

LETTERS TO THE EDITOR

A New Practical Diagnostic Test for Creutzfeldt-Jakob Disease

To the Editor—Our article “A Practical Approach to Avoiding Iatrogenic Creutzfeldt-Jakob Disease (CJD) from Invasive Instruments”¹ included the recommendation that all patients with either cerebellar or mental abnormalities be tested for elevated levels of 14-3-3 protein in spinal fluid. Although this test has proved invaluable as a diagnostic aid for nearly 2 decades, the protein was from the start recognized as being a “marker protein” that was not causally related to CJD, and efforts to detect the pathogenetic prion protein in spinal fluid have continued. Two just published independent studies^{2,3} of a newly modified prion protein amplification test named RT-QuIC (real-time quaking-induced conversion) now justify those efforts.

One study of 48 CJD and 39 control patients yielded a sensitivity of 96% and specificity of 100%²; the second study of 110 patients with various forms of prion disease and 400 control patients yielded a sensitivity of 85% and specificity of 99%.³ Test results are available within 24 hours of specimen collection.

We regret that the timing of our diagnostic test recommendations just missed the publication dates of these 2 new articles but are delighted to be able to add the RT-QuIC spinal fluid test as perhaps the easiest, fastest, most accurate, and practical premortem diagnostic test for prion disease.

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**Paul Brown, MD;¹
Michael Farrell, FRCP²**

Affiliations: 1. National Institutes of Health (retired), Bethesda, Maryland; 2. Department of Neuropathology, Beaumont Hospital, Dublin, Ireland.

Address correspondence to Paul Brown, MD, 7815 Exeter Rd, Bethesda, MD 20814 (paulwbrown@comcast.net).

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Pitfalls in Microbiological Sampling of the Healthcare Environment. A Response to “Evaluating a New Paradigm for Comparing Surface Disinfection in Clinical Practice”

To the Editor—The recent study “Evaluating a New Paradigm for Comparing Surface Disinfection in Clinical Practice”¹ by Carling et al has advanced the science of both cleaning and cleanliness with exploration of fluorescent markers and environmental screening. Undoubtedly, fluorescent gel applied to key surfaces leads to a more accurate assessment of cleaning, and the study design utilized this method to standardize the testing of 2 different disinfectants. The results unequivocally demonstrate that one agent was better than the other for removing bioburden.¹ However, the authors then examined their quantitative data against microbiological standards proposed a decade ago.^{2,3} They found that pre-cleaning soil was uniformly low, which, according to these standards, represented a hygiene-level pass for ~85% surfaces. This finding is clearly unhelpful for both housekeeping and infection control staff because it negates further monitoring, research, and enthusiasm toward improvement.

It is possible that this hospital sustains exemplary cleaning practices as routine, or certainly did during the course of this study. Housekeepers and domestic staff always react to environmental monitoring,^{4,5} and this reaction could explain the low level of soil found on surfaces before cleaning. However, the interpretation of bioburden against previously proposed microbiological standards is subject to methodological confounders that were not detailed in the study. First, the original standards for surface level cleanliness were based on routine cleaning with *detergent*, not disinfectant, and were aimed at UK hospitals.²⁻⁴ Routine use of disinfectant has a measurable and long-lasting effect on hospital surfaces.^{3,5,6} It is not surprising, therefore, that the pre-cleaning bioburden measured in this study was low; any proposed cleaning standards would require adjustment to reflect habitual exposure to biocidal disinfectants.