



Professor Tony Wildsmith

Member, RCoA Heritage and Archives Committee;
Editor, RCoA 'Lives of the Fellows' Project

archives@rcoa.ac.uk

AS WE WERE...

Intermittent pentothal in shocked battle casualties...
despite the story from Pearl Harbor!

This article, appearing shortly before the 75th anniversary of the end of the Second World War (WW2), is a reflection on the wartime activities of one of our foundation fellows, Aubrey Frederick ('Bill') Alsop.

An Oxford GP, Bill also worked as an anaesthetist at the Radcliffe Infirmary, and so was a founder member of the Nuffield Department when Macintosh arrived in 1937. Alsop served in the Royal Army Medical Corps (RAMC) right through the war, returned to Oxford, and was later an NHS consultant, a University Clinical Lecturer, and in 1951 the 156th Fellow of the Faculty of Anaesthetists of the Royal College of Surgeons.

In 1944 he was posted to 14 Field Surgical Unit – a team of seven people with all the equipment and transport to provide a mobile operating unit. His surgical colleague, Stanley Osborn Aylett, also joined the RAMC in 1939 and served through the war. They went to Normandy on D-Day+1, stayed with the advance through to Germany, and finished by 'cleaning up' a concentration camp. The two worked well together,

remained friends after the war, and in 1945 published an account of their management of abdominal injuries. It's an unremarkable paper until the anaesthetic technique 'jumps' off the page at the modern reader.

Alsop used intermittent doses of pentothal to produce abdominal relaxation in overtly shocked patients, yet with good survival rates. This was more than two years after the surprise Japanese attack on Pearl Harbor where, according to routine teaching ever since, pentothal's cardiorespiratory depressant effects killed more Americans than Japanese bombs! Bennetts explored this odd claim in 1995 and concluded that it was 'greatly exaggerated'. Numerically he was correct (more than half those killed died before reaching hospital, let alone being anaesthetised), but the myth persisted and there is a story here.

The first definitive criticism of the use of intravenous anaesthesia (both evipal and pentothal) in the injured from Pearl Harbor appeared in 1943, written by Halford, surgeon at Honolulu's Tripler Hospital, which received 482 casualties – 138 dead on arrival and 13 dying subsequently. Halford's key observations were:

"A number of patients were given evipal by competent anaesthetists, only to have respiratory failures, some of which ended in death."

"After several such fatalities, pentothal sodium was used, and again respiratory failures occurred, and, as in the case of evipal, death ensued in enough cases to cause us to abandon it as too dangerous."

There are no official records, but it seems that many, if not most, of the 13 deaths in that hospital were 'due' to anaesthesia.



Aylett (top) and Alsop, somewhere in Northern Europe (1945).
Photo courtesy of Holly Aylett.

A paper from the Mayo Clinic, 'home' of pentothal, refuted Halford's criticisms and described a low-dose, intermittent technique for shocked patients that was exactly what Alsop used. Other RAMC anaesthetists were also using pentothal as a single agent, but in spite of this the myth spread. Perhaps the move away from 'one drug by one route' anaesthesia during the late 1940s encouraged it, but there are aspects of Halford's paper that suggest another explanation. The quote above refers to "competent anaesthetists", but these were nurses whose only experience was with open ether. Consider also the casual mode of administration:

"We got out a box, read the directions and used it on many of my patients."

The US military was taken by surprise at Pearl Harbor, and the medical services were overwhelmed, meaning that anyone (and any drug) was pressed into anaesthetic service, posing questions about the underlying state of those services.

Consider more from Halford:

"Under war conditions anaesthetics cannot be given by highly skilled anaesthesiologists."

Really? The UK's armed services trained many competent anaesthetists very quickly during WW2.

"Anaesthetics must be given to patients prepared with a minimum of transfusion and without oxygen."

Transfusion services were an integral component of the RAMC during WW2, and all Alsop's patients received 100 per cent oxygen.

Alongside those comments one must wonder what attitudes led that service to supply drugs without training, and individual clinicians to inject them without such training?

Pearl Harbor was a medical, as well as a military, disaster (to be there must have been awful), but was it a lack of investment in anaesthetic services that really led to Halford's "respiratory failures"? That implies human failure in the chain of command, and a drug makes for a less personal scapegoat. Is that why the myth was allowed to grow?

Acknowledgements and references

This article draws on a paper presented to the 2019 meeting of the History of Anaesthesia Society; permission to use material here is acknowledged with thanks. Other acknowledgements and references can be found with the published version: Wildsmith JAW. Aylett's Wartime Anaesthetists. *Hist Anaes Soc Proc* 2019;52:23–29 (bit.ly/2DY9rdB).

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