partners, Inc. - (distribution center)

1101 Perimeter Drive

Suite 300

Schaumburg, IL 60173

(847) 969-2700

## **AmerisourceBergen**

AmerisourceBergen distributes potassium chloride and is the largest pharmaceutical services company in the U.S. dedicated solely to the pharmaceutical supply chain. AmerisourceBergen was formed in connection with the merger of AmeriSource Health Corporation and Bergen Brunswig Corporation, which was consummated in August 2001. It is the leading distributor of pharmaceutical products and services to the hospital systems/acute care market, alternative care facilities, independent community pharmacies and regional drugstore chains.

The Pharmaceutical Distribution is primarily the company's wholesale and specialty drug distribution business, and PharMerica is the company's institutional pharmacy business.

The company is a leader in the institutional pharmacy marketplace with approximately \$36 billion in annualized operating revenues. The company is headquartered in Valley Forge, PA and employs more than 13,000 people serving over 25,000 customers.

For the three months ended 12/01, revenues totaled \$11.07 billion, up from \$3.31 billion. Net income applicable to Com. totaled \$67.9 million, up from \$26.2 million. Results reflect revenue growth in the pharmaceutical distribution segment, and improved margins

Contact Information

David Yost  
Chief Executive Officer  
AmerisourceBergen  
1300 Morris Drive  
Suite 100  
Chesterbrook, PA 19087  
(610) 727-7000 – HQ

**B. Braun**

B. Braun manufactures and sells potassium chloride in its injection form, and is a full-line IV therapy and broadline healthcare supplier. They are also a worldwide leader in epidural anesthesia. B. Braun has marketing sites in over 25 countries with over 28,000 employees worldwide. B. Braun is not a publicly traded company.

Contact Information

Lisa Underwood  
Marketing Manager  
B. Braun Medical, Inc.  
2525 McGaw  
Irvine, CA 92614  
(949) 660-2547 (direct)  
(800) 523-9676 (main)  
Email – [lisa.underwood@bbmus.com](mailto:lisa.underwood@bbmus.com)  
[www.bbraunusa.com](http://www.bbraunusa.com)

**Baxter International Inc.**

Baxter International Inc. manufactures and distributes potassium chloride and distributes only pancuronium bromide. Baxter International engages in the worldwide development, manufacture and distribution of products, systems and services used primarily in the health-care field. Baxter operates in more than 110 countries at more than 250 facilities worldwide. However, Baxter's home base is North America, which is the company's largest single market with \$3.5 billion in sales.

Baxter therapies, products and services are in three key businesses, which include BioScience, Medication Delivery and Renal Therapies. The company builds on its technological expertise in recombinant, biopharmaceuticals and vaccines, manufacturing, sterile-fluid technologies, plastic-container development and manufacturing, protein development and manufacturing, and drug delivery technologies.

For the fiscal year ended 12/31/01, revenues rose 11% to \$7.66 billion. Net income from continuing operations and before acct. chg. fell 10% to \$664

million. Revenues reflect growth in the company's Medication Delivery, BioScience and Renal segments. Earnings were offset by a \$189 million special charge. For the three months ended 3/31/2002 revenues were \$1,950 million and after tax earnings were \$253 million.

Baxter has issued a statement, available on its website, regarding use of the drugs pancuronium bromide and potassium chloride in the lethal injection process. Part of the statement released includes the following:

*Baxter does not control the application of these products, which are widely used and available through many sources, not just directly through Baxter. Our products are sold through a variety of channels, including wholesalers and distributors, buying groups, and hospitals, who then make the product available to the end-user. We focus our efforts on actively educating licensed medical professionals about the use of our products, as approved by regulatory authorities and described in the product label and package insert. Nevertheless, it remains lawful as well as standard medical practice, for health care providers to administer products for uses that are not approved.*

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#### Contact Information

Harry Jansen Kraemer Jr.

Chairman and Chief Executive Officer

Baxter International Inc.

One Baxter Parkway

Deerfield, IL 60015-4633

Phone (847) 948-2000 (main)

(800) 262-3784 (anesthesia & capital care)

(800) 229-0001 (Baxter IV)

Fax (847) 948-3948

[www.baxter.com](http://www.baxter.com)

Kathy Straus

Executive Assistant to the President

Baxter International Inc.

