

Awareness during General Anaesthesia

Submitted by: Association of Anaesthetists

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The Association of Anaesthetists have issued the following statement regarding Awareness during General Anaesthesia in response to the recent television programme 'When Anaesthesia Fails'. Channel 4 February 28th 2005).

"A recent television programme ('When Anaesthesia Fails'. Channel 4 February 28th 2005) highlighted the occurrence of patients being aware during surgery conducted under a general anaesthetic. There is no denying that such an incident is unacceptable and the experience will have a major adverse impact on the patient. As devastating as the effect can be on the individual patient, it is important to put such events into context.

The Association of Anaesthetists of Great Britain and Ireland has been in existence for more than 70 years and represents more than 9,000 anaesthetists. One of the founding principles of the Association was to encourage the development of the specialty with particular emphasis on patient safety. To this end, the Association has long had a Safety Committee that has worked with patients, industry and regulatory authorities to ensure that anaesthesia and its associated activities are delivered to the highest standard for patient safety. Underpinning this drive for safe anaesthesia has been the recognition of the importance of monitoring the patient throughout an anaesthetic; the Association document on Minimum Standards for Monitoring has become the accepted gold standard for anaesthetic provision. The most important contribution to patient safety is the continuous presence of a highly trained and skilled anaesthetist who has the benefit of modern equipment to deliver and monitor the patient's condition.

Given this high level of recognition of the importance of monitoring, how is it possible for awareness to occur under general anaesthesia? The introduction of anaesthesia into clinical practice more than 150 years ago represented a watershed in healthcare; gone were the screams of pain and fear associated with surgery, to be replaced by unconsciousness. In order to allow major surgery in those early days, often large doses of anaesthetic were needed, and if insufficient was given, the patient would move and alert the anaesthetist to the need for more. The development of more complex surgery, led to further developments in anaesthesia. Profound muscle relaxation is necessary for major intra-abdominal and thoracic surgery; to achieve this with very high doses of anaesthetic would cause unwanted effects on the patient's heart and other organs. The discovery of curare and the introduction of muscle relaxant drugs allowed such surgery with lighter levels of anaesthesia, but removed the important monitor of possible awareness - that of patient movement. Thus, a potential risk of awareness was of necessity introduced into anaesthetic practice so as to allow the development of life-saving surgery.

The risk of awareness under general anaesthesia is therefore not new to anaesthetists and over the years, many strategies have been used to prevent it and many methods used to detect it. What is important to stress is that explicit awareness (where a patient recalls events under general anaesthesia) is rare. This should not be confused with implicit awareness where the brain retains the ability to take information into the subconscious part of the brain but has no spontaneous recollection of the information. Unfortunately, most quotes of incidence as used in the aforementioned programme conveniently

combine the two; the figure for explicit awareness, usually not associated with pain, is probably around 1 in 1000, and may be even lower. In many cases of explicit awareness, the underlying cause is found to be a technical fault in the method used to deliver the anaesthetic.

Modern anaesthesia is remarkably safe and has become so because of the vigilance of the anaesthetist and the development of monitors to allow accurate assessment of the patient's vital signs. The monitors used in anaesthesia are highly sophisticated and are designed to give absolute accuracy in measurement. However, one area where there has been difficulty is achieving a monitor with this level of accuracy has been in the depth of anaesthesia. Over the years, the mainstay of monitoring for awareness has depended upon the body's physiological responses (fast heart rate, sweating) being observed by the anaesthetist and appropriate action taken. Additional information can be obtained by techniques as the 'isolated arm' as demonstrated in the aforementioned programme. In recent years, more sophisticated monitors that interpret brain activity (bispectral index analysis) or its response to stimuli (evoked potentials) have been developed and have started to be introduced into clinical practice. These seem to hold a deal of promise as reliable monitors of depth of anaesthesia, but given the rarity of explicit awareness in clinical practice, it may take some time before it is possible to say with absolute certainty that the monitor will always predict a state of awareness. The overall lack of funding for anaesthetic research in the UK makes it very difficult for anaesthetists to conduct robust research in such areas. Promises of additional central funding for medical research do not seem to extend to unsolved problems such as awareness.

Whilst in no way wishing to belittle any episode of awareness occurring under general anaesthesia, it must be set in context. Anaesthesia is very safe and explicit awareness is rare. Anaesthetists are well aware of the problem and have worked towards its elimination. If the current range of monitors prove themselves to be totally reliable, they are likely to be introduced throughout clinical anaesthesia. However, the cost of these monitors is not insignificant (about £5,000 per monitor) and hospitals with, say, 20 anaesthetics sites will have to balance that expenditure against other clinical needs."

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