

# The Case In Favor Of Ancillary Tests In Brain Death Determination

H Foyaca-Sibat, C Machado

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## Abstract

Wijdicks published an interesting but controversial paper, on the use of ancillary tests in brain death (BD) confirmation.<sup>1</sup>

I agree with Wijdicks that BD is based on a clinical assessment.<sup>1-3</sup> Most, or better all, diagnosis in medicine are based on clinical verdicts. Ancillary tests can only confirm physicians' judgment, and there is no perfect test. Nowadays, it is imperative to preserve the importance of clinical assessment in the minds of new generations of physicians, who face a permanently increased number of new ancillary tests. Although, it is impossible to deny the crucial effect of technology in medicine, such as neuroimages.<sup>2,3</sup>

Ancillary tests played a decisive role to delineate the BD concept. It similarly happened to the cardio-respiratory view of death. The invention of the stethoscope by Laenec in 1819, and the use of this new device by Bouchut for the diagnosis death in 1846, marked crucial historical moments on this issue. Later, the electrocardiogram (ECG), actually monitored in bedside monitors, definitely contributed for determining the so-called cardiac death.<sup>2</sup>

The most common indication for ancillary tests in BD is failure to complete the apnea test, which can occur in 10 % of patients;<sup>1</sup> this is not a small percent if we are talking about death diagnosis. If cardiac death would then be considered, ECG will be monitored until an isoelectric line appears in the bedside monitor. Therefore, the physician will diagnose cardiac death using an ancillary test. Although auscultation is always possible, ECG monitoring is routinely used for this

purpose, and even for assessing cardiac activity during CPR.

Wijdicks discussed all possible drawbacks of ancillary tests in BD,<sup>1</sup> but for me their main disadvantage is that they are not part of the routine monitor systems in ICUs. If some systems are developed or improved for monitoring bioelectrical activity,<sup>2-4</sup> and to continuously assess CBF (let's imagine portable imaging units applied to the patient's head), giving easy to interpret information for the ICU staff, it would be then possible to monitor comatose patients uninterruptedly, and to early suspect when brain function is lost. This would be the moment to apply the clinical criteria for BD diagnosis.

Finally, the author mentions the term "cardiac death". BD means a concept of death on neurological grounds. If we accept BD as synonym of death, cardiac arrest will only lead to death when ischemia and anoxia are long enough to destroy the brain.<sup>2,5</sup>

## References

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**Author Information**

**H. Foyaca-Sibat**

Department of Neurology, Nelson Mandela Academic Hospital. Walter Sisulu University. Mthatha, South Africa

**C. Machado**

Institute of Neurology and Neurosurgery, Havana, Cuba