One Baxter Parkway

Deerfield, IL 60015-4633

Phone (847) 948-4501

Sally Benjamin Young

Vice President, Corporate Communications

Baxter International Inc.

One Baxter Parkway

Deerfield, IL 60015-4633

Nancy Meyers

Executive Assistant to VP of Corporate Communications

Baxter International Inc.

One Baxter Parkway

Deerfield, IL 60015-4633

Phone (847) 948-4387

Mr. Neville Jeharajah

Vice President of Investor Relations

and Financial Planning

Baxter International Inc.

One Baxter Parkway

Deerfield, IL 60015-4633

Phone (800) 948-2000 ext. 2676

### **Cardinal Health**

Cardinal Health distributes potassium chloride in its injection form. Cardinal Health has four reporting segments: Pharmaceutical Distribution and Provider Services, Medical-Surgical Products and Services, Pharmaceutical Technologies and Services, and Automation and Information Services.

CAH is a holding company that provides products and services to healthcare providers and manufacturers to help them improve the efficiency and quality of healthcare. For the nine months ended 3/02, revenues rose 7% to \$38.11 billion. Net income before acctg. change rose 37% to \$830 million. Revenues reflect continued growth in the pharmaceutical distribution segment.

### Contact Information

Robert Walter

Chairman and Chief Executive Officer

Cardinal Health, Inc.

7000 Cardinal Place

Dublin, OH 43017

Phone – (614) 757-5000

Fax – (614) 757-6000

[www.cardinal.com](http://www.cardinal.com)

Steve Fischbach

Vice President of Investor Relations

Cardinal Health, Inc.

7000 Cardinal Place

Dublin, OH 43017

Phone - (614) 757-7067

Steve.fishbach@cardinal.com

Lisa Kim

Vice President of Corporate Communications

Cardinal Health, Inc.

7000 Cardinal Place

Dublin, OH 43017

National Pharmpak Services, Inc.

3540 East Pike

Zanesville, OH 43701

[www.nationalpharmpak.com](http://www.nationalpharmpak.com)

**Wyeth Pharmaceuticals** (a division of Wyeth)

Wyeth Pharmaceuticals, a division of Wyeth, produces pancuronium bromide. On March 11, 2002 American Home Products changed its name to Wyeth and Wyeth-Ayerst Laboratories changed its name to Wyeth Pharmaceuticals. Previously, Elkins-Sinn, Inc. manufactured pancuronium bromide, which was part of Wyeth-Ayerst.

Wyeth Pharmaceuticals is a global enterprise which has operations in 27 locations worldwide and 49 manufacturing facilities, and export activities to 60 nations. Wyeth Pharmaceuticals provides more prescription products to Americans than any other pharmaceutical company.

Wyeth sells its products in more than 140 countries and has more than 52,000 employees worldwide. Wyeth is a research-based, global pharmaceutical company with a discovery and development platform ranging from pharmaceuticals, vaccines and biotechnology.

For the three months ended 3/31/02, net sales rose 7% to \$3.64 billion. Net income increased 19% to \$871.9 million. Results reflect higher worldwide pharmaceutical sales, along with improved margins and efficiencies realized from a shift in manufacturing facilities.

Contact Information

Bernard Poussot

President, Wyeth Pharmaceuticals

555 E. Lancaster Avenue

St. Davids, Pennsylvania 19087

(610) 902-1200

[www.wyeth.com](http://www.wyeth.com)

Doug Petkus

Vice President, US Communications

Wyeth Pharmaceuticals

150 Radner-Chester

St. Davids, PA 19087

(610) 902-7336

Robert Essner

President and Chief Executive Officer, Wyeth

5 Giralda Farms

Madison, NJ 07940

Phone - (973) 660-5000

Fax - (973) 660-5771

[www.ahp.com](http://www.ahp.com)

Mr. Justin Victoria

Vice President, Investor Relations

Wyeth

5 Giralda Farms

Madison, NJ 07940

Phone - (973) 660-5000

Kathleen Beatty

Senior Analyst, Investor Relations

Wyeth

5 Giralda Farms

Madison, NJ 07940

(973) 660-5016

(manufacturing site)

2 Esterbrook Lane

Cherry Hill, NJ 08002-4099

(856) 424-3700

**SICOR, Inc. (Gensia-Sicor)**

SICOR, Inc. manufactures pancuronium bromide and has a relationship with Baxter Healthcare Corp., which sells the product. In the past, SICOR manufactured sodium thiopental but no longer makes the drug.

