

Edinburgh College upheld (although the debate about the role of the College continues to this day!).

Financial pressures

As is true today, financial matters were seldom off Council's agenda in Wood's time as President. A law of 1815 had imposed a tax of £15 sterling when a doctor obtained a licence to practice, and one of £25 for the Fellowship. In 1859 the College pointed out to the Chancellor of the Exchequer, Benjamin Disraeli, that students and graduates were

finding it less financially taxing to study and be licensed abroad. Negotiations between the College (with Wood as President), the GMC (also led by Wood) and the government went on for a very long time, but at last the Chancellor agreed that stamp duty should be waived. Wood's patience and negotiating skills had won yet again.

Wood practised in the New Town of Edinburgh. There is no record of him having a hospital or academic appointment, his whole professional

life being spent in general practice. Sadly we know nothing of his personal or social life except that he loved golf.

Derek Doyle

Obituaries Editor, The Journal, RCPE

FURTHER READING

- College Minutes and archives, Library of the RCPE.
- *Oxford Dictionary of National Biography*
- Craig WS. *The History of the Royal College of Physicians of Edinburgh*. Oxford: Blackwell Scientific Publications; 1976.

Handwashing and hygiene: lessons from history

In 2000, the National Institute of Medicine in the US reported that hospital-acquired or nosocomial infections were responsible for 44,000 to 98,000 deaths per year at a cost of \$17–29 billion. In the UK, nosocomial infections are acquired by one in ten patients and cost about £1 billion per year. This unfortunate situation has evolved in recent years in spite of lessons from history regarding handwashing, hygiene and antisepsis.

In 1854, Florence Nightingale introduced sanitary methods including handwashing and reduced the rate of ward infections and death rates at the Barrack Hospital in Scutari.

During the 19th century, up to 25% of women died from puerperal sepsis (childbed fever) caused by *Streptococcus pyogenes*. In 1843, Dr Oliver Wendell Holmes (1809–94) suggested that puerperal fever was spread by the contaminated hands of medical staff. His recommendations had little impact on his colleagues at the time. Puerperal fever was thought to have been caused by chance or God and not by the dirty hands of health personnel!

In the same decade, Dr Ignaz Phillip Semmelweis (1818–65), a Hungarian doctor, pioneered antisepsis in maternity wards. In 1847, he was given a two-year appointment as assistant in obstetrics with responsibility for

the maternity wards. In a Viennese hospital, Semmelweis observed a marked difference in maternal mortality rates in patients under the care of physicians and medical students and those under the care of midwives. He also noted that physicians and students coming straight from the autopsy room to the delivery room had a disagreeable smell on their hands despite washing their hands with plain soap and water. He postulated that puerperal fever was caused by 'cadaverous particles' transmitted via the hands of staff.

Semmelweis ordered a mandatory handwashing policy for medical students and physicians using a chlorinated solution before examining women in labour. This resulted in a fall in maternal mortality to about 2%, with a further decrease to 1% after the introduction of washing medical instruments prior to use.

Semmelweis's work is now recognised as a landmark in the history of infection control, but, as with Holmes, his findings were not accepted at the time. His colleagues thought that the lower mortality was due to the hospital's new ventilation system. This opposition eventually forced Semmelweis to resign from his position. Ironically, he died in a public asylum of *Streptococcus pyogenes*. His ideas of hygiene were ridiculed during

his life, but absolved after his death by Louis Pasteur and Joseph Lister.

With proof of the germ theory as a cause of disease produced by Pasteur, Lister and Robert Koch, physicians acknowledged that germs could be the cause for the spread of infections. In 1879, Pasteur showed that *Streptococcus* was present in the blood of women with puerperal fever and announced: 'It is the doctor and his staff who carry the microbe from the sick woman to the healthy.'

Our knowledge of microscopic pathogens and the prevention of infectious diseases has grown exponentially since the early 19th century. Although guidelines by the Association for Professionals in Infection Control (1988, 1995) and Healthcare Infection Control Practices Advisory Committee (1995, 1996) on hand antisepsis with waterless antiseptic agents have been adopted by the majority of hospitals, adherence of healthcare workers to hand hygiene has been patchy. As the US Centers for Disease Control and Prevention conclude: 'Handwashing is the single most effective way to prevent the transmission of disease.'

Maliha Sumbul,¹
Liakat Ali Parapia²

¹Senior House Officer;

²Consultant Haematologist, Bradford Royal Infirmary, Bradford, UK