

INTRODUCTORY NOTES

The article 'James Blundell, pioneer of blood transfusion' by Professor Harold Ellis was originally published in the British Journal of Hospital Medicine (reference: Brit. J. Hosp. Med. August 2007, Vol. 68, No 8, page 447). The article provides a concise and valuable source of historical background information regarding James Blundell.

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JAMES BLUNDELL, PIONEER OF BLOOD TRANSFUSION

Professor Harold Ellis

*Emeritus Professor of Surgery Guy's, King's and
St Thomas' School of Biomedical Sciences, London SE1 1 UL*

This year marks the 130th anniversary of the death of a remarkable, yet somewhat forgotten, pioneer of clinical blood transfusion – the first to perform a series of cases with some successes.

James Blundell was born in 1790 in London. He trained in medicine first at the United Hospitals of St. Thomas's and Guy's, which included anatomy and surgery under Astley Cooper, and physiology and obstetrics under his uncle, Dr John Haighton, who was to greatly influence his career. Blundell completed his training in Edinburgh, graduating there with his MD in 1813.

He returned to London the following year, aged 24, and began to lecture in obstetrics and physiology at Guy's under Haighton, succeeding his uncle as Professor in both these subjects on Haighton's retirement in 1823.

Experiments on blood transfusion had been carried out in animals in the 17th century. Indeed, Jean Baptiste Denys in France and Richard Lower in Oxford, within a few months of each other in 1667, transfused blood from sheep to man. Such experiments were soon discarded, but Blundell, encouraged by the work of Leacock in Edinburgh, who showed transfusions of blood could be safely performed between same-species animals, began an extensive series of studies at Guy's on dogs. Blundell showed that blood lost none of its properties by passage through a syringe; venous blood is as effective as arterial and small quantities of air in the injected blood are tolerated.

Blundell carried out his first human blood transfusion in 1818 – on a cachectic man dying of cancer of the stomach; his condition improved for some hours, but he died 56 hours afterwards.

Now came the first dramatic success. In 1825 Blundell was called to a woman dying of post-partum haemorrhage. Two ounces of blood were transfused from her husband, the patient rallied and survived. In all, Blundell transfused ten cases with five successes, these five included four examples of post-partum bleeding and a boy in shock after amputation of his leg. The donors were either the patient's husband or attending doctors.

Blundell wrote: 'After undergoing the usual ordeal of neglect, opposition and ridicule, the operation will hereafter be admitted into general practice'.

Blundell was ahead of his time in many respects. Long before tracheal intubation had become a recognized procedure, he devised a small tracheal tube which he introduced over the forefinger passed down over the root of the tongue and into the rima glottidis. With this he carried out artificial respiration on the newborn baby in respiratory arrest. He showed in the experimental animal that the peritoneum can be opened widely without ill effect. Moreover, organs including the kidney, spleen, uterus and ovary can be excised with survival of the animal. Indeed, in 1828 he removed a woman's uterus for cancer with success – probably the first time this had been performed.

Blundell's distinguished career at Guy's, as clinician, teacher and experimentalist, ended rather sadly in 1836, after 22 years of service. Blundell proposed to appoint a senior lecturer to take over some of his duties and to allow him more time for his extensive private practice. While Blundell was away in Paris, the administrator advertised the post, and appointed a Dr Samuel Ashwell without Blundell's knowledge or approval – and moreover without a fee to Blundell for transfer of some of his duties!

Blundell continued in his private practice – rather oddly arising at midday, seeing patients at his house in the afternoon and then doing home visits till late at night. In 1838 he was admitted as a Fellow of the Royal College of Physicians – a rare honour for a 'man midwife' in those days. He retired in 1847 at the age of 56 years and lived, a wealthy bachelor, in a large house in Piccadilly. He devoted his time to literary pursuits, especially the study of Greek, and built up a collection of rare books on obstetrics and gynaecology.

Blundell remained in rude health until just before his death 'in a fit of convulsions' – presumably a stroke – on January 15 1877 at the age of 87 years. He left a fortune of £350,000, reckoned at today's value at over £20 million.

He wrote: 'The fact that life may be saved by transfusion of blood into the veins will be beneficial a thousand years hence as it is on this day'.

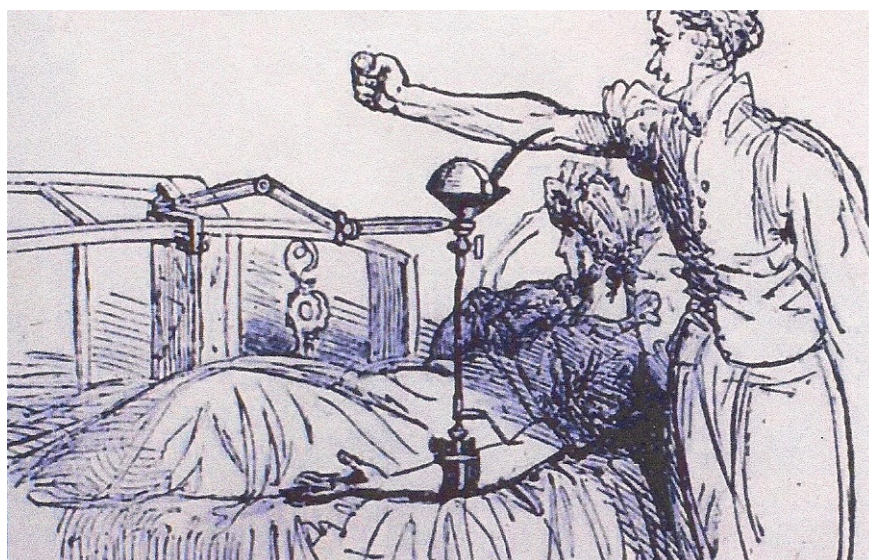


Figure 1: Blundell's 'gravitator'. From Blundell (1828)

Blundell J (1828) Observations on transfusion of blood by Dr Blundell. With a description of his gravitator. *Lancet* ii: 321-4