Nurse anesthesia and religious sisters: 
Sister Secundina Mindrup

Key words: History of nurse anesthesia, 
religious sisters.

Religious sisters: The first organized nurse anesthetists?
The historical record tells us that most early nurse anesthetists were religious sisters who were recruited by surgeons to provide anesthetics in Catholic and Protestant hospitals. Prior to religious sisters, anesthesia was administered by individuals, such as medical students, who were not always dedicated to solely providing anesthesia services. This resulted in a high anesthetic mortality rate during surgery. By the late 1870s, surgeons turned to religious sisters, who were committed to patient care without concern for financial reward or career advancement, to solely administer anesthetics.

Canon law requirements has resulted in detailed records of individual nuns in many religious archival repositories. Mary Ewens' study, "The Role of the Nun in Nineteenth-Century America: Variations on the International Theme," found that most religious archives have records of religious sisters, such as applications for admissions, records of entrance, lists of assignments, correspondence, diaries, and unpublished memories. Virginia S. Thatcher used these documents to write the classic, History of Anesthesia, with Emphasis on the Nurse Specialist. Thatcher's research identified Sister Mary Bernard, CRNA, of St. Vincent's Hospital in Erie, Pennysylvania, as the first recorded nurse anesthetist in 1877. She also identified more than 50 other Sisters who administered anesthetics the last two decades of the 19th century.

Thatcher viewed the results of her research as "fragmentary" and only providing a narrow view of what was probably common practice in Catholic and Protestant hospitals. Her research shows that hospital Sisters of the Third Order of St. Francis migrated across the Midwest to administer anesthetics at Catholic hospitals, such as St. Mary's Hospital in Rochester, Minnesota (1889), and Mercy Hospital in Chicago, Illinois (1891). In 1897, Protestant sisters were administering anesthesia at Lutheran Deaconess Hospital in Minneapolis, Minnesota, and Dr. Dearborn's Hospital in Wakefield, Nebraska (1895). Sister Marie S. Anderson, CRNA, a Protestant sister of Lutheran Diocese at Omaha, Nebraska, administered more than 1,000 ether anesthetics over a 44-year career "without a single death on the operating table."

Sister Secundina Mindrup (1868-1951)
Sister Secundina Mindrup, CRNA (Figures 1 and 2), a hospital sister of the Third Order of St. Francis and nurse anesthetist at St. John's Hospital in Springfield, Illinois, lived long enough to be interviewed by Virginia Thatcher. She was called "Secundina" because she entered the convent twice. The first time she entered the convent, at the age of 12, she had to be sent home because she played with dolls.

During her interview, Sister Secundina told Thatcher: "The doctors would come with their as-
assistants to give the anesthesia, but then they would need the assistant for something else and would teach the Sister how to give the anesthesia."

Thatcher wrote that in the 1880s, "Sister Secundina devised her own method for judging when more ether or chloroform or alcohol chloroform ether mixture should be given—a decade of prayers on her rosary and it was time to give a little more. In an apron with two split pockets she carried everything that anyone in the hospital might want, and in one of the pockets she secreted a bottle of chloroform. This she quietly and judiciously used to supplement the ether anesthesia when the surgeon required more relaxation." (p.54-55)

**Legacy of religious sisters to the profession of nurse anesthesia**

The importance of religious sisters, such as Sister Secundina Mindrup, to the profession of nurse anesthesia cannot be denied. They were the first skilled clinicians dedicated solely to administering anesthetics safely to the American public. Their high degree of skill and dedication led to the development of surgery as we know it today. The religious sisters paved the way for future nurse anesthetists, such as Alice Magaw, CRNA; Florence Henderson, CRNA; and Agatha C. Hodgins, CRNA, who through publication of case studies made their accomplishments available to the U.S. medical profession.

**REFERENCES**

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**ETOMIDATE INJECTION**

**DESCRIPTION**
Etomidate Injection is a sterile, nonpyrogenic solution. Each millilitre contains etomidate, 2 mg, propylene glycol 3.8% v/v.

It is intended for the induction of general anesthesia by intravenous injection. The drug etomidate is chemically identified as (+)-Ethyl 1-(4-methylbenzyl)imidazo-5-carboxylate and has the following structural formula:

![Structural formula of etomidate](image)

**CLINICAL PHARMACOLOGY**

Etomidate is a hypnotic drug without analgesic activity. Intravenous injection of etomidate produces hypnosis characterized by a rapid onset of action, usually within one minute. Duration of hypnosis is dose dependent, and the time required to achieve a given level of hypnosis is usually three to five minutes when an average dose of 0.3 mg/kg is employed.

Immediate recovery from anesthesia (as assessed by awakening time, time needed to follow simple commands and to open one's eyes) is rapid but relatively brief, usually three to five minutes when an average dose of 0.3 mg/kg is employed.

Reduced cortisol plasma levels have been reported with induction doses of 0.3 mg/kg etomidate. These persist for approximately three to six hours after induction. The intravenous administration of up to 0.6 mg/kg of etomidate to patients with severe cardiovascular disease or intracranial space occupying lesions is too limited to permit definitive conclusions.

Intra-arterial injection of etomidate is, however, not recommended. Limited clinical experience, as well as animal studies, has indicated that inadvertent intra-arterial injection of etomidate, unlike thiobutabarbital, will not usually be followed by necrosis of tissue distal to the injection site. Intravenous injection of etomidate is contraindicated in patients who have shown hypersensitivity to it.

Etomidate hypnosis does not significantly alter the usual dosage requirements of neuromuscular blocking drugs. Reduced plasma cortisol and aldosterone levels have been reported following induction doses of etomidate. These results persist for approximately 3 to 6 hours and appear to be unresponsive to ACTH stimulation. This probably represents blockade of 11 beta-hydroxylation within the adrenal cortex.

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**DOSAGE AND ADMINISTRATION**

Precautions
- Do not administer unless solution is clear and color is undiluted. Discard unused portion (see DOSAGE AND ADMINISTRATION).
- Caution: Intravenous injection should be used with caution in the elderly or patients with hepatic or renal disease.
- Do not administer to patients with known or suspected sensitivity to etomidate.
- Do not exceed the recommended dosage or duration of use.
- Do not use in the presence of hypotension.
- Be aware of the potential for anaphylactoid reactions.
- Be aware of the potential for increased intracranial pressure.
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**WARNINGS**

Intravenous etomidate should be administered to patients who have shown hypersensitivity to it.

**CONTRAINDICATIONS**

Etomidate is contraindicated in patients who have shown hypersensitivity to it.