thereby reduce the duration of mechanical ventilation. Many, but not all, of these strategies were mentioned in our article. We also agree with the suggestion to avoid benzodiazepines, as has been recommended in the recent Clinical Practice Guidelines for the Management of Pain, Agitation, and Delirium in Adult Patients in the Intensive Care Unit.[5]

Ñamendys-Silva and colleagues are correct about the original purpose of the APACHE II score. We do not agree, however, with their comment about preemptive noninvasive ventilation after extubation. As noted above, an extremely important distinction with the use of noninvasive ventilation after extubation is whether it is administered in a preemptive manner rather than a reactive manner. In the controversial study by Esteban et al.,[1] noninvasive ventilation was not initiated before the development of postextubation respiratory distress. Accordingly, it is not appropriate to reference this article with regard to preemptive noninvasive ventilation. We agree with the comments of Ñamendys-Silva et al. regarding the value of noninvasive ventilation in patients with chronic hypercapnic respiratory failure and obesity.

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Since publication of their article, the authors report no further potential conflict of interest.

1. Esteban A, Frutos-Vivar F, Ferguson ND, et al. Noninvasive positive-pressure ventilation for respiratory failure after extubation. N Engl J Med 2004;350:2452-60.
2. Epstein SK, Ciubotaru RL, Wong JB. Effect of failed extubation on the outcome of mechanical ventilation. Chest 1997;112:186-92.
3. Esteban A, Frutos F, Tobin MJ, et al. A comparison of four methods of weaning patients from mechanical ventilation. N Engl J Med 1995;332:345-50.
4. Coplin WM, Pierson DJ, Cooley KD, Newell DW, Rubenfeld GD. Implications of extubation delay in brain-injured patients meeting standard weaning criteria. Am J Respir Crit Care Med 2000;161:1530-6.
5. Barr J, Fraser GL, Puntillo K, et al. Clinical practice guidelines for the management of pain, agitation, and delirium in adult patients in the intensive care unit. Crit Care Med 2013;41:263-306.

DOI: 10.1056/NEJMc1300398

Rapid Diagnostic Test for Sleeping Sickness

TO THE EDITOR: Human African trypanosomiasis (HAT), or sleeping sickness, is a life-threatening neglected tropical infection affecting rural populations in sub-Saharan Africa. In West and Central Africa, chronic trypanosomiasis is caused by *Trypanosoma brucei gambiense* infection.[1] Control of the disease has been facilitated by the use of the card agglutination test for trypanosomiasis, which is particularly suited for large-scale screening of the populations at risk.[2] With the steadily decreasing prevalence of trypanosomiasis, individual rapid diagnostic tests that can be used in primary health centers, that are stable at ambient temperatures, and that are highly specific have become a research priority.[1]

We developed two rapid diagnostic tests for trypanosomiasis caused by *T. brucei gambiense* infection. The HAT Sero-Strip and HAT Sero-*K*-SeT tests detect trypanosome-specific antibodies and are, respectively, a dipstick and a lateral-flow device for testing blood (30 μl) or plasma (15 μl); both tests provide results in 15 minutes. The tests contain variant surface glycoproteins of the *T. brucei gambiense* variable antigen types LiTat 1.3 and LiTat 1.5.[3]

The tests were evaluated with the use of plasma from 198 patients with trypanosomiasis that was confirmed on parasitologic analysis and from 99 local controls with neither clinical nor serologic evidence of the disease. The specimens were collected in the Democratic Republic of Congo[4] and obtained from the World Health Organization HAT Specimen Bank (www.who.int/trypanosomiasis_african/research/en). All specimens were tested with the use of immune trypanolysis, the reference test for detecting specific antibodies against *T. brucei gambiense* variable antigen types LiTat 1.3 and LiTat 1.5.[5] To evaluate the applicability of these tests when blood was used, samples of reconstituted blood were prepared by adding plasma from patients with trypanosomiasis or from local controls to sedimented blood cells from a healthy donor.

Results are summarized in Table 1. As compared with the immune trypanolysis test, the HAT Sero-Strip showed excellent sensitivity, with specificity being slightly lower when plasma was tested (P=0.05). When reconstituted blood was tested, the sensitivity and specificity of the HAT Sero-Strip did not differ significantly from the

Table 1. Sensitivity and Specificity of Tests for Human African Trypanosomiasis (HAT), According to Reactions with Plasma and Reconstituted Blood from Patients and Local Controls.*

Test	Specimen	HAT	Control	Sensitivity (95% CI)	Specificity (95% CI)
		number		*percent*	
Trypanolysis LiTat 1.3	Plasma	198	99	98.5 (96.3–100)	100 (100–100)
Trypanolysis LiTat 1.5	Plasma	198	99	98.5 (96.3–100)	100 (100–100)
HAT Sero-Strip	Plasma	198	99	98.5 (96.3–100)	96.0 (91.0–100)†
HAT Sero-Strip	Blood	198	99	97.5 (94.7–100)	98.0 (94.4–100)
HAT Sero-*K*-SeT	Blood	99	99	93.9 (87.9–99.9)†	99.0 (96.5–100)

* CI denotes confidence interval.
† The result was significantly lower than that for immune trypanolysis ($P<0.05$ by the chi-square test).

sensitivity and specificity of immune trypanolysis ($P>0.05$ for both comparisons); for the HAT Sero-*K*-SeT, the sensitivity was lower than that of immune trypanolysis ($P=0.01$), but the specificity was not significantly different ($P=0.32$).

If further evaluation in the field confirms their diagnostic accuracy, we believe that the HAT Sero-*K*-SeT and the HAT Sero-Strip, with an estimated price of less than $2.50 each, may become valuable tools in the control of trypanosomiasis.

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Supported by a grant (260260) from the Neglected Infectious Diseases Diagnosis network (Collaborative Project) of the European Commission under the Health Cooperation Work Program of the 7th Framework Program.

Disclosure forms provided by the authors are available with the full text of this letter at NEJM.org.

1. Simarro PP, Jannin J, Cattand P. Eliminating human African trypanosomiasis: where do we stand and what comes next? PLoS Med 2008;5(2):e55.
2. Magnus E, Vervoort T, Van Meirvenne N. A card-agglutination test with stained trypanosomes (C.A.T.T.) for the serological diagnosis of *T.b. gambiense* trypanosomiasis. Ann Soc Belg Med Trop 1978;58:169-76.
3. Büscher P, Draelants E, Magnus E, Vervoort T, Van Meirvenne N. An experimental latex agglutination test for antibody detection in human African trypanosomiasis. Ann Soc Belg Med Trop 1991;71:267-73.
4. Amin DN, Rottenberg ME, Thomsen AR, et al. Expression and role of CXCL10 during the encephalitic stage of experimental and clinical African trypanosomiasis. J Infect Dis 2009;200:1556-65.
5. Van Meirvenne N, Magnus E, Büscher P. Evaluation of variant specific trypanolysis tests for serodiagnosis of human infections with *Trypanosoma brucei gambiense*. Acta Trop 1995;60:189-99.

DOI: 10.1056/NEJMc1210373

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