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Diagnosing comas

Unlucky for some

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A newly published study suggests that a lot of people who have been diagnosed as being in a vegetative state are not in one

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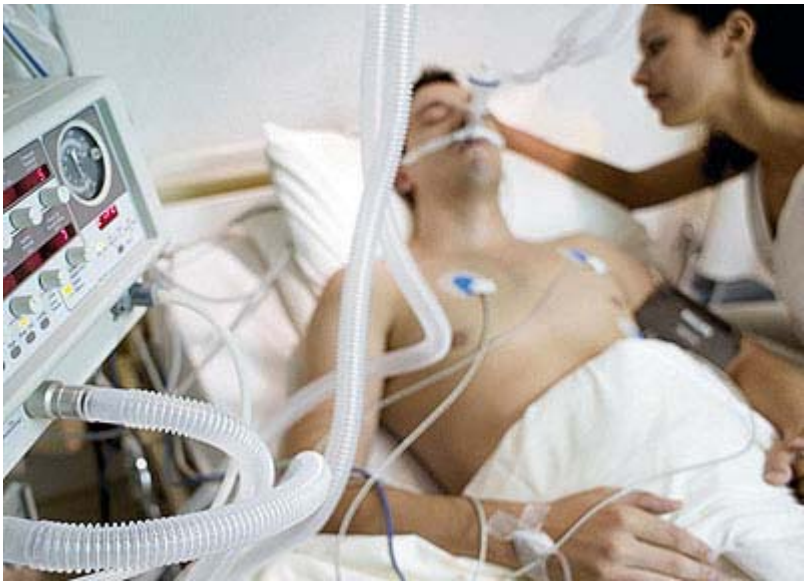

LABELS matter. Indeed, they can be the difference between life and death. Someone lying in a hospital bed labelled “minimally conscious state” will be kept on life support indefinitely. If the label says “vegetative state”, however, that life support could be turned off any time. A layman might not be able to tell the difference. But a doctor can.

Or can he? A worrying study just published in *BioMed Central Neurology* by Caroline Schnakers, Steven Laureys and their colleagues at the University of Liège’s coma science group suggests that perhaps he cannot—or, perhaps worse, that he prefers to use his intuition rather than the latest diagnostic techniques to tell the difference. As a result, many people may be at risk of early termination even when they show flickering signs that their consciousness has not departed entirely.

Vegetative patients are those who show no signs of awareness whatsoever, and in many countries courts can consider petitions to withdraw their food and water, allowing them to die (as happened in a blaze of publicity in the case of Terri Schiavo, in Florida, a few years ago) and for their organs to be removed for transplantation. Patients who do show signs of awareness—those who are able to obey a command to blink or track a moving object with their eyes, for example—are by definition not vegetative and are spared this fate. There is some evidence that, unlike those in a vegetative state, these patients feel pain. Efforts are made to ease their suffering and to rehabilitate them.

Distinguishing between these different kinds of coma patients has, everyone acknowledges, never been easy. Indeed, in 1996 Keith Andrews and his colleagues at the Royal Hospital for Neurodisability in London found that 40% of the patients in their hospital who had been diagnosed as being in a vegetative state, were not. But earlier this decade, two new tools became available, so things might have been expected to get better.

Blink, and you may miss it

One of the novel tools was a new diagnostic category, the minimally conscious state. This describes patients who are a shade better off than those in a vegetative state, because they show fluctuating signs of awareness. At certain times but not at others, for example, they are capable of passing the eyeblink test.

The other new tool was the JFK Coma Recovery Scale. This consists of more than 20 clinical tests and is reckoned not only to enable doctors to distinguish patients in a vegetative state from those with minimal consciousness, but also to identify those who were previously in a minimally conscious state but have emerged from it. It is widely accepted as giving an accurate diagnosis of these conditions. But is it being adhered to?

The work by the Liège team suggests not. They compared the diagnosis of 103 patients according to the consensus opinion of the medical staff looking after them with that determined by the coma recovery scale. Of the patients they looked at, 44 had been diagnosed by the staff as vegetative. The coma scale, however, disagreed. It suggested 18 of those 44 were in a minimally conscious state—the same error rate, around 40%, as Dr Andrews had found 13 years earlier in London. It also suggested that four of the 40 patients whose consensus diagnosis was “minimally conscious state” had actually emerged from that state. Although their doctors had not noticed it, these patients were now capable of communicating.

Dr Laureys’s measured conclusion is that neurologists do not like their skills to be replaced or upstaged by a scale. Minimally conscious state being a relatively new diagnosis, he says, it may be that some doctors are unfamiliar with its criteria, but that is all the more reason for deferring to the coma recovery scale. The trouble with a diagnosis based on conviction rather than measurement is that it is vulnerable to external influence. Insurance companies, for example, prefer a diagnosis of vegetative to one of minimally conscious, Dr Laureys says, because no expensive rehabilitation is required for those in a vegetative state.

It is all very disturbing. Admittedly, the Liège study is but a single piece of research. But if it were duplicated elsewhere, that would raise questions about how some of the most vulnerable patients in the medical system are being treated, and how seriously some doctors take the tools that science works hard to deliver to them.