

## **Title: Dr John Snow (1813-1858) And Anesthesia For Infants**

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**Introduction:** Dr. John Snow (1813-1858) was a pioneering figure in both anesthesia and epidemiology. He administered his first ether anesthetic in January 1847, just three months after Morton's first public demonstration in Boston. Over the ensuing 11 years until his untimely death he anaesthetized approximately 5000 patients, many of whom were infants and young children. He recorded the anesthetics administered by him in handwritten diaries. While entries made prior to July 1848 are missing, these case books are otherwise complete and provide a fascinating insight into Snow's anesthesia career. The originals were presented to the Royal College of Physicians, London in 1938, and having been transcribed by Richard H. Ellis over a period of nine years, were published in book form in 1994 (1). The aim of this project was to identify, through analysis of all relevant references in the 1994 publication, the nature and extent of Snow's anesthetic practice where infants were concerned.

**Methods:** All entries referring to provision of anesthesia for infants aged up to approximately one year were identified. In respect of each entry, the following information, where available, was recorded: age and sex of patient, surgeon's name, name of hospital or other location at which the anesthetic was administered, agent(s) used, nature of the surgical procedure and any comments entered by Snow regarding complications.

**Results:** 225 relevant entries were identified.

**Age.** Snow did not always enter the infant's exact age, sometimes using terms such as "an infant", "a few months old", "about a year old" etc. His youngest patient was aged 8 days, at least 12 were aged 4 weeks or less, while at least 100 appear to have been aged 6 months or less.

**Sex.** Most infants were referred to as "it", making identification of sex impossible in all but 6 cases.

**Surgeon.** The name of the surgeon was always entered by Snow. While 19 surgeons in all operated on infants anesthetized by him, most operations (182) were carried out by William Fergusson.

**Location.** Snow anesthetized infants in 6 London hospitals, the homes of various surgeons, the infants' own homes, and, on one occasion, in Speaker's House at the Palace of Westminster. The locations most frequently used were King's College Hospital (144), William Fergusson's home (27) and St. George's Hospital (16).

**Anesthetic agent.** The agent used was recorded in all cases. Snow employed chloroform in all but 18 of the 225 operations in this series.

**Operations.** Most operations were for hare-lip (110), for excision of naevi, cysts or tumours (92) or for club foot (12). Seven infants underwent anesthesia and surgery on more than one occasion.

**Complications.** There was no mortality among Snow's infant patients. Recorded complications were rare with crying towards the end of surgery and postoperative vomiting being the most common.

**Discussion:** John Snow had a significant infant anesthesia practice. Despite the use of more dangerous anesthetic agents than those currently available and the unavailability of artificial airway support or modern monitoring techniques, morbidity was infrequent and mortality zero. Where infants aged up to 6 months are concerned, the numbers cared for by him came close to matching those suggested by Lunn in 1992 as being appropriate for a children's anesthetist (2).

### **Refs:**

1. Snow J. The Case Books of John Snow. Edited by Ellis RH. London, Medical History, Supplement No. 14, Wellcome Institute for the History of Medicine, 1994.
2. Lunn JN. Paediatr Anaesth, 1992;