SICOR, Inc. was created as the result of the 1997 merger between the finished dosage manufacturer Gensia, Inc. and Rakepoll Holding, the Europe-based supplier of active pharmaceutical ingredients with strategic locations in Europe and Mexico. Today, known as SICOR Inc., it is a vertically integrated specialty pharmaceutical company with expertise in the development, manufacturing and marketing of generic injectable pharmaceutical products.

SICOR Inc. is a specialty pharmaceutical company with operations located in the United States, Italy and Mexico. SICOR, Inc. is strategically focused in four complementary areas: the development, manufacture and marketing of sterile multi-source injectable pharmaceuticals; the development and manufacture of active pharmaceutical ingredients (API) for multi-source and branded products for internal and third party customers; the development of improved dosage forms and drug delivery systems for existing compounds; and the development of bio-equivalent and improved forms of existing biologics.

The strategy of Gensia Sior Pharmaceuticals, Inc. (a branch of SICOR, Inc.) is targeted toward acute-care multisource products in the fields of oncology, cardiology, and anesthesiology. The company also offers full service contract manufacturing support and services to a number of pharmaceutical and biotechnology companies; including sterile injectable product in vials and syringes, aseptic filling and terminal sterilization, and lyophilization.

Gensia Sior Pharmaceuticals, Inc currently occupies seven (7) buildings located in the Irvine Spectrum area of Southern California. The administrative offices of the corporation are located in the 19 Hughes St. facilities.

For the fiscal year ended 12/01, revenues rose 26% to \$369.8 million. Net income applicable to Common before acctg. change totalled \$73.3 million, up from \$32.5 million. Earnings reflect reduced overhead costs and higher cash and investment balances.

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#### Contact Information

Marvin Samson

Chief Executive Officer

SICOR, Inc., (Gensia-Sicor)

19 Hughes St.

Irvine, CA 92618-1902

Phone - (800) 729-9991

Fax - (949) 855-8210

[www.gensiasicor.com](http://www.gensiasicor.com)

[customer.service@gensiasicor.com](mailto:customer.service@gensiasicor.com)

Laurie W. Little

Director, Investor Relations

SICOR, Inc., (Gensia-Sicor)

19 Hughes St.

Irvine, CA 92618-1902

Phone - (949) 455-4879

Fax - (949) 457-2894

[ir@gensiasicor.com](mailto:ir@gensiasicor.com)

## Notes

- <sup>i</sup> Jewish Virtual Library, *The T-4 Euthanasia Program* (visited June 21, 2002) <<http://www.us-israel.org/jsource/Holocaust/t4.html>>.
- <sup>ii</sup> Amnesty International, *Methods of Execution Worldwide* (last modified May 3, 1999) <<http://www.aiusa.org/abolish.methww.html>>.
- <sup>iii</sup> Thailand plans, however, to implement lethal injection in 2003.
- <sup>iv</sup> In 1972, the U.S. Supreme Court ruled that the death penalty, as administered at the time, was unconstitutional. See *Furman v. Georgia*, 408 U.S. 238 (1972). After a four-year hiatus, in which states created new procedures for imposing the death penalty, the Court ruled that these new procedures met constitutional standards and permitted the return of capital punishment. See *Gregg v. Georgia*, 428 U.S. 153 (1976).
- <sup>v</sup> As of July 1, 2002, there have been 784 executions since reinstatement of the death penalty. Lethal injections accounted for 618 (78.8%) of these executions. National Coalition to Abolish the Death Penalty, *Facts & Stats* (last modified July 1, 2002) <<http://www.ncadp.org/html/factsandstats.html>>.
- <sup>vi</sup> Deborah Denno, *When Legislators Delegate Death: The Troubling Paradox Behind State Uses of Electrocutation and Lethal Injection and What it Says about Us*, 63 *OHIO ST.L.J.* 63, 142-143 (2002). Denno has categorized lethal injection statutes into six categories. (1) Statutes in 27 of 38 states provide lethal injection as the sole form of execution for prisoners convicted after the statute was enacted or became effective. (2) Statutes in six states allow prisoners to choose between lethal injection and another form of execution (Washington – Hanging; Utah – Firing Squad; Florida, South Carolina, Virginia – Electrocutation). (3) Statutes in three states allow someone other than the prisoner to choose the method (New Hampshire – Lethal Injection or Hanging; Idaho – Lethal Injection or Firing Squad; Missouri – Lethal Injection or Lethal Gas). (4) Statutes in five states provide pre-enactment prisoners a choice between lethal injection and the method used when the prisoner was convicted (Delaware – Hanging; Arkansas, Kentucky, South Carolina – Electrocutation; Arizona – Lethal gas). (5) Even though Louisiana has a lethal injection only statute, the state requires that pre-enactment prisoners use the method of execution that existed at the time of conviction. In practice, however, the state only uses lethal injection because the electric chair is no longer in use. (6) Ten states provide a constitutional provision for a substitute in the case lethal injection is determined to be invalid or unconstitutional.
- <sup>vii</sup> Nebraska, the 38<sup>th</sup> state, uses electrocution.
- <sup>viii</sup> 28 C.F.R. §26 (2002).
- <sup>ix</sup> 18 U.S.C. § 3596 (2002). Note: The Antiterrorism and Effective Death Penalty Act of 1996 (AEDPA), which went into effect on April 24, 1996 added another four federal offenses to the list of capital crimes.
- <sup>x</sup> *Ibid.*
- <sup>xi</sup> Contact and background information for all companies that manufacture lethal injection drugs are found in the appendix to this report.
- <sup>xii</sup> See Denno, *supra* note 6, at 146. Twenty-seven states use sodium thiopental, pancuronium bromide, potassium chloride—Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Louisiana, Maryland, Mississippi, Missouri, Montana, New Mexico, New York, Ohio, Oklahoma, Oregon, South Dakota, Tennessee, Texas, Utah, Washington and Wyoming. In some states, the execution protocols list only two drugs for lethal injections—North Carolina (sodium thiopental and pancuronium bromide) and New Jersey (potassium chloride and sodium thiopental). There are also states in which information on their protocols is either confidential (Nevada, South Carolina, Pennsylvania, Virginia) or nonexistent (Kansas, New Hampshire, Kentucky).
- <sup>xiii</sup> Interview by NCADP with Dr. Lawrence Egbert, Visiting Assistant Professor of Anesthesiology, Johns Hopkins Medical School, Washington, DC (Jan. 25, 2002).
- <sup>xiv</sup> *Ibid.*
- <sup>xv</sup> *Ibid.*
- <sup>xvi</sup> Baxter International, Inc. was a manufacturer of sodium thiopental but, according to company officials, stopped producing the drug in 2001.
- <sup>xvii</sup> Interview by NCADP with Dr. Lawrence Egbert, Visiting Assistant Professor of Anesthesiology, Johns Hopkins Medical School, Washington, DC (Jan. 15, 2002).
- <sup>xviii</sup> *Ibid.*
- <sup>xix</sup> “2000 Report of the American Veterinary Medical Association on Euthanasia,” *Journal of American Veterinary Medical Association* 218, no. 5 (March 1, 2001): 681.



<sup>xx</sup> Letter from Abbott Laboratories to NCADP and Amnesty International (Apr. 24, 2002)(on file with NCADP).

<sup>xxi</sup> Interview by NCADP with Dr. Lawrence Egbert, Visiting Assistant Professor of Anesthesiology, Johns

Hopkins Medical School, Washington, DC (May 29, 2002). A mEq, or one milliequivalent, is 1/1000 of an equivalent. An equivalent is the weight of a chemical in terms of its electric potential, not its relationship to gravity. Note: Actual dosages in state lethal injection protocols vary.

<sup>xxii</sup> Abbott Laboratories, *supra* note 20.

<sup>xxiii</sup> National Pharmapak Services, Inc is subsidiary of Cardinal Health.

<sup>xxiv</sup> Amnesty International, *Abolitionist and Retentionist Countries* (visited July 1, 2002) <<http://www.amnesty.org/campaign/index.html>>.

<sup>xxv</sup> United Nations Economic and Social Council, Commission on Human Rights, 58th Sess., agenda item 17, Promotion and Protection of Human Rights: The question of the death penalty. E/CN.4/2002/L.104, April 19, 2002.

<sup>xxvi</sup> The vote was 25 in favor, 20 against and 8 abstentions. Countries joining the United States in voting against the resolution were Algeria, Bahrian, Burundi, China, Indonesia, Japan, Libyan Arab Jamahiriya, Malaysia, Nigeria, Pakistan, Republic of Korea, Saudi Arabia, Sierre Leone, Sudan, Swaziland, Syrian Arab Republic, Thailand, Togo, Uganda and Vietnam.

<sup>xxvii</sup> American College of Physicians, Human Rights Watch, National Coalition to Abolish the Death Penalty, Physicians for Human Rights, *Breach of Trust: Physician Participation in Executions in the United States* (New York: 1994), pp. 9-16.

<sup>xxviii</sup> “Brief of Medical Ethics Scholars as *Amicus Curiae* in support of Plaintiffs-Appellants,” submitted by George J. Annas, Health Law Department, Boston University School of Public Health.

<sup>xxix</sup> See *Thorburn v. California Dept. Corrections*, 66 Cal. App. 4th 1284 (1998). The Court of Appeals rejected this argument on the basis that the legislature had specifically authorized the involvement of physicians. Subsequently, California passed into law a provision allowing doctors to “opt out” from participation. CAL. PENAL CODE § 3605 (2)(c) (Derring 2001).

<sup>xxx</sup> American College of Physicians, *supra* note 27, at 15 (*emphasis added*).

<sup>xxxi</sup> Sodium thiopental is classified as a barbituric acid. 21 C.F.R. § 329.1 (2001). Barbituric acids are a Schedule III controlled substance under federal regulations. 21 C.F.R. § 1308.13 (c)(3) (2001).

<sup>xxxii</sup> Food and Drug Administration, *Prescription and Over-the-counter Drug Product List—21<sup>st</sup> Edition* (visited July 1, 2002) <[http://www.fda.gov/cder/rxotcdpl/pdpl\\_200107.htm](http://www.fda.gov/cder/rxotcdpl/pdpl_200107.htm)>; *Prescription and Over-the-counter Drug Product List—19<sup>th</sup> Edition* (visited July 1, 2002) <[http://www.fda.gov/cder/rxotcdpl/pdpl\\_0399.htm](http://www.fda.gov/cder/rxotcdpl/pdpl_0399.htm)>.

<sup>xxxiii</sup> 21 U.S.C. §301 *et. seq.*

<sup>xxxiv</sup> *Heckler v. Chaney*, 470 U.S. 821 (1985).

<sup>xxxv</sup> *Many lethal-injection executions are bungled*, Balt. Sun, May 6, 2001, Perspective, at 4C.

<sup>xxxvi</sup> Interview by NCADP with Dr. Lawrence Egbert, Visiting Assistant Professor of Anesthesiology, Johns

Hopkins Medical School, Washington, DC (June 6, 2002).

<sup>xxxvii</sup> Denno, *supra* note 7, at 99.

<sup>xxxviii</sup> Rhonda Cook, *State’s Lethal injections a ‘sick joke,’ doctor says*,” *ATLANTA J. & CONST.*, May 2, 2002, at 3D.

<sup>xxxix</sup> Human Rights Watch, “Oklahoma Urged to Stop Executions,” press release, New York, June 14, 2001.

<sup>xl</sup> Justine Sharrock, *Undercutting Executions* (visited July 1, 2002) <[http://www.motherjones.com/web\\_exclusives/features/news/executions.html](http://www.motherjones.com/web_exclusives/features/news/executions.html)>.

<sup>xli</sup> Letter from Sidney M. Wolfe, MD, Director, Public Citizen’s Health Research Group, to John Romine, MD, President, New Mexico State Board of Medical Examiners (Nov. 2, 2001)(on file with Public Citizen’s HRG).

<sup>xlii</sup> N.M. STAT. ANN § 61-6-15 (Michie 2001).

<sup>xliii</sup> *DA: Execution Drugs Obtained Legally*, Associated Press (Nov. 2, 2001).

<sup>xliv</sup> *The Global Compact* (visited July 1, 2002) <<http://65.214.34.30/un/gc/unweb.nsf/content/thenine.htm>>.

<sup>xlv</sup> Abbott and Baxter Labs have taken the affirmative step in issuing statements against the use of their products in lethal injections. Both statements